

SOME CHARACTERISTICS OF DEAF AND HARD OF HEARING CHILDREN'S TEXT REWRITING ACTIVITIES

NEKE KARAKTERISTIKE PREPISIVANJA GLUHE I NAGLUHE DJECE

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ABSTRACT

The aim of the research was to examine the successive rewriting abilities aimed at determining the difficulties in the phonological-phonematic, optical, kinetic, spelling and grammatical components of writing. The analysis determined the number of errors for the respondent which are omitting or adding letters, syllables, words, sentences, spelling and grammatical errors. The general purpose of this part of the examination is to determine the degree of mastery of writing, to find difficulties in writing, to determine the mechanism, form and extent of these difficulties. The aim was to investigate and determine whether there was a statistically significant difference in rewriting ability with respect to the age of the respondent. The study was conducted on 45 hearing impaired respondents (primary and high school students). Based on this research, it was found that: no statistically significant difference in rewriting abilities was found with respect to the age of the respondents; when rewriting, hearing impaired respondents had no errors at the text level; no errors at the word level, and specific spelling errors (optical and phonological - phonemic character) and linguistic analysis and synthesis errors were recorded, while no kinetic - type errors were recorded.

Keywords: deafness, writing, rewriting, type of errors

SAŽETAK

Cilj istraživanja bio je ispitati sposobnosti sukcesivnog prepisivanja usmjerenog na određivanje teškoća u fonološko-fonematskoj, optičkoj, kinetičkoj, pravopisnoj i gramatičkoj komponenti pisanja. Analizom je utvrđen broj grešaka za ispitanika u vidu izostavljanja ili dodavanja slova, slogova, riječi, rečenica, pravopisne i gramatičke greške. Opšta svrha ovog dijela ispitivanja je određivanje stepena ovladavanja pisanjem, pronalaženje teškoća u pisanju, određivanje mehanizma, oblika i stepena tih teškoća. Zadatak je bio istražiti i utvrditi postoji li statistički značajna razlika u sposobnostima prepisivanja u odnosu na uzrast ispitanika. Istraživanje je provedeno na 45 ispitanika oštećena sluha, učenika osnovne i srednje škole.

Na temelju ovog istraživanja utvrđeno je da: nije utvrđena statistički značajna razlika u sposobnostima prepisivanja u odnosu na uzras ispitanika; prilikom prepisivanja, ispitanici oštećena sluha ne prave greške na razini teksta; zabilježene su greške na razini riječi, te specifične pravopisne greške, i to optičkog i fonološko – fonematskog karaktera, te greške jezičke analize i sinteze, dok greške kinetičkog tipa nisu zabilježene.

Ključne riječi: gluhoća, pisanje, prepisivanje, vrsta pogrešaka

INTRODUCTION

Writing is the most complex human activity, and rewriting is the simplest form of written exercises of reproductive character in relation to a person's involvement in rewriting (Pribanić, 1998). Čop (1972) and Vladislavljjevic (1991) distinguish between three types of rewriting: identical rewriting by pattern, rewriting of printed/block letter text (in which there can be lowercase and / or uppercase letters) to cursive or vice versa, and rewriting from one type of writing system to another. The physiological basis of rewriting is mainly based on visual and graphomotor activity. The accuracy and aesthetics of the rewriting are ensured by: good spatial orientation, advanced hand motility, coordinated hand and finger movements, good visual perception and oculomotor coordination. Likewise, some psychic functions influence rewriting: attention, perseverance, motivation and fatigue.

Rewriting is predominantly of reproductive type, although it is not always pure reproduction. Rewriting is for developing writing techniques, practicing and improving grammatical and spelling skills, developing regularity of expressions, enriching vocabulary, and partly for developing the style and ability of writing. Rewriting is more of a preparatory action that, to a certain extent, enables students to master some of the rules necessary to enable them to express themselves properly in written expression. The rewriting must be organized in such a way that it has a purpose; it should not be reduced to simple, mechanical copying of the text. The goals of rewriting activities are: mastering writing techniques, developing a working discipline and sense of neatness, accuracy and logic of spelling and grammar rules, enriching vocabulary, practicing style, thinking and thoughtfully deepening of the text being rewritten. It would be a good idea to have each rewriting controlled and assessed by the teacher so that the children can correct their errors.

With all these facts in mind, it is not necessary to emphasize the need for rewriting exercises in hearing impaired children, not only because they contribute to the development of mechanical habits of writing rules, but the student, rewriting the text according to a written sample, notes the structure of words, grammatical orthographic elements and identifies visual and motor concepts of grammatical and spelling forms. By rewriting, the student gets an optical image of the word, imitating and memorizing it by writing, noticing sentence composition, punctuation, and more (Chop, 1972).

A well-crafted rewriting technique not only allows for faster application of the writing system, but also accomplishes the process of thinking, linguistically shaping thoughts and expressing them in writing (Nikolić, 1996).

RESEARCH MATERIAL AND METHODS

Sample of respondents

The study was conducted on a sample of 45 respondents (primary and high school students). The sample was selected respecting the following criteria: students had to attend primary or high school; by the time of the survey they were covered by a hearing and speech rehabilitation program; they had an average intellectual status. The sample is divided into three sub-samples:

- Students of primary school education / lower primary school age - from 3rd to 5th grade;
- Students of subject teaching education / senior primary school age - from 6th to 9th grade;
- High school students (table 1).

Table 1. Distribution of respondents with respect to age

Age of the respondent	Number of respondents
Students of primary school education	15
Students of subject teaching education	15
High school students	15

Method of conducting research and Measuring instruments

A Diagnostic kit for testing speech, language, reading and writing (Bjelica, Posokhova, 2001) was used to assess the ability to rewrite. The general purpose of this part of the examination is to determine the degree of mastery of writing, to find difficulties in writing, to determine the mechanism, form and extent of these difficulties.

Rewriting evaluation variables:

- Rewrites the text correctly,
- Commits optical errors (mirror letters, rotation),
- Commits kinetic errors (omitting letter elements, adding redundant elements, difficulty transitioning from one letter to another),
- Commits phonological-phonematic errors (which letters represent a problem),
- Commits linguistic analysis and synthesis errors:
 - at the letter and syllable level (moving, omitting, adding);
 - at the word level (spelling the same word separately, writes multiple words composing a single word, morphological disgrammatism);
 - at the sentence level (distorting word boundaries in a sentence, syntactic disgrammatism, no clear sentence feature - capital letter, dot);
 - at the text level;
- Commits non-specific grammatical/spelling errors,
- Unable to rewrite the text.

Data processing methods

After the research, the obtained data were processed by the statistical program SPSS 16.0 for the Microsoft Windows operating system. In the statistical data processing, in accordance with the defined research aims, basic statistical parameters were calculated for all variables: range of results, minimum and maximum results, arithmetic mean and standard deviation. To test the set hypothesis, a variance analysis method was applied. The results were also interpreted by analyzing the errors of the respondents on the tasks.

RESULTS AND DISCUSSION

The activity of rewriting of the text was intended to examine the capabilities of successive rewriting aimed at determining the difficulties in the phonological-phonematic, optical, kinetic, spelling and grammatical components of writing. The analysis determined the number of errors for the respondent, which are omitting or adding letters, syllables, words, sentences, spelling and grammatical errors. The general purpose of this part of the examination is to determine the degree of mastery of writing, to find difficulties in writing, to determine the mechanism, form and extent of these difficulties.

Our task was to investigate and determine whether there was a statistically significant difference in rewriting ability with respect to the age of the respondents. We accomplished this task through a one-factor analysis of variance, and presented and explained the results in tables. Using the one-factor analysis of variance, we explored the influence of respondents' age on rewriting ability.

Looking at Table 2, we can conclude that 37 out of 45 respondents, or 82.22% of them, correctly rewrite the text. 8 respondents (17.78%) committed specific errors.

Table 2. Text rewriting performance with respect to the age of the respondents

		Lower primary school age	Senior primary school age	High school age	Total
The child correctly rewrites the text	f	12	12	13	37
	%	80	80	86,67	82,22
The child rewrites the text with specific errors	f	3	3	2	8
	%	20	20	13,33	17,78
Unable to rewrite the text	f	0	0	0	0
	%	0	0	0	0
Total	f	15	15	15	45
	%	100	100	100	100

Table 3 represents the basic statistical parameters for all three sub-samples of the survey: arithmetic mean, standard deviation, standard error, range of results, minimum and maximum results.

Respondents of lower primary school age committed a minimum of 0 and a maximum of 6 rewriting errors, the average number of errors was 0.80, with a standard deviation value of 1.82. The respondents of senior primary school age committed a minimum of 0 and a maximum of 3 errors during rewriting. The average number of errors was 0.60 with a slightly smaller standard deviation (1.06). High school respondents averaged 0.80 errors, with a range of 0 to 8 errors. At the same time, the largest individual deviations were recorded in this group of respondents (2.24).

Table 3. Descriptive statistics of the variable *Rewriting* with respect to the age of the respondents

	N	Arithmetic mean	Stand. deviation	Stand. error	95% confidence interval		Min.	Max.
					Lower limit	Upper limit		
Lower primary school age	15	0,80	1,82	0,47	-0,21	1,81	0	6
Senior primary school age	15	0,60	1,06	0,27	0,02	1,18	0	3
High school age	15	0,80	2,24	0,58	-0,44	2,04	0	8
Total	45	0,73	1,74	0,26	0,21	1,26	0	8

Given that the majority of respondents correctly rewrite the text, one-factor analysis of variance did not reveal a statistically significant difference in the ability to rewrite with respect to the age of the respondents (Table 4), and the hypothesis H1, which assumes that there is a statistically significant difference in the ability to rewrite with respect to the age of the respondents, can be dismissed. The value obtained by one-factor analysis of variance is $F = 0.06$ with a significance of 0.94.

Table 4. One-factor analysis of variance for the variable *Rewriting*

	Sum of squares of deviations	Degree of freedom	Square of arithmetic means	F	Significance
Between groups	0,40	2	0,20	0,06	0,94
Within the group	132,40	42	3,15		
Total	132,80	44			

Table 5 shows the estimation of the nature and type of errors for the *Rewriting* variable with respect to the age of the respondents: the largest number of errors in the rewriting activity of lower primary school students was of the optical type – the *following marked word pairs are in Bosnian* (nirno-mirno; podjegli-pobjegli; sednica-sedmica; drglogu-brlogu; baleko-daleko; podjegli-pobjegli; sebmica-sedmica; gnijezba-gnijezda) and one error at the word level (daleka-daleko). Similar results are obtained by Huremović and Tulumović (2012a and 2012b). One spelling error was the omitting of quotation marks. Other types of errors were not observed. Senior primary school age students had a total of 5 errors; 3 optical (školskin-školskim; bilo-bila;) and 2 at the word level (predetava-predstava; kuće-kući) and one spelling error - capital letter (sanja-Sanja). High school students committed errors only at the phonological-phonemic level (lizica-lisica; skrovižta-skrovišta; juznih-južnih; vraćaju-vraćaju). With the increase of the chronological age there is a decrease in the number of errors, so that only the phonematic-phonological errors occur when rewriting at an older age. We believe that the reason for this is the mechanical rewriting by hearing impaired students. Older students try to use linguistic redundancy, as has been reported in hearing learners, but their poor linguistic experience hinders them. Incorrect positioning of letters in word composition is caused by insufficient language experience as a direct consequence of hearing impairment. In the case of replacement, addition or omission of a letter, the word may carry a whole new meaning or have no meaning. More linguistic experiences could prevent errors of this type.

Table 5. Types of rewriting errors with respect to the age of the respondent

	Lower primary school age	Senior primary school age	High school age
Optical errors	8	3	0
Kinetic errors	0	0	0
Phonological - phonematic errors	0	0	6
Language analysis and synthesis errors			
- At the letter and syllable level	0	0	0
- At the word level	1	2	0
- At the sentence level	0	0	0
- At the text level	0	0	0
Non-specific spelling errors	1	1	0
Total	10	6	6

CONCLUSION

- No statistically significant difference was found in the rewriting ability with respect to the age of the respondents.
- When rewriting, hearing impaired respondents commit no errors at the text level.
- Errors at the word level, specific spelling errors of optical and phonological-phonemic character, and linguistic analysis and synthesis errors were noted, while kinetic-type errors were not recorded.

Considering that many authors emphasize the importance of the rewriting method as a method that affects the adoption of spelling and grammatical norms in hearing impaired children, and that in practice it is the most commonly used method, we conclude that this method often results in mechanical rewriting and copying of the text without content analysis and requests. In this regard, when dealing with deaf and hard of hearing children, we must take into account that rewriting must be organized in such a way that it has a clear requirement, direction and purpose, and that it must not be reduced to just a simple mechanical activity.

When working on the development of writing skills for hearing impaired children, other methods should be preferred, such as logical complementing of parts of words, completing words in a sentence, answering questions, dictating, describing, recounting, writing letters, and the like, or combining these methods with the rewriting method.

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