



Uluslararası Sosyal Araştırmalar Dergisi

The Journal of International Social Research

Cilt: 5 Sayı: 20 Volume: 5 Issue: 20

Kış 2012 Winter 2012

www.sosyalarastirmalar.com Issn: 1307-9581

WRITTEN EXPRESSION OF STUDENTS WITH AND WITHOUT VISUAL IMPAIRMENT

Ševala TULUMOVIĆ*

Alma HUREMOVIĆ**

Abstract

The aim of this research was to determine the difference in written expression of the blind, visually impaired and pupils with no sight damage.

The sample was composed of three groups of pupils: the blind pupils (N=51), visually impaired pupils (N=42) and pupils without any visual impairment (N=123). The samples were obtained from a population of pupils, grades one to four, attending regular elementary schools in Tuzla's Canton, and the pupils with boarding accommodations in the Center for the Blind and Visually Impaired, but also blind and visually impaired pupils that are attending regular elementary schools in Tuzla's Canton. By analyzing the results gotten with the use of discriminant analysis on the variables of transcription of letters, syllables, words, sentences and texts, the three sample groups differ in all of the variables.

Key Words: pupils with visual impairments, pupils with no visual impairment, transcription.

Introduction

After the speech, the most important event in the cultural history of mankind is undoubtedly the written letter. Written speech is much more abstract than the sounded speech, primarily because it is „imagined, and not spoken“ and represents a form of monologue, because it is deprived of his interlocutors. Moreover, „the situation of the written speech requires from the child double abstraction: the resonance of the speech and of the other person“ (Farago, 1996). In the act of writing, we have a couple of different abilities that are involved: Storage of the ideas, formulating ideas into words, the plan and the concrete graphic form for each letter or word, syntactic correctness, accurate use of stationary, adequate visual and motor memory, and also integrative processes in the movement around the arm. If any of these essential factors for creating this kind of verbal behavior are not met, this will lead to disorders which will be seen as difficulties in the literacy (Farago, 1989). The work on the literacy of pupils should be understood as providing the educational help needed for the complex and creative acts of literary expressing of our pupils. Smirnov starts from the point that for good literacy it is

* Doc. Dr., Univerzitet u Tuzli, Faculty of Education and Rehabilitation.

** Doc. Dr., Univerzitet u Tuzli, Faculty of Education and Rehabilitation.

necessary to master the area of „spelling and punctuation“, then „development of pupils speech“, and then „the grammar“ (Pašić, 1998). Writing itself is one of the most complex human activities that integrate itself into virtually all functions of the brain. To say it more precisely, it is the most complex form of linguistic activity. It is more complex than reading, because it involves the coordination of eye-hand mind-language messaging (Vladislavljević, 1991). Vygotski (1962; according to Farago, 1996), dealt with the problem of why the written language of pupils is so much more difficult and less developed than the spoken language, and also why that difference on some levels of learning reaches 6-8 years? Written speech is much more abstract than spoken language, because above all it is „imagined and not spoken“ and represents a form of monologue, because it is deprived of his partner in the conversation. The school in its current development of human society has been one of the main ways of acquiring education. The society today requires from the schools that in this sea of data, each individual emerges from the masses at the level they belong to, which means that the individual has to use all his natural abilities and conditions given by the society, in order to better expose himself and to give his contribution to the society, for his own and mutual benefit (Stevanović, 2000). Contemporary perspectives on the pupils learning in the process of organized education, comes down to that the pupil learns by exploring and explores while learning (Klafki, 1992). The pupils with visual impairment, and also pupils without any visual impairment, differ from each others not only by the degree of visual impairment, but also in the terms of perceptual functions, cognitive ability, motor skills and behaviorist development, a child with visual impairment begins predominantly based on tactile and auditory experiences. There are large variations in the biopsychosocial characteristics of the people with visual impairment, as it is the case of people with their vision intact. Those specific characteristics vary depending on the: gender, age, the level of the visual impairment and the time when the visual impairment began. What makes people with visual impairment different from the people with intact vision is to the greatest extent communicational problems, problems with writing, and the lack of vocabulary that people with intact vision have (Vučinić, 2005). Factors that encourage or impede the proper educational upbringing of the children with impaired vision are: the level of intelligence of the student, development of the sense of touch of the fingertips, the degree of residual vision, the age of the pupils, gender, the adequate preparation for school, multiple psychophysical damage and other things (Cvetković, 1989). For the use of the tactile perception it is needed much more time than for the visual perception (which is always intact). Partially sighted children for the perception of the environment besides their other senses use also their remaining vision, but they also need more time. On the other hand the concept of the need of organizing educational activities that will provide these children with the most effective use and minimal capacities of visual system, is based on the examples of remedial teachings and the results of different researches. Partially sighted pupils differ according to the degree of amblyopia, which primarily refers to the sharpness of the vision and the breadth of their field of vision. They also differ in relation to: vision impairment as a cause of poor vision, educational needs and opportunities, degree of rehabilitation, adjustment to the injury and other parameters (Eškirović, 2002). The importance of well organized and skillful hand movements of the blind and visually impaired children lies in the fact that their hands need to be a substitute for their vision, as a mean of contact and interaction (Jablan, 2007). Literacy according to Anić (1991), knowledge of letters, skills in writing and reading, is a skill of creating texts, the skill of proper and meaningful writing. Bežen (2002) says: «For someone to make big grammatical, stylistic or spelling errors, we can with full right say that they are „semi-literate“ or „illiterate“. Literacy is acquired as a part of general education in schools but also as the result of long-term learning. Literacy is a set of skills and abilities that needs to be constantly developed, it supports the lifelong learning and it is one of the most appreciated human knowledge and a skill. For a child to master the writing ability he must possess the ability to perceive letters, fine motor skills needed for writing, eye-hand coordination, motor memory for the samples of letters and words (Zovko, 1991). Visual impairment has a significant impact on the status of graphomotoric abilities. The most common causes of difficulties in reading and writing skills of pupils with visual impairment are difficulties in space orientation, disorders in letters and words, visual perception disorder, a

disorder of auditory perception and discrimination, lack of visual memory, etc. (Vladislavljević, 1984). Highly visual and perceptual difficulties of graphomotoric children with visual impairment, demand special attention in the differential diagnosis and rehabilitation approach (Zovko, 1996).

THE AIM OF THE RESEARCH

To investigate which of the variables of the written expression discriminate the best, pupils with and without visual impairment.

HYPOTHESIS

H₁ – There is a statistically significant difference in transcriptional skills of students with and without impaired vision

WORK METHODS

The sample of students

The sample of participants consists of three groups of pupils: blind pupils, pupils with visual impairment, and pupils without visual impairment, grades one to four, of regular elementary schools from Tuzla's Canton, and the pupils from boarding schools in The Centers for blind and visually impaired, as well as the blind and visually impaired children integrated into regular elementary schools of Tuzla's Canton.

The sample of variables:

We have analyzed a total of 9 variables:

PRVSL – Transcription of capital letters; **PRMSL** – Transcription of small letters; **PRSLVSL** – Transcription of syllables with capital letters; **PRSLMSL** – Transcription of syllables with small letters; **PRRIVSL** – Transcription of words with capital letters; **PRRIMSL** - Transcription of words with small letters; **PRREVSL** - Transcription of sentences with capital letters; **PRREMSL** – Transcription of sentences with small letters; **PRTEKST** – Transcription of the texts.

The ways of conducting the research and instruments for its measurement

In the activities of the forming the sample, the assessment of the quality of literary expressions, we used the following instruments for the gathering of the information needed:

Analysis of the documentation from the pedagogical-psychological institutions, medical records (visual acuity, age, gender, intellectual level, success in school, previous time in rehabilitation, the time of their disability, educational disability). In analyzing the relationship between the culture of the written expression of the transcription of capital and small letters, transcription of syllables with capital and small letters, then transcription of words with capital and small letters, of sentences with capital and small letters, and transcription of the chosen text, targeted to a different degree of complexity (Posokhova and Bjelica, 2001). The research was conducted in regular elementary schools and the Centers for the blind and visually impaired children and youth, on the blind and visually impaired children integrated in regular schools, and also pupils from grade one to grade four without any visual impairment that also attended the elementary schools in the area of Tuzla's Canton. The questioning was the written activity of transcription. Every task was divided according to the age of the participants (their individual grades). The task of the participants was to transcribe capital and small letters, then sentences with capital and small letters, and finally to transcribe a portion of the text. Blind and visually impaired students were questioned individually, and the text was adjusted to their specific needs. One example of the text was printed in Braille script.

Methods of data processing

The obtained data was statistically analyzed with the use of the computer program SPSS 10,00 for Windows. In the statistical analysis we did: the variance analysis and discriminant analysis. The study was conducted with the statistical significance level 5% (0,05).

RESULTS AND DISCUSION

Various disorders of the oral speech are in hundreds of ways interwoven with the disorders of the written language (De Sosir, 1996). Written vocabulary is much broader then the vocabulary from the direct speech, mainly because many words come more easily when writing, and they require less automation then while speaking. This is especially evident at an early age. With age, the differences in the written and spoken language and in the language in general, become less evident. Many researchers point out that we need to work not only on enriching the child's written vocabulary but also the spoken one. By the age of seven, written vocabulary is usually richer by 50% then the spoken one and that with age; it gradually decreases (Vasić, 1977). Transcription requires a firm guiding hand, coordinated movements, good visual and spatial orientation, and clear distinction of phenomenas and appropriate linguistic level (Pavičić, 2000). Zovko (1991) points out that the child in relation to the transcribing must have an ability of perceiving the letters, fine motor skills for writing, eye-hand coordination, motoric memory for samples of letters and words. Argyropoulos (2006) performed an analysis of grammatical and spelling errors with 16 blind students. Results have shown many specifics in the form of grammatical and spelling errors, and also the attitudes of the students towards spelling and the relation between the spelling and the reading strategies. Comparative studies conducted worldwide show that the standard ways of written communication among the blind people are being overcome, because there now exist different systems of professional education and training (Hare, 1999). As development of speech in some children is a spontaneous, natural process, so is the adoption of letters for them like a kind of a game. The children have to go through systemic exercises that contain all the elements of writing and reading. Every element of adopting each letter must be separately processed, and these elements are: voice recognition through analysis and speech synthesis, recognition of letters isolated and in the context, preparation of graphomotoric exercise and the writing of graphemes (Farago, 1996). Žigić and his colleagues (2005) have examined the abilities of written communication on the sample of 32 participants with visual impairment. The research has shown that only 37% personally signed for themselves, Brails board is very little in the use in the written communication, only 18%, and that Braille machine uses 62% of the participants.

Starting from the calculated arithmetic means, or on the average number of points received on the test of written expression, we wanted to see if the number varies in the three sample groups, blind, visually impaired, and those without visual impairment. Testing was conducted at the theoretical significance level of 0.05. Calculated p-value (calculated significance level) is smaller then the theoretical significance level of 5% (0,05), which points us to the conclusion that there is a statistically significant difference of the arithmetical means of the three groups. In this case that means that there are differences in the average number of points in the test of cultural written expression of the blind, visually impaired and pupils with no impairment, in all the particle-variables of the test of cultural written expression.

Following the university variance analysis, it can be concluded that the participants differ in all of the variables (Table 1).

Table 1: Differences in test transcription evaluation of the blind, visually impaired and students with no visual impairment

Variable	Pupils without visual impairment	Visually impaired pupils	Blind pupils	F	df1	df2	P
PRVSL	4,75	3,93	2,24	182,244	2	213	0,00
PRMSL	2,85	2,38	2,14	21,906	2	213	0,00
PRSLVSL	3,99	2,71	1,51	384,774	2	213	0,00

PRSLMSL	2,85	2,26	1,78	48,585	2	213	0,00
PRRIVSL	6,59	2,76	2,29	564,668	2	213	0,00
PRRIMSL	5,85	2,74	2,20	106,230	2	213	0,00
PRREVSL	6,48	2,14	1,67	438,523	2	213	0,00
PRREMSL	5,66	2,14	1,65	115,712	2	213	0,00
PRTEKST	5,99	2,26	1,84	326,857	2	213	0,00

Differences between the three groups of participants in the group of variables for the evaluation of cultural written expression have been examined using the discriminant analysis. We received two discriminant functions that are statistically significant ($p < 0,05$). Wilks' lambda for the first function obtained was 0,07 and Chi-Square test obtained was 575,96 and they are statistically significant at the 0,00 level (Table 2).

Table 2: Discriminant analysis for the assessment of transcription of the blind, visually impaired and those with no visual impairment

Function	Wilks' Lambd	Hi-skvare	P
1	0,07	575,96	0,00
2	0,62	101,85	0,00

The variable that is mostly involved (Table 3.) in discrimination of the blind, visually impaired and pupils with intact vision according to the discriminant analysis with the first function is PRRIVSL (Transcription of words with capital letters) whose discriminant coefficient is 0,61. The second variable that hugely participates in the creation of the discrimination function is PRREVSL (Transcription of sentences with capital letters) with the coefficient of 0,41. It is necessary to mention the variable PRSLVSL (Transcribing of syllables with capital letters) with the discriminant coefficient of 0,41. To the discriminant function of the groups mostly contribute variable PRVSL (Transcription of the capital letters) with the coefficient of 0,79. Second variable that also contributes to the creation of the discriminant function is PRSLVSL (Transcription of syllables with capital letters) with the coefficient of 0,51. The third variable that is included in the creating of the discriminant function is PRREVSL (Transcription of sentences with capital letters) whose negative discriminant coefficient is -0,48.

Table 3: Discriminant coefficients

Variable	Function	
	1	2
PRVSL	-0,014	0,798*
PRPSL	-0,201	-0,237
PRSLVSL	0,415*	0,518
PRRIVSL	0,617*	-0,359
PRREVSL	0,412*	-0,484

If we take a look at Table 4 we can see the highest coefficients with the first discriminant function have these variables: Variable PRRIVSL „Transcription of words with capital letters“ (rDV = 0,79); Variable PRREVSL „Transcription of sentences with capital letters“ (rDV = 0,69); Variable PRSLVSL „Transcription of syllables with capital letters“ (rDV = 0,63); Variable PRTEKST „Transcription of the text“ (rDV = 0,50); Variable PRVSL „Transcription of the capital letters“ (rDV = 0,41). The highest correlation with the other function have these variables: Variable PRVSL „Transcription of capital letters“ (rDV = 0,67); Variable PRSLVSL „Transcription of syllables with capital letters“ (rDV = 0,57). If we take a look at the discriminative function we can see that those variables, in which the three groups mostly differ, also show the highest coefficients in the first and second discriminative function.

Table 4: The correlation coefficients with discrimination function

Variable	Function	
	1	2
PRRIVSL	0,790*	-0,213
PRREVSL	0,695*	-0,206
PRSLVSL	0,635*	0,575
PRTEKST	0,505	-0,193
PRREMSL	0,344	-0,068
PRRIMSL	0,274	-0,016
PRSLMSL	0,203	0,149
PRMSL	0,155	0,064
PRVSL	0,411	0,677*

The values for the centroids for the sample of blind students is (C=-5,56), for the visually impaired students, (C=0,24), and for the students with intact vision, (C=2,22), which shows us that the lowest results in the written expression have the blind students.

Table 5: Cluster centroids

Groups	Function	
	1	2
Pupils without visual impairment	2,224	0,499
Visually impaired pupils	0,241	-1,963
Blind pupils	-5,563	0,412

As the analysis has shown, there is a difference in the average number of test points in the transcription of the blind, visually impaired and the students with no visual impairment, in all the particle- variables of the test of cultural written expression. So from this research we can conclude that the hypothesis H1 can be accepted.

Conclusion

Based on the results of this survey we have shown that there are statistical significances' between the students with visual impairment and without it when it comes to the written expression according to all the variables. We can see that the blind children and the visually impaired children, because of the complete absence or reduced visual perception have no base for the visual representation of the environment and that greatly restricts them in written expression in comparison to their peers with the intact vision. We can also conclude that the written expression does not only depend on the sensory stimulations but also on: intelligence, degree of visual impairment, age, and educational media (Braille letter or black print), the time of their impairment, and also the time when the pupil started the rehabilitation program. Based on the results received we can see how important the timely education and rehabilitation is for a successful educational process of the blind and visually impaired students, adjusted to their specific needs and possibilities, and also in accordance to the tiflodidactic goal. We consider that with this approach we can increase their success not only in the educational process but also in every day life.

REFERENCES

- ANIC, V. (1991). *Pravopis hrvatskog jezika*, Zagreb: Novi Liber.
- ARGYTOPOULOS, VS. and Martos, AC. (2006). "Braille literaci skills: An analysis of the concept of spelling", *Journal of Visual Impairment & Blindness*, 100,11, 676-686.

- BJELICA, J. and Posokhova, I. (2001). *Dijagnostički komplet za ispitivanje sposobnosti govora, Jezika, čitanja i pisanja djece*, Lekenik: Ostvarenje.
- BEŽEN, A. (2002). "Što danas znači biti pismen?", *Zrno*, 14, 49-50.
- CVETKOVIĆ, Ž. (1989). *Metodika vaspitno-obrazovnog rada sa slijepim licima*, Beograd: Defektološki fakultet Univerziteta u Beogradu.
- DE SOSIR, F. (1996). *Kurs opšte lingvistike*, Novi sad: Izdavačka knjižarnica Zorana Stojanovića, Sremski Karlovci.
- EŠKIROVIĆ, B. (2002). *Vizualna efikasnost slabovide dece u nastavi*, Beograd: SD Publik.
- FARAGO, E. (1996). "Vještina pisanja, procjena nastavnika i uspjeh u školi", *Hrvatska revija za rehabilitacijska istraživanja*, 32, 2, 13-22.
- FARAGO, E. (1989). "Razlike u verbalno glasovnom izražavanju putem pisanja i čitanja i u nekim psiholingvističkim sposobnostima između djece s teškoćama i bez teškoća u pisanju", *Defektologija*, 25, 1, 83-93.
- HARE, B. (1999). "Auditory discrimination ability of visually impaired children", *New Outlook for the Blind*, 62, 173-180.
- JABLAN, B. (2007). *Motorne i taktilne funkcije kod slepe dece*, Beograd: Univerzitet u Beogradu, Fakultet za specijalnu edukaciju i rehabilitaciju.
- KLAFKI, W. i sur. (1992). *Didaktičke teorije*, Zagreb: Educa.
- PAŠIĆ, N. (1998). *Bosanski jezik i bosanskohercegovačka književnost u nastavi*, Gračanica: GRIN.
- PAVIČIĆ, M. (2000). *Primjena programa predvježbi pisanja u slabovidnog djeteta*, Diplomski rad. Edukacijsko-rehabilitacijski fakultet Sveučilište u Zagrebu.
- STEVANOVIĆ, M. (2000). *Modeli kreativne nastave*, Tuzla: DOO, GRAFIČAR.
- VASIĆ, S. (1977). *Govor u razredu*, Beograd: Institut za pedagoška istraživanja, Prosveta.
- VLADISAVLJEVIĆ, S. (1984). *Poremećaji čitanja i pisanja*, Beograd: Zavod za udžbenike i nastavna sredstva SR Srbije.
- VLADISAVLJEVIĆ, S. (1991). *Disleksija i disgrafija*, Beograd: Zavod za udžbenike i nastavna sredstva.
- VUČINIĆ, V. (2005). *Oštećenje vida i lingvistička klasifikacija*, Istraživanja u defektologiji, Defektološki fakultet Univerziteta u Beogradu.
- ZOVKO, G. (1991). *Čitanje i pisanje slabovidnih*, Zagreb: Fakultet za defektologiju, Sveučilišta u Zagrebu.
- ZOVKO, G. (1996). *Odgoj izuzetne djece*, Zagreb: Hrvatska akademija odgojnih znanosti.
- ŽIGIĆ, V., Radić-Šestić, M. (2005). *Komunikacija i profesionalna rehabilitacija lica sa oštećenjem vida*, Istraživanja u defektologiji, Defektološki fakultet Univerziteta u Beogradu.