

The Investigation of 5th Grade Turkish Students' Comprehension Scores According to Different Variables

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Abstract—The aim of this study is to examine the reading comprehension scores of Turkish 5th grade students according to the variables given in the student questionnaire. In this descriptive survey study research participated 279 5th grade students, who studied at 10 different primary schools in four provinces of Ankara in 2008-2009 academic year. Two different data collection tools were made use of in the study: “Reading Comprehension Test” and “Student Information Questionnaire”. Independent sample t-test, one-way Anova and two-way Anova tests were used in the analyses of the gathered data. The results of the study indicate that the reading comprehension scores of the students differ significantly according to sex of the students, the number of books in their houses, the frequency of summarizing activities on the reading text of free and the frequency reading hours provided by their teachers; but, differ not significantly according to educational level of their mothers and fathers.

Keywords—Primary School Education, Reading, Reading Comprehension.

I. INTRODUCTION

TODAY, all societies pay careful attention to educate their individuals, whom they entrust for their future, aiming to equip them with the desired qualities in order for them to keep up with the speed of social, economic and technological developments in the world and to have a say in the future generations of the world. It is important that the individuals broaden their knowledge continuously in order to be able to stay even with the developments as well as to be able to understand the factors within this progress. Both in broadening the knowledge and in understanding the causes of this progress, the most significant factor is the individuals' ability and strength to comprehend. Reading comprehension is a crucial skill for the individuals. As discussed by Koç and Müftüoğlu [1], though there are many ways of gaining knowledge, the best method is reading. In this respect, reading has a vital role in acquiring knowledge directly and in interpreting it.

In recent years, both national and international studies, which evaluate the education policies of countries according to their reading achievement and compare them to another countries, have gained significance.

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Aimed at serving the mentioned goals, Progress in International Reading Literacy Study (PIRLS), which is implemented on a regular basis, is an international application that puts forwards the reading performances of the participant countries. The results of the PIRLS 2001, the most recent one that Turkey took part in, indicate that Turkish students have low performance levels compared to their international counterparts. Yeti this is not true for only Turkey. For instance as cited in Baumgartner, Lipowski and Christy [2], Guthrie, Schaefer and Hunag [3] stated that the findings obtained as a result of No Child Left-2001 project, which took a start in the U.S.A in 2001, revealed the necessity to take a series of measures in order to improve the reading achievement of American students. Similarly, Moats [4] concluded that the results of the National Assessment of Educational Progress (NAEP), which is a program that has assessed the reading achievement of students at 8, 12 and 18 years of age for the last 30 years, have shown that approximately %42 of the 4th grade students are below the elementary level with regards to their reading achievement. As cited in Reidel, Tomaszewski and Weaver [5], Grossen, (1997) also concluded The National Institute of Child Health and Human Development (NICHD) reports that %40 of the people in the community have problems with reading and that hampers the joy in reading .

Reading affects all aspects of people's lives from childhood to old age. Unless necessary precautions are taken, problems with reading will not decrease in time; just on the contrary, they will continue until adulthood. As discussed by Redeil et al. [5] obviously, those who do not experience and problems of difficulties in reading always learn to express themselves in a meaningful way, to gain an insight for reading, to write, to carry out mathematical operations, and to construct relationships among thoughts in order to solve problems .

There are several factors that affect the student achievement in reading. As discussed elsewhere [6, 7, 8, 9, 10] the research conducted in this field has revealed that these factors are gender, self-esteem, interest in and attitude towards reading, educational level of parents, socio-economic and cultural background, and the atmosphere and environment of the house.

When the relationship between gender and reading achievement is taken into consideration, similar results can be found in literature. As discussed elsewhere [9, 10, 11, 12, 13, 14] the research conducted in this area has demonstrated that female students are more successful in reading compared to male students.

Another variable that affects the student achievement is the teacher. As discussed by Baumgartner et al. [2], among the reasons of students' low reading achievement are the insufficiency of time allocated by the teachers for the students to conduct outside reading, the selection of books that are not suitable for the students' reading levels, limitation and problems in access to various reading materials, and the lack of feedback that should be given to the students regarding their reading achievement.

As far as the students' performance in reading is concerned, Cambourne [15] has stated that teachers' insufficiency in providing feedback to the students on their reading paves the way to low reading achievement. Baumgartner et al. [2], indicated that many teachers are not successful in giving personal feedback to their students on the difficulties and problems that the students experience in reading. Therefore, they cannot possess the sufficient professional information on how to enhance student achievement in reading. Guthrie, Scafer and Huang [3] point out that there is a possibility for the teachers to increase students' reading achievement by providing them the opportunity to read books at various levels in a variety of genres and types. What is more, the results of the same research reveal that those students who are successful in reading allocate more time to reading; and thus there is a strong positive correlation between reading achievement and the amount of time allocated to reading.

According to Miedel and Reynold [16], it is well acknowledged that parents play a significant role in students' school achievement. Characteristics of parents and its effects on the students' achievement at school are a part of school reforms in many countries. Since parents significantly affect their children's cognitive development, the characteristics of parents and its effects with regards to reading achievement have continuously been investigated. As discussed elsewhere [8, 17, 18] various parental factors on reading achievement have been studied in a variety of research; for instance the educational level of parents, their perception of children's reading achievement, and their support on the issue. The researches of DeJong and Leseman [19] and Kohl, Lengua and McMahon [20] showed that the involvement of the parents contributes especially to their children's academic success in reading.

Reading comprehension has a significant role in one's school and daily life. That these skills are not developed well enough in Turkey is a fact that we encounter every day. Since reading activities are a part of all school curriculums and programs, there is mainly a close relationship between students' reading achievement and academic achievement. Taking into consideration the fact that reading comprehension skills of students affects their achievement not only in Turkish lessons, but also in other subjects, the significance of reading comprehension and the necessity to improve this skill becomes obvious. In Turkey, students have difficulties in efficient reading as a result of the insufficient development of their reading comprehension skills. This insufficiency has also a negative effect of their academic achievement. From this

point of view, directing the activities that are aimed at developing the reading comprehension skill is only possible by determining the factors that affect it. For that reason, there emerges the necessity to determine the factors that are related with students' reading comprehension skill. Determining and presenting those factors related with the reading comprehension skill might well provide important clues to people and institutions that are interested in enhancing these skills. Consequently, in order to develop the reading comprehension skill, it is of great importance that the mentioned factors be determined and research based upon arranging educational environment according to these factors be conducted.

The aim of this study is to examine the reading comprehension scores of Turkish 5th grade students according to the variables given in the student questionnaire. In this framework, the following research questions have been addressed.

Do the students' reading comprehension scores differ significantly according to the following variables?

- a) their gender,
- b) education level of their parents,
- c) the total number books in their houses,
- d) the frequency of reading activities given to the students by their teachers.

II. METHOD

This part presents information on the research design, participants, data collection and data analyses.

A. Model of the study

This research is a descriptive survey study. In this type of research, the present situation related to the research topic is described and it is investigated according to different variables.

B. Participants

279 5th grade students, who studied at 10 different primary schools in seven provinces of Ankara, Turkey in 2008-2009 academic year, participated in this study. 137 of the participants (%49) were female while 144 of them were (%51) were male. This shows that the students in the participant group are closely distributed in terms of gender.

C. Data Collection Tools

Two different data collection tools were made use of in the study. These are "Reading Comprehension Test" and "Student Information Questionnaire". Here are the features of the two data collection tools used in the research:

1. *Reading Comprehension Test*: The test consists of a reading comprehension text and five open-ended questions that were prepared based on the four-stage taxonomy used in Progress in International Reading Literacy Study (PIRLS). The text was carefully selected so that it was appropriate for

the students' level of development, their school year, and their ages. In order to determine whether the five open-ended questions were suitable for the designated level of participants in terms of difficulty and comprehensibility, expert opinion was obtained from three field experts (an assessment and evaluation expert, a program development expert, and a Turkish language expert). A rubric was used while scoring the students' responses.

2. Student Information Questionnaire: In the questionnaire, there are 12 questions that deal with the variables (regarding home, school and family environment) which are thought to be related with reading comprehension skill.

D. Data Collection and Data Analyses

Data for the study was collected via the Reading Comprehension Test and the Student Information Questionnaire. In the implementation phase, the reading text was first distributed to the participants and they were asked to read it. Next, they were asked to answer the questions related to the reading text in 25 minutes. After the questions were answered, the Student Information Questionnaire were given to the participants and they were asked to fill in the questionnaire with their personal information. It took approximately a class-hour to finish this implementation.

A rubric was used in order to score the responses given to the "Reading Comprehension Test" by the participants. Each question item was scored from "the most correct answer" to "less correct answer"; "incorrect" and far-fetched "meaningless" answers were also determined.

Independent sample t-test, one-way Anova and two-way Anova tests were used in the analyses of the gathered data. The results of the analyses were interpreted at significance level of 0.05.

III. FINDINGS

In this part, the findings obtained within the framework of the research questions posed in the study and corresponding interpretations of these findings are presented.

1. Do the students' reading comprehension scores differ significantly according to their gender?

Here, the data has been analyzed via independent sample t-test. The results are illustrated in Table 1 below.

TABLE I
 INDEPENDENT SAMPLE T-TEST RESULTS

Gender	N	X	S	t_{df}	t	p
Female	137	45.554	17.75	277	3.558	0.00
Male	142	38.225	16.67			

As the results in Table 1 demonstrate, the reading comprehension scores of the students differ significantly according to their gender ($t_{277} = 3.55, p < 0.01$). The mean of female students' reading comprehension scores ($X = 45.55$) are higher than that of the male students ($X = 38.21$).

These findings regarding the gender variable coincide with the results of other national and international studies cited in literature. Brantmeier [11], Moss [12], Rotham [13], Phakiti [10], Mullis et al [9] and Sallabaş [21] have found in their studies that female students are more successful in reading comprehension compared to their male counterparts. What is more, the results of some other study, Sallabaş [21] have shown that female students have more positive attitudes towards reading. In line with these results, as discussed elsewhere [22, 23] it can also be asserted that students with more positive attitudes to reading are more successful in reading comprehension.

2. Do the students' reading comprehension scores differ significantly according to the education level of their parents?

In order to obtain results on this research question, the data has been analyzed via one-way Anova test. The results are presented in Table 2 below.

TABLE II
 ONE-WAY ANOVA TEST RESULTS

Source of the Variance	Sum of Squares	df	Mean of Squares	F	p
Mother's Education Level	85.54	3	28.51	0.09	0.96
Father's Education Level	1046.07	3	348.69	1.14	0.33
Error	81507.38	267	305.27		
Total	573759.00	278			

The results in Table 2 indicate that there is no significant difference between the reading comprehension scores of the students according to the education level of their mothers ($F_{(3-267)} = 0.09, p > .05$). In other words, whether or not their mothers are literate, primary-school graduates, high-school graduates or university graduates, the reading comprehension scores of the students do not differ significantly.

As far as the relationship between the education level of the fathers and the reading comprehension scores of the students is concerned, the results of the analysis show that there is also no significant difference between the reading comprehension scores of the students according to the education level of their fathers ($F_{(3-267)} = 1.14, p > 0.05$). These results indicate that the reading comprehension scores of the students do not differ significantly according to whether or not students' fathers are literate, primary-school graduates, high-school graduates or university graduates.

Generally, the reading comprehension scores of the students do not differ significantly according to the educational level of their parents. This finding is not in line with the results of previous research given in literature. According to the research results of Aslanoğlu [24], and Johanson and Foy [25] published by Progress in International Reading Literacy Study (PIRLS) project, an increase in the education level of parents affects students' reading comprehension skill positively.

Similarly, as the significant role that the parents play in the cognitive development of the students is acknowledged, it can be anticipated that this role is also of great importance in the reading comprehension skills of the students. What is more, Myreberg and Rosen [26] have found out in their research that the educational level of the parents is a predictor variable in terms of the students' reading achievement.

3. Do the students' reading comprehension scores differ significantly according to the number of book in their houses?

As to this research question, the data has been analyzed via one-way Anova test. The results are given in Table 3 below.

TABLE III
ONE-WAY ANOVA TEST RESULTS

Source of the Variance	Sum of Squares	df	Mean of Squares	F	p
Between Groups	4377.77	4	1094.44	3.68	0.01
Within Groups	81332.61	274	296.83	7	
Total	85710.39	279			
Significance	(0-50 / 201 and above) (51-100 / 201 and above) (101-150/ 201 and above)				

Comprehension scores according to the number of book in their houses.

The results given in Table 3 show that the reading comprehension scores of the students differ significantly according to the number of book in their houses ($F_{(4,274)} = 3.68$, $p < 0.01$). The mean of female students' reading comprehension scores ($X = 45.55$) are higher than that of the male students ($X = 38.21$). In order to find out between which the groups the difference occurs, a post-hoc Tukey HSD test has been run; and the results of the Turkey HSD test indicate that the reading comprehension scores of the students who have 201 books and above in their houses ($X = 50.10$) are higher than that of the students who have 0-50 books ($X = 38.26$), 51-100 books ($X = 41.48$), and 101-150 books ($X = 40.25$). This finding supports the findings of the research conducted on PIRLS data by Schagen [27]. The researcher has found out that the variable which holds the strongest positive correlation with reading comprehension skill is the number of book in the participants' houses. A similar finding has been cited in a study carried out by Stephenson, Parrila, Georgiou, and Kirby [21]. Moreover, in the literature, as discussed by Elley [28] and Yang (2003) as cited in Myreberg and Rosen [26], there are studies which have concluded that the number of books is significantly predictive in the academic achievement of the students.

4. Do the students' reading comprehension scores differ significantly according to the frequency of reading activities provided to the students by their teachers?

The results of the two-way Anova test conducted in order to address this research question are given in Table 4.

The results analysis presented in Table 4 demonstrate that the reading comprehension scores of the students differ

significantly according to the frequency of summarizing activities carried out in the classroom ($F_{(4,254)} = 4.52$, $p < 0.01$). According to the results of the post-hoc Tukey HSD test, which was run for the purposes of multiple group comparison,

TABLE IV
TWO-WAY ANOVA TEST RESULTS

Source of the Variance	Sum of Squares	df	Mean of Squares	F	p
Making the students write a summary	5206.32	4	1301.58	4.525	0.00
Providing free reading hours	855.70	4	213.92	0.744	0.56
Error	73054.83	254	287.61		
Total	573759.00	279			

the reading comprehension scores of the students whose teachers never conduct summarizing activities ($X = 36.11$) are less than the reading comprehension scores of students whose teachers conduct such activities rarely ($X = 39.85$), mostly ($X = 45.27$) and always ($X = 42.62$). Teachers' doing writing-based activities on the reading text besides verbal activities increases students' reading achievement.

As to the effects of the free reading hours provided to the students by the teachers on the reading achievement of the students, the results reveal no significant difference between the students' reading comprehension scores according to the frequency of free reading hours given by the teachers ($F_{(4,259)} = 0.07$, $p > 0.05$). As discussed elsewhere [25], although in-class reading activities are anticipated to enhance the reading comprehension scores of the students the lack of significant difference between the students reading comprehension scores according to the frequency of free reading hours may be explained by the inappropriate implementation and of such activities by the teachers in the classroom. Moreover, as discussed by Bamett and Irwin [29], teachers also influence students' attitudes towards reading by the activities they carry out in the classroom. When the positive correlation between the attitude and achievement is taken into consideration, the quality of the in-class reading activities turns out to be more significant.

IV. CONCLUSION AND RECOMMENDATION

This study has examined the reading comprehension achievement of Turkish 5th grade students according to the variables in the student information questionnaire.

The results of the study indicate that the reading achievement of female students that have participated in the study is higher than the reading achievement of male participant students. The variables that might have an effect on these results should be investigated in detail at various levels. The reading comprehension scores of the students differ significantly according to the level of their mothers and fathers. This finding that has been attained in this study should be further investigated from the viewpoint of Turkish familial

structure and the parental support given to the students on education.

The reading comprehension scores of the students show significant difference according to the number of books in their houses, as well. As far as this finding is concerned, it can be asserted that the parents should support their children by trying to increase the number of books in their homes, especially those that are suitable for the level of the students.

What is more, the reading comprehension scores of the students also differ significantly according to the frequency of summarizing activities on the reading text as well as the frequency of free reading hours provided by their teachers. It can be suggested that the in-class reading activities prepared by the teachers should be intended for the development of students' reading comprehension skills and that teachers should evaluate whether their reading activities achieve the intended objectives.

REFERENCES

- [1] Koç, S. & Müftüoğlu, G. (1998). *Dinleme ve okuma öğretimi: Türkçe öğretimi*. Eskişehir: Anadolu Üniversitesi, Açık Öğretim Fakültesi Yayınları, 53-70.
- [2] Baumgartner, T., Lipowski, M. B., & Christy, R. (2003). Increasing reading achievement of primary and middle school student through differentiated instruction. Retrieved January 17, 2010, from http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/000019b/80/1b/47/2c.pdf
- [3] Guthrie, J.T., Schaefer, W. D. & Hunag, C. (2002). Benefits of opportunity to read and balance instruction on the NAEP. *The Journal of Education Research*, 94 (3), 145-162.
- [4] Moats, L. C., (2001). When older students can't read. *Educational Leadership*, 58 (6), 36-40
- [5] Reidel, J., Tomaszewski, T. & Weaver, D. (2003). Improving student academic reading achievement through the use of multiple intelligent teaching strategies. Retrieved January 17, 2010 from http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/000019b/80/1b/54/92.pdf
- [6] Fredriksson, U. (2002). *Reading skills among students of immigrant origin in Stockholm*. Unpublished Doctoral Dissertation, Stockholm University, Stockholm.
- [7] Geske, A. & Ozola, A. (2009). Different influence of contextual educational factors on boys' and girls' reading achievement. *US-China Education Review*, 6 (4), 38-44
- [8] Lynch, J. (2002). Parents' self-efficacy beliefs, parents' gender, children's reader self-perceptions, reading achievement and gender. *Journal of Research in Reading*, 25 (1), 54-67.
- [9] Mullis, I. V. S., Martin, M. O., Kennedy, A. M. & Foy P. (2007). *IEA's progress in international reading literacy study in primary school in 40 countries*. Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Boston College.
- [10] Phakiti, A. (2003). A closer at gender and strategy use in L2 reading. *Language Learning*, 53 (4), 649-703.
- [11] Brantmeier, C. A. (2000). *The relationship between readers' gender, passage content, comprehension and strategy use in reading Spanish as a second language*. Unpublished Doctoral Dissertation, University of Indiana.
- [12] Moss, G. (2000). Raising boys' attainment in reading some principles for intervention. *Reading*, 34 (3), 101-106.
- [13] Rothman, S. (2002). *Achievement in literacy and numeracy by Australian 14 year-olds, 1975-1998*. (Report No. LSAY- 29) Victoria: Australian Council for Educational Research. (ERIC Document Reproduction Service No. ED473755)
- [14] Sallabaş, M. E. (2008). İlköğretim 8. sınıf öğrencilerinin okumaya yönelik tutumları ve okuduğunu anlama becerileri arasındaki ilişki. İnönü Üniversitesi, *Eğitim Fakültesi Dergisi*, 9(16), 141-155.
- [15] Cambourne, B. (2001). Why do some student fail to read? Ockham's razor and the conditions of learning. *Reading Teacher*, 54(8), 784- 786.
- [16] Miedel, W. & Reynolds, A. (1998). Parent involvement in early intervention for disadvantaged children: Does it matter? *Journal of School Psychology*, 37 (4), 379-402.
- [17] Allred, P., & Edwards, R. (2000). A Typology of parental involvement in education centering on children and young people: Negotiating familialisation, institutionalisation and individualisation. *British Journal of Sociology of Education*, 21 (3), 435-455.
- [18] Hawes, C. A. & Plourde, L., A. (2005) Parental Involvement and Its Influence on the Reading Achievement of 6th Grade Students. *Reading Improvement*, 42, 47-52
- [19] De Jong, P. & Leseman, P. (2001). *Lasting effects of home literacy on reading achievement in school*. *Journal of School Psychology*, 39 (5), 389-414.
- [20] Kohl, G., Lengua, L., & McMahon, R. (2000). Parent involvement in school conceptualizing multiple dimensions and their relations with family and demographic risk factors. *Journal of School Psychology*, 38 (6), 501-523.
- [21] Stephenson, K. A., Parrila, R. K., Georgiou, G K. & Kirby, J. R. (2008). Effects of Home Literacy, Parents' Beliefs, and Children's Task Focused Behavior on Emergent Literacy and Word Reading Skills. *Scientific Studies Of Reading*, 12(1), 24-50.
- [22] Johnson, L.S. (1981). Naturally acquired learned helplessness: The relationship of school failure to achievement behavior, attributions, and self-concept. *Journal of Educational Psychology*, 73, 174- 180.
- [23] Martinez, S. R., Arıcak, O. T. & Jewell, J. (2008). Influence of rearing attitude on reading achievement: a test of the temporal interaction model. *Psychology in the Schools*, 45(10), 1010-1022.
- [24] Aslanoğlu, A. E. (2007). *PIRLS 2001 Türkiye verilerine göre 4. sınıf öğrencilerinin okuduğunu anlama becerileriyle ilişkili faktörler*. Unpublished Doctoral Dissertation, University of Ankara, Ankara.
- [25] Johanson, I. & Foy, P. (2003). *PIRLS 2001 results in the context of the European Union Expansion*. Hamburg: IEA Data Processing Center
- [26] Myrberg, E. & Rosen, M. (2008). A path model with mediating factors of parents' education on students' reading achievement in seven countries. *Educational Research and Evaluation*, 14 (6), 507 520
- [27] Schagen, I. (2004). *Multilevel analysis of PIRLS data for England*. NFER Center. England.
- [28] Elley, W.B. (1992). *How in the world do students read?*. Hamburg, Germany: International Association for the Evaluation of Educational Achievement.
- [29] Barnett, J.E., & Irwin, L. (1994). The effects of classroom activities on elementary students' reading attitudes. *Reading Improvement*, 31, 113 121.