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## **DO EASY-TO-READ TEXTS HELP PEOPLE WITH INTELLECTUAL DISABILITIES ACHIEVE LITERACY?**

### **Abstract**

Easy-to-read texts enable people with intellectual disabilities to have a quality experience in understanding texts. Since people with intellectual disabilities receive and process information more slowly than other individuals, adapted texts enable individuals with intellectual disabilities for self-education and literacy competence in the wider social environment. Our empirical research showed that students with intellectual disabilities better understand the content of easy-to-read texts. When talking about the text, they can interact with people more easily. They can discuss the text more easily, express their opinion and support it with arguments. The research has shown that adapted texts have a positive impact in all aspects on the understanding of content in people with intellectual disabilities.

**Keywords:** intellectual disability, reading, understanding of content, peer violence, students.

## **POMAŽU LI POJEDNOSTAVLJENI TEKSTOVI U POSTIZANJU ČITALAČKE PISMENOSTI OSOBA S INTELKTUALNIM TEŠKOĆAMA?**

### **Sažetak**

Pojednostavljeni tekstovi omogućavaju osobama s intelektualnim teškoćama kvalitetno iskustvo u razumijevanju tekstova. Budući da osobe s intelektualnim teškoćama primaju i obrađuju informacije sporije od ostalih pojedinaca, prilagođeni im tekstovi omogućavaju samoobrazovanje i kompetenciju u širem društvenom okruženju. Naše empirijsko istraživanje pokazalo je da učenici s intelektualnim teškoćama bolje razumiju sadržaj lako čitljivih tekstova. Kad razgovaraju o tekstu, mogu lakše komunicirati s ljudima. O tekstu mogu lakše raspravljati, izraziti svoje mišljenje i potkrijepiti ga argumentima. Istraživanje je pokazalo da prilagođeni tekstovi u svim aspektima pozitivno utječu na razumijevanje sadržaja kod osoba s intelektualnim teškoćama.

**Ključne riječi:** intelektualne teškoće; čitanje; razumijevanje sadržaja; vršnjačko nasilje; učenici.

## Introduction

Reading literacy is the lifelong right, responsibility and value of each individual, as well as a prerequisite of all forms of learning (National Strategy of Development of Literacy, 2017). Some people lack literacy skills due to underdeveloped language competence and consequently need text adaptations. Such adjustments make it easier for them to understand the text (Haramija, 2017).

Adapted texts, which are easier to understand, are so-called easy-to-read texts. In other words, easy-to-read texts are adaptations of original texts that make them easier to read and to understand (Haramija, 2017).

Adapted texts contain two types of adjustments: linguistic and clarifying adjustments. Language adjustments simplify understanding and pronunciation: such adjustments include avoidance of synonyms and foreign words, acronyms, splitting words, multiple numbers and special symbols, as well as the use of concrete terms and explanations of less known words.

Short and simple sentences, simple events and subordinate clauses are used, and negation is avoided in adapted texts. The second type of adjustment makes adapted texts clearer. These adjustments are following: using suitable font size (size 14), using fonts without serif like Arial or Tahoma, using line spacing (1.5), using left alignment, and using up to six words in one line. One of the design adaptations of easy-to-read texts is also the use of graphic material, which is related to the content of the text and which strengthens the linguistic and visual literacy of individuals. Reading adapted texts encourages groups of people with literacy problems to read independently while encouraging them to actively interact with the environment and the text (Haramija and Batič, 2016).

Adapted texts allow information to be accessible and understandable to all people. People with intellectual disabilities experience difficulties not only in the field of memory but also in acquiring reading competencies. Adapted texts enable them to understand simple instructions, events and rights. In short, adapted texts allow them to understand information from the environment and get information on topics that are interesting to them (Tronbacke, 1993).

As mentioned above, adapted texts are also suitable for people with intellectual disabilities. People with intellectual disabilities are characterized by

significant limitations in both intellectual functioning and adaptive behavior (AAIDD, 2017). Gloucestershire (2017) states that people with intellectual disabilities have a significantly reduced ability to understand complex information and to learn new skills. People with intellectual disabilities are cognitively slow and have problems with generalization and abstract thinking. Problems may also arise in the areas of perception, forming thoughts, memory and short-term span (Čas, Kastelic and Šter, 2003).

Individuals with intellectual disabilities are slower than their peers when it comes to learning and memory processing. Opara (2016) states that the reason for the slower adoption of information is primarily reduced attention and modest memory. Among the causes, there were also perception disorder, poor differentiation and modes verbal abilities. People with intellectual disorders learn more slowly; their learning is easiest through practical tasks. They encounter problems when transitioning from theory to practice, and their knowledge is poorly synthesized.

Despite these challenges, people with intellectual disabilities can learn. To do so, they need to utilize their past experiences. People with intellectual disabilities do not learn spontaneously; therefore, it is important that learning is clearly planned (Opara, 2016). It is necessary to include graphic sub-content and visual materials that help people with intellectual disabilities understand the content they are trying to learn. (Bock and Erickson, 2015).

People with intellectual disabilities can also learn significantly from adapted texts. Such texts allow them to learn systematically, while their experiences through these texts can be included and transformed into a concrete learning opportunity (Fijardo et al., 2014).

Easy-to-read texts are one of the learning methods that enable people with intellectual disabilities to engage in receptive language activities independently and to understand written or heard content. They also expand vocabulary and put the reader into a communicative relationship that enables progress in the field of speech and language competences (Tronbacke, 1993).

## **Empirical research**

### *Purpose*

The purpose of the research was:

- a) to research the differences in understanding of the text among students who listened to the easy-to-read text and students who listened to the original text with the same content;
- a) to research the differences between the groups regarding understanding of peer violence and tolerance.
- a) We posed two research questions:
  - a) Will students understand peer violence and the content of the adapted text better than the content of the text in the standard form?
  - a) Will students from the experimental group communicate on a higher level about the content?

### *Research method*

For the purposes of this research, we chose an idiographic approach and a descriptive research method and prepared a qualitative and quantitative case study. The study was based on a one-off case and was carried out during four sessions. Assessment scales for individual student participants was prepared.

### *Sample*

The survey included a sample comprising of ten students with intellectual disabilities and associated speech linguistic disorders. All students were fifth grade primary school students who attended a class for children with lower educational requirements. The average age of the participants was ten. The control group comprised two females and three males. The control group listened to the text in the original form. The experimental group also included two girls and three boys. They listened to the adapted text with the same content. All students attended the same special education primary school in Slovenia.

### Data collection

The data were collected during the four sessions with each group in 2018. In the control group, the teacher read the text in the original form; in the experimental group, the teacher read the adapted text. Both the original and the adapted texts were based on Nina Volčanjk's children's literary work titled *Me + You + He = We* (originally: *Jaz + ti + on = mi*). It covered seven chapters and was divided into four parts. After each session, an individual interview with the student participants was conducted, on the basis of which the evaluation scales were prepared.

### Instrumentation

For the purposes of this research, we created a questionnaire that contained questions that tested understanding of the text that was read. The questions were divided into four sets, one set for each session. Each set consisted of one or two chapters from the read text. Each section also contained a question where students had to express and find arguments to support their disagreement with the teacher (e.g. "Blaming is fine, right?"). Each section also included questions where students had to explain new vocabulary. The answer to each question was evaluated on the scale from 1 to 5; number one meaning *an insufficient response or no response*, two meaning *a sufficient answer*, three meaning *a good answer*, four meaning *a very good answer* and five meaning *an almost perfect or a perfect answer*.

### Data analysis

The collected data were categorized and processed with a *t*-test for independent samples. The data were analyzed in the SPSS program by means of statistical data processing at the level of descriptive and inferential statistics. In order to analyze differences between the experimental (EG) and control (CG) groups, the *t*-test for independent samples was used, based on the average result of each student. The Levene's test was used to measure in-group differences. The data are shown in a tabular form. The author's observations were also included.

## Results

### *Understanding branched text*

**Table 1:** Results of the t-test of differences between the EG’s and the CG’s understanding of the first chapter.

|  | Group | Mean | Standard deviation | Levene’s test |      | t-test   |       |
|--|-------|------|--------------------|---------------|------|----------|-------|
|  |       | M    | SD                 | F             | P    | t (df)   | p     |
| How are people different (i.e. understanding content)? | EG    | 3.00 | 1.22               | 0.14          | 0.71 | 0.30 (8) | 0.771 |
|  | CG    | 2.80 | 0.84               |               |      |          |       |
| How are people alike (i.e. understanding content)?     | EG    | 2.60 | 1.52               | 1.25          | 0.30 | 0.30 (8) | 0.620 |
|  | CG    | 2.20 | 0.84               |               |      |          |       |

The results of the Levene’s test indicate that the assumption of homogeneity of variances was met in both variables. There were no statistically significant differences between groups in understanding this chapter ( $t(8) = 0.30; p > 0.771$  and  $t(8) = 0.30; p > 0.620$ ).

However, the results indicate a tendency for students in the EG to express superior levels of skills in both questions ( $M = 3.00; SD = 1.22$  and  $M = 2.60; SD = 0.84$ ) in comparison with the students in the CG ( $M = 2.80; SD = 0.84$  and  $M = 2.20; SD = 0.84$ ).

The students from the EG provided substantially more complete answers. Their explanation of the answers was based on the examples from the text. The students from the CG mostly provided partial answers or did not answer the question. The majority of students from the CG’s answer to the first question was that people differ in skin tone, while students from the EG also mentioned other physical characteristics. However, they were not able to support their answer with an example from the branched text.

We also observed that the students from the CG responded to the questions less convincingly.

**Table 2:** Results of the t-test of differences between the EG's and the CG's understanding of the second chapter.

|  | Group | Mean | Standard deviation | Levene's test |      | t-test   |       |
|--|-------|------|--------------------|---------------|------|----------|-------|
|  |       | M    | SD                 | F             | P    | t (df)   | p     |
| Where did Nejc previously see the boy, who entered the class (i.e. understanding content)?                         | EG    | 4.60 | 0.55               | 2.33          | 0.17 | 3.54 (8) | 0.008 |
|  | CG    | 2.60 | 1.14               |               |      |          |       |
| Goran's illegal behavior was justifiable, right (i.e. disagreement with the teacher, understanding peer violence)? | EG    | 3.20 | 1.79               | 0.00          | 1.00 | 0.88 (8) | 0.403 |
|  | CG    | 2.20 | 1.79               |               |      |          |       |
| What does it mean to mock somebody (i.e. explaining new vocabulary, understanding peer violence)?                  | EG    | 3.80 | 1.30               | 6.17          | 0.04 | 3.24 (8) | 0.023 |
|  | CG    | 1.80 | 0.45               |               |      |          |       |
| What's the name of a dark-skinned boy (i.e. understanding content)?  | EG    | 2.00 | 1.22               | 0.10          | 0.77 | 0.49 (8) | 0.636 |
|  | CG    | 1.60 | 1.34               |               |      |          |       |
| What did the students get for their homework (i.e. understanding content)?   | EG    | 4.00 | 1.00               | 0.06          | 0.81 | 2.36 (8) | 0.046 |
|  | CG    | 2.40 | 1.14               |               |      |          |       |

The results of Levene's test indicate that the assumption of homogeneity of variances was met in all variables, except in the variable where students explained what it means to mock somebody. There were statistically significant

differences between the first ( $t(8) = 3.45; p = 0.008$ ), the third ( $t(8) = 3.24; p = 0.023$ ) and the fifth ( $t(8) = 2.36; p = 0.046$ ) question.

The results indicate a tendency for students in the EG to express superior levels of skills in understanding the second chapter in comparison with students in the CG.

In the second chapter, the students from the EG responded to almost all of the questions in their entirety or provided almost complete answers. The students from the CG responded partly correctly or did not answer the questions at all. In the CG, fictitious responses also appeared several times.

There were major differences between the two groups when the students had to disagree with the teacher. The students from the EG disagreed more clearly ( $M = 3.20; SD = 1.79$ ), but they had problems with providing arguments, while students from the CG did not express their disagreement with the teacher. They were less sure of their answers and responded with questions ( $M = 2.20; SD = 1.79$ ).

The students from the EG also correctly explained the word mockery. They supported their explanation with an example from the text. The students from the CG had problems with providing arguments. The students from the EG expressed a better understanding of the word mockery ( $M = 4.00; SD = 1.00$ ), than students from the CG ( $M = 2.40; SD = 1.14$ ).

**Table 3:** Results of the t-test of differences between the EG’s and CG’s understanding of the third chapter.

|   | Group | Mean | Standard deviation | Levene’s test |      | t-test   |       |
|---|-------|------|--------------------|---------------|------|----------|-------|
|   |       | M    | SD                 | F             | P    | t (df)   | p     |
| Where does Nejc’s family live (i.e. understanding content)? | EG    | 4.00 | 1.41               | 0.00          | 1.00 | 0.00 (8) | 1.000 |
|   | CG    | 4.00 | 1.73               |               |      |          |       |



|  |    |      |      |       |      |             |       |
|--|----|------|------|-------|------|-------------|-------|
| Why did Bomani become sad (i.e. understanding content)?              | EG | 4.40 | 0.55 | 12.12 | 0.01 | 2.77<br>(8) | 0.039 |
|  | CG | 2.40 | 1.52 |       |      |             |       |
| What does it mean to adopt someone (i.e. explaining new vocabulary)? | EG | 3.80 | 1.64 | 0.11  | 0.75 | 2.27<br>(8) | 0.053 |
|  | CG | 1.80 | 1.10 |       |      |             |       |
| Who is a biological mother (i.e. explaining new vocabulary)?         | EG | 3.40 | 1.82 | 0.16  | 0.70 | 0.55<br>(8) | 0.599 |
|  | CG | 2.80 | 1.64 |       |      |             |       |
| Who is a foster mother (i.e. explaining new vocabulary)?             | EG | 3.60 | 1.52 | 0.70  | 0.43 | 1.81<br>(8) | 0.108 |
|  | CG | 2.20 | 0.84 |       |      |             |       |

The results of the Levene's test indicate that the assumption of homogeneity of variances was met in all variables, except in the variable where students explained why Bomani is sad. There were statistically significant differences between the second ( $t(8) = 2.77; p = 0.039$ ) and the third ( $t(8) = 2.27; p = 0.053$ ) question.

In the first question, both students in the CG and the EG expressed the same level of skills in understanding the third chapter. However, the results for other questions indicate a tendency for students in the EG to express superior levels of skills in understanding the adapted text, in comparison with the CG's understanding of the original text.

The EG also gave complete or partly complete answers for this section, while the CG provided quite a few incorrect answers.

The students from the EG explained new vocabulary more clearly and also substantiated their answers with examples from the text. The students from the CG could not answer the questions and they did not give concrete examples.

A great difference between the EG and the CG also occurred in the understanding of the concepts of biological (EG – M = 3.40; SD = 1.82; CG – M = 2.80; SD = 1.64) and foster mothers (EG – M = 3.60; SD = 1.52; CG – M = 2.20; SD = 0.84). All students from the EG were able to explain these concepts, while the students from the CG either could not answer the question or they misinterpreted the concepts.

**Table 4:** Results of the t-test of differences between EG’s and CG’s understanding of the fourth chapter.

|  | Group | Mean | Standard deviation | Levene’s test |      | t-test   |       |
|--|-------|------|--------------------|---------------|------|----------|-------|
|  |       | M    | SD                 | F             | P    | t (df)   | p     |
| Where did Bomani invite Nejc (i.e. understanding content)?               | EG    | 4.80 | 0.45               | 1.52          | 0.25 | 3.80 (8) | 0.005 |
|  | CG    | 3.60 | 0.55               |               |      |          |       |
| What did Nejc buy for Bomani’s birthday (i.e. understanding content)?    | EG    | 4.20 | 1.30               | 0.04          | 0.85 | 2.32 (8) | 0.049 |
|  | CG    | 2.40 | 1.14               |               |      |          |       |
| Blaming is fine, right (i.e. disagreement with the teacher)?             | EG    | 3.80 | 0.45               | 3.88          | 0.08 | 2.57 (8) | 0.034 |
|  | CG    | 2.40 | 1.14               |               |      |          |       |
| What does it mean to report (i.e. explaining new vocabulary)?            | EG    | 3.60 | 1.34               | 27.03         | 0.00 | 4.33 (8) | 0.012 |
|  | CG    | 1.00 | 0.00               |               |      |          |       |
| What were they doing at the birthday party (i.e. understanding content)? | EG    | 3.20 | 1.48               | 2.82          | 0.13 | 2.02 (8) | 0.078 |
|  | CG    | 1.80 | 0.45               |               |      |          |       |

The results of Levene’s test indicate that the assumption of homogeneity of variances was met in all variables, except in the variable where students explained the word report. There were no statistically significant differences between the first ( $t(8) = 3.80; p = 0.005$ ), the second ( $t(8) = 2.32; p = 0.049$ ), the third ( $t(8) = 2.57; p = 0.034$ ) and the fourth ( $t(8) = 4.33; p = 0.012$ ) question. There is a tendency in the fifth question ( $t(8) = 2.02; p = 0.078$ ).

The students from the EG answered the questions correctly and completely, while the students from the CG responded with less complete and fictitious answers. Some answers of the students from the CG included wrong explanations. We can interpret this by a higher mean in the EG than in the CG in all questions.

In this chapter the students from the EG increasingly expressed disagreement ( $M = 3.80; SD = 0.45$ ) with the teacher in comparison with the students from the CG ( $M = 2.40; SD = 1.14$ ). Both groups had difficulty in justifying their opinion. The participants in CG repeatedly contemplated the question of disagreement and were not sure about their answer.

Again, the EG ( $M = 3.60; SD = 1.34$ ) described the meaning of the words more accurately than the CG ( $M = 1.00; SD = 0.000$ ). Students from the CG did not know how to answer those questions.

**Table 5:** Results of the t-test of differences between EG’s and CG’s understanding of the fifth chapter.

|  | Group | Mean | Standard deviation | Levene’s test |      | t-test   |       |
|--|-------|------|--------------------|---------------|------|----------|-------|
|  |       | M    | SD                 | F             | P    | t (df)   | p     |
| Why was Bomani bare foot (i.e. understanding content)?               | EG    | 4.60 | 0.89               | 0.26          | 0.62 | 2.67 (8) | 0.029 |
|  | CG    | 3.00 | 1.00               |               |      |          |       |
| Why did Goran return Bomani’s slippers (i.e. understanding content)? | EG    | 3.60 | 1.34               | 0.46          | 0.52 | 2.32 (8) | 0.049 |
|  | CG    | 1.80 | 1.10               |               |      |          |       |

|  |    |      |      |       |      |             |       |
|--|----|------|------|-------|------|-------------|-------|
| What happened in the art class (i.e. understanding peer violence)?   | EG | 4.40 | 0.55 | 12.12 | 0.01 | 2.77<br>(8) | 0.039 |
|  | CG | 2.40 | 1.52 |       |      |             |       |
| Why didn't Bomani want to tell the teacher what was happening (i.e. understanding peer violence)?            | EG | 4.40 | 0.55 | 2.33  | 0.17 | 3.18<br>(8) | 0.013 |
|  | CG | 2.60 | 1.14 |       |      |             |       |
| What did Nejc do after the class (i.e. understanding content)?   | EG | 4.60 | 0.55 | 19.20 | 0.00 | 4.38<br>(8) | 0.005 |
|  | CG | 2.20 | 1.10 |       |      |             |       |
| Nejc made a mistake when he told the teacher about violence, didn't he (i.e. disagreement with the teacher)? | EG | 3.60 | 1.67 | 0.03  | 0.86 | 1.63<br>(8) | 0.141 |
|  | CG | 2.00 | 1.41 |       |      |             |       |
| What does it mean to be violent (i.e. explaining new vocabulary, understanding peer violence)?               | EG | 4.00 | 0.00 | 96.00 | 0.00 | 5.72<br>(8) | 0.005 |
|  | CG | 2.60 | 0.55 |       |      |             |       |

The results of Levene's test indicate that the assumption of homogeneity of variances was met in all variables, except in the variable where the students explained Nejc's reaction after class. There were statistically significant differences between the second ( $t(8) = 2.32$ ;  $p = 0.042$ ), the third ( $t(8) = 2.77$ ;  $p = 0.093$ ), the fourth ( $t(8) = 3.18$ ;  $p = 0.013$ ), the fifth ( $t(8) = 4.38$ ;  $p = 0.005$ ), and the seventh ( $t(8) = 5.72$ ;  $p = 0.005$ ) question.

The results indicate a tendency for students in the EG to express superior levels of skills in understanding the chapter in comparison with students in the CG.

The EG also provided better responses to this chapter than the CG. The students from the CG were not very sure of their answers. Their answers were not perfect, and they even did not answer a few times.

The students from the EG responded more substantially and more correctly to the content. The students of the EG were also answering questions more vigorously and did not need any additional questions (the mean in the EG is higher in all cases). Likewise, the students who were read the adapted text, the EG, explained the meaning of the words more correctly and were able to argue with concrete examples from the text or their lives (the mean in the CG is lower in all cases).

In the penultimate question, the students again had to express disagreement with the teacher. The students in the EG expressed more disagreement ( $M = 3.60$ ;  $SD = 1.67$ ) than the students of the CG ( $M = 2.00$ ;  $SD = 1.41$ ). Again, both groups had problems with argumentation. The students of the CG fully agreed with the teacher, although two students did not know how to answer the question.

**Table 6:** Results of the t-test of differences between EG's and CG's understanding of the sixth chapter.

|  | Group | Mean | Standard deviation | Levene's test |      | t-test   |       |
|--|-------|------|--------------------|---------------|------|----------|-------|
|  |       | M    | SD                 | F             | P    | t (df)   | p     |
| What did Nejc and Bomani take to the playground (i.e. understanding content)?          | EG    | 4.20 | 1.30               | 0.70          | 0.43 | 3.46 (8) | 0.009 |
|  | CG    | 1.80 | 0.84               |               |      |          |       |
| Why did Bomani start to cry (i.e. understanding content, understanding peer violence)? | EG    | 4.60 | 0.55               | 0.00          | 1.00 | 8.66 (8) | 0.000 |
|  | CG    | 1.60 | 0.55               |               |      |          |       |
| How did Nejc help Bomani (i.e. understanding content)?                                 | EG    | 3.60 | 1.14               | 0.55          | 0.48 | 2.85 (8) | 0.022 |
|  | CG    | 1.80 | 0.84               |               |      |          |       |

The results of Levene’s test indicate that the assumption of homogeneity of variances was met in all variables. There were statistically significant differences between the first ( $t(8) = 3.46; p = 0.009$ ), the second ( $t(8) = 8.66; p < 0.000$ ) and the third ( $t(8) = 2.85; p = 0.022$ ) question.

The results indicate a tendency for students in the EG to express superior levels of skills in understanding the chapter in comparison with the students in the CG.

In the first question, which refers to the understanding of the sixth chapter, the EG responded with complete or partly complete answers ( $M = 4.20; SD = 1.30$ ), while the CG responded with partial or even fictitious answers ( $M = 1.80; SD = 0.84$ ).

The students from the EG showed more understanding of the text and they gave more comprehensive and correct answers about the cause and result question ( $M = 4.60; SD = 0.55$ ). The students from the CG responded incompletely while needing a lot of encouragement and additional questions ( $M = 1.60; SD = 0.55$ ).

**Table 7:** Results of the t-test of differences between EG’s and CG’s understanding of the seventh chapter.

|  | Group | Mean | Standard deviation | Levene’s test |      | t-test   |       |
|--|-------|------|--------------------|---------------|------|----------|-------|
|  |       | M    | SD                 | F             | P    | t (df)   | p     |
| Why did Nejc paint himself with colors (i.e. understanding content)? | EG    | 4.20 | 1.10               | 2.17          | 0.18 | 3.24 (8) | 0.012 |
|  | CG    | 2.20 | 0.84               |               |      |          |       |
| What does it mean to be harassed (i.e. explaining new vocabulary)?   | EG    | 3.40 | 0.55               | 0.00          | 1.00 | 5.20 (8) | 0.001 |
|  | CG    | 1.60 | 0.55               |               |      |          |       |

|  |    |      |       |       |      |              |       |  |    |      |      |       |      |             |       |    |      |       |  |    |      |      |      |      |             |       |    |      |      |   |    |      |      |      |      |
|--|----|------|-------|-------|------|--------------|-------|--|----|------|------|-------|------|-------------|-------|----|------|-------|--|----|------|------|------|------|-------------|-------|----|------|------|---|----|------|------|------|------|
| When someone harasses us, we feel good, don't we (i.e. disagreement with the teacher)?   | EG | 5.00 | 0.00  | 7.11  | 0.03 | 11.00<br>(8) | 0.000 |  |    |      |      |       |      |             |       |    |      |       |  |    |      |      |      |      |             |       |    |      |      |   |    |      |      |      |      |
|  | CG | 2.80 | 0.45  |       |      |              |       | Who represented the stones that were given to the children in Nejc's classroom (i.e. understanding content)?   | EG | 3.60 | 1.52 | 14.22 | 0.01 | 3.39<br>(8) | 0.021 | CG | 1.20 | 0.450 | What did the teacher want to show the children when she threw all the stones into the water (i.e. understanding content, understanding peer violence)? | EG | 3.80 | 0.84 | 0.09 | 0.77 | 4.02<br>(8) | 0.004 | CG | 1.60 | 0.89 | Did Goran and Bomani agree in the end (i.e. understanding content)? | EG | 4.80 | 0.45 | 3.57 | 0.10 |
| Who represented the stones that were given to the children in Nejc's classroom (i.e. understanding content)?   | EG | 3.60 | 1.52  | 14.22 | 0.01 | 3.39<br>(8)  | 0.021 |  |    |      |      |       |      |             |       |    |      |       |  |    |      |      |      |      |             |       |    |      |      |   |    |      |      |      |      |
|  | CG | 1.20 | 0.450 |       |      |              |       | What did the teacher want to show the children when she threw all the stones into the water (i.e. understanding content, understanding peer violence)? | EG | 3.80 | 0.84 | 0.09  | 0.77 | 4.02<br>(8) | 0.004 | CG | 1.60 | 0.89  | Did Goran and Bomani agree in the end (i.e. understanding content)?  | EG | 4.80 | 0.45 | 3.57 | 0.10 | 5.37<br>(8) | 0.001 | CG | 2.40 | 0.89 |   |    |      |      |      |      |
| What did the teacher want to show the children when she threw all the stones into the water (i.e. understanding content, understanding peer violence)? | EG | 3.80 | 0.84  | 0.09  | 0.77 | 4.02<br>(8)  | 0.004 |  |    |      |      |       |      |             |       |    |      |       |  |    |      |      |      |      |             |       |    |      |      |   |    |      |      |      |      |
|  | CG | 1.60 | 0.89  |       |      |              |       | Did Goran and Bomani agree in the end (i.e. understanding content)?  | EG | 4.80 | 0.45 | 3.57  | 0.10 | 5.37<br>(8) | 0.001 | CG | 2.40 | 0.89  |  |    |      |      |      |      |             |       |    |      |      |   |    |      |      |      |      |
| Did Goran and Bomani agree in the end (i.e. understanding content)?  | EG | 4.80 | 0.45  | 3.57  | 0.10 | 5.37<br>(8)  | 0.001 |  |    |      |      |       |      |             |       |    |      |       |  |    |      |      |      |      |             |       |    |      |      |   |    |      |      |      |      |
|  | CG | 2.40 | 0.89  |       |      |              |       |  |    |      |      |       |      |             |       |    |      |       |  |    |      |      |      |      |             |       |    |      |      |   |    |      |      |      |      |

The results of Levene's test indicate that the assumption of homogeneity of variances was met in all variables, except in variables three and four. There were statistically significant differences between the first ( $t(8) = 3.42$ ;  $p = 0.012$ ), the second ( $t(8) = 5.20$ ;  $p = 0.001$ ), the third ( $t(8) = 11.00$ ;  $p < 0.004$ ) and the sixth ( $t(8) = 5.37$ ;  $p = 0.001$ ) question.

The results indicate a tendency for students in the EG to express superior levels of skills in understanding the chapter in comparison with the students in the CG in all cases.

In the last chapter, the students of the EG responded more correctly about the content ( $M = 4.80$ ;  $SD = 0.45$ ), while the CG responded less correctly to the content ( $M = 2.40$ ;  $SD = 0.89$ ). Their answers were unconvincing.

When interpreting concepts, the students of the EG explained the concepts better and supported their interpretation with a concrete example ( $M = 3.40$ ;  $SD = 0.55$ ). The interpretation of the concepts in the CG was not supported by concrete examples and their explanation was poor ( $M = 1.60$ ;  $SD = 0.55$ ).

In this chapter, we also examined the instances of disagreement with the teacher. The students of the EG fully expressed their disagreement and clearly argued their opinion ( $M = 5.00$ ;  $SD = 0.000$ ). In the CG, all students hesitated and contemplated expressing disagreement. If they disagreed, they did not argue their disagreement ( $M = 2.80$ ;  $SD = 0.45$ ).

### *Changes of easy-to-read text in the verification protocol*

At the time of reading the adapted text, the students suggested minimal text changes. Most of the corrections included new explanations for individual words. There were also added sentences or phrases that better explained the causal-consequence and time links.

Minor changes occurred between the unverified and verified text. The students suggested the changes while reading the adapted text.

## **Discussion**

- a) Will students understand peer violence and the content of an adapted text better than the content of a text in the standard form?

Fijardo (2014) found in his study that participants with an intellectual disability showed significantly higher results related to content questions if they read adapted texts. The author emphasized that adapted texts are easier to understand for people with intellectual disabilities. Easy-to-read texts, in addition to greater understanding, also maintain the level of motivation.

In our study, we also concluded that the understanding of the content was better in the EG, where the adapted text was read. From this matter, we can



recognize the following factors that showed us a significantly better understanding of the easy-to-read text:

- Deliberately asked questions by the teacher to provoke disagreement: the students in the EG recognized that the statement was incorrect and that the story or the meaning differed from that proposed. They expressed their disagreement, although they did have difficulties in explaining their answer. The students in the CG failed to recognize those questions and tended to agree with the statements, although they were illogical.
- Expressing their own opinion about the read content: the students in the EG expressed their own opinions and disagreement more freely than the students in the CG. They supported their answers with examples from the text. This indicates a better understanding of the content.
- Vocabulary understanding: the students from the CG were unable to remember new vocabulary.
- Answering the questions about the content: difficulties in understanding the text in CG were obvious, even if students did not explicitly say so. The understanding of the content was poorer in the CG. The students from the CG were more insecure about the answer, they needed more breaks between the answers, regularly stumbled, or failed to respond.
- Peer violence and tolerance understanding: the students of the EG subsequently showed more understanding of the content regarding peer violence and tolerance. Their explanations of the words regarding this topic were more correct. The students expressed their disagreement regarding peer violence and tolerance in the EG more often than students in the CG, where students often agreed with the teacher's statements.

We can conclude that the students understood the adapted text more comprehensively than the text with the same content in its original form.

The results of Ruth-Janneck (2011) showed that overall, language complexity is the most critical barrier to access information. The author concluded that simplifying a text is an adequate intervention to tackle this issue.

The study of Karreman (2007) also indicated that people with intellectual disabilities understood the text better when it is read in an adapted form. Furthermore, the users were more satisfied when using the adapted version than when using the conventional one.

The results of both studies were the same as those in our study.

b) Will students from the experimental group communicate on a higher level about the content?

Regarding differences in speech, we observed that the students in the EG spoke about the content more independently and fluently than the students in the CG. The responses of the students in the EG were full of substance and meaningful, while they also produced longer sentences. The students in the EG included new words from the text in their answers more often. Their pronunciation was superior, their responses were more accurate, both regarding their complexity and grammatical correctness.

The students in the CG used shorter sentences and fewer words. They needed more breaks and had difficulties with pronunciation. They were more insecure about the answer, or they failed to respond.

The differences in communication indicated that the students in the EG were more talkative and motivated to maintain the conversation. The students from the EG showed more initiative when involved in a discussion with the teacher.

Based on these results, we can confirm that the students from EG communicated on a higher level.

We were unable to find studies including the use of adapted texts with a population of primary school students with an intellectual disability. Nevertheless, similar results are reported in the study of Karreman (2007), where participants with an intellectual disability were reading a website that contained adapted texts and texts without any adjustments. The study showed that language skills of the individuals who read adapted texts were better than of the ones who read a website with non-adapted texts and thus the former should be promoted and used as often as possible by teachers and other professionals.

## **Conclusion**

The research study aimed to examine the differences in understanding of the text and peer violence and tolerance among students who listened to the adapted text and students who listened to the original text with the same content. It also focused on researching the differences in communication skills between students in the control and those in the experimental group.

People with intellectual disabilities have difficulty understanding the texts they read. Their understanding can improve by using texts in an easy-to-read form, which enable them to understand the content more easily.

If we compare the differences in understanding of the text among students who listened to the adapted text and those who listened to the original text with the same content, we can conclude that the students who were in the EG showed more understanding of the text than students from the CG. Similarly, these students had much less difficulty in explaining the cause-and-effect relationships described in the text. They were able to provide arguments for their answers as well as describe new words using concrete experiences. The students from the EG also participated in the conversation more independently and they interacted with the teacher more.

Therefore, it is not only clear that there are differences between the two groups, but that in general students from the EG who were read the easy-to-read text benefited from these.

The findings of the research show the benefits of easy-to-read texts and significantly influence the recognition of reading adapted texts.

We believe our insights will assist professionals in the field of education. Reading and learning when using adapted texts could be easier and more enjoyable for students with intellectual disabilities. Easy-to-read texts could help children become fluent and proficient readers and could lead to long-term reading and academic success. Adapted texts could also be used for understanding the meaning of the words, definitions and their context as they contribute to increasing vocabulary.

Using easy-to-read textbooks and worksheets could increase students' vocabulary and help them to deepen their understanding of new topics and concepts. Moreover, adjusted texts are easy to integrate into a pedagogical routine.

However, although our research questions have been answered, further research is needed in order to tackle the several limitations of our study.

Firstly, it should be noted that our research was carried out on a relatively small sample, which makes the generalization to the entire population limited. Therefore, before it can be generalized, our study should be replicated with a larger sample size, different age groups and other levels of intellectual disability.

Secondly, an important methodological limitation that needs to be overcome in future research is the use of open - ended questions, which are more sensitive to comprehension differences. On the other hand using open - ended questions can confound memory and comprehension skills. The disadvantages of open - ended questions also include the potential masking effects of hearing competences and verbalization of students.

The third methodological issue is related to the design of our study. Prior to the survey itself, no initial test was conducted to confirm the equivalence of the control and experimental group. The equal memory and language skills of participants in both groups were only hypothetical.

Finally, our expectations could influence the objectivity of results. The personal subjectivity could ultimately play a role in the research because the researcher was a part of the construction. Another challenge refers to not only the personal subjectivity of the researcher but interpreting the data itself. The data related to communication skills could be viewed by multiple perspectives.

In conclusion, we can say that despite the limitations of our methodology, the research opens up many possibilities as well as a need to study the understanding of adapted texts further. Future research could include analysis of written texts, the impact of reading easy-to-read texts on social and communication skills, adapted texts in connection with lifelong learning and literacy, or the impact of easy-to-read texts on language and linguistic skills.

These areas are insufficiently studied in Slovenia, therefore a continuation of research in this direction is certainly needed.

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