

Head in the Clouds: Digital Learning to Overcome School Failure



Within the scope of the Erasmus+ Strategic Partnership *Head in the Clouds: Digital Learning to Overcome School Failure*, an international team of seven partners from five European countries¹, coordinated by the Vienna University of Technology (TU-Wien, Austria) is implementing an educational project with children and adolescents from Roma communities, in three locations in Slovakia, Romania and Kosovo.



With approximately ten to twelve million people, Roma constitute the biggest ethnical minority group in Europe². Despite several efforts, Roma continue to face profound social exclusion and discrimination. 70% of Roma households live in deep poverty, employment among Roma men is below 50% and for women below 25%³, 90% of Romani-speaking students drop out of school early⁴. Being aware of these social circumstances the project partners are developing educational materials following the SOLE (Self-Organized Learning Environments) method, supported by digital materials, with the goal to provide an alternative way to education for children aged 6-17 years and to improve transversal competences, especially digital literacy.

The chosen pedagogical approach, the SOLE (Self-Organized Learning Environments) method is based on the idea of “learning by discovering” and the research of Sugata Mitra, a proponent of minimally invasive education. Similar to other successful learning theories e.g. constructionism (proponents: Piaget, Resnick, Papert), SOLE focuses on a student-centered, self-driven, experiential and highly engaging learning process in which students learn, explore and develop new skills, knowledge and competences in a variety of subjects by concerning themselves creatively with their own environment.

The *Head in the Clouds* project team developed a total of six SOLE-boxes, focusing on a variety of topics including programming, handling devices such as tablets and PCs, video making and cutting, digital literacy, English language, environmental issues and ecology, culture, history, customs, hygiene, first aid, etc. Within the “IT 101 box” the consortium uses Raspberry Pi computers to introduce the participating kids to (open) office programs (text processing, email clients), online services (Google, Google Maps, Wikipedia, YouTube) and elementary level computer programming skills using Scratch. Thereafter the “Programming box” continues with a series of hands-on programming and engineering activities using different tools and software (Makey Makey boards, Scratch, Ozobot robots, Lego WeDo, Minecraft, Python).



The content of the boxes is made up of a set of simple and modular structured task sheets, which are linked to an online hand-in application via a QR-code allowing the kids to playfully acquire skills, knowledge and competencies in a variety of areas and subjects as well as interdisciplinary, transversal and social skills. In addition, mentors are provided with teacher manuals and special SOLE-trainings.

For further information, please visit the *Head in the Clouds* project website: <https://brainsinthecLOUDS.eu/>.

1 **Project partners:** Vienna University of Technology (Austria), Technical University of Kosice (Slovakia), Verein Offenes Lernen (Austria), GAIA (Kosovo), Fundatia Crestina Diakonia Filiala Sfantu Gheorgeh (Romania), SZS-Sukromna sakladna skola (Slovakia) and SCIO (Czech Republic).

2 Roma Integration in EU Countries. European Commission: https://ec.europa.eu/info/strategy/justice-and-fundamental-rights/discrimination/roma-and-eu/roma-integration-eu-countries_en [Accessed 27 March 2018].

3 Worldbank.org, 2015. Roma: <http://www.worldbank.org/en/region/eca/brief/roma> [Accessed 27 March 2018].

4 Roma survey – Data in focus Education: the situation of Roma in 11 EU Member States. European Union Agency for Fundamental Rights: http://fra.europa.eu/sites/default/files/fra-2014_roma-survey_education_tk0113748enc.pdf [Accessed 27 March 2018].