



Report on the Multiplier Event for the European We-Collab Project

Date: December 3, 2024

Location: CLA 03 laboratory, Marco Polo Center, Sapienza Università di Roma, and online

Introduction

The Multiplier Event for the European We-Collab project was organized at Sapienza Università di Roma to disseminate the project's findings and foster awareness about innovative methodologies and technologies in digital education. The event was targeted at higher education teachers and other stakeholders, aiming to promote responsible behaviors, inclusivity, and engagement in digital learning environments.

Event Overview

Chair: Stefano Lariccia (Sapienza Università di Roma)

Format: Hybrid (in-person and online)

Attendees: Over 50 participants, including professors, researchers, and stakeholders from academic and institutional backgrounds, with representation from Sapienza, ISTAT, Lazio Innova, AgID, and others. A detailed attendance list is included in the appendix.

Agenda Highlights:

- 1. Presentation of the We-Collab Project:**
 - Overview of objectives and progress since the Covid-19 pandemic.
 - Insights into challenges in remote education and solutions leveraging neuroscience and biometric tools.
- 2. Comparative Analysis of In-Person and Online Learning:**
 - **Speakers:** Fernando Martínez de Carnero (Sapienza), Gianluca Di Flumeri (Brainsigns).
 - Findings based on physiological and cognitive data analysis of student experiences in both settings.
- 3. Demonstrations and Practical Applications:**
 - Presentation of biometric technologies and learning analytics tools.
 - Real-time demonstrations of EEG headsets and physiological sensors used to assess mental workload, attention, and emotional engagement in learning environments.
- 4. Round Tables:**
 - Interactive discussions with institutional stakeholders, educators, and psychologists on the future applications of digital technologies in education.
- 5. Concluding Remarks:**
 - Reflections on the ecosystem approach to collaboration in education.

- Emphasis on creating inclusive and adaptive learning strategies.
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Key Discussions and Findings

1. Remote vs. In-Person Learning

- **Mental Workload and Distraction:** Remote learning demonstrated higher mental workload but also increased distraction levels due to technological mediation.
- **Stress Levels:** Students in in-person settings initially experienced higher stress, which reduced over time, while remote settings maintained lower but persistent stress levels.
- **Emotional Engagement:** In-person learning was linked to more positive emotional engagement, whereas remote learning risked higher levels of boredom and reduced motivation.

2. Use of Neuroscience in Education

- The application of neuromarketing tools to monitor and enhance student engagement in classrooms was highlighted as a breakthrough. Technologies such as EEG, heart rate monitors, and skin conductance sensors provide actionable insights into cognitive and emotional states.

3. Educational Inclusivity and Innovation

- The We-Collab project aligns with the European Digital Education Action Plan, emphasizing tools and strategies for enhancing inclusivity, especially for students with disabilities.
- Development of open-source ecosystems and collaborative platforms to improve accessibility and personalization in education.

4. Stakeholder Collaboration

- Partnerships with BrainSigns, LINK, and European universities enabled innovative applications of neuroscience in education.
 - Collaborative efforts extend to addressing educational challenges in developing regions, such as planned initiatives in Dakar for 2025.
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Outcomes and Future Directions

- **Enhanced Awareness:** Participants gained insights into the potential of biometric and neuroscience tools in transforming digital education.
 - **Collaboration Opportunities:** Connections were strengthened among academic, institutional, and technological stakeholders, setting the stage for future projects.
 - **Practical Applications:** The event showcased the real-world applicability of We-Collab findings, encouraging educators to adopt data-driven approaches.
 - **Continued Dissemination:** The event marked a step towards further sharing We-Collab results across Europe and beyond, ensuring widespread adoption of its methodologies.
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Acknowledgments

The organizers extend their gratitude to all speakers, participants, and collaborators, particularly Sapienza Università di Roma, BrainSigns, and the European Commission for their support in the success of the We-Collab project.

Appendix

1. **Detailed Attendance Records:** (See attached PDF & [video](#))
2. **Project Multimedia Materials:** Links provided during the event.
3. **References:** We-Collab project website and related publications.