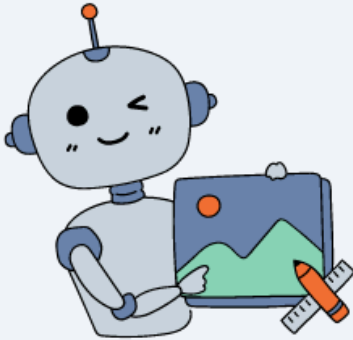


SmartStart Newsletter

Latest news from the SmartStart Teacher Academy



smart start

ERASMUS+
Teacher Academy

Project Updates

Babylon Tool

In Work Package 2 of the SmartStart project, the Babylon Tool is currently being developed with the aim of creating a user-centered and practice-oriented solution that truly reflects the needs of its target groups. To achieve this, participation in the survey is kindly requested. Readers are invited to complete the questionnaire and to forward the survey link to colleagues and stakeholders in **Teaching, Administration, and Educational Policy**.

Access the survey here:

<https://forms.gle/cokSPGswQSRuFVEX8>

The more feedback that is received, the better the Babylon Tool can be tailored to real-world needs. Please complete the questionnaire **by January 16, 2026**. Thank you very much for your support.

Christmas Wishes

We wish all project team members and project partners a blessed Christmas, relaxing holidays, and a successful start to the New Year. We look forward to continuing our collaboration in the year ahead!





Review of the Porto Meeting

The international project meeting (WP 1) took place at the Faculty of Psychology and Education Sciences of the Universidade do Porto on December 4th/5th and provided a valuable setting for professional exchange and collaboration. The event was hosted by Thiago Freires, who is responsible for Work Package 1.

The meeting began on Thursday afternoon with a welcome address by two representatives of the Katholische Universität Eichstätt-Ingolstadt. This was followed by presentations on new practices of artificial intelligence in elementary education and a round-table discussion focusing on digital experiences at the primary school level. The day concluded with a guided tour through Porto and a joint dinner, offering further opportunities for informal exchange.

On Friday, the host university presented the first results of Work Package 1. Subsequently, all project teams shared updates on their progress, current status, and future plans for Work Packages 2 through 8. An open discussion on shared goals brought the sessions together.

The meeting concluded with a presentation on AI pedagogical practices in primary education, providing additional insights and inspiration for the ongoing project work.

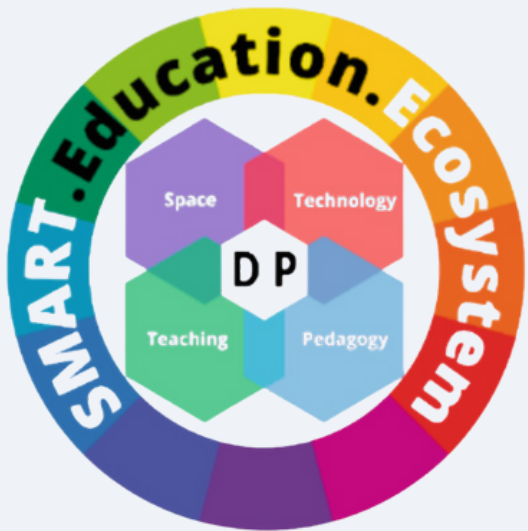
Many thanks to Thiago and his team for the excellent organisation of the conference in Porto!

Presentation Highlight: AI Policies and Practices in Portugal

In his presentation, **Alexandre Torres** from the **Instituto de Educação – Universidade do Minho** introduced the SMART Education Ecosystem, a holistic framework designed to support veteran teachers in adapting to digital transformation in mathematics education. The model is built on four interconnected pillars — **Space, Technology, Teaching, and Pedagogy** — which together promote flexible learning environments, the effective integration of AI and digital tools, student-centered teaching approaches, and innovative pedagogical models such as flipped classrooms and project-based learning.

The presentation highlighted how the SMART Education Ecosystem aligns with the EU Digital Education Action Plan (2021–2027) and emphasized the need for targeted professional development, as many experienced teachers are still unfamiliar with Smart Education concepts. A phased implementation approach, starting with pilot schools and continuous feedback from educators, students, and policymakers, was proposed.

Overall, the framework aims to empower teachers with digital competencies, enhance student engagement, and support the long-term, sustainable transformation of mathematics education through technology-driven innovation.



Teacher Voices

Teacher to Teacher: Is AI reshaping education for the better?

"We need to model how to use these tools well; otherwise, we're setting our students up for failure."

Ms Laura Friday, Secondary School English Teacher, and Mr Kevin Mount, Secondary School Mathematics Department Lead had a talk about AI

UNESCO webpage:

<https://www.unesco.org/en/articles/artificial-intelligence-education-unesco-advances-key-competencies-teachers-and-learners>

<https://www.youtube.com/watch?v=EEbGYRW7feM>

Classroom Insights

Maximilian Stark,
Research Assistant



Study Spotlight: Your Brain on ChatGPT

In 2025, artificial intelligence in education is no longer a future concern but a firmly rooted reality. Teachers use it to prepare classes, generate learning materials, and are experimenting with using it in the classroom itself—while worrying if students' (mis-) use of the tools may compromise their core competencies and critical thinking skills (Tripathi et al., 2025). The main question is no longer whether AI should be used at all; it is when its use is beneficial and when it is detrimental.

A widely discussed pre-print by Kosmyna and colleagues (2025) approached this question using neuro-imaging (EEG) to determine what was happening in participants' brains as they were producing an essay. One group wrote their essay without any assistance, another group was allowed to use a search engine, and a final group used a large language model (LLM) to generate the essay, which they then edited. Since essay-writing is one of the most common academic tasks, the results of this study are particularly relevant in a school context.

When teachers try to integrate AI into their classroom, the approach of generating text, then refining it with a critical eye is common; when educators say that students need to be taught to use AI the right way, this is often one of the “right ways” they are talking about.

Kosmyna et al. found that participants who wrote their essay using the LLM only rarely deviated from its line of argument in their final version. These participants also showed worse recall of the content of the essay later. In these categories, the group that only used a search engine performed better, and the group writing without any aids scored the highest. Crucially, this was also visible in the brain scans: There was far less connective activity in the brains of the LLM group compared to the other two.

For this specific task, it appears that the ease-of-use and convenience of the large language model ultimately proved to be a detriment to learners: Some of the most effortful, but also most cognitively activating parts of essay-writing, such as finding and structuring arguments, were left to the LLM. This ended up decreasing the learners’ opportunities for thinking deeply about the topic, forming their own opinions, and increasing their understanding, and their brain activity reflected this.

The sample size was 55, which may seem somewhat low but is a sizeable sample size in the context of neuro-imaging research. The paper is also, as of late 2025, still a pre-print and has therefore not yet been peer-reviewed. However, its

preliminary results serve as a reminder that AI use in the classroom must be approached with a critical eye.

While companies developing these technologies are pushing for them to be adopted widely and for as many use cases as possible, educators must reflect whether their use of AI tools is helping students or is, in fact, removing certain learning opportunities. LLMs can be used to challenge students, e.g., as debate partners, to provide more personalized feedback, or to provide necessary scaffolding, but they are no panacea. Educators must reflect on what kind of cognitive activity they are trying to induce in their students, and understand how different AI tools may therefore be helpful—or harmful—in each specific case.

Literature

Kosmyna, N., Hauptmann, E., Yuan, Y. T., Situ, J., Liao, X.-H., Beresnitzky, A. V., Braunstein, I., & Maes, P. (2025). *Your brain on ChatGPT: Accumulation of cognitive debt when using an AI assistant for essay writing task* (No. arXiv:2506.08872). arXiv. <https://doi.org/10.48550/ARXIV.2506.08872>

Tripathi, T., Sharma, S. R., Singh, V., Bhargava, P., & Raj, C. (2025). Teaching and learning with AI: A qualitative study on K-12 teachers’ use and engagement with artificial intelligence. *Frontiers in Education*, 10, 1651217. <https://doi.org/10.3389/feduc.2025.1651217>