

**THE INFLUENCE OF READING RECOGNITION IN CHILDREN OF THE TYPICAL POPULATION AND CHILDREN WITH DEVELOPMENTAL DISABILITIES****¹ *Dr. Marija Slavković and ² Doc dr. Sanja Sočë**¹Elementary school "Sava Jovanović Sirogojno", Zemun, Bosnia & Herzegovina²Faculty of Educational Sciences, University of Sarajevo, Bosnia & Herzegovina**Received 08th May 2022; Accepted 14th June 2022; Published online 27th July 2022**

Abstract

The period of transition from preschool to school period is a time of rapid changes in children's development. Children with developmental disabilities lag behind their peers in the typical population, especially in the skill of reading recognition. This is why preparatory programs for children with developmental disabilities are of great importance, especially in the area of reading and recognizing what has been read. The aim of this research is to determine the influence of reading recognition in children of the typical population and children with developmental disabilities. The research sample consists of two hundred children of the typical population from the educational group and thirty children with developmental disabilities from the developmental group. During the testing of children of the typical population, a group of thirty children with developmental disabilities was selected. In the following work, we named the resulting group of children the educational group of children with developmental disabilities. The research used a revised version of the Peabody Individual Achievement Test – Revised for assessing individual achievements, which enables the assessment of reading recognition. Testing was conducted during September and October 2019. It was concluded that children of the typical population and children with developmental disabilities from developmental groups show better results on the subtest for recognition of what has been read, in contrast to detected children with developmental disabilities in the educational group. The conclusion refers to engagement in adapting the preparatory preschool program with the inclusion of necessary methods that stimulate the development of read recognition in children with developmental disabilities in educational groups.

Keywords: Recognizing the readable, children of the typical population, children with developmental disabilities, preparatory preschool program.

INTRODUCTION

The preschool period represents the basis for the child's later personal, social and cognitive functioning. In this period, the basic functions of language and knowledge are formed. Some functions, such as language, that are established in preschool are highly predictive of later academic outcomes. Many studies indicate a link between language skills and academic achievement. In a longitudinal study by (Harrison *et al.*, 2000) found that preschool language skills predicted academic outcomes in third grade. Given its predictive validity, examining certain aspects of language such as verbal functioning can provide researchers with clearer insight into an individual's cognitive and emotional functioning (Harrison *et al.*, 2000). Reading recognition varies, but it is related to reading and develops continuously during the first five to six years of life, so long before the start of formal schooling. These preparatory skills, which include phonological awareness (for example, rhyming, alliteration), vocabulary, letter naming, and word manipulation (word blending, word segmentation), are strongly linked to later language ability and are introductory skills for successful learning to read (Hart & Risley, 1995; Snow, Burns & Griffin, 1998 according to Missal, McConnell, & Cadigan, 2006). In order for children to become good readers, they need to develop numerous language skills, linguistic awareness, understand spelling conventions, connections between phonemes and graphemes, and necessary writing skills. This perspective on literacy development, called imperative literacy or preparatory literacy, is currently the dominant perspective on literacy development prior to formal

learning to read. It differs from earlier approaches to reading readiness, which did not make a clear boundary, but spoke of a developmental progression between preparatory literacy and reading itself. Children of the typical population who do not master the concepts of reading comprehension carry a great educational risk. (Morrison, McMahon & Williamson, 1993; Stevenson & Newman, 1986, according to Missal, McConnell, & Cadigan, 2006), so that a child who lags behind his peers in knowing the concepts of literacy and reading recognition is at a significantly higher risk of placement in special elementary education (Scarborough, 1989, according to Missal, McConnell, & Cadigan, 2006).

METHODS**A sample**

At the beginning of the research, the sample included 200 respondents from the typical population and 30 respondents with developmental disabilities, of both genders. The respondents were divided into three groups. The first group included children with intellectual disabilities who attended developmental preschool groups and they consisted of 30 respondents (hereinafter: developmental group). When testing children who attended regular educational preschool groups, children with significantly lower values on the subtest for academic achievements in the area of reading recognition were singled out. It was shown that their mean and maximum achievement values on the reading recognition subtest are significantly lower than other children from the typical and developmental groups. The obtained information made it necessary for these children to be separated into a special

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group, i.e. a group of children with developmental disabilities who attend regular preschool groups and they consisted of 30 respondents (hereinafter: educational group). Other children from regular educational groups, who had higher average and maximum achievement values on the academic reading recognition subtest, were classified into the typical group, 170 respondents remained in that group after the test.

Instruments and procedure

At the beginning of the research, consent was obtained both from parents or guardians, as well as from the heads of the institutions where the research was carried out. Data on the degree and type of the respondent's disability and the respondent's chronological age were taken from the respondent's file. The research process was carried out in September and October 2019. The testing required an individual assessment of each respondent, carried out in the kindergarten.

PIAT-R (Markwardt, 1998) was used to assess individual academic achievements in the area of children's reading recognition. Revised Peabody Individual Achievement Test, hereinafter: PIAT-R (Peabody Individual Achievement Test: Revised) is an achievement assessment test that serves for individual analysis. The test provides insight into children's achievements in five areas, and in this paper we use only one area, namely reading recognition.

Reading recognition subtest

The reading recognition subtest is an oral reading test. The initial items, related to pre-reading abilities, measure the subject's ability to recognize the sounds associated with printed letters. In the tasks that followed, subjects were asked to read words aloud.

Subtest administration: Practice items and initial items were administered by having the examiner read the item aloud and the subject pointing to or saying the number of the quadrant containing the correct answer. For items from number 17 to number 100, the examiner said the word out loud. For subjects starting the test with any item in the range from one to 16, and subjects starting from item 17 to item 100, an additional instruction was given. On the reading recognition test, the maximum number of points in the educational group was 15, and in the typical group the maximum number of points was 29.

Results obtained on the Reading Recognition subtest

Table 1 shows the mean values of the Z scores of the achievement of the comparison groups on the reading recognition subtest.

Table 1. Average values of the Z scores of the three groups of respondents on the reading recognition subtest.

Group	AS	SG
TG	0.43	0.06
VG	-1.39	0.05
RG	-1.04	0.11

Legend: TG=typical group, VG=educational group, RG=developmental group, AS=arithmetic mean, SG=standard error.

By looking at the mean values of the Z scores, it can be seen that they are positive only in the case of the typical group,

which shows that children from this group have the best results on the reading recognition subtest.

Table 2. Differences between the examined groups in achievements on the reading recognition subtest

Recognition of what has been read	df	F	p
	2	128.65	0.00

Legend: df = degrees of freedom, F=F coefficient, p=significance

In order to establish whether the differences in the achievements of children from different groups are significant, a one-factor analysis of variance was performed. The results of this analysis (Table 2) indicate that there are significant ($p<0.05$) differences in achievement between the groups.

Table 3. Determination of significant differences between the comparison groups on achievements on the reading recognition subtest

Recognition of what has been read	TG	VG
VG	0.00	
RG	0.00	0.15

Legend: VG=educational group, RG=developmental group.

This data tells us that children from the typical group have significantly ($p<0.05$) higher scores compared to the other two groups, which was established by the subsequent Scheffe test (Table 3). Looking at the p values shown in Table 3, it is clear that there is a difference in the achievements of children from the development group compared to children from the educational group, but not statistically significant ($p>0.05$).

Determining the existence of a correlation between children's chronological age and achievement on the written expression subtest was done using the Pearson test (Table 4). It was found that a significant ($p<0.05$) positive correlation between the mentioned parameters exists both in individual comparison groups and in the total sample. In this test, the correlation in the educational group, which is of the highest intensity, is singled out. In the typical and developmental groups, as in the entire sample, the correlation is of medium strength.

Table 4. Correlation of chronological age and achievement on the written expression subtest

Group	r	p
TG	0.44	0.00
VG	0.68	0.00
RG	0.54	0.00
Total sample	0.55	0.00

Legend: TG=typical group, VG=educational group, RG=developmental group, r=Pearson correlation coefficient, p=significance.

Discussion of the results obtained on the Recognition of what has been read subtest

Children of the typical population have significantly higher scores ($p<0.05$) compared to the educational and developmental group, which was established by subsequent Scheffe tests. It is clear that there is also a difference in the achievements of children from the development group compared to children from the educational group, but not statistically significant ($p<0.05$). The Pearson test proved the existence of a significant correlation between children's age and their achievements, both in the total sample and in the comparison groups. On the total sample in the educational and developmental group, a strong correlation was obtained. On

the other hand, in a typical group, the correlation is of medium intensity. Two-factor analysis revealed that the factor of belonging to the group has the main influence on the reading recognition subtest, while the gender of the children has no significant influence and their influences do not mix. The resulting subsequent Scheffé tests revealed the existence of a statistically significant difference ($p < 0.05$) in the achievements between boys and girls from the typical group and children of both sexes from the development group, but boys and girls from all groups do not differ from each other ($p > 0.05$) in achievements. on the reading recognition subtests.

When it comes to the reading recognition subtest, its items are related to abilities that precede reading, measuring the examinee's ability to recognize the sounds associated with printed letters. The examinee is required to read the words aloud. It could be seen that the children of the typical population show the best results on the subtest reading recognition and that there is a slight developmental advantage in relation to the educational group of children with intellectual disabilities. Recognizing and understanding what is read is essential for children's success in school. In many researches, as well as in ours, it has been proven that children with developmental disabilities of preschool age from both comparison groups (educational and developmental) of preschool age, have a harder time adopting the following identified areas: the connection between letters and letter names, identifying the connection between letters and sounds, connecting letters and sounds, reading selected nonsense words. Children with developmental disabilities in both the developmental and educational groups showed an insufficient ability to recognize letters and read, in contrast to children of the typical population, who showed a satisfactory level of letter recognition and reading for their chronological age. It was established that some characteristics of the preparatory-preschool language program are the reason for the variation in reading in the first grade, among children with developmental disabilities, and that is why the language should be learned through use and not through rules (Vigotsky, 1996). Palincsar & Brow, 1984 provide the concept of mutual reciprocal teaching of the aforementioned strategies, which are related to the recognition and understanding of what is read, for the better achievement of children with developmental disabilities (Rosenshine & Meister, 1994).

The study by O'Neill and colleagues (O'Neill, Pearce, & Pick, 2004) was in accordance with the instructions from the manual (Markwardt, 1998). These authors also came to the conclusion that boys and girls from the developmental and educational groups do not statistically differ from each other in terms of the achieved results. Children's scores on a measure of vocabulary diversity have also been found to be significantly correlated with their scores on reading recognition (O'Neill, Pearce, & Pick, 2004). The field of reading has been considered in numerous descriptive studies, the results of which reliably supported Juel's (1988) primary conclusion that with a plan and program intended for children of the typical population, children with developmental disabilities have a minimal chance of overcoming the differences that occur in learning to read. Smith & Dickinson, 2002 found that 71% of children with developmental disabilities who followed the curriculum of typical children showed difficulty in reading at the end of first grade. Summarizing the data obtained in the studies, (Moni & Jobling, 2001), come to the general conclusion that children with developmental disabilities are far

below the limit compared to typical populations on the reading test, that is why we did not continue it in our research. Reading recognition subtest. In contrast to descriptive longitudinal studies, a decade of research on interventions in the area of reading difficulties provides evidence, confirming that poor reading performance in children with developmental disabilities compared to children in the typical preschool population is observed in the following areas: phonemic awareness, phonemic decoding, word reading and reading comprehension. Reading recognition and comprehension is essential for children's success in school (Tompkins, Guo & Justice, 2013). Facts in the world that may concern us are, for example, that in 2009, 33% of children in the USA who attended the 4th grade and 25% of the children who attended the 8th grade of elementary school were below the basic level of reading recognition and comprehension (National Center for Education Statistics, 2010, according to Tompkins, Guo and Justice, 2013). Such statistical data encouraged research that sought to understand individual differences in reading recognition, including the precursors of good comprehension. Tompkins and colleagues suggest the introduction of dramatic play and acting within the framework of the preschool program, group discussions about stories and books, which represent an additional incentive for the development of oral language. In this way, children with developmental disabilities, of preschool age in the educational group, would be helped to improve their language skills, all with the aim of mastering reading recognition for successful integration into the preschool and later into the school system (Tompkins, Guo & Justice, 2013).

Conclusion

In order to build the necessary interventions, which would improve the reading recognition of children with developmental disabilities in VG, it is necessary to examine the segments of the preparatory preschool program, which in our research children with developmental disabilities in VG failed to master, and which relate to achievements in the area of phonological awareness, vocabulary, spelling, manipulating words and naming letters. The quality of the preparatory preschool program predicts the cognitive and academic success of a child with developmental disabilities in the school system. A preparatory preschool program can provide a significant opportunity to influence the developmental trajectory of academic skills in children with developmental disabilities. Preschool literacy experiences, one of which is reading recognition, can predict lasting reading outcomes in children with developmental disabilities and contribute to the foundation children build for lifelong literacy. In the exploratory character of the game, we can look for solutions to approach the content of reading comprehension skills to children with developmental disabilities. Learning through play at preschool age contributes to overcoming the existing discontinuity between the system of preschool and school upbringing and education. Game and acting processes based on the recognition of what has been read lead to the creation of new mental structures, and thus play and acting through the recognition of what has been read at the same time represents the imaginative symbolism of the individual. The content of teaching programs related to the recognition of what has been read can be implemented and by applying properly measured and designed activities in the given system, with support, encouragement and guidance by educators and parents and

good knowledge of age and psychophysical characteristics of each child and with an adequate selection of didactic material.

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