

Early Dyslexia Screening

Country	Czech Republic
Institution/Organisation	Medicton Group s.r.o., Research and Development Division
Type of setting	Educational diagnostics & research setting
National Context	Early identification of learning disorders such as dyslexia in the Czech Republic is still developing. Schools typically lack access to modern diagnostic tools, and traditional psychodiagnostic methods are time-consuming and dependent on specialists. The project introduces scalable, technology-based screening to support early intervention in schools and counseling centers.

The project employed eye-tracking technology and AI analysis to support early identification of dyslexia in young children. This included recording eye-movement patterns during reading and using machine-learning models to assess indicators of reading difficulties.

Implementation Process

- Steps Taken:** Implementation involved partnering with schools, piloting with children aged 6–9, training staff, calibrating AI models, and integrating the system into school diagnostics.
- Stakeholders Involved:** Primary school teachers, Educational psychologists and special education professionals, Parents
- Timeframe:** 12-month pilot program

Impact and Results

- Quantitative Results:** The project achieved an accuracy of 86% in detecting dyslexic reading patterns and reduced screening time from one hour to fifteen minutes for participating children.
- Qualitative Outcomes:** Teachers reported greater confidence in identifying reading difficulties, and parents appreciated the low-stress testing approach, while schools observed higher engagement in early-intervention support.

Success Factors

- Strong collaboration between researchers, primary schools, and families.
- Effective training and support for teachers using the eye-tracking technology.
- Tailored screening methods reflecting the developmental needs of young readers.

Challenges and Barriers

- Ensuring accurate calibration of eye-tracking devices in classroom environments.
- Maintaining children’s engagement and attention throughout the screening sessions.
- Addressing technical issues related to hardware availability and software deployment.

Key Lessons Learned

- Personalized training and guidance are essential for teachers to confidently use eye-tracking technology in early dyslexia screening.
- Strong involvement of schools and families enhances the effectiveness and long-term sustainability of technology-supported diagnostic initiatives.