

MTA-SZTE Metacognition Research Group  
Progress report– from September 2021 to August 2022

**The following Scopus-registered international journal articles were published in the project:**

Csíkós, C., Biró, F., & Szitányi, J. (2022). Incorporating humor into mathematical word problems: Is there a negative effect on students' performance? *International Journal of Instruction*, 15, 1079-1098.

This empirical investigation revealed the positive role humor may play when embedded in mathematical word problems.

Wafubwa, R. N., & Csíkós, C. (2022). Impact of formative assessment instructional approach on students' mathematics achievement and their metacognitive awareness. *International Journal of Instruction*, 15, 119-138.

Connecting formative assessment practices with students' mathematics achievement and metacognitive awareness is considered a rarity.

Karika, T., & Csíkós, C. (2022). A test for understanding simple fractions among 5th grade students at the beginning of lower secondary education. *Eurasia Journal of Mathematics, Science and Technology Education*, 18(2), em2081

The development of a high reliability online test on fractions yielded not only a measure device but shed lights on the role of visual representations in understanding fractions.

Hidayatullah, A., & Csíkós, C. (2022). Mathematics related belief system and word problem-solving in the Indonesian context. *Eurasia Journal of Mathematics, Science and Technology Education*, 18, em2094

In this large-scale investigation the interconnectedness of several mathematics-related variables has been revealed.

Varga, Sz., Pásztor, A., & Steklács, J. (2022). Online Assessment of Morphological Awareness in Grades 2–4: Its Development and Relation to Reading Comprehension. *Journal of Intelligence*, 10(3), 47.

A cross-sectional developmental study on morphological awareness revealed the important role of some sub-tests in reading comprehension..

Csíkós, C. (2022). Metacognitive and Non-Metacognitive Processes in Arithmetic Performance: Can There Be More than One Meta-Level? *Journal of Intelligence*, 10(3), 53

This theoretical paper provided a developmental model by means of synthesizing results from mathematics education, metacognition and neuropsychology research.

**Several conference presentations were published at two international conferences:**

22<sup>nd</sup> European Conference on Literacy  
Dublin, July 4<sup>th</sup> to 6<sup>th</sup>, 2022

Steklács, J. (2022). Reading comprehension strategies, executive functions. Outlines of a common paradigm. In 22<sup>nd</sup> European Conference on Literacy: *Literacy and Diversity: New Directions*. (p. 159).

Bóna, J., & Steklács, J. (2022). Development of oral reading fluency in Hungarian-speaking students between 4<sup>th</sup> and 5<sup>th</sup> grade: Results of acoustic phonetic and eye-tracking analyses. In *22<sup>nd</sup> European Conference on Literacy: Literacy and Diversity: New Directions*. (p. 123).

Varga, Sz., & Steklács, J. (2022). Developing literary reading comprehension skill through morphological intervention in primary school. In *22<sup>nd</sup> European Conference on Literacy: Literacy and Diversity: New Directions*. (p. 170).

45<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education  
Alicante, July 18<sup>th</sup> to 23<sup>rd</sup>, 2022

Karika, T., & Csíkos, C. (2022). Types of visual representations of fractions in Hungarian textbooks for 5<sup>th</sup> graders. In C. Fernández, S. Llinares, A. Gutiérrez, & N. Planas (Eds.), *Proceedings of the 45th Conference of the International Group for the Psychology of Mathematics Education* (Vol. 4, p. 245). PME.

Svraka, B., Csíkos, C. & Sztányi, J. (2022). The epidemiology of mathematical performance, anxiety, and psychosomatic symptoms. In C. Fernández, S. Llinares, A. Gutiérrez, & N. Planas (Eds.), *Proceedings of the 45th Conference of the International Group for the Psychology of Mathematics Education* (Vol. 4, p. 300). PME.

Biró, F. & Csíkos, C. (2022). Realistic non-routine word problems and students' freely constructed drawings. In C. Fernández, S. Llinares, A. Gutiérrez, & N. Planas (Eds.), *Proceedings of the 45th Conference of the International Group for the Psychology of Mathematics Education* (Vol. 4, p. 336). PME.

**There have been data collection and data analysis completed in several fields of research.**

- Dyscalculia Test
- Test on Proportional Reasoning
- Metacognitive Components of Word Problems Solving
- Logical Reasoning in Mathematics
- Noticing and Metacognitive Scaffolding