Difficulties in Reading Comprehension of Hungarian Primary School Students in Slovakia

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ABSTRACT

Our study aimed to assess the level of reading comprehension, one of the cornerstones of education of the Hungarian minority in Slovakia, and to answer the research question of what kind of deficits need to be addressed in the development of reading comprehension. The research was conducted with the participation of students from primary schools with Hungarian as the language of instruction in Slovakia. In our study, we shed light on the problems found in cognitive reasoning, accurate interpretation of information and complex reading comprehension. The extent to which the development of new cognitive schemata caused problems for the studied groups was also investigated. In several cases, the responses were not based on textual information, but only on the respondents' existing schemas. The results also show that it was a problem for the learners to answer both the multiple-choice questions and the open-ended and explanatory questions.

Keywords: reading comprehension, deficits, primary school, Hungarian minority in Slovakia, suggestions

INTRODUCTION

The ability to understand texts is key to thriving in society and our everyday verbal activity takes place through texts: we listen to, read, and create texts. We may turn to written texts for a variety of purposes, whether it is to experience something, to learn, or to obtain information. It is known that by understanding written language, we can not only have an inspiring and enjoyable experience for ourselves, but also gain new knowledge, expand our vocabulary and contribute to the acquisition of a multifaceted way of thinking (Nation 2019). It allows us to participate in a vast network of social

discourse, to be a formative part of a living, functioning culture; the reader is not an outsider, but an active participant in a community, a society, (also) based on communication. However, many children do not fully understand the information conveyed through written texts, a problem that can have far-reaching consequences for their learning, cognitive development, and life success (Clarke et al. 2014: 1). The aim of teaching reading in schools is not only to enable children to master the technique of reading, but also to enable them to acquire new knowledge by using their reading skills. This is only possible if the children understand, what they read. Comprehension plays a fundamental role in the acquisition of new knowledge and is a prerequisite for all further learning and acquisition. In a minority situation, high-quality education in the mother tongue is essential for the successful welfare of the minority. However, high-quality teaching is only possible, if the primary goal of education is to develop students' reading comprehension. In our study, we examine the level of reading comprehension of primary school students as a necessary condition for success in education and literacy.

Although reading literacy is one of the most important areas of mother tongue competence and can even be considered as the intellectual capital of the society, international measurements (IEA PIRLS¹, OECD PISA²) show that students in Slovakia perform poorly in this area. As for the reading comprehension in the 2018 PISA survey, Slovakia underperforms the OECD and even achieves the weakest results compared to neighbouring countries (see Vančo and Gergely 2021). The most pressing problem in education in Slovakia is that 31.4% of 15-year-olds approaching the end of compulsory education, i.e. almost one third, have a risk factor (Miklovičová and Valovič 2019: 31). The results of the last PIRLS survey from 2016 show similar results: Slovakia performed below the OECD average; among the neighbouring countries surveyed, Slovakia performed the weakest, with 19% of pupils in the fourth grade of primary school with a risk factor (NÚCEM: 6). Although the two measurements cannot be compared, as PIRLS focuses on 10-year-olds and examines reading comprehension tasks related to school situations, and PISA examines 15-year-olds' ability to comprehend texts in everyday life (Sejtes 2018: 242), both international measurements show a negative picture of students' reading comprehension skills in Slovakia.

- 1 PIRLS is an acronym for "Progress in International Reading Literacy Study". The measurement conducts comparative studies on the effectiveness of learning and teaching processes in the fourth grade in five-year cycles. The last measurement in 2016 was conducted in 50 countries.
- 2 PISA is an acronym for "Program for International Student Assessment". The international survey measures the ability of fifteen-year-olds to study science, math, and reading comprehension in three-year cycles. In the most recent 2018 survey, 79 countries participated and its main area was reading comprehension

About one-third of the Hungarian-speaking population³ lives outside Hungary as members of national minorities. Hungarians living in Slovakia are the second-largest Hungarian national minority (after Hungarians in Transylvania, Romania) in the Carpathian Basin.

The largest minority in Slovakia is Hungarian, which has an extensive school system. There are primary and secondary schools with Hungarian as the language of instruction in five of the country's eight districts. Although this is not statistically relevant, we included respondents from all five districts in our study. In the Slovak education system, education for the Hungarian minority is not a separate entity, but the same educational documents of the State Education Programme (*Štátny vzdelávací program*) regulate the content of majority and minority education. The State Cultural Programme sets out the subject requirements for each grade level. Pupils in schools with Hungarian as the language of instruction in Slovakia are predominantly Hungarian-dominant and acquire the state language – depending on their abilities and wider environment – through the school curriculum (see Vančo 2008).

The research presented in our study aims to assess the reading comprehension skills of fourth and seventh-grade students in primary schools with Hungarian as the instruction in Slovakia and to answer the research questions about the types of reading comprehension deficits and the factors that need to be considered in the development of reading comprehension. The age of fourth-graders seems to be an important stage for the development of reading comprehension. At this stage, students are able to read not only for practice but also for pleasure or learning (Mullis 2019: 1). At this age, the teaching of reading techniques is complete, and students begin to learn through reading. Students complete the first stage by the end of fourth grade, and the compilation of subjects in the second stage means a greater learning load, meaning they are dealing with longer and more complex texts. For all these reasons, it is important to assess what reading habits students have at the end of the first stage and what problems they have in reading comprehension. Seventh grade, as the middle grade of the second stage of primary school, is an intermediate grade between senior class and fifth grade (in the 9-year primary education system). The results of this age group can show the level of development of reading comprehension and possible gaps, but the remaining two school years are also still an opportunity for further development.

3 Almost 13 million native speakers of Hungarian live in the European Union. Outside of Hungary, Hungarian is used as the language of instruction or taught in an organized fashion in the educational system in the following seven countries: Slovakia, Ukraine, Romania, Serbia, Croatia, Slovenia and Austria.

METHODOLOGY

The study was conducted between May and June 2019. The target groups studied were the fourth and seventh-grade students of primary schools with Hungarian as the language of instruction in Slovakia in bilingual regions in the eastern, central and western part of southern Slovakia. The survey was conducted anonymously, and for privacy reasons, the specific locations where the research was conducted are not enumerated. Respondents were selected based on expert sampling and came from similar bilingual environments.

A total of 668 students, 355 fourth-graders and 313 seventh-graders participated in the research. According to the Slovak Centre for Scientific and Technical Information (CVTI SR), the number of students who participated in the research in 2019 included 10% of fourth-graders and 10% of the seventh-graders in all primary schools with Hungarian as the language of instruction in Slovakia.

During the study, both grades received a reading comprehension test⁴ with the same structure, which contained three different types of texts (narrative, expository, informational) and corresponding questions. Responses were improved by scoring. Within a question, respondents could receive one point for each correctly answered item. For editability reasons only responses where only the correct answer(s) were provided were accepted. No points were deducted for incorrect responses. Given the difficulty of reading comprehension, students had to use cognitive thinking processes of varying difficulty. Based on the goals of the questions, responses were analysed based on the processes of comprehension used in the PIRLS international measurement. PIRLS examines four broad processes of comprehension typically used by fourth graders. These are as follows:

1. **Focus on and Retrieve Explicitly Stated Information** that requires little or no inference or interpretation – the meaning is obvious and contained in the text (Mullis and Martin 2019: 12-13).

2. To **Make Straightforward Inferences**, the reader should link the information in the text. The relationship between the given information is not explicitly stated, it must be inferred.

4 The reading comprehension test used in the research was developed by the professional group of the Institute of Hungarian Linguistics and Literary Studies of the Constantine the Philosopher University of Nitra, Faculty of Central European Studies, within the project APVV-17-0071 Support for reading literacy in the mother tongue and foreign language. Within the framework of the project, we have developed an intervention program for fourth and seventh graders of primary school with Hungarian as the language of instruction in Slovakia, which aims to develop the reading comprehension skills of students in their mother tongue (see Vančo – Stranovská 2020).

3. Interpret and Integrate Ideas and Information: This type of process focuses on the meaning of parts of the text or the text as a whole or the linking of the details. It encourages readers to better understand the text, by connecting their knowledge and experiences to the text's inherent meaning.

4. Evaluate and Critique Content and Textual Elements: This type of process requires the reader to critically evaluate the text. In this process, the reader evaluates the text based on his or her value judgement (Mullis and Martin 2019: 13-16).

The following table (Table 1) illustrates the number of questions for the reading comprehension test we used by type of each cognitive process:

		Processes of comprehension			
		Focus on and Retrieve Explicitly Stated Information	Make Straight-forward Inferences	Interpret and Integrate Ideas and Information	Evaluate and Critique Content and Textual Elements
4 th Grade	Narrative text	1	9	3	–
	Expository text	7	3	3	–
	Informational text	3	2	6	–
7 th Grade	Narrative text	2	3	6	2
	Expository text	3	5	1	–
	Informational text	1	4	5	1

Table 1: Number of questions for reading comprehension tests by processes of comprehension

RESULTS

During the research, the answers to the questions of the fourth and seventh-grade reading comprehension test were analysed based on the comprehension processes to find out which cognitive process was a problem for the students in completing the test. The following table (Table 2) shows the average percentage of students in the two grade levels who answered the questions correctly for each cognitive process.

		Processes of comprehension			
		Focus on and Retrieve Explicitly Stated Information	Make Straight- forward Inferences	Interpret and Integrate Ideas and Information	Evaluate and Critique Content and Textual Elements
4 th Grade	<i>Narrative text</i>	38%	54%	24%	–
	<i>Expository text</i>	66%	46%	36%	–
	<i>Informational text</i>	79%	82.5%	58%	–
7 th Grade	<i>Narrative text</i>	76%	59%	42%	22%
	<i>Expository text</i>	57%	53%	46%	–
	<i>Informational text</i>	71%	67%	25%	20%

Table 2: Proportion of correct answers to questions by processes of comprehension in fourth and seventh grade

The results show that in both grades, a much higher percentage of students were able to correctly answer questions that required recognizing specific, explicit information and making straightforward inferences than those that required interpreting and summarizing data and ideas. In seventh grade, the greatest deficits were in evaluating and critiquing content and text elements. From the data obtained, the degree to which it is difficult for each age group to perform more complex cognitive processes can be seen. Interpretation and summary of data and thoughts on the 3 texts exceeded 50% of correct answers for only one question. The school expects students to understand the text according to age. The results show that the percentage of students in the two grades who have problems with reading comprehension is very similar. This means that most children have problems with reading comprehension compared to the expected level when they have to perform more complex cognitive processes. Regardless of age, about one-third of students have difficulty stating explicitly stated information and making simple inferences from the text. About two-thirds of students have difficulty interpreting and integrating ideas and information. The problem is also underlined by similar results from the PIRLS measure (see IEA web 1). Consequently, the development of reading comprehension cannot be successful without the purposeful development and practice of complex cognitive processes.

The results also show that determining the truth content of the statements leads to a correct answer in most cases when the statement is a simple sentence and its truth content is not conditional. At the same time, the majority of students had difficulty answering complex, negative, or possibly contradictory questions that were true only under certain conditions. When the truth content of a sentence had to be determined based on the meaning of a modifier word, a common pronoun, or an

adverb, the proportion of correct responses decreased. To illustrate this, we show the proportion of correct responses to a sentence of each task in which the truth value was to be determined. The proportion of incorrect responses to one of the true-false questions related to the fourth-grade expository text was 84%. The statement: "*The main root penetrates only 60-70 cm into the soil.*" To determine the truth value of the sentence, respondents had to consider the meaning of the modifier word *only*. A similar situation is observed in the seventh grade, when almost two-thirds (62%) of the students judged the truth value of the sentence "*All immigrant groups strive for integration.*" Incorrectly judged. In this case, students had to compare the meaning of the word *all* with the meaning of the adverb *usually* in the text, or *some exceptions behave differently*.

In both grades, it can be observed that there is a lack of integration of textual information into the respondents' existing schemata. This is evident in fourth grade with the question "*What do we know about why this plant is called sunflower?*" And in seventh grade in the question "*What do you think it depends on whether people will speak Hungarian in Slovakia in a hundred years? Formulate your answer based on the text!*" question. In both cases, the task emphasized that the question should be answered based on the text. However, in the fourth grade, almost half of the students (46%) and in the seventh grade, more than a third (38%) described their own experiences, without referring to the content of the text and answered the question incorrectly. These responses clearly show the strong influence of students' pre-existing schemas on reading comprehension. A detailed analysis of the incorrect answers shows that students use their familiar schemas from everyday life when reading, but in many cases, these schemas are not related to the facts in the text and replace the information in the text with knowledge from their own schema. To illustrate this phenomenon, the responses to the true-false choices in the fourth-grade narrative text can be used as concrete examples. The narrative text is about Indians living and fishing on the beach. A sentence in the true-false task states: "*In the story, the Indians hunt a lot.*", and the majority of students marked the statement as true. Some students also justified their answer with the statement: "*Indians tend to live in wooded areas*".

The data on the reading comprehension test questions for the two grade levels also show that there were no questions in either grade that all students answered correctly. Regarding the type of questions, it can be seen that both fourth graders and seventh graders left open-ended questions (fourth grade: 27%, seventh grade: 17%) unanswered than closed-ended questions (fourth grade: 3%, seventh grade: 5%). For closed-ended questions, multiple-choice was also a problem in fourth and seventh grade. Although we told students in the instructions for the question that they should have multiple correct answers to the given question, in most cases, without noticing this, only one answer was given. An example of this is the first question in the fourth-grade narrative

text where students had to choose the characters in the story. Two characters had to be named for the correct answer, which was given by just over a third of the students (38%). For the incorrect answers, almost a quarter of the students (22%) indicated only one character. Responses to the multiple-choice question in the expository text showed a similar ratio, with less than a quarter of students (21%) selecting both options when answering. More than half of the students (58%) incorrectly marked only one answer, albeit the correct one. A similar situation is observed among seventh graders. The seventh graders were asked to find out, based on the expository text, what two reasons there might be for the almost complete disappearance of the minor Finno-Ugric languages in Russia. A fraction of the students (13%) indicated both correct answers, while more than half of the students (55%) marked only one of the correct answers. The phenomenon described draws attention to a serious problem for two reasons. The information was explicitly and verbally explained in the texts, yet, only a partially correct answer was given by slightly more than half of the respondents. When respondents had to focus on more information in a question, the percentage of correct answers dropped dramatically. This problem does not improve with age; seventh-graders were just as satisfied as fourth graders with giving the first quickly available information.

CONCLUSIONS

Language allows information, thought, and meaning to be conveyed. Understanding written language can make reading an inspiring and enjoyable experience. In addition, written texts provide information, offer new knowledge, expand vocabulary, and help learn new ways of thinking. However, for many children, the messages of written texts are not clear, they are unable to understand them, and this can have potentially far-reaching consequences for their further learning, development, and well-being.

In our study, we pointed out that reading comprehension is a complex task that depends on a wide range of cognitive and linguistic processes, and we presented some of the results of our research in which we examined various aspects of reading comprehension levels. Using the above results, we examined the nature of reading comprehension problems by validating aspects of the cognitive thinking processes required for complex text comprehension in two age groups. However, even for older students, independent processing of the text was a problem for most students. Ignoring context and the pieces of the precise information of the text is a common problem that problem does not improve with age. The problem of incorporating new information into an existing knowledge schema also anticipates the problem of acquiring new knowledge. The aim of the present study is not to analyse the textbooks used in Hungarian education in Slovakia. However, the fact

that students perform better on closed single-choice questions than on multiple-choice and open questions can also be explained by the fact that students generally find similar tasks in the textbooks they use. The results of the study conducted in two grade levels prove that solving the above tasks is at least possible without targeted support for reading comprehension, which relies solely on the individual. The low level of text interpretation calls into question the success of independent learning in the studied age groups, which in turn underscores the need for targeted support in school.

This can only be achieved through reading comprehension programs that provide separate, targeted development of each cognitive process, taking into account the gaps discussed. It is important to emphasize that the development of reading comprehension, is a step by step, concentrically spreading didactic task that must take into account the basic methodological principles, i.e. the gradual development of developmental programs that correspond to the age-specific characteristics of the students. In a minority situation, only high-quality mother tongue education can help the minority to survive. If education does not do its utmost to raise the level of reading comprehension, it is not only a disadvantage for the individual, but also for the minority as a whole. Hungarian-language education in Slovakia should also be based on this principle.

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WORKS CITED

- Clarke, J Paula et al. *Developing Reading Comprehension*. New Jersey: Wiley Blackwell, 2014.
- IEA web5. "Achievement in Reading Purposes and Comprehension Processes. Trends in the Comprehension Processes." In *IEA's Progress in International Reading Literacy study – PIRLS 2016*. [online]. [cit.2021-01-10]. Available online: <<http://timssandpirls.bc.edu/pirls2016/international-results/pirls/achievement-in-reading-purposes-and-comprehension-processes/trends-in-the-comprehension-processes/>>.
- Miklovičová, Júlia and Valovič, Jakub (eds.). *Národná správa PISA 2018* [PISA 2018 National Report]. [online]. Bratislava: Národný ústav certifikovaných meraní vzdelávania (NÚCEM), 2018. [cit.

- 2021-02-15]. Available online: <https://www.nucem.sk/dl/4636/Narodna_sprava_PISA_2018.pdf>.
- Mullis, Ina V.S. and Martin, Michael O. (eds.). *PIRLS 2021 Assessment Frameworks*. [online]. United States: International Association for the Evaluation of Educational Achievement (IEA), TIMSS & PIRLS International Study Center, 2019. [cit. 2020-10-03]. Available online: <<http://pirls2021.org/frameworks/>>.
- Nation, K. Children's reading difficulties, language, and reflections on the simple view of reading," *Australian Journal of Learning Difficulties*, vol. 24, no. 1. 47-73. 2019. DOI:10.1080/19404158.2019.1609272
- NÚCEM web 1. *PIRLS Čítanie s porozumením (čitateľská gramotnosť žiakov 4. ročníka ZŠ)* [*Reading comprehension (reading literacy of 4th grade elementary school students)*] [online]. [cit. 2020-11-19]. Available online: <<https://www.nucem.sk/sk/merania/medzinarodne-merania/pirls>>.
- NÚCEM: *PIRLS 2016 Prvé výsledky medzinárodného výskumu čitateľskej gramotnosti žiakov 4. ročníka ZŠ* [*The first results of international research of reading literacy of 4th grade students*] [online]. [cit. 2020-04-09]. Available online: <https://www.nucem.sk/dl/3442/Prv%C3%A9_v%C3%BDsledky_Slovenska_v_%C5%A1t%C3%BAdii_IEA_PIRLS_2016.pdf>
- Sejtes, Györgyi. "Szövegről szövegre tanárjelölteknek kognitív, funkcionális, pragmatikai keretben." [Text-to-text teacher candidates in a cognitive, functional, pragmatic framework.] In Karlovitz János Tibor (ed.): *Elmélet és gyakorlat a neveléstudományok és szakmódszertanok köréből*. Komárno: International Research Institute s.r.o., 2018, 242–248.
- Vančo, Ildikó and Gergely, Viktória. "Hogyan értékeli a szövegértést a PISA2018, és mit kell tudni a szlovákiai diákok eredményeiről?" [How PISA2018 evaluates reading comprehension and what you need to know about the results of students in Slovakia?] *Katedra: Szlovákiai magyar pedagógusok és szülők lapja*. vol. 28, no. 5 (2021): 24-27.
- Vančo, Ildikó and Stranovská, Eva. *Szövegértő olvasást fejlesztő intervenció program az alsó tagozat számára – magyar nyelv*. [Intervention program for fourth grade students to develop reading comprehension – Hungarian] Praha: Verbum, 2020.
- Vančóné Kremmer, Ildikó 2008. A beszédészlelés és a beszédmegértés vizsgálata magyar-szlovák kétnyelvű gyermekeknél. In Lanstyák István és Simon Szabolcs (szerk.) 2002. *Tanulmányok a kétnyelvűségről*. [online]. Pozsony: Kalligram Kiadó. [cit.2019-12-29]. Available online: <https://www.sulinet.hu/oroksegtar/data/magyar_tortenelem_es_kultura/hataron_tuli_magyarsag_kotetei/Tanulmanyok_a_ketnyelvusegrol/pages/000_konyveszeti_adatok.htm>.

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