



Assessment of Reading Skill in Children of Younger School Age

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Abstract

This paper presents the results of research that aimed to assess reading skills and reading comprehension for students of fourth grade. The research sample was formed of 50 students of both sexes, preserved intellectual ability, without additional motor, cognitive and sensory impairments. The largest number of respondents (60%) had a great success, a little less of those with a very good success (30%) and the least of those who had good grades (10%). For the purposes of this research were used texts in Cyrillic and Latin letters, which were unknown to the respondents. Results of the research showed that among students of the opposite sex there is no difference when it comes to speed reading comprehension in both alphabets, while among students with different academic success there is statistically significant difference in speed reading. However, the results showed that participants better understand text written in Latin. Reading is a form of learning, or instrument to learn, and its success depends on the progress and success of students in school and life.

Keywords: reading; younger school children; reading comprehension.

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1. Introduction

Reading is a skill made up of several components and includes a number of different cognitive processes that include decoding written words, establishing a connection with their meaning, sentence parsing, semantic analysis of the sentence and ultimately a comprehensive interpretation of the text [1]. So, to say that someone is fully mastered reading skills he must have developed a technique of reading (decoding written) and the ability to understand what is read. The most important task of primary education is that a child had successfully mastered the art of reading. In kindergarten and first grade children learn how to decode words, while in the second grade decoding skill becomes automatic. In third grade reading becomes a tool for learning. Fundamental basis for reading and critical reading students gain in the lower grades of primary school (7 to 12 years, or from I to IV grade in Serbia) when, according to Piaget, pass through two stages of development: initial cooperation - from seventh to eighth year, and the process of codification from the tenth to twelfth year, which significantly marked their cognitive, affective and emotional development [2]. According to [3] the initial literacy (reading and writing), states that the intensive development of cognitive functions and all other resources is essential for the overall development of children. Acknowledgement of literacy and mastery of structural elements of oral and written expression as well as their continuous improvement, are the starting assumption of organized learning at all educational levels. After a period of learning to read and write, these processes over time are perfected through organized practice until a high degree of automation. Success in school depends on how the students have mastered reading and writing. The success of the initial reading and writing influences the development of verbal skills and enrichment of linguistic culture of students. After learning to read in first grade, and in the following grades, the goal is to get the process perfected during their education. Reading is refined and later throughout life. Mastering the skill and habit of reading depends on many factors. Certain students read faster, others slower, some more and some less understood what they have read. We can say that the students have learned to read when their reading skills have achieved the flow of natural and normal speech [3]. Reading comprehension is a complex process of constructing meaning of the text, as stated above, so decoding skills alone are not sufficient [4]. Before decoding skills become automatic, children focus is on the literal meaning of the words they read, which is why they have difficulty in thinking about the topic they read. When we achieve automation decoding, it opens the way to mastering the initial reading (learning phase reading) move to the next level - reading for learning [5, 6], and reading literacy can be used as the primary means of education and individual development of the person [7, 8]. Overall formal or non-formal education and everyday activities rely on this type of literacy [9]. Many authors emphasize the importance of reading literacy for learning and development of each individual [5, 7, 4, 8, 6, according to 9]. Speed reading is one of the techniques of reading and it is next regularity of reading in the process of forming initial teaching of reading. Speed reading is an individual component of a reader and it is achieved by variety of reading texts aloud and in yourself. Reading is faster if text is read in itself, because reading aloud is slow down by function of speech organs [10]. Any text that is learned and read, has its own peculiarities and characteristics that must be respected in determining the tasks of teaching to a greater number of students to understand the logical content of the text and the author's basic message. The ability to understand the meaning of words and sentences is a significant determinant of language development, but also points to the development of learning abilities [11]. Reading comprehension is in the focus of international studies dealing with the evaluation of the educational system as one of the key

competencies through which assesses the extent to which an educational system successful [7]. In Serbia, according to the national educational plan and program, students first master reading and writing in the Cyrillic script, and then in Latin. The first stage begins in the first grade of primary school, or even in the preschool period. The second phase begins in the second grade of primary school. The aim of the research is to assess the reading skills and reading comprehension in students of fourth grade. We assume that in students of the opposite sex will be no difference in the speed of reading and in understanding the reading of the text, while in students with different academic success will be recorded difference in the studied variables.

2. Metodology

The survey was conducted during September 2016. The research sample was formed of 50 students of the fourth grade of elementary school, both sexes (50% of boys and 50% girls). Of the four departments of the fourth grade, a systematic random sample, was elected every fifth male student and every fifth female student. On the basis of the pedagogical documentation, all students are preserved intellectual ability, without additional motor, cognitive and sensory impairments. The largest number of respondents (60%) had a great success, a little less of those with a B success/grade (30%) and the least of those who had good grades (10%). Table 1 gives an overview of the structure of the respondents in relation to academic achievement.

Table 1: Structure of respondents in relation to academic achievement

School success	N	%
Excellent	30	60
Very good	15	30
Good	5	10
Total	50	100

For the purposes of this study were used texts in Latin and Cyrillic script, with which testing was done reading speed and reading comprehension. Testing was conducted individually. Speed reading is measured by the number of words read in a time interval of 2 minutes. Time is measured by a stopwatch. Texts used for testing the speed reading are taken from textbooks for the fourth grade of primary school. Reading comprehension is tested by checking answer to a questions after reading the texts. Each correct answer to a question is brought by 1 point (ie. Read understood), while each incorrect answer carried out 0 points (ie. Do not understand what is read). The texts for verification of reading comprehension were parts of tests for evaluation of memory. Experiments were performed on the following measures: a score that makes the total number of errors, the time required for the child to read the text (in seconds), and a record which makes the total number of correct answers to the eight questions and concerns the understanding of the text. In order to describe the basic results, are used: incidence rates (frequencies and percentages) and measures of central tendency (mean, standard deviation, median). Also, we used nonparametric tests, Mann-Whitney U test and the Wilcoxon test of equivalent pairs.

3. Results

Below follows a presentation of the results of research relating to the speed of reading the text in Cyrillic and Latin letters in relation to sex and school success, as well as the results obtained by checking the reading comprehension. Based on the results, the average reading speed in Cyrillic is 192 words ($M = 192.90$, $SD = 29.871$). The range of recorded value is 123 words (Min. = 100; Max. = 223). The minimum number of words read in a period of 2 minutes was 100 words (one student), while the highest number of words read in a period of 2 minutes amounted to 219 words (three students). At the same time, the average speed of reading the Latin is 139 words ($M = 139.29$, $SD = 23.871$), and the range of the recorded value is 99 words (Min. = 74; Max. = 173). One student had read the minimum number of words, while four students read the maximum number of words in a time interval of 2 minutes (Table 2).

Table 2: Distribution of speed reading the text in Cyrillic and Latin alphabets

Cyrillic				Latin			
M	SD	Min	Max	M	SD	Min	Max
192.9	29.871	100	223	139.29	23.871	74	173

Further analysis of the total sample, we obtained the result that participants were quickly in reading a text written in Cyrillic in relation to the text that is written in the Latin alphabet. Specifically, using the Wilcoxon equivalent pairs test, it was found that there were statistically significant differences in the speed of reading a text written in Cyrillic in relation to the Latin alphabet ($Z = -6.100$; $p < 0.001$). The median reading of the text in Cyrillic amounts to 203, while the same value for the text to read Latin is 140.

Table 3: Differences in the speed of reading the text in Cyrillic in relation to gender

Sex	N	Average rang	Median	Mann-Whitney U	Z	p
Male	25	26.66	203	283.500	-.564	0.573
Female	25	24.34	203			

Table 3 shows the differences in the speed of reading the text in Cyrillic compared to gender. By applying the Mann - Whitney U test, it was found that there were no statistically significant differences in the speed of reading the text in Cyrillic, between male and female ($U = 283.500$; $p = 0.573$).

The value of the median for both sexes shows identical value.

Table 4: Differences in the speed of reading a text in Latin with respect to gender

Sex	N	Average rang	Median	Mann-Whitney U	Z	p
Male	25	26.58	141.50	262.500	-.761	0.447
Female	25	23.48	140			

Table 4 presents the results obtained using the Mann-Whitney U test. It was found that there were no statistically significant differences in the speed of reading a text in Latin, between male and female (U = 262.500; p = 0.447).

The value of the median for both sexes shows the approximate value.

Table 5: Differences in the speed of reading the text in Cyrillic in relation to the academic achievement of respondents

School success	N	Average rang	Median	Mann-Whitney U	Z	p
Excellent	30	34.48	208.5	30.500	-5.346	0.000
Verygood & good	20	12.03	180			

The differences in the speed of reading the text written in the Cyrillic script in relation to academic achievement are shown in Table 5.

The Mann-Whitney U test shows that there are statistically significant differences in the speed of reading the text in Cyrillic, among respondents who have excellent academic achievement and respondents with very good / good academic achievement (U = 30.500; p <0.001).

The value of the median for the category of excellent students shows the value of 208.5, while the value of the median for the category of very good students and good shows value of 180.

Based on these results, it can be said that respondents with excellent academic achievement, quickly read the text printed in Cyrillic, as compared to subjects with very good / good academic achievement.

Table 6: Differences in the speed of reading the Latin text in relation to the academic achievement of respondents

School success	N	Average rang	Median	Mann-Whitney U	Z	p
Excellent	30	33.04	148			
Verygood & good	20	12.32	120	44.000	-4.951	0.000

Table 6 shows the results relating to the disparities in the speed of reading a text written in Latin letters in relation to the academic achievement of the respondents. By applying the Mann-Whitney U test, it was obtained that there are statistically significant differences in the speed of reading a text in Latin, among respondents who have high academic success, and respondents with very good / good school achievement ($U = 44.000$, $p < 0.001$). The value of the median for the category of excellent students shows the value of 148. The value of the median for the category of very good students and good is 120. Respondents with excellent academic achievement, quickly read the text printed in the Latin alphabet, as compared to subjects with very good / good academic achievement. Distribution of information about understanding the read text in Cyrillic, shows the average value of 3.66 correct answers (out of total 5), ($M = 3.66$; $SD = 1.136$). The rang of recorded value is 4, ($Min = 1$, $Max = 5$). At the same time, the obtained results show that respondents recorded an average value of 4.38 correct answers (total of 5) when it comes to reading comprehension of a text written in Latin letters ($M = 4.38$; $SD = 0.855$). The rang recorded value is 2, ($Min = 3$; $Max = 5$). Further statistical analysis using the Wilcoxon of equivalent couples test showed that there are statistically significant differences in the understanding of the read text printed in Cyrillic in relation to Latin when it comes to the total sample ($Z = -4.951$; $p < 0.001$). The median value in understanding the reading of the text in Cyrillic is 4, while the same value for the understanding of the text read in Latin is 5. The subjects covered by the sample better understand (give more correct answers to 5 questions asked about the content of the text) text written in Latin letters in relation to their understanding of the text written in Cyrillic.

Table 7: Differences in the understanding of the text in Cyrillic in relation to gender

Sex	N	Average rang	Median	Mann-Whitney U	Z	p
Male	25	27.80	4			
Female	25	23.30	4	255.000	-1.167	0.243

Differences in relation to the reading comprehension of a text written in Cyrillic between male and female are shown in Table 7. On the basis of applying Mann-Whitney U test was obtained that there are no statistically significant differences in the understanding of the text in Cyrillic, among respondents of different gender ($U = 255.000$; $p = 0.243$). The value of the median for the category of respondents and male and female shows a value of 4. Reading comprehension of a text written in the Cyrillic alphabet is the same among students of both sexes.

Table 8: The differences in the understanding of the Latin text in relation to gender

Sex	N	Average rang	Median	Mann-Whitney U	Z	p
Male	25	24.74	5			
Female	25	26.26	5	293.500	-0.427	0.669

Mann-Whitney U test shows that there are no statistically significant differences in the understanding of the text in Latin, among respondents of different gender ($U = 293.500$; $p = 0.669$). The value of the median for the category of male and female respondents shows value of 5 (Table 8). Respondents of both sexes equally understand the read text written in the Latin alphabet.

4. Discussion

In this study, we tried to assess the development of reading skills and reading comprehension in pupils of younger school age. Based on these results, we can say that there is no difference between speed reading and reading comprehension when gender is concerned. School success shows a significant difference between the students, and stands out excellent students on one side, and very good and good on the other side. Students with excellent grades faster read and better understand written text from a student with a good and very good success. It is interesting that the students in the total sample better understand the text written in the Latin alphabet. This can be explained in several ways. In fourth grade, within almost all subjects, is used the Latin alphabet. Second, a number of Latin characters resemble Cyrillic, and it's easy for students to read and understand. Furthermore, in a number of extracurricular activities that use reading skills, is more represented Latin (search on the internet, the use of computers, mobile phones, watching foreign films, playing a variety of board games, etc.). Reading is actually an instrument that has been in use in learning during their school and later in life. On one hand, the crucial importance of reading, is difficult to describe in simple terms, and on the other, extreme complexity and sensitivity of the phenomenon of reading. This phenomenon is still a tough nut to crack for science. Despite many studies on reading, reading and learning disabilities in reading, today, there is still no reliable information. Of course, researchers still narrow out the space of uncertainty and speculation and point out to some facts, conditions, causes to which the methodology of teaching reading can rely more probability of success [12].

Measurement reading as an educational outcome has a long tradition as well as testing of knowledge and is applied since the beginning of the XX century. Parallel with the changes in society, economy and culture, as well as with all the intensive research of nature and the process of reading, the definitions of reading and reading literacy had been changing, and thus instruments to measure this concept. In the middle of the last century, under the influence of behaviorism and later information processing theory, dominated the belief that the ability of reading is a series of discrete mental abilities that form a hierarchy, with the behaviorists more concerned with the structural aspect of reading (which all activities involved in reading) cognitivists a functional (how activities are coordinated) [8]. Research conducted on the reading comprehension as opposed to gender in Croatia show that girls value more reading and have a greater interest in reading than boys, especially in adolescence. In addition to both general interest in reading, it is important what value students attach to a particular task of reading and how much is the actual text interesting. It seems that this is especially important for boys. In fact, studies have shown that in boys understanding to a greater extent, is determined by interest in the topic of the text as a better understanding of the texts that are interesting to them, while understanding among the girls to a lesser extent, depends on the interest in the topic. Therefore, it is important to link the academic texts with the students' interests, especially in boys. If the text is not interesting to them, especially if the purpose of reading is not clearly highlighted, the students make their own conclusions about why certain text should be read so it is possible that they will read only to please the teacher or to receive a certain grade. In such a situation where the aim of reading externally, external, and usually determined by the teacher, students will read because i have to or because it will most likely be assessed. At the same time it can be focused on obtaining excellent reviews and the avoidance of negative reviews. Students may also be motivated by obtaining social support, and welcomed by teachers, so that their efforts and performance will depend on what is important to others. However, the target of reading may be internal, and, inner, for example. When we read because we are interested in the content of the text, because we want to learn something new, because we want to have fun or relax. The inner objective usually increases the value of the task, engagement in reading, and therefore the likelihood of self-regulation [13]. Increase the understanding of gender differences in reading comprehension is shown in the upper grades, as indicated by research conducted on this topic. This pattern of gender differences can probably be attributed to motivational factors, greater willingness in students to actively regulate their own reading [14]. Based on the results of a four-year observation of 669 pupils in reading aloud in I, II and III class and speed of silent reading comprehension in class IV and V show a constant progression. The average speed of silent reading comprehension in the fourth grade is 85, and the V 125 words per minute, while the average percentage of reading in both grades is about 75% [15]. Conducted a study of speed and accuracy of reading at primary school age, on a sample of 720 students from class I to VIII, it is shown that the speed and accuracy of reading depend on the age, independent work of students, gender and intellectual abilities. Words read in one minute was from 33.62 in the class up to 147.43 in the eighth grade. Students who attended the all-day school (where they did not have enough opportunity to work and read individually) read more slowly than their peers of 5.67 words a minute. The girls, aged from II to VI grades on average than boys read faster and with fewer mistakes. Students above average intellectual abilities read faster than the average intellectual abilities and make fewer mistakes. Students with average intellectual abilities are faster in reading than students whose intellectual abilities are below average and make fewer mistakes [16].

5. Instead of Conclusion

Reading is a form of learning, and its success depends on the progress and success of students in school and life. A good reader will easily and quickly obtain information given in the written texts. The school is obliged to develop individual reading abilities of students, on the program content and modern forms of work. Students should be trained in school to read properly, quickly and beautifully, to develop the habit of regular reading of which is achieved through the development of the art of reading, logic, reading comprehension and elements of expressive reading. The limitation of the research is a relatively small sample. This limits us in the ability to making some general conclusions. According that, our recommendation for further research is reflected on expanding research in terms of a larger sample. Also, some further research should take into consideration other variables that may be indicators or predictors of reading skills, such as social status of family, cultural patterns, early child development and the like.

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