

## Report 1.

HAS-AVCC Learning Environment Research Group of the HAS Public Education Development Research Programme 2021. SZKF-1/2021

*„Preventing learning failure by changing the learning environment at the beginning of academic carrier”*

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### 1. Preparation period: 1 September 2021 - 28 February 2022.

The research team consists of 10 people, joined by an internal research team (4 people). This group's research will focus on teachers' social and mental characteristics. Our research involved 20 developmental and 21 control classes, and about a thousand first-graders.

### 2. Teacher preparation period: 1 March 2022 - 31 August 2022

We have developed 17 methodological units in three dimensions (development, spatial organization, and learning organization).

*The topics of the methodological units are the following:* listening to speech sounds, visualization, singing and music, sensory-motor skills, finger awareness, sayings, rhymes, gestures, relaxation by moving, use of algorithms, use of Mondrian Blocks, Mind Map, board games, and flashcards, free movement opportunities, free learning space, rotating classroom (comfort zone), clear rules, student activity, regular activities, mediated and self-directed learning.

*Three-day teacher training* was held online and in-person, plus two days, to train for the student testing. Also, detailed written instructions were given to the teachers.

**Testing tools:** Online Sensory and Cognitive Profile Test (<https://kognitivprofil.hu>), which can be used by teachers, and the Colour Raven Matrices. Teacher follow-up: Mental Health Test, Aspiration Index, Mini Oldenburg Burnout Questionnaire, Subjective Physical Symptom Scale, and a Socio-economic Status Questionnaire.

**Applications:** Learning card mobile app; online cognitive training based on Mondrian blocks.

**Publication and dissemination** of methodological materials:

(Eds.) Halbritter András Albert, Tamáska Máté (2022) Iskolakert, természet és közösség. *Szociálpedagógia, 19. thematic issue* – it is entirely related to the work of the HAS-AVCC Learning Environment Research Group

Gyarmathy Éva, Kökényesi Imre (2022) Tapasztalat Alapú tudás I. *TaníTani Online*, [https://www.tani-tani.info/tapasztalat\\_alapu\\_tudas\\_i](https://www.tani-tani.info/tapasztalat_alapu_tudas_i)

Gyarmathy Éva, Kökényesi Imre (2022) Tapasztalat Alapú tudás II. *TaníTani Online*, [https://www.tani-tani.info/tapasztalat\\_alapu\\_tudas\\_ii](https://www.tani-tani.info/tapasztalat_alapu_tudas_ii)

Fenyvesi K, Mérő, L., Kökényesi I, Brownell, C., & Stettner, N. (2022) Mondrian Blocks and Cognitive Training. *Mondrian 150, Mondrian Day at National Museum of Mathematics, New York, 19 February.*

***PI-Day, 2022.03.14: Transylvanian Maths Festival***, School at Gyergyóremete, Apáczai Education and Spectrum Foundation – Digital Mondrian Blocks game with hundreds of schoolchildren. Fenyvesi K, Gyarmathy É., Kökényesi I, Brownell, C., & Stettner, N.; *Maths Festival France* – Digital games with Mondrian Blocks – by Fenyvesi K., Gyarmathy É., Kökényesi I, Brownell, C., & Stettner, N.; *Peruvian Maths Festival* – Maths and the Mondrian Blocks – by Fenyvesi K, Gyarmathy, É., Kökényesi I, Brownell, C., & Stettner, N.