

Word Recognition Levels of First Grade Students: An Application of Word Recognition Inventory¹

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Abstract

Students are expected to recognize the vocabulary items appearing in a text in order for reading to be meaningful. The evaluation of word recognition is commonly considered in educational applications in order for reading to be meaningful for students and to identify and correct mistakes. This study aims to exhibit the effectiveness of the inventory whose stages of preparation and implementation were process-based and which was developed for word recognition on determining the first graders' word recognition levels. For this purpose, the Type 1 development research type of design and development research model was used to develop an instrument for students' word recognition levels and thus to demonstrate its applicability. The study group was composed of 85 first graders who had been chosen in convenience sampling method. Student Information Form, Word Recognition Inventory-1 (WRI-1) and Word Recognition Inventory-2 (WRI-2) were used as the tools of data collection. Variance analysis (ANOVA) and independent groups t-test were used in comparing the students for WRI-1 inventory which met the conditions for normal distribution whereas Kruskal Wallis and Mann Whitney U-test were used in comparing the students for WRI-2 inventory which did not meet the conditions for normal distribution. Consequently, it was found that the inventories, whose stages of preparation and implementation were process-based and which were developed to determine students' word recognition levels, were effective in determining the primary school first graders' word recognition levels.

Key Words: word recognition, evaluating word recognition, word recognition levels, word recognition inventory, primary school first grade

DOI: 10.29329/epasr.2019.208.11

¹ This article is extracted from first author's doctorate dissertation entitled "A design and development study of an inventory for first grade primary school students' word recognition". (Unpublished doctoral dissertation, Hacettepe University, Ankara/Turkey, 2017).

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Introduction

Word recognition skill is the first step an individual takes to read. It is very important for individuals to recognise words correctly in the process of learning to read; because it is impossible to read without recognising words. Yet, word recognition is not sufficient on its own. It can be said that word recognition is the first stage in making sense of reading.

Oral word recognition is acquired through listening and speaking, and written word recognition is acquired through reading and writing. A written word is recognised with such clues as letters, syllables and pronunciation (Ministry of National Education [MoNE], 2009, p. 16). According to Güneş (2013), “recognising the written words is a critical stage in the process of learning to read. It is impossible to read without recognising the words. The skill of recognising the written words is developed through special work in the process of teaching literacy. First, voices and letters are taught; alphabetical relationships are discovered and gradually syllables and words are recognised” (p. 232). Children who can set up the sound-letter and letter-sound relationships- which is also called an alphabetical principle- do not have problems in forming syllables and then in transition into words. After work on sound awareness comes studies on discovering alphabetical relationships. Oral activities done to develop sound awareness are replaced by written activities in discovering alphabetical relationships. At this stage, we need to form syllables. According to Akyol (2012), “the most important stage in elementary literacy teaching involves forming syllables, forming words by using syllables and then forming sentences by using words. After the two sounds given at this stage, syllables are reached by using the sounds” (p. 101). With the decision made by the council in 2015, the sounds in the sound group of E, L, A and N are taught; and after that, teachers are asked to form meaningful syllables. Each sound given is associated with the previous sound. Thus, it will prepare the ground for the formation of new syllables, the number of syllables will increase in parallel to the sounds given, and the process of forming words will be facilitated. In doing this, teacher have to check whether the previously given sound groups are learnt by students before moving on to the new group of sounds. Otherwise, meaningful words will not be derived from the syllables formed, and reading will not be meaningful for children. Teachers should take special care that the words made from the syllables are meaningful. Meaningful words will facilitate children to attach meaning to reading, and thus it will assure that they progress in the way to become good readers. Whether they can make sense of reading or whether they become good readers can be found through evaluation activities.

Evaluating Word Recognition

We need evaluation activities to find at what stage of reading and comprehending we are. Alternative evaluation applications in addition to traditional evaluation applications are also used in evaluating reading in constructivist mentality. Accordingly, a series of evaluations leading to more

determinant teaching beyond large-scale evaluations indicating children's instant achievement are available (Akyol, Yıldırım, Ateş et al., 2014, p. 2). Information on the process of reading can be obtained by assessing students' reading performance through formal and informal evaluation instruments. Formal evaluation instruments are the instruments containing several sub-tests whose validity and reliability have been tested and which are based on the principle of evaluating in groups which were formed according to a norm. Informal instruments of evaluation, on the other hand, are the instruments evaluating students according to their own performance and consequently informing us of their reading process in detail (Kretschmer and Kretschmer, 1978; McLoughlin and Lewis, 2004; Richek, Caldwell, Jennings, Lerner, 2002; Uzuner, 2008; Karasu, 2011). It is recommended that formal and informal measurement instruments be used together in order to be able to observe progress in students' reading skill and to be able to evaluate both the outcome and the process. Accordingly, such instruments as observation, interview, self-evaluation, product file and informal reading inventory enabling one to analyse students' oral and written performance in various ways can be used in assessing reading (Cooter and Flynt, 1996; McLoughlin and Lewis, 2004; Uzuner, 2008, Karasu, 2011).

Reading levels for students' performance can be determined in three critical areas in evaluating reading. They are word recognition, fluency in reading and comprehension (Akyol, Yıldırım, Ateş et al., 2014, 3). Students' progress in those critical areas can be observed through information obtained for their reading performance in reading inventories. Considering the fact that one of the factors for reading to become meaningful is word recognition, it would be more appropriate to give word recognition inventories to students prior to giving them reading inventories. It can be done through the "Word Recognition Inventory" developed as a measurement instrument which was prepared as suitable to the purpose of evaluating word recognition in terms of analysing the process as well as the skill.

Word Recognition Inventory

Children should face as many words as possible in the first and second grades so that word recognition can become automatic very soon. Word Recognition Inventory (WRI) is an informal evaluation instrument in which lists containing words in simple forms are available (Avşar Tuncay, 2019). According to researchers, individuals become successful readers if word recognition develops at earlier ages (Torgesen, 1986; Harris and Sipay, 1990; Akyol, 1998; Garnett, 2011; Snow, Burns and Griffin, 1998; Rayner, Foorman, Perfetti et al., 2001; Goodman, 1967). Following sound teaching in the first grade in primary schools, syllables are formed and then words are formed from the syllables. It is expected in word formation that the words made are meaningful. It is extremely important for teachers to determine students' levels of word recognition and to select texts accordingly. Therefore,

individual instruments are needed to determine students' word recognition levels. WRI is an evaluation instrument developed by Avşar Tuncay (2017) so as to help teachers evaluate students' ability to recognise and make sense of the words belonging to sound groups in the word lists. WRI-1 contains words made with 6 levels of sound groups used in the first grades in primary schools in 2016-2017 academic year. WRI-2, on the other hand, contains words appearing in Turkish, Life Sciences and Mathematics course books recommended by the Ministry of National Education for use in primary schools. WRI-1 contains 64 lists each of which contains 20 words written in italics and WRI-2 contains 34 lists each of which contains 20 words which appear in course books and students learn in classroom applications even though they do not know how to read; and thus, the two inventories together contain 98 lists. The inventories were thought to use in evaluating the first graders' word recognition skills during formal education and in selecting reading passages suitable to students' individual needs.

Determining Word Recognition Levels

The term reading level was first used by Betts (1946) in the book "Foundations of Reading Instruction". In the above-mentioned book, Betts distinguishes four different levels of reading. They are labelled as independent, instructional, frustration and maximum reading levels. Of them, maximum reading level is the level which students who can answer the comprehension questions by 75% by listening to others attain and in which only listening skill is measured. According to Betts, a student attains independent reading level if he/she can comprehend by 90% and can recognise words by 99%. Students who are at the level of instructional reading can comprehend by 75% and can recognise words by 95%. They are at the level of frustration if they can comprehend less than 50% and can recognise less than 90% of the words (Stange, 2013). A reading inventory is a test for determining individual reading level which help teachers make instructional decisions and which can be used with people of any age. The percentages of reading levels forming the basis for reading inventories differ according to the number of words included in word recognition lists. Graded word lists in the classroom Reading Inventory start with beginner level and continue up to the level of frustration. It means that a person will continue reading until he/she reads 5 out of 20 words incorrectly (Silvaroli and Wheelock, 2011). The Basic Reading Inventory, however, contains word lists starting with pre-primer level and continuing up to level 12. The criteria for evaluating word recognition lists distinguish four levels labelled as independent, instructional, instructional-frustration and frustration. The stages for determining the levels are as in the following: a student who can read 19 out of 20 words correctly is at the level of independent reading, a student who can read 16-18 words correctly is at the level of instructional reading, a student who can read 15-14 words correctly is at the level of instructional-frustration level, and finally, a student who can read 13 words or fewer than that correctly is at the level of frustration (Johns, 2016). The word lists available in Ekwall/Shanker Informal

Reading Inventory and Analytical Reading Inventory are composed of lists of 20 words of different forms between level 1 and level 11. Evaluation is made at three levels of word recognition determined with percentages according to grade levels 3-12 by Powell (1970). Accordingly, 99% and above are the level of independent reading, 95% and above are the level of instructional reading, and 90% and below are the level of frustration . Informal Reading Inventory developed by Roe and Burns uses the same levels of reading; but there are changes in the percentages at grade levels 1 and 2. Thus, 95% and above indicate the level of independent reading, 85% and above indicate the level of instructional reading and below 85% indicates the level of frustration in those grade levels. It was found that the same percentages were used in Ekwall/Shanker Informal Reading Inventory developed by Shanker and Cockrum (2014) and in Analytical Reading Inventory developed by Woods and Moe (2011). This current study aims to reach the information indicating the independent, instructional and frustration levels in relation to students' levels of word recognition with percentages modified by Roe and Burns (2007) on the basis of Powell (1970) by using the word lists available in WRI-1 and in WRI-2.

Method

This study develops an instrument for determining students' word recognition levels and uses Type 1 development research type of the design and development research model to exhibit the applicability of the instrument. Type 1 studies are also called “product and instrument research”, and they aim to develop a product or an instrument or to test it. Product and instrument development process contains three stages in Type 1. The stages are labelled as the stage of analysis, the stage of product development and the stage of evaluating the final product (Mutlu, 2016, p. 54). The product to be developed to solve the problem, the properties that the product should have, how to use the product and what it should be like and finally testing the product are determined in accordance with stakeholders' and experts' opinion by considering the relevant literature (Büyüköztürk, 2016, p. 229-230).

What is specific to design and development research is to develop vehicles and models to support education in the long term (McKenney and Reeves, 2013, p. 139). In addition to the knowledge it generates, the value of design and development research in education is measured through the applicability of the developed instrument in education Design-Based Research Collective, 2003, p. 5). The fact that the detailed documentation of the stages of design and development for the inventories developed are available and the structure of this study- in which the applicability of the inventories whose validity and reliability are tested is tested and evaluated- are consistent with Type 1 “product and instrument research” type.

The Study Group

The study group for the research was composed of 85 primary school students who were the first graders in three state school located in Ankara who were chosen through convenience sampling. The socio-economic status was taken into consideration in the selection of the schools, and thus diversity was obtained in word recognition levels. An examination of demographic information concerning the participants demonstrated that 44 of them (51.8%) were female whereas 41 (48.2%) were male. As to their age, it was found that 1 of the participants (1.2%) was 65 months old- who did not have the obligation to start school and who could start school upon the written request of parents, 13 of them (15.3%) were 69-71 months old- who had the right not to start school with medical report and 71 (83.5%) were 72-85 months old- who had to start school. According to the variable of socio-economic status 23 of the students (27.1%) attended primary school A having high socio-economic status while 34 of them (40%) attended primary school B having medium socio-economic status and 28 (32.9%) attended primary school C having low socio-economic status. According to whether or not they received pre-school education, it was found that 77 students (90.6%) had received pre-school education but that 8 (9.4%) did not receive pre-school education. According to the type of pre-school the participants attended, it was found that 36 of them (42.4%) went to a kindergarten, 41 (48.2%) went to a day nursery and a kindergarten and that 8 (9.4%) did not go to a pre-school institution.

Data Collection Tools

The data collection tool- whose stages of preparation and evaluation were process-based, which was developed and implemented to determine the first graders' word recognition levels- contained three parts. Part one contained a personal information form developed by the researchers. It required such information as participants' name-surname (nickname), school, grade level, age (in months), gender, whether they had received pre-school education, if so, what type of pre-school institution they had gone to, their mother's educational status, their father's educational status, their mother's job, their father's job and their parents' life styles.

Part two of the data collection tool included WRI-1 and WRI-2 to determine students' word recognition levels. WRI-1 contained 1 list at level 1 in the sound group of E, L, A, N; 5 lists at level 2 in the sound group of İ, T, O, B, U; 12 lists at level 3 in the sound group of K, I, R, Ö, S, Ü; 15 lists at level 4 in the sound group of M, D, Ş, Y, C, Z; 16 lists at level 5 in the sound group of Ç, G, P, H; and 15 lists at level 6 in the sound group of F, V, Ğ, J- thus, 64 lists in total. WRI-2 did not contain word lists at levels 1 and 2. Vowel letters are completed at level 2 in the programme. Therefore, several words in Life Sciences, Turkish and Mathematics course books recommended for use in primary schools were the words that could be formed with the sound groups at level 3 and above. For this reason, forming words beginning with level 3 was preferred. Consequently, WRI-2 contained 5 lists at

level 3 in the sound group of K, I, R, Ö, S, Ü; 15 lists at level 4 in the sound group of M, D, Ş, Y, C, Z; 8 lists at level 5 in the sound group of Ç, G, P, H; and 6 lists at level 6 in the sound group of F, V, Ğ, J- thus, 34 lists in total.

Findings

98 word lists in total which were included in WRI-1 and WRI-2 were given to 85 students at certain intervals and the students were asked to read them, and thus the application process was completed. The findings concerning the word recognition levels of the first graders to whom WRI-1 and WRI-2 were administered are presented in this section of the study. Accordingly, the students' word recognition level will be 95% if they can completely read 19 out of 20 words included in the word lists- which will indicate that they are at the level of independent reading. Students who are at the level of instructional reading can read 3 out of 20 words at the maximum- which shows that they have achievement of 85% and above. The number of words that students who are at the level of frustration cannot read is very big and it means that they can make reading mistakes in more than 3 out of 20 words. This result shows that such students can achieve success at a rate below 85% (Roe and Burns, 2007, p. 3). Each word the participant could read correctly was coded as 1 while each word they read incorrectly was coded as 0, and their levels of word recognition were identified according to the number of words they were able to read correctly.

The total number of words included in WRI-1 was 64 and the number of words included in those lists was 1280. Table 1 below shows the word recognition levels of the first graders who read the word lists included in WRI-1 at six Levels.

Table 1. The students' word recognitions levels for 6 levels in WRI-1

Levels of word recognition	Level 1 word lists		Level 2 word lists		Level 3 word lists		Level 4 word lists		Level 5 word lists		Level 6 word lists	
	N	%	N	%	N	%	N	%	N	%	N	%
Independent	8	9.4	1	1.2	1	1.2	7	8.2	13	15.3	11	12.9
Instructional	17	20	19	22.4	22	25.9	38	44.7	53	62.4	44	51.8
Frustration	60	70.6	65	76.4	62	72.9	40	47.1	19	22.4	30	35.3
Total	85	100	85	100	85	100	85	100	85	100	85	100

According to Table 1, 8 students (9.4%) are at the level of independent reading, 17 students (20%) are at the level of instructional reading and 60 students (70.6%) are at the level of frustration in the word lists at level 1; 1 student (1.2%) is at the level of independent reading, 19 students (22.4%) are at the level of instructional reading and 65 students (76.4%) are at the level of frustration in word lists at level 2; 1 student (1.2%) is at the level of independent reading, 22 students (25.9%) are at the level of instructional reading and 62 students (72.9%) are at the level of frustration in word lists at level 3; 7 students (8.2%) are at the level of independent reading, 38 students (44.7%) are at the level of instructional reading and 40 students (47.1%) are at the level of frustration in word lists at level 4; 13 students (15.3%) are at the level of independent reading, 53 students (62.4%) are at the level of instructional reading and 19 students (22.4%) are at the level of frustration in word lists at level 5; and 11 students (12.9%) are at the level of independent reading, 44 students (51.8%) are at the level of instructional reading and 30 students (35.3%) are at the level of frustration in word lists at level 6.

The number of lists in WRI-2 was 34 in total and the number of words in the lists were 680 in total. Table 2 below shows the word recognition levels of the first graders who read the word lists included in WRI-2

Table 2. The students' word recognitions levels in WRI-2

Levels of word recognition	Level-3 word lists		Level-4 word lists		Level-5 word lists		Level-6 word lists	
	N	%	N	%	N	%	N	%
Independent	54	63.5	40	47.1	29	34.1	36	42.4
Instructional	25	29.4	34	40	48	56.5	39	45.9
Frustration	6	7.1	11	12.9	8	9.4	10	11.8
Total	85	100	85	100	85	100	85	100

A close examination of Table 2 shows that 54 students (63.5%) are at the level of independent reading, 25 students (29.4%) are at the level of instructional reading and 6 students (7.1%) are at the level of frustration in level 3 word lists; 40 students (47.1%) are at the level of independent reading, 34 students (40%) are at the level of instructional reading and 11 students (12.9%) are at the level of frustration in level 4 words; 29 students (34.1%) are at the level of independent reading, 48 students (56.5%) are at the level of instructional reading and 8 students

(9.4%) are at the level of frustration in level 5 words; and 36 students (42.4%) are at the level of independent reading, 39 students (45.9%) are at the level of instructional reading and 10 students (11.8%) are at the level of frustration in level 6 words.

The findings concerning the demographic properties according to the word recognition levels of students who were given WRI-1 and WRI-2 are described below. Primarily, descriptive statistics such as skewness, kurtosis, mean, median and mode were checked to find whether or not the students included in the research had normal distribution. The scores were re-scaled according to the maximum score to make the comparison between the lists easier because the number of words in each list was not equal.

Accordingly, the biggest number of words in WRI-1 was in the lists of level five words with 320 words. The number of words in level one word list was multiplied with 16 because there were 20 words in the list, the number of words in level two words was multiplied with 3.2 because there were 100 words in the lists, the number of words in level three word lists was multiplied with 1.33 because there were 240 words in the lists and the number of words in level four word lists and the number of words in level six word lists were multiplied with 1.06 because there were 300 words in the lists. The word list with the highest re-scaled mean was level five word list whereas the one with the lowest re-scaled mean was level 1 word list. On comparing the means, medians and modes in the lists in WRI-1; it was found that they did not get away from the normal very much and that they took on values close to each other. Yet, because there was not a set criterion for the three statistics, it could be said that it would be more appropriate to look at skewness and kurtosis. Skewness coefficient yields more critical results than kurtosis coefficient since skewness violated symmetry and since kurtosis did not yield clear results as to whether it violated symmetry and had normal distribution or not. The fact that skewness coefficient took on values between -1 and +1 (between -.638 and -1.136) can be interpreted as that scores did not deviate significantly from normal distribution. Therefore, all the data were considered to have normal distribution. The findings for the parametric tests used when the data have normal distribution are presented below.

The word recognition levels of students who were given WRI-1 were analysed according to such variables as age (in months), socio-economic status, the types of pre-school education and parents' educational status. The analysis according to age variable demonstrated that 1 of the participants was 65 months old- the age at which students could start school upon parents' written request, 13 students were 69-71 months old- the age at which they have the option not to start school with medical report- and 71 were 72-85 months old- the age at which children have to start school. Thus, the age variable was divided into two categories as below 72 months old- the age at which starting school was optional- and 72 months old and above- the age at which children have to start

school. The t-test results for word recognition levels of students who read the lists written in italics in WRI-1 according to the variable of age (in months) are shown in Table 3.

Table 3. The t-test results for word recognition levels of the first graders who were given WRI-1 according to the variable of age (in months)

	Age (in months)	N	Mean	ss	sd	t	p																																																								
Level 1 word lists	72 months old and above	71	13.53	4.46	83	1.111	.270																																																								
	Below 72 months old	14	12.07	4.73				Level 2 word lists	72 months old and above	71	75.53	13.98	83	.967	.336	Below 72 months old	14	71.64	12.52	Level 3 word lists	72 months old and above	71	184.54	29.13	83	.152	.879	Below 72 months old	14	183.28	23.73	Level 4 word lists	72 months old and above	71	251.61	28.50	83	.704	.484	Below 72 months old	14	245.71	29.75	Level 5 word lists	72 months old and above	71	282.43	23.04	83	-.160	.873	Below 72 months old	14	283.50	20.64	Level 6 word lists	72 months old and above	71	259.25	26.25	83	.996	.322
Level 2 word lists	72 months old and above	71	75.53	13.98	83	.967	.336																																																								
	Below 72 months old	14	71.64	12.52				Level 3 word lists	72 months old and above	71	184.54	29.13	83	.152	.879	Below 72 months old	14	183.28	23.73	Level 4 word lists	72 months old and above	71	251.61	28.50	83	.704	.484	Below 72 months old	14	245.71	29.75	Level 5 word lists	72 months old and above	71	282.43	23.04	83	-.160	.873	Below 72 months old	14	283.50	20.64	Level 6 word lists	72 months old and above	71	259.25	26.25	83	.996	.322	Below 72 months old	14	250.71	42.12								
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	Below 72 months old	14	250.71	42.12																																																											

*p<0.05

According to Table 3, for level one word lists: ($t_{(83)} = 1.111, p > .05$); for level two word lists: ($t_{(83)} = .967, p > .05$); for level three word lists: ($t_{(83)} = .152, p > .05$); for level four word lists: ($t_{(83)} = .704, p > .05$); for level five word lists: ($t_{(83)} = -.160, p > .05$) and for level six word lists: ($t_{(83)} = .996, p > .05$). Thus, it was found that there were no statistically significant differences between students' scores of word recognition levels according to age (in months) variable.

The one-way variance analysis (ANOVA) results for the word recognition levels of students who read the lists written in italics in WRI-1 according to their socio-economic status are shown in Table 4.

Table 4. The ANOVA results for the word recognition levels of the first graders who were given WRI-1 according to the variable of socio-economic status

Word Lists	Socio-economic status	N	Mean	ss	F	p
Level 1 word lists	High	23	15.34	3.44	12.824	.000*
	Medium	34	14.44	3.75		
	Low	28	10.21	4.62		
Level 2 word lists	High	23	79.65	12.16	5.842	.004*
	Medium	34	77.23	9.55		
	Low	28	68.14	16.83		
Level 3 word lists	High	23	204.39	17.28	19.812	.000*
	Medium	34	187.88	24.33		
	Low	28	163.57	26.45		
Level 4 word lists	High	23	273.17	16.08	28.421	.000*
	Medium	34	255.00	21.93		
	Low	28	226.85	26.56		
Level 5 word lists	High	23	292.08	18.87	3.000	.055
	Medium	34	278.05	24.63		
	Low	28	280.35	21.02		
Level 6 word lists	High	23	269.56	23.36	2.899	.061
	Medium	34	255.91	25.33		
	Low	28	250.57	35.60		

As clear from Table 4, the one-way variance analysis (ANOVA) results showed that there were significant differences between students' levels of word recognition according to socio-economic status. Thus, for level one-word lists: $F=12.824$; $p=.000<0.05$); for level two-word lists: ($F=5.842$; $p=.004<0.05$); for level three word lists: ($F=19.812$; $p=.000<0.05$) and for level four word lists: ($F=28.421$; $p=.000<0.05$)

Post-Hoc analysis was done to find the causes of differentiation. Thus, it was found that the students with high socio-economic status had higher word recognition level scores ($x=15.34$) than those with low socio-economic status ($x=10.21$) in level one-word lists. In the same way, students with medium socio-economic status were found to have higher word recognition scores ($x=14.44$) than those with low socio-economic status ($x=10.21$) in level one-word lists. The word recognition scores of students with high socio-economic status were higher ($X=79.65$) than those with low socio-economic status ($X= 68.14$) in level two-word lists. Again, students with medium socio-economic

status received higher scores ($X= 77.23$) than those with low socio-economic status ($X= 68.14$) in level two-word lists. Students with high socio-economic status had higher word recognition scores ($X=204.39$) than those with low socio-economic status ($X= 163.57$) in level three-word lists. Students with medium socio-economic status also had higher scores ($X= 187.88$) than those with low socio-economic status ($X= 163.57$) in level three-word lists. As to the scores in level four-word lists, students with high socio-economic status had higher scores ($X= 273.17$) than those with low socio-economic status ($X=226, 85$); and students with medium socio-economic status had higher scores ($X= 255.00$) than those with low socio-economic status ($X=226, 85$). It was apparent that students with high socio-economic status had higher word recognition scores than those with medium and low socio-economic status in all four levels of word lists. On the other hand, it was found that there were no significant differences between students' word recognition levels in level five and level six word lists according to the ANOVA results ($p>0.05$).

The one-way variance analysis (ANOVA) results for the word recognition levels of students who read the lists written in italics in WRI-1 according to the types of pre-school education they had received are shown in Table 5.

Table 5. The ANOVA results for the word recognition levels of the first graders who were given WRI-1 according to the types of pre-school education they had received

Word Lists	Types of pre-school education	N	Mean	ss	F	p
Level 1 word lists	Kindergarten	36	13.47	4.71	6.093	.003*
	Day nursery and kindergarten	41	14.09	3.84		
	None	8	8.37	4.13		
Level 2 word lists	Kindergarten	36	75.33	12.80	4.834	.010*
	Day nursery and kindergarten	41	77.14	12.15		
	None	8	61.37	19.19		
Level 3 word lists	Kindergarten	36	184.91	27.16	3.591	.032*
	Day nursery and kindergarten	41	188.53	27.91		
	None	8	160.25	25.01		
Level 4 word lists	Kindergarten	36	250.72	25.39	4.469	.014*
	Day nursery and kindergarten	41	255.78	28.57		
	None	8	224.00	31.19		
Level 5 word lists	Kindergarten	36	279.52	24.74	1.211	.303
	Day nursery and kindergarten	41	286.46	18.22		
	None	8	276.75	31.11		
Level 6 word lists	Kindergarten	36	255.16	32.73	3.154	.048*
	Day nursery and kindergarten	41	264.14	21.50		
	None	8	237.62	39.66		

According to Table 5, the one way variance analysis (ANOVA) results showed that there were significant differences between students' levels of word recognition according to the types of pre-school education they had received in level one word lists ($F=6.093$; $p=.003<.05$), level two word lists ($F=4.834$; $p=.010<.05$), level three word lists ($F=3.591$; $p=.032<.05$), level four word lists ($F=4.469$; $p=.014<.05$) and in level six word lists ($F=3.154$; $p=.048<.05$).

Post Hoc analysis was done to find the causes of differentiation. The word recognition scores of students who had attended a kindergarten ($X= 13.47$) were found to be higher than those who had not received any pre-school education ($X= 8.37$) in level one word lists. In the same way, the students who had attended a kindergarten and day nursery school had higher word recognition scores ($X= 14.09$) than those who had not received pre-school education ($X= 8.37$) in level one word lists. Students who had attended a kindergarten only had higher scores ($X= 75.33$) than those who had not received any pre-school education ($X= 61.37$) in level two word lists. In the same way, those who had attended a day nursery and kindergarten also had higher scores ($X= 77.14$) than those who had not received any pre-school education ($X= 61.37$) in level two word lists. The students who had attended a kindergarten only had higher scores ($X= 184.91$) than those who had not received any pre-school education ($X= 160.25$) in level three word lists. In the same way, the students who had attended a day nursery and kindergarten also had higher scores ($X= 188.53$) than those who had not received any pre-school education ($X= 160.25$) in level three words. In level four word lists, students who had attended a kindergarten only had higher scores ($X= 250.72$) than those who had not received any pre-school education ($X= 224.00$). In the same way, students who had attended a day nursery and kindergarten also had higher scores ($X= 255.78$) than those who had not received any pre-school education ($X= 224.00$) in level four word lists. In level six word lists also, students who had received pre-school education had higher word recognition scores ($X= 264.14$) than those who had not ($X= 237.62$). However, no significant differences were found between students' word recognition scores in level five words ($p>.05$).

The one-way variance analysis (ANOVA) results for the word recognition levels of students who read the lists written in italics in WRI-1 according to their mother's educational status are shown in Table 6.

Table 6. The ANOVA results for the word recognition levels of the first graders who were given WRI-1 according to their mother's educational status

Word Lists	Mother's level of education	N	Mean	ss	F	p
Level 1 word lists	Primary school	13	9.46	4.70	9.349	.000*
	Secondary-high school	40	12.97	4.68		
	University	32	15.25	2.96		
Level 2 word lists	Primary school	13	64.53	13.37	7.007	.002*
	Secondary-high school	40	74.02	14.48		
	University	32	80.18	10.23		
Level 3 word lists	Primary school	13	162.69	25.53	10.076	.000*
	Secondary-high school	40	180.10	26.71		
	University	32	198.43	24.05		
Level 4 word lists	Primary school	13	226.46	20.67	13.102	.000*
	Secondary-high school	40	245.77	29.88		
	University	32	266.56	19.81		
Level 5 word lists	Primary school	13	276.92	24.42	2.135	.125
	Secondary-high school	40	279.40	23.26		
	University	32	288.93	19.94		
Level 6 word lists	Primary school	13	243.23	37.18	4.230	.018*
	Secondary-high school	40	254.27	29.58		
	University	32	268.25	21.78		

According to Table 6, the one way variance analysis (ANOVA) results showed that there were significant differences between students' levels of word recognition according to their mother's educational status in level one word lists ($F= 9.349$; $p=.000<.05$); in level two word lists ($F= 7.007$; $p=.002<.05$); in level three word lists ($F= 10.076$; $p= .000<.05$); in level four word lists ($F= 13.102$; $p= .000<.05$) and in level six word lists ($F= 4.230$; $p= .018<.05$).

Post Hoc analysis was done to find the causes of differentiation. It was found that the students whose mother was secondary-high school graduate had higher word recognitions scores ($X= 12.97$) than those whose mother was primary school graduate ($X= 9.46$) in level one word lists. In the same way, children with mothers who are university graduates also had higher scores ($X= 15.25$) than those with mothers who are primary school graduates ($X= 9.46$) in level one word lists. Children whose mother was university graduate had higher scores ($X= 80.18$) than those whose mother was primary school graduate ($X= 64.53$) in level two word lists. Students whose mother was university

graduate had higher scores ($X= 198.43$) than students whose mother was primary school graduate in level three word lists ($X= 162.69$) in level three word lists. In the same way, students whose mother was secondary-high school graduate had higher scores ($X= 180.10$) than those whose mother was primary school graduate ($X= 162.69$) in level three word lists. Students whose mother was secondary-high school graduate had higher scores ($X= 245.77$) than those whose mother was primary school graduate ($X= 226.46$) in level four word lists. In the same way, students whose mother was university graduate had higher scores ($X= 266.56$) than those whose mother was primary school graduate ($X= 226.46$) in level four words. In addition to that, students whose mother was university graduate had higher word recognition scores in level four word lists ($X= 266.56$) than students whose mother was secondary-high school graduate had in level four word lists ($X= 245.77$). Students whose mother was university graduate had higher scores ($X= 268.28$) than those whose mother was primary school graduate ($X= 243.23$) in level six word lists. On the other hand, it was found through one-way variance analysis (ANOVA) that there were no significant differences between word recognition levels of students who were given WRI-1 in level five word lists according to their mother's educational status ($p>.05$).

The one-way variance analysis (ANOVA) results for the word recognition levels of students who read the lists written in italics in WRI-1 according to their father's educational status are shown in Table 7.

Table 7. The ANOVA results for the word recognition levels of the first graders who were given WRI-1 according to their father's educational status

Word Lists	Father's level of education	N	Mean	ss	F	p
Level 1 word lists	Primary school	9	12.44	4.44	3.568	.033*
	Secondary-high school	37	12.05	5.24		
	University	39	14.66	3.34		
Level 2 word lists	Primary school	9	69.22	15.50	3.958	.023*
	Secondary-high school	37	71.70	15.80		
	University	39	79.23	9.71		
Level 3 word lists	Primary school	9	172.33	27.87	5.368	.006*
	Secondary-high school	37	176.43	28.70		
	University	39	194.61	24.69		
Level 4 word lists	Primary school	9	237.22	28.39	10.276	.000*
	Secondary-high school	37	239.35	29.56		
	University	39	264.46	21.19		
Level 5 word lists	Primary school	9	277.88	28.69	.908	.407
	Secondary-high school	37	280.05	22.40		
	University	39	286.12	21.54		
Level 6 word lists	Primary school	9	249.55	17.24	3.124	.049*
	Secondary-high school	37	251.00	35.46		
	University	39	266.25	22.60		

As clear from Table 7, there are significant differences between the first graders' word recognition scores according to their father's educational status in level one word list ($F= 3.568$; $p=.049<.05$); in level two word lists ($F= 3.958$; $p=.023<.05$); in level three word lists ($F= 5.368$; $p=.006<.05$); in level four word lists ($F= 10.276$; $p=.000<.05$) and in level six word lists ($F= 3.124$; $p=.049<.05$).

Post Hoc analysis was done to find the causes of differentiation. It was found that the students whose father was university graduate had higher word recognition scores ($X= 14.66$) than students whose father was secondary-high school graduate ($X=12.05$) in level one-word lists. Students whose father was university graduate had university graduates had higher scores ($X=79.23$) than those whose father was secondary-high school graduate ($X=71.70$) in level two-word lists. Children whose father was university graduate had higher scores ($X= 194.61$) than those whose father was secondary-high school graduate ($X= 176.43$) in level three-word lists. Children whose father was university graduate had higher scores ($X=264.46$) than those whose father was primary school graduate ($X= 237.22$) in level four-word lists. In the same way, children whose father was university graduate had higher scores ($X= 264.46$) than those whose father was secondary-high school graduate ($X= 239.35$) in level four-word lists. It was found through ANOVA, however, that there were no significant differences between students' word recognition scores in level five word lists according to their father's educational status ($p>.05$).

The biggest number of words in WRI-2 was in level four-word lists, and they contained 300 words. The number of words in level three-word lists was multiplied by 3 because they contained 100 words, the number of words in level five was multiplied by 1.87 because they contained 160 words and the number of words in level six was multiplied by 2.5 because they contained 120 words. On comparing the means, medians and modes in the word lists in WRI-2; it was found that they did not get away from the normal too much and that they took on values close to each other. Skewness coefficient taking on values between -1 and +1 can be interpreted as that scores do not deviate significantly from normal distribution. It became evident from the values in WRI-2 that the skewness for the word lists in all levels got away from -1. Thus, it was considered more appropriate to use non-parametric tests for those lists which did not have normal distribution. The findings for the non-parametric tests which were used in cases where the data did not have normal distribution are described below.

The word recognition levels of students who were given WRI-2 were analysed according to such variables as age (in months), socio-economic status, the types of pre-school education and parents' educational status. The Whitney-U test results for word recognition levels of students who

read the lists written in block letters in WRI-2 according to the variable of age (in months) are shown in Table 8 below.

Table 8. The Whitney-U test results for word recognition levels of the first graders who were given WRI-2 according to age (in months)

	Age (in months)	N	Mean rank	Total rank	U	p
Level 3 word lists	72 months old and above	71	44.10	3131	419	.353
	Below 72 months old	14	37.43	524		
Level 4 word lists	72 months old and above	71	43.10	3060	490	.934
	Below 72 months old	14	42.50	595		
Level 5 word lists	72 months old and above	71	41.55	2950	394	.222
	Below 72 months old	14	50.36	705		
Level 6 word lists	72 months old and above	71	43.06	3057.5	492.5	.957
	Below 72 months old	14	42.68	597.5		

According to Table 8, there are no statistically significant differences between the first graders' word recognition scores in level three word lists (U= 419, p>.05); in level four word lists (U= 490 p>.05); in level five word lists (U= 394, p>.05) and in level six word lists (U= 492.5, p>.05) according to age (in months).

The Kruskal Wallis-H test results for word recognition levels of students who read the lists written in block letters in WRI-2 according to the variable of socio-economic status are shown in Table 9 below.

Table 9. The Kruskal Wallis-H test results for word recognition levels of the first graders who were given WRI-2 according to socio-economic status

Word Lists	Socio-economic status	N	Mean rank	sd	X ²	p	Significant difference
Level 3 word lists	High	23	45.67	2	6.736	.034*	2-3
	Medium	34	49.15				
	Low	28	33.34				
Level 4 word lists	High	23	45.41	2	2.039	.361	
	Medium	34	45.85				
	Low	28	37.55				
Level 5 word lists	High	23	47.02	2	4.501	.105	
	Medium	34	46.94				
	Low	28	34.91				
Level 6 word lists	High	23	53.15	2	10.911	.004*	1-3 2-3
	Medium	34	45.93				
	Low	28	31.11				

Considering the mean ranks for the groups, it may be said according to Table 9 that the students attending primary school A received the highest scores in all word lists except for the ones in level four and that they were followed by those attending primary school B and C respectively. Accordingly, it is apparent that the students having high and medium socio-economic status have the same mean ranks in level four-word lists. Besides, it was also found that the first graders' word recognition scores differed statistically significantly according to socio-economic status in level three word lists ($X^2(2) = 6.736, p < .05$) and in level six word lists ($X^2(2) = 10.911, p < .05$). Mann Whitney-U test was done to find the paired groups having the difference. In consequence, it was found that the students attending primary school B with medium socio-economic status had higher scores than those attending primary school C with low socio-economic status in level three-word lists and that the differences were significant. In the same way, the students attending primary school A with high socio-economic status had higher word recognition scores than those attending primary school C with low socio-economic status and the students attending primary school B with medium socio-economic status had higher scores than those attending primary school C with low socio-economic level in level six word lists. No significant differences were found between the students' word recognition scores in level four word lists ($X^2(2) = 2.039, p > .05$) and in level five word lists ($X^2(2) = 4.502, p > .05$) according to socio-economic status.

The Kruskal Wallis-H test results for word recognition levels of students who read the lists written in block letters in WRI-2 according to the variable of the types of pre-school education they received are shown in Table 10.

Table 10. The Kruskal Wallis-H test results for word recognition levels of the first graders who were given WRI-2 according to the pre-school education they received

Word Lists	Types of pre-school education	N	Mean rank	sd	X^2	p
Level 3 word lists	Kindergarten	36	42.86			
	Day nursery and kindergarten	41	46.00	2	3.499	.174
	None	8	28.25			
Level 4 word lists	Kindergarten	36	40.89			
	Day nursery and kindergarten	41	46.93	2	2.786	.248
	None	8	32.38			
Level 5 word lists	Kindergarten	36	40.40			
	Day nursery and kindergarten	41	48.00	2	4.649	.098
	None	8	29.06			
Level 6 word lists	Kindergarten	36	41.96			
	Day nursery and kindergarten	41	46.67	2	3.605	.165
	None	8	28.88			

As is clear from Table 10, considering the mean ranks for the groups, the students who had attended a day nursery school and a kindergarten received the highest scores, who were followed by those who attended only a kindergarten and those who had not received any pre-school education before, respectively. It was found that there were no statistically significant differences between the first graders' word recognition scores in level the word lists ($X^2(2) = 3.499, p > .05$); in level four word lists ($X^2(2) = 2.786, p > .05$); in level five word lists ($X^2(2) = 4.649, p > .05$) and in level 6 word lists ($X^2(2) = 3.605, p > .05$) according to the types of pre-school education they had received.

The Kruskal Wallis-H test results for word recognition levels of students who read the lists written in block letters in WRI-2 according to the variable of their mother's educational status are shown in Table 11.

Table 11. The Kruskal Wallis-H test results for word recognition levels of the first graders who were given WRI-2 according to their mother's educational status

Word Lists	Mother's educational status	N	Mean rank	sd	X^2	p	Significant difference
Level 3-word lists	Primary school	13	29.81		9.548	.008*	3-1 3-2
	Secondary-high school	40	39.53	2			
	University	32	52.70				
Level 4-word lists	Primary school	13	33.85		4.587	.101	
	Secondary-high school	40	40.56	2			
	University	32	49.77				
Level 5-word lists	Primary school	13	30.46		9.494	.009*	3-1 3-2
	Secondary-high school	40	39.16	2			
	University	32	52.89				
Level 6-word lists	Primary school	13	25.08		11.124	.004*	3-1
	Secondary-high school	40	41.74	2			
	University	32	51.86				

According to Table 11, considering mean ranks for the groups, it can be said that the students whose mother was university graduate had the highest scores in all word lists and that they were followed by students whose mother was secondary-high school graduate and by students whose mother was primary school graduate. It was also found that there were significant differences between the students' word recognition scores in level three word lists ($X^2(2) = 9.548, p > .05$); in level five

word lists ($X^2(2) = 9.494, p > .05$) and in level six word lists ($X^2(2) = 11.124, p > .05$). Mann-Whitney-U test was done to find the groups having the differences. In consequence it was found that the students whose mother was university graduate had higher scores than those whose mother was secondary-high school graduates in level three and level five-word lists and that the differences were significant. In the same way, in level six word lists, students with mothers who were university graduates had higher word recognition scores than those with mothers who were primary school graduates, students with mothers who were secondary-high school graduates had higher word recognition scores than those with mothers who were primary school graduates, and that the differences were significant. No significant differences were found between the first graders' word recognition scores in level four-word lists ($X^2(2) = 4.587, p > .05$) according to their mother's educational status.

The Kruskal Wallis-H test results for word recognition levels of students who read the lists written in block letters in WRI-2 according to the variable of their father's educational status are shown in Table 12.

Table 12. The Kruskal Wallis-H test results for word recognition levels of the first graders who were given WRI-2 according to their father's educational status

Word Lists	Father's educational status	N	Mean rank	sd	X^2	p	Significant difference
Level 3 word lists	Primary school	9	32.33				
	Secondary-high school	37	38.84	2	5.418	.067	
	University	39	49.41				
Level 4 word lists	Primary school	9	35.94				
	Secondary-high school	37	39.08	2	3.501	.174	
	University	39	48.35				
Level 5 word lists	Primary school	9	31.67				
	Secondary-high school	37	36.73	2	9.013	.011*	3-1 3-2
	University	39	51.56				
Level 6 word lists	Primary school	9	28.67				
	Secondary-high school	37	37.16	2	10.153	.006*	3-1 3-2
	University	39	51.85				

Considering the mean ranks for the groups, it can be said according to Table 12 that students whose fathers are university graduates have the highest word recognition scores- who were followed

by students whose fathers are secondary-high school graduates and by students whose fathers are primary school graduates, respectively. Besides, it was also found that the first graders' word recognition scores differed significantly in level five word lists ($X^2(2) = 9.013, p < .05$) and in level six word lists ($X^2(2) = 10.153, p < .05$) according to their father's educational status. Mann Whitney-U test was done to find the groups having the differences. In consequence, it was found that the students whose fathers were university graduates had higher word recognition scores than those whose fathers were secondary-high school or primary school graduates in level five and level six word lists, and that the differences were statistically significant. On the other hand, no significant differences were found between students' word recognition scores in level three word lists ($X^2(2) = 5.418, p > .05$) and in level four word lists ($X^2(2) = 3.501, p > .05$) according to their father's educational status.

Conclusion and Discussion

Research shows that students can learn 8 words a day and 2000-3000 words a year on average (Sthal and Nagy, 2006; Baker, Simmons and Kame'enui, 1995). Based on these findings, it is said that the number of words individuals learn differs greatly from person to person. While some students learn 8 words a day, some can only learn 1 word a day. For this reason, there can be great differences between words students who start primary school know. The difference continues to exist throughout their life and even it can increase (Biemiller and Boote, 2006). Some research found that the rate of words read or whether the words are known by individuals or not differed according to age, gender, culture, environment and geographical regions (Pars and Pars, 1954; Bilgen, 1988; Çiftçi, 1991; Tosunoğlu, 1998; Koçak, 1999). It was observed that sometimes instruments were developed to analyse students' levels of word recognition skills and that sometimes the instruments developed were used for analyses. Lists of words in context and lists of words out of context can be used to analyse students' word recognition skills (Karasu, Girgin, Uzuner, 2011, p. 118). Word lists can also be used to evaluate word recognition, to analyse the automaticity and to determine the level of a text to be read (Silvaroli and Wheelock, 2011; Johns, 2016; Bader and Pearce, 2013; Roe and Burns, 2007; Shanker and Cockrum, 2014; Woods and Moe, 2011).

This study made efforts to determine students' word recognition levels through words included in WRI-1 and WRI-2. While the words in the inventories represent the level of frustration for a student, they may be representing the instructional level or independence level for another student; because students' word recognition levels differ individually (Avşar Tuncay, 2017). Since students whose word recognition at the level of frustration can have problems in distinguishing words, reading will not be meaningful for those students. If the words students do not know is the majority of the words and if they are the words with technical meanings, the situation will make comprehending the text difficult (Biemiller and Boote, 2006). The text will be more meaningful if work is done on the

unknown words with students who are at the level of frustration before reading the text. In Tam, Heward and Heng (2006) five students having reading difficulty were taught vocabulary; and as a result, changes in their comprehension of the text were observed. At the end of the study, it was found that there was increase in reading comprehension scores of all those students who were the third and fourth graders. In the same vein, another study was conducted by Mastropieri, Scruggs and Mushinski-Fulk (2001) by teaching the words appearing in the texts they going to ask students to read. At the end of the study, the importance of vocabulary on reading comprehension was emphasised. In the same way, the success students at the level of independent reading attained in reading comprehension was a factor effective in the increase in vocabulary. Students who can comprehend what they read can acquire knowledge about the meanings of new words while reading, and thus, they can expand their knowledge of concepts and words. A longitudinal study conducted by Cunningham and Stanovich in 1997 is available in this respect. The researchers tried to find what the potential premises of students' knowledge of vocabulary could be, and they monitored 246 students who were between 4 and 10 years old for eight years in their research. The results showed that such skills of students whose vocabulary knowledge developed earlier continued by increasing. Thus, it was stated that vocabulary knowledge played key roles in students' learning to read, comprehending what they read and in the increase in their school achievement (Wasik, 2010). The researchers also point out that vocabulary knowledge, which play active roles in learning to read, is also the variable which is the strongest and on which the most emphasis is laid in making sense of a text (Baumann, 2009; Rosenshine, 1980). According to Fisher and Blachowicz (2005), insufficiency of vocabulary is a factor in failure to achieve the desired success at reading. According to Bayat, Şekercioğlu and Bakır (2014), students at the level of frustration in reading who cannot develop sufficient vocabulary knowledge cannot succeed in other academic domains such as science and social studies- which are based on reading comprehension-either.

On comparing the word recognition scores of the first graders who were given WRI-1 and WRI-2 in all word levels according to age (in months), no significant differences were found between their scores. 72 month-old students or older students had slightly higher scores than students younger than 72 months old in both inventories. Cesur (2005), in a study of evaluation based on students' compositions, found differences between the words students used according to age- as different from this current study. Accordingly, it was found in students' writing in which they described what they would like to experience in the future that it was possible to determine students' levels of active vocabulary. Çıplak (2005) found that students' diversity of words increased naturally in parallel to the rise in their biological and educational age. In a study conducted by Kılıç (2014) and analysing the 60-66-72 year old first graders' language skills found that the skills differed significantly according to 60-66-72 month old age groups. Thus, it was found in the study that the differences between the language skills of 72 month old students and of older students and between 60-66 month old students and the

66-72 month old students' language skills were in favour 72 month old students or older students. It was also found that the language skill scores of 60-66 month olds were sometimes at the level and that the scores of 72 or more month olds were frequently at the level. In this context, the findings obtained in the study do not support the hypotheses in the literature that word recognition level will rise in accordance with the rise in age (in months).

It was concluded that the students with high socio-economic status had higher word recognition scores than those with low and medium socio-economic status even though the differences in reading the word lists formed with certain sound groups available in WRI-1 and WRI-2 were not found to be significant according to socio-economic status. According to Ocak (2007), families' socio-economic status is an important factor influential in students' primary school literacy work, in their school life and in the process of primary school literacy. As the level of socio-economic status rises, parents' attitudes towards their children change in positive ways, and the literacy experiences they will make their children gain also increase. The results obtained in Yazanoğlu (2011) are also similar to the ones obtained in this study. Thus, the researcher observed that the first graders' literacy skills rose in parallel to the rise in socio-economic level. It was concluded that the literacy achievement of students with low socio-economic status was lower than the literacy achievement of students with high socio-economic status.

The above-mentioned studies support the conclusion that socio-economic level is a variable influential in literacy skills. Batur (2006) classified socio-economically students who have and do not have a computer, who live in a flat or in a slum and students who live in their own flat or live in a rented flat according to living or not living in a lucky environment. The researcher found that the social environment students live in directly affected the language acquisition or their wealth of vocabulary. Accordingly, it was found that the students having a computer and living in a lucky environment achieved more success than those who do not have a computer, that the students who lived in a flat achieved more success than those who lived in a slum and that the students who lived in their own flat achieved more success than those who lived in a rented flat. The researcher found according to students' socio-economic levels that the students attending a school with high socio-economic level acquired more words than those attending a school with medium or low socio-economic level. According to Cesur (2005), the environment the students are in and their socio-economic status cause differentiation in their vocabulary. Çıplak (2005), in a study analysing the active vocabulary in students' writing according to their socio-economic level, found that the 5th and 8th graders coming from low income families acquired more vocabulary than the students coming from high income families but that the students at other grade levels coming from high income families acquired more vocabulary than the students coming from low income families. Ipekçi (2005) found that children coming from families with high income knew fewer words than those coming from

families with low income. Accordingly, having socio-economically high status is not an element increasing the number of words in students' writing. As different from those studies, Konur-Ergene (2011) concluded that there were no significant differences between students who were born in villages, towns and cities in terms of level of learning vocabulary. The study also found that there were no differences between students' learning vocabulary according to families monthly income (0-500 Turkish Lira, 500-750 Turkish Lira, 750-1000 Turkish Lira and above 1000 Turkish Lira). It was claimed in the study that families' monthly income and the place of their residence did not have any effects on students' achievement in terms of learning vocabulary. It is apparent that the findings obtained in studies investigating socio-economic status and language skills, vocabulary learning and word recognition levels differ.

While significant differences were found in WRI-1 between word recognition scores according to the types of pre-school education received, there were no significant differences in WRI-2- which was a remarkable finding in this study. Although no significant differences were found in WRI-2, it was found that the students who had attended a nursery school and then a kindergarten had slightly higher word recognition scores than those who had attended a kindergarten only or than those who had not received any pre-school education. Ipekçi (2005), in a study on the words primary school students used, concluded in a similar way that the children who had attended a kindergarten/ nursery school knew more words than those who had not attended a kindergarten/nursery school. The situation indicates that kindergartens/nursery schools are influential in the increase in children's vocabulary. As can be understood from this point, kindergarten/nursery school helps to increase the number of words children use.

The students whose mothers were university graduates received the highest word recognition scores in all the word lists available in WRI-1 and in WRI-2 in this current study, and they were followed by the students whose mothers were secondary/high school graduates and by the students whose mothers were primary school graduates. The fact that there were no differences between students' scores according to their mothers' educational status only in one level in WRI-1 and WRI-2 does not mean that there are no differences between students' word recognition scores. In a study concerning the words the 7th graders used, and which was conducted by Ipekçi (2005), it was found that there was increase in students' vocabulary in parallel to the rise in parents' levels of education. The results obtained by Konur-Ergene (2011) differ. The researcher concluded that there were no differences between children's levels of vocabulary learning according to their mother's educational level (illiterate, primary school graduate, high school graduate, university graduate). Accordingly, there are no differences between students' achievement according to the variable of mother's educational level. In this context, it can be said that the results obtained in studies concerning mother's educational level and vocabulary learning and word recognition levels are diverse.

The students whose fathers were university graduates received the highest word recognition scores in all the word lists available in WRI-1 and in WRI-2 in this current study, and they were followed by the students whose fathers were secondary/high school graduates and by the students whose fathers were primary school graduates. The fact that there were no differences between students' scores according to their fathers' educational status only in one level in WRI-1 and WRI-2 does not mean that there are no differences between students' word recognition scores. This situation can be explained with the fact that all the students whose fathers were at different levels of education achieved success when level five lists were given. The fact that no differences were observed in the results for the groups in the lists with fewer words in WRI-2 and that differences were observed in the lists with more words does not mean that there are no differences between students according to their father's educational status. Even though there were no differences in the levels with fewer lists, it was found that the students whose fathers were university graduates received higher scores than those whose fathers were secondary/high school graduates and those whose fathers were primary school graduates. Batur (2006) found, as we did in this study, that father's educational level was influential in students' word recognition. The researcher believes that the words students can hear home will be diversified as the level of their father's education rises but that they are likely to be introduced to fewer words as the level of their father's education falls. Ipekçi (2005) investigated the words that the 7th graders used and found positive correlations between their parents' levels of education and their achievement in the number of sentences and of words. As the level of education moved from primary school to university, the number of students' words increased; but the level of education moved from university to primary school the number of students' words tended to decrease. Konur-Ergene (2011) concluded that there were no significant differences between students' vocabulary learning levels according to their father's educational level (illiterate, primary school graduate, high school graduate, university graduate). Thus, it was concluded in Konur-Ergene that father's educational level was not influential in students' achievement in vocabulary learning. It may be stated in this context that the results obtained by studies concerning the number of words students know, vocabulary learning and word recognition levels in relation with father's educational level are also diverse as in the case of studies conducted in relation to mother's educational level.

The importance of word lists again becomes apparent in the automatization of word recognition process, in knowing the meaning of words needed in producing a text and in attaining the fluency in reading a text. It believed that it will be necessary to implement such as design in primary schools to reveal students' levels of word recognition and to meet teachers' needs to assess the levels. Harris and Jacobson (1973) stated that one of the main areas of use of their word lists was readability research. Those lists can be used for several purposes such as preparing educational-instructional materials at each grade level and reading level, determining the readability of texts and books, planning teaching and evaluating it (Çetinkaya, 2011). The unavailability of inventories containing

word lists -as in this study- in Turkey causes problems in determining students' word recognition levels and in determining accordingly the types of texts they can read. Çetinkaya (2011) states that the unavailability of word lists through which the words to be taught according to grade levels are determined causes problems. Setting out from this point, an attempt was made to design an inventory to meet the general need. Thus, at the end of the process, WRI-1 and WRI-2 were prepared as a personal tool of evaluation to determine the first graders' word recognition levels, and they were found to serve to meet the need existing.

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