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Mesezene: Introducing a new Hungarian approach in fostering language skills to prepare reading in kindergarten

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The *Mesezene* method is an alternative pedagogical initiative that builds upon the knowledge of speech and language therapy and special needs education. The present study introduces the pillars of the method as well as discussing the pilot studies conducted in the field. According to previous assessments, the application of the programme in kindergarten has a positive effect on children's phonological awareness on both the phonemic and syllable level. The training programme also provides a specific effect on children's rapid automatised naming, while leaving the phonological short-term memory untouched.

Keywords: Phonological awareness, phonological short-term memory, rapid automatised naming, Mesezene method

Becoming literate

The term *print awareness* refers to a complex, overall knowledge of the form and function of a text that appears during printing (in a book, newspaper, etc.). A good summary of the concept, development, and significance of print awareness for reading can be found in a study by Pullen and Justice (2003) who claim that the child, although still unable to speak, already takes the book in his hands, flips through it, and pretends to read the story. By 'reading' from a book, he learns that written language is formally different from spoken language. Beyond that, he acquires knowledge that can later be used in the process of learning to read (e.g., left-to-right, top-down spatial orientation, or the empty space between letters).

In addition to learning about the peculiarities of the written text (*print concept*), recognising the relationship between the speech sound and a symbol is another aspect of print awareness. Establishing the object-symbol relationship is therefore the first step in developing the principle of speech sound-letter (phoneme-grapheme) correspondence that is essential for proper reading. Its formation is facilitated by any experience in which a real object is replaced by a symbol. The third aspect of print-awareness is letter knowledge which is not a matter of simple letter recognition because this ability already presupposes the function of the written text and knowledge of its relationship with the speaker's language.

The most important cognitive abilities underlying reading

In the process of becoming literate, three general stages can be distinguished, regardless of language: *prior to literacy*, *becoming literate*, and *literate*. The first stage begins with birth and lasts until the child first encounters a printed text (book, newspaper) and begins to understand its function and use. The second stage lasts from this time until the beginning of formal (school-based) reading instruction which, according to the undivided opinion of the research, is of paramount importance in the process of development. As a result, in the final stage of becoming literate, word processing becomes effective and reading becomes a source of pleasure and a means of learning (e.g. Linan et al., 2012).

In the second period of development, which overlaps with the last years of preschool, children can acquire skills that make it easier for them to learn to read, while children who develop these skills later in school are at a disadvantage in this respect. According to Adams (1991), the individual differences within acquiring these abilities persist until the fifth grade. Phonological processes, print awareness, and spoken language development are good predictors of later reading success (e.g., Dowing & Valtin, 1984; Scarborough, 2005; Caravolas et al., 2012). While the former skills play a key role in the initial stages of learning how to read and are necessary for the development of fluent (sufficiently fast, accurate, and expressive) reading, an appropriate level of spoken language development is more likely to be related to reading comprehension.

Phonological processes

Phonological processes are mental abilities in the processing of verbal information for both speech comprehension and reading. Among the phonological processes, the most studied areas related to the initial stage of reading learning and the developmental disorder of reading are *phonological awareness*, *rapid automatised naming,* and *phonological working memory*.

Phonological awareness

Phonological awareness (PA) refers to the knowledge that allows one to reflect on smaller units that make up words (syllables, rhymes, speech sounds) (Ziegler & Goswami, 2005). The term 'awareness' refers to intentional, explicit processing. In this approach, the level of phonological awareness can be evaluated by tasks that require the child to perform different operations on different phonological units of the spoken word, such as the syllable, elements of the syllable structure (beginning or rhyme), or phoneme. In this case, the term 'rhyme' does not have a lyrical, but rather a phonological meaning that covers the core of the syllable structure (the vowel) and the surrounding consonant(s). The operations of phonological awareness include *identification* (e.g., determining the position of an item), *synthesis* (e.g., identifying and pronouncing isolated speech sounds as words), *segmentation* (breaking down into units), and various *manipulation* options (e.g., adding, deletion, replacing).

The development of phonological awareness moves from larger units to smaller components. Units of syllables are formed first, then syllable structures, and finally phonemes evolve (Caroll et al., 2003). A pre-school child has access to syllables, to the onset and the rhyme of a word, but breaking words into speech sounds without learning to read is rare, even in typically developing children (Goswami, 2001; Jordanidisz, 2015). Jordanidisz (2015) examined Hungarian-speaking children and found that six-year-olds achieved the best results in syllable segmentation and synthesis. In comparison their results on subtests requiring phoneme-level awareness were significantly lower, moreover there was a significant difference between six-year-olds already in school and still in kindergarten in all areas of operations at the phoneme level. Thus, syllable-level operations appear as part of spontaneous linguistic development, while phoneme-level metalanguage awareness shows greater development due to external influence and structured activity. Such a context is created by reading learning in school education, the pivotal point of which is the acquisition of the phoneme-grapheme relationship. Phonemic awareness, however, can be developed through explicit targeted sessions as well (Brady et al., 1994). Phonological awareness is a good precursor to later reading skills, and development before institutional reading instruction has a positive effect on early literacy (Brady et al. 1994).

Phonological short-term memory

The 'upper' unit of working memory processes information from the central executive. Its operation is area-general and controls the operation of area-specific components. The *phonological short-term memory* (PSTM) is a stimulus-specific sub-unit of the short-term memory. The phonological loop is a specific area whose task it is to store the linguistic input for a short time. Its two putative subunits are the phonological short-term store, which stores verbal information for a few seconds, and the articulatory control process (repeating component), which sub-vocally re-reads items to reload the information into the phonological store (Baddeley & Hitch, 1974). The capacity of the phonological repository is not constant and increases with age. There are several ways to measure the PSTM, but there is still no consensus regarding the most appropriate way. The instant replay of letters, digits, words and nonwords are commonly used. Racsmány et al (2005) show that the average memory size of 5-year-old Hungarian children is 4.11 syllables (SD = 1.43). For reading tasks, regardless of the decoding strategy, the phonological working memory stores the language input for as long as necessary. Based on the international literature, working memory is a good predictor of reading comprehension in both adults and children (Daneman & Merikle, 1996; Cain et al., 2004).

Rapid automatised naming

Rapid automated naming (RAN) refers to a verbal response given to a familiar visual stimulus under time pressure. The stimuli can be colours, objects, or

symbols (e.g., letters, numbers). The task requires the intact operation and synchronicity of complex perceptual, lexical, and motor processes. The smooth integration of visual symbols, phonological units, and the attention system plays a prominent role (Neuhaus & Swank, 2002). The tests can be analysed in terms of speed of response, number, and quality of errors (Denckla & Rudel, 1974). RAN is closely related to reading accuracy, speed, and comprehension alike. Deficiency in the preschool life stage is a good precursor to later reading disorders, especially to the disorder of reading tempo (Wolf et al., 2000; Wagner et al., 1997; Bowers & Ishaik, 2006; Norton & Wolf, 2012; Tóth, 2012; Blomert & Csépe, 2012). Cross-linguistic studies suggest that rapid automated naming (as a predictor of reading ability) is less dependent on orthographic transparency in individual languages (Lyytinen et al., 2015).

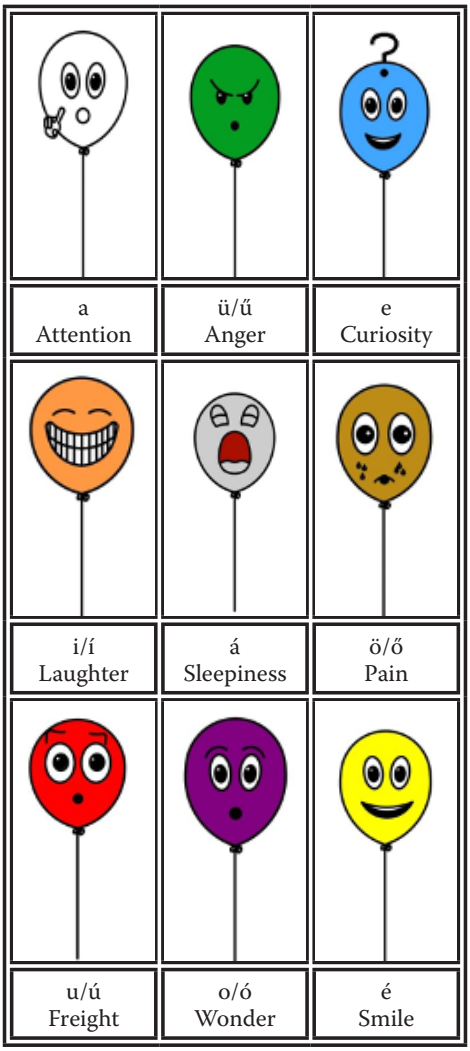
The *Mesezene* method

The *Mesezene method* is a two-module programme that can be used in preschool education to prepare reading skills and applied in primary school education as a pedagogical tool in the early stages of reading instruction. Both options provide a system that spans the entire school year (Ványi et al., 2014; Szűcs, 2019). According to the authors, in order to develop a successful reading ability, it is essential to apply an appropriate motivational system that emotionally engages children. In this method, this aim is achieved by means of various tales and collectively played games. According to Szűcs and Ványi (2020) and Sándor (2020), these specifics can have a positive effect on children's emotional and social intelligence as well, however, this assumption requires further investigation at a later stage.

The method connects speech sounds to symbols, thus contributing to the development of *print awareness* while simultaneously helping to consolidate the phonological system. Vowels and consonants are marked by a separate symbol system; moreover, the establishment of the association is well separated in time as well. In the last stage of the programme, pictograms symbolising sounds are 'read together'. These are always closed (VC) syllables. Articulation based on vowel and consonant images forms the basis of one of the fundamental steps of reading teaching, the blending of letters, and contributes to the development of print awareness and the formation of synthesis within phonological awareness. In addition, the programme also includes the development of explicit phoneme awareness in which children are asked to identify the actual speech sounds in words.

In this method-specific association system, vowels are connected to colours and emotions of balloons. It is therefore a common task during the application to name coloured balloons (either based on their colour or associated qualities, such as the speech sound or the emotion), which can potentially affect the ability for rapid automatised naming.

Figure 1
The Mesezene method associates vowels to colourful balloons with specific emotions



Review of studies on the efficacy of Mesezene *method*

The current study demonstrates the results of pilot studies carried out in order to assess the possible effects of the method on phonological awareness, rapid automatised naming, and phonological short-term memory. Szűcs and Tar (2020a) conducted a study with children displaying typical development, living in Hungarian cities, as well as another study carried out among children living in socially and economically disadvantaged conditions (Szűcs & Tar, 2020b).

It is important to highlight that the sociocultural situation affects language use. Communication between middle- and lower-class parents may differ in

the elaboration of the language code used. School success, including reading performance, is greatly influenced by family language use. The development of phonological awareness before institutional reading instruction is essential (Nagy, 2018), their effect can be remarkable even in longitudinal perspective (see: Nancollis et al., 2005; Lundberg et al., 2012).

Study on phonological awareness, rapid automatised naming and phonological short-term memory

Szűcs and Tar (2020a) sought to evaluate the effects of the method on phonological awareness, rapid automatised naming, and phonological short-term memory. In their study, Hungarian-speaking children living within an urban environment and possessing typical intellectual development and intact hearing participated. The performance of ten children (for each group) has been analysed. The two groups were matched based on age as well as their results gained in the phoneme identification task. The mean age of the experimental group (three boys, seven girls) at the time of the first assessment was 6;5 years (6;1–6;7), while the mean age of control group (five boys, five girls) was 6;3 years (6;0–6;7). The average of the points achieved in the phoneme identification task was 3.1 in the experimental group and 2.4 in the control group, and the two groups were the same in terms of minimum and maximum points (0 and 7 out of ten).

The tests were performed twice, with a seven-month difference between the input (which took place in the autumn, before the start of the training programme) and the output (immediately after the end of the training). A self-developed set of tasks was used to examine phonological awareness. The operations of identification (syllable and phoneme level), deletion (on both syllable and phoneme level), and synthesis (only on phoneme level) were examined. The vocabulary consisted of ten words of one or two morphemes in each task. The phonological unit to be identified or deleted was in the beginning and end position of the word. Deletion always resulted in a meaningful word.

To examine rapid automatised naming, the Columbia RAN test was used (Marosits, 2007), during which the child had to name visual signs of serially arranged colours and images of familiar objects. During the evaluation, we looked at the time (sec) and the number of errors. The task has no normative data in Hungarian.

The capacity of the phonological short-term memory was measured based upon the non-word repetition test (Racsmány et al., 2005). The children's task is to repeat meaningless non-words corresponding to Hungarian phonology. The evaluation is based on the number of syllables repeated correctly.

Statistical analysis was performed to explore the differences between and within groups. The SPSS 22.0 software package was used. Since the data did not show a normal distribution for most variables, a non-parametric test (Mann-Whitney U test) was performed.

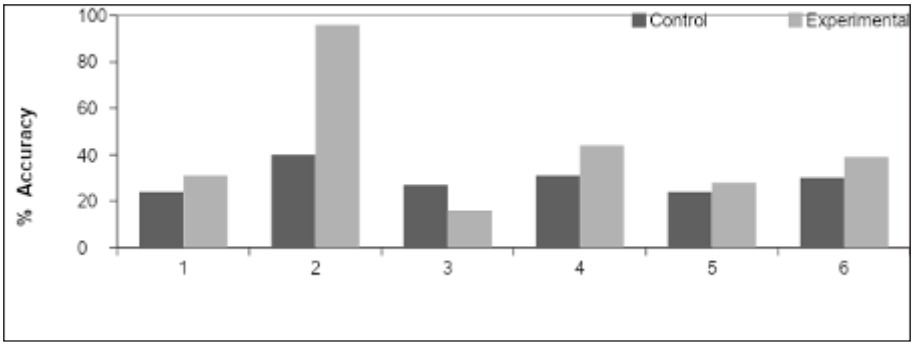
The statistical data (mean, median and standard deviation) of the examined variables are summarised in *Table 1*.

Table 1
Statistical results of phonological processing (Szűcs & Tar, 2020a)

			Before training			After training		
			Average	Median	St. dev.	Average	Median	St. dev.
			Control group					
PA	Phoneme	Identification	2.40	2.00	2.17	4.00	4.00	2.83
		Synthesis	2.70	1.00	3.92	3.10	2.00	3.31
		Deletion	2.40	0.50	2.95	3.00	1.00	3.80
	Syllable	Identification	5.40	7.00	3.60	6.70	9.00	4.00
		Deletion	4.90	5.50	2.85	6.30	7.50	3.50
RAN	Colour	Time	81.00	79.00	26.20	68.70	63.50	18.70
		Errors	0.20	0	0.42	0	0	0
	Object	Time	107.70	98.00	52.01	86.00	87.00	24.31
		Errors	0.10	0	0.32	0.50	0	0.85
PSTM		Syllable numbers	4.87	5	1.00	4.7	5	0.90
			Experimental group					
PA	Phoneme	Identification	3.10	2.00	2.85	9.50	10	0.70
		Synthesis	1.60	0.00	2.67	4.40	3.00	2.50
		Deletion	2.80	0	3.63	3.90	3.50	3.54
	Syllable	Identification	4.40	4.00	3.63	8.10	9.00	2.96
		Deletion	2.60	1.50	2.95	5.50	6.00	2.41
RAN	Colour	Time	76.60	73.00	16.87	63.80	61.00	13.46
		Errors	0.70	0	1.06	0	0	0
	Object	Time	94.30	93.00	20.52	75.90	75.00	14.38
		Errors	0.40	0	0.52	0.2	0	0.42
PSTM		Syllable numbers	5.1	5.5	1.52	5.0	4.5	1.49

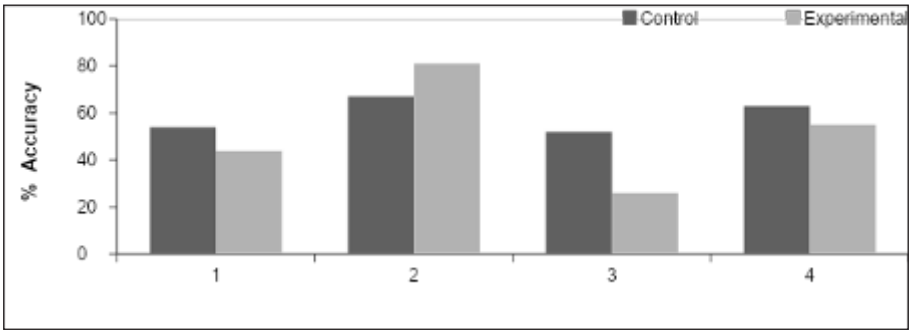
At the level of the phonemes, the experimental group performed better in the identification (U = 0,00, z = -3,87, p = 0,000) and synthesis (U = 16,50, z =-2,58, p < 0,05) tasks compared to itself. This was not detectable in the deletion *(*U = 37,50, z = -0,98, p = 0,33*)*. The development of the experimental group in the task of speech sound identification was significant not only within the group but also in the intergroup comparison (U = 6,50, z =-3,41, p < 0,01).

Chart 1
Phoneme level results (Szűcs & Tar, 2020a)



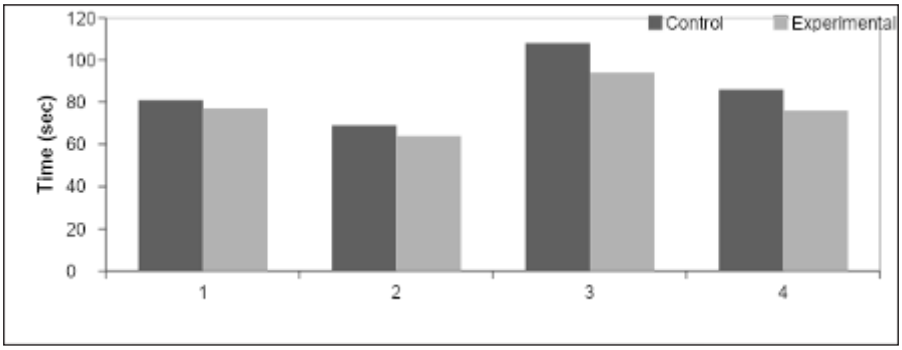
During the syllable-level tasks, the intergroup studies did not reveal any significant differences (identification: U = 43,50, z = -0,50, p = 0,62; deletion: U = 27,50, z = -1,72, p = 0,09). However, the experimental group achieved mathematically verifiably higher scores compared to the input measurement in both examined tasks (identification: U = 22,50, z = -2,11, p < 0,05; deletion: U = 23,50, z = -2,03, p < 0,05), while the difference between the first and second values of the control group is not significant (identification: U = 28.00, z = -1.69, p = 0.09; deletion: U = 35.00, z = -1.14, p = 0.25).

Chart 2
Syllable level results (Szűcs & Tar, 2020a)



In the rapid automatised naming task, there was no difference between the two groups during either the input or output measurement. A verifiable difference was found only in the experimental group object naming time (U = 20,50, z = -2,23, p < 0,05) and in the colour naming error numbers (U = 20,50, z = -2,23, p < 0,05).

Chart 3
Rapid automatised naming (Szűcs & Tar, 2020a)



There was no detectable difference between or within groups in the study of phonological short-term memory. The mean syllable range in the phonological short-term memory task was slightly higher in the experimental group in both measurements *(Table 1)*, but according to the statistical analysis, the difference was not significant between the groups either (input: U = 34.50, z = -1.22, p = 0 , 22, output: U = 47.50, z = -0.20, p = 0.84), nor within the groups (Control group: U = 48.00, z = -0.16, p = 0.87 Experimental group: U = 45.00, z = -0.38, p = 0.70).

Study carried out with socially and economically disadvantaged children

Szűcs and Tar (2020b) sought to answer the change in phonological awareness, phonological short-term memory, and rapid automatised naming in children living among cumulatively disadvantaged conditions. A total of fifteen children participated in the study. An age-matched control group (N = 5, of which three boys, two girls) was created to compare the performane of the expertimental group (N = 10, of which three boys, seven girls). All children are Hungarian monolinguals with intact hearing. During the research, the children attended the kindergarten found in a village in Szabolcs-Szatmár-Bereg County, Hungary. The village has been rated as one among the 300 poorest settlements in Hungary. The mean age of both groups was 5;4 years (experimental group = 4;11–6;3 years; control = 4;10–6;7 years) at the time of the first screening. All children in both groups are socially and economically disadvantaged. They were acknowledged as underprivileged by the Hungarian Act XXXI of 1997 that is presently in force. According to the law's current provision, a child is socially and economically disadvantaged when entitled to a regular childcare allowance and displays at least two circumstances among those labelled as disadvantages (low parental education up to primary education, low employment and insufficient living/housing conditions).

The experimental group received the training programme of *Mesezene*, led by a trained special needs educator. The children participated in the training programme for twenty-eight weeks, which included a twenty-five-minute activity. During the sessions, according to the *Mesezene* method, the children are introduced to a symbol representing vowels and consonants each week, and then the VC (vocal, consonant) symbols are 'read' and articulated together. It is

important to note that, due to digital education coming into force on 16 March 2020 as a result of the COVID-19 pandemic, both groups received home training until 4 May. The *Mesezene* training programme was given to the participating children online during this period under the online guidance of the leading special needs educator and with the assistance of the children's parents. From 4 May, the development programme was resumed in person, which lasted until the end of school year in June when the second assessment was carried out. The control group did not receive any other training on language or cognitive skills that the children in the study group would not have also received. Thus, we can assume that the only controllable difference between the two groups is the method (*Mesezene*) used.

The same assessment tool was used in this case that was described in the previous study (*see 3.1.1. Study on phonological awareness, rapid automatised naming and phonological short-term memory*). To assess phonological awareness identification (syllable and phoneme level), deletion (on both syllable and phoneme level), and synthesis (only on phoneme level) were examined. To measure rapid automatised naming, the Columbia RAN test was used (Marosits, 2007). The capacity of the PSTM was measured based upon the non-word repetition test (Racsmány et al., 2005). The screenings were performed twice. The pre-training assessment was performed in the fall, before the start of the programme, in September 2019, while the output evaluation was performed in June 2020, immediately after the end of the programme. Eight months elapsed between the two measurements.

The statistical data (mean, median and standard deviation) of the examined variables are summarised in *Table 2*.

Table 2

Statistical results of phonological processing in children living in socially and economically disadvantaged circumstances (Szűcs & Tar, 2020b)

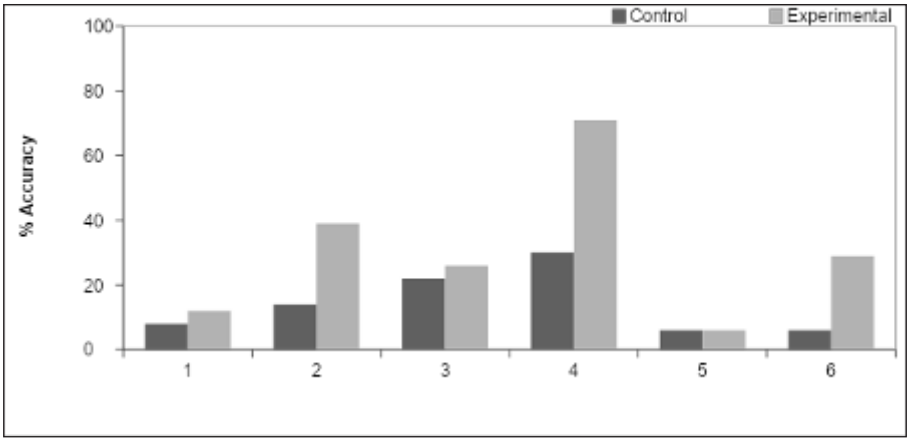
			Before training			After training		
			Average	Median	St. dev.	Average	Median	St. dev.
			Experimental group					
PA	Phoneme	Identification	2.6	2	2.32	7.1	7.5	2.33
		Synthesis	0.6	0	0.84	2.9	3	1.29
		Deletion	1.2	0	1.87	3.9	3.5	3.70
	Syllable	Identification	3.8	3.5	1.75	6.7	7.5	1.77
		Deletion	2	0	2.71	5	4	4.24
RAN	Colour	Time	107.8	96	30.26	78.3	78	10.01
		Errors	9.7	10	0.95	9.7	10	0.48
	Object	Time	113.5	106	27.85	101	100.5	16.77
		Errors	9.7	10	0.48	9.7	10	0.48
PSTM		Syllable numbers	5.2	5	0.63	5.2	5	0.63

			Control group					
PA	**Phoneme**	**Identification**	2.2	2	2.49	3	3	0.71
		Synthesis	0.6	0	1.34	0.6	0	1.34
		Deletion	0.8	1	0.84	1.4	1	1.52
	Syllable	**Identification**	2.4	3	2.3	3.4	4	0.89
		Deletion	0.8	1	0.84	1.2	0	1.64
RAN	**Colour**	**Time**	87.4	93	21.43	73.2	73	15.27
		Errors	9.8	10	0.44	9.8	10	0.44
	Object	**Time**	106.8	101	18.54	94.4	98	11.26
		Errors	9.2	10	1.09	9.4	10	1.34
PSTM		**Syllable numbers**	5	5	0.71	5	5	1.22

When assessed before training, there was no statistically significant difference in phonological awareness tasks between the groups for any of the levels examined. After the training, the two groups differed significantly in the phoneme level identification ($U = 4.50$, $Z = -2.53$, $p < 0.05$) and synthesis ($U = 7.00$, $Z = -2.37$, $p < 0.05$) operations (but not in the deletion: $U = 14.00$, $Z = -1.39$, $p = 0.16$) and in the syllable-level identification test ($U = 1.50$, $Z = -2.92$, $p < 0.01$). Regarding the results of syllable deletion, the difference between the groups was trend-like ($U = 10.50$, $Z = -1.85$, $p = 0.06$).

Chart 4

Phoneme level results (Szűcs & Tar, 2020b)

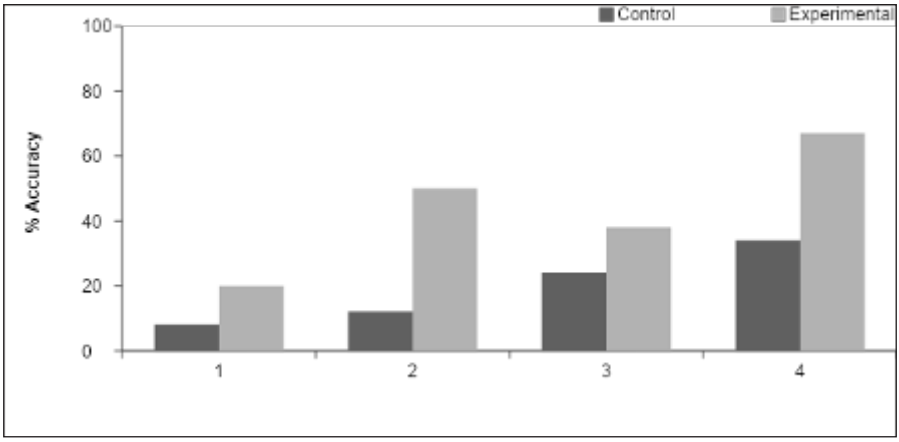


Examining the output and input results within groups, we can observe that in the case of the experimental group, the result was significantly better in case of several operations at both phonological levels (phoneme and syllable). After the training the group showed statistically remarkable difference in syllable

identification (U = 12.00, Z = -2.90 , p <0.01), phoneme identification (U = 9.00, Z = -3.12, p <0.01) and phoneme synthesis (U = 8.00, Z = -3.30, p <0.01). There was no detectable significant difference in syllable deletion (U = 30.00, Z = -1.60, p = 0.11) and phoneme deletion, although the latter shows a trend-like change in statistical analysis (U = 28.50, Z = -1.71, p = 0.09). In contrast with these results the changes in the control group at the second evaluation did not reach a mathematically verifiable level in every examined instance (syllable deletion: U = 12.00, Z = -0.11, p = 0.91, syllable identification: U = 10.00, Z = -0 , 54, p = 0.59, phoneme deletion: U = 10.00, Z = -0.55, p = 0.58, phoneme identification: U = 8.00, Z = -0.98, p = 0 , 33, phoneme synthesis: U = 12.50, Z = 0.00, p = 1.00).

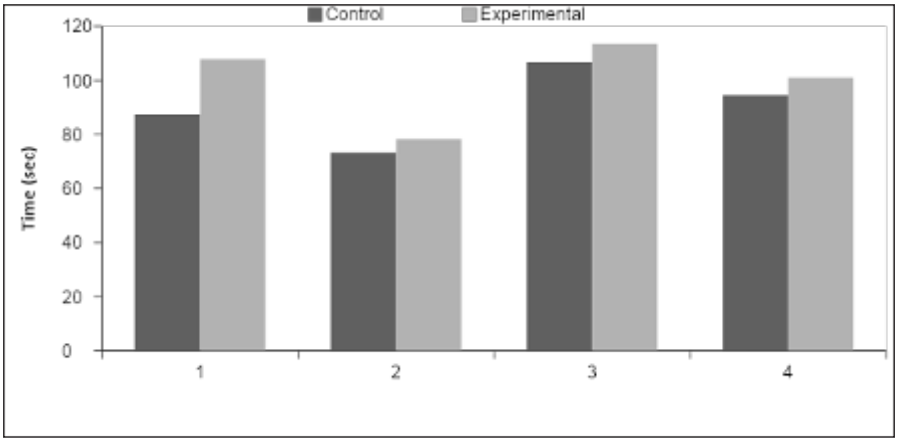
Chart 5

Syllable level results (Szűcs & Tar, 2020b)



No significant difference was observed in any of the rapid automatised naming tasks in within groups comparisons in the input evaluation (colour: U = 16.00, Z = -1.10, p = 0.27; objects: U = 21.50, Z = -0.43, p = 0.67), nor in the second evaluation (colour: U = 18.50, Z = -0.80, p = 0.42; object: U = 19.00, Z = -0 , 74, p = 0.46). These results are in accordance with the previously detailed study (Szűcs – Tar 2020a) that found no statistically relevant difference between the two examined groups during either the input or output assessment. As regards within group comparison, the children in the examination group at the end of the training named the colours faster than the initial measurement (U = 15.00, Z = -2.65, p <0.01). No similarly change could be detected in the rapid object naming task (U = 37.0, Z = -0.98, p = 0.32). The tempo of rapid automatised naming of the control group did not change in a verifiable way between the two measurements (colour: U = 8.00, Z = -0.94, p = 0.35; object: U = 7.5, Z = -1.05, p = 0.29).

Chart 6
Rapid automatised naming (Szűcs & Tar, 2020b)



There were no significant differences between groups (input: U = 21.00, Z = -0.56, p = 0.58; output: U = 20.00, Z = -0.69, p = 0.49), neither within the group (experimental: U = 45.50, Z = -0.40, p = 0.69; control: U = 11.00, Z = -0.34, p = 0.73) comparisons.

Discussion

The *Mesezene* method is a new Hungarian approach for teaching reading. *Mesezene* is a two-module programme that can be used in preschool education to develop reading skills and applied in primary school as a pedagogical tool in reading instruction. The method applies a specific motivational aspect using tales and collectively played gaming activities that emotionally engages children and provides a more profound cognitive development (Ványi et al., 2014; Szűcs, 2019).

The current study has summarised the pilot studies carried out in order to assess the possible effects of the method on *phonological awareness*, *rapid automatised naming,* and *phonological short-term memory*. Szűcs and Tar conducted two studies in the field: one with children developing typically and living in cities in Hungary (Szűcs & Tar, 2020a) and one with children who live in socially and economically disadvantaged circumstances in a rural environment (Szűcs & Tar, 2020b).

The greatest effect can be detected at the *phoneme level* in the field of *identification*. In this task, not only intragroup but also intergroup comparisons revealed significant differences in both presented studies. In the study of children living in typical conditions, the *phoneme synthesis* task showed significant differences in intragroup comparisons, while this was not present in intergroup terms. However, in the case of children living in socially and economically disadvantaged conditions, the extent of development is presumably higher, as there was a statistically significant difference not only

within group comparison but between the groups as well. There was no detectable difference in any of the studies in the phoneme deletion subtest.

We could expect the present results with the profound knowledge of the method, as the training provides the participating children with a number of elements that contribute to the consolidation of the phonological categories and the blending of speech sounds. However, there is no implicit or explicit instruction in the methodology for the phoneme deletion task, so it is no coincidence that the present research in this area did not reveal any detectable difference between the study and control groups.

At the *syllable level*, an interesting phenomenon can be observed between the results of the two studies. In the simpler *identification* task, the study group of disadvantaged children displayed significant improvement in both intergroup and intra-group comparisons. In this respect, children living in typical conditions only performed better in intragroup comparison. On the other hand, in the case of *syllable deletion* only children living under typical conditions reached statistically significant difference in intragroup comparison.

The present results can be interpreted as meaning that socially and economically disadvantaged children can see a more outlined and focused development in simpler syllable identification, while in the case of more complex, operation-level deletion, there is no detectable effect. In contrast, in the case of children living in typical conditions, training has a greater effect in the case of a more complicated syllable deletion operation.

From the presented data, we can conclude that the method has an effect on phonological awareness at different linguistic levels and operational aspects. At the level of syllables, in the case of children living in better conditions, the effect is more pronounced in the operational tasks, while in the case of disadvantaged children the effect can be better detected in the identification tasks. In the latter case, we can talk about a deeper, more profound development revealed both in intragroup and intergroup comparisons with respect to phoneme identification and blending show reactivity to the training programme. This is highly important, as access to phonemes and the synthesis operation performed with them provide a significant part of the linguistic aspects behind reading skills. The preschool development of these can greatly contribute to later reading learning success.

When comparing the two studies, we can conclude that the effect on phonological awareness is even more pronounced among children situated in economically and socially disadvantaged circumstances than in children living in typical urban settings. The significance of the discovery lies in the fact that linguistic assistance in this relation can be critical for later life perspective. However, the results should be treated with caution as the current subject refers to pilot studies with a relatively small number of cases.

In either studies, none of the *rapid automatised naming* tests showed statistically significant differences between the compared groups. The control group did not show a significant difference between the two assessments in either of the two studies, while the children living in urban circumstances performed better compared to themselves in terms of the accuracy of colour

naming and the pace of object naming. The examination group of the socially and economically disadvantaged children also produced better results in one of the RAN indicators examined: they named colours faster in within group comparison. This may be related to the rapid automatised naming activity used in the *Mesezene* method, which is carried out with colourful balloons. Rapid automatised naming is one of the main precursors for reading abilities. As deficiency in the preschool life stage is a good precursor to later reading disorder, enhancing the performance of RAN might produce better results in later reading skills (Wolf et al., 2000; Wagner et al., 1997; Bowers & Ishaik, 2006; Norton & Wolf, 2012; Tóth, 2012; Blomert & Csépe, 2012).

Based on studies to date, the method does not appear to have an effect on phonological short-term memory as none of the studies showed a detectable difference between the groups examined. As research suggests that the level of development of phonological awareness at the phoneme level is a good predictor of the success of word reading, children participating in the programme are expected to be successful in the early stages of reading learning. In the present article, the direct impact of the training programme has been demonstrated on the basis of two previous studies: in the future it would be worthwhile to explore whether the improvement of performance in the field of phoneme awareness will continue in the long run. In addition, the presented studies were performed on a relatively small sample size, therefore it would also be worthwhile to perform further tests with a larger number of elements in light of the already known (and presented) results.

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