Mission Statement – Suggestion for ESERA – Special Interest Group
AI Readiness in Science Education

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Artificial Intelligence (AI) is rapidly emerging as a transformative force in our society, with generative AI (GenAI) tools leading the charge by enabling the creation of entirely new content. As AI continues to develop and enter various sectors, it is already a cornerstone of scientific research and is making significant inroads into education, particularly through private initiatives. Given this landscape, the science education research community cannot afford to remain passive observers. Instead, it is imperative that they take an active role in shaping the future of science education by leveraging insights from educational research. To this end, the formation of a Special Interest Group (SIG) within ESERA, aptly named "AI Readiness in Science Education", offers a unique platform for European researchers in science education to collaborate, explore critical issues, and drive AI-related research forward on an international scale.

The SIG AI Readiness in Science Education aims to bring together researchers passionate about science education and AI, creating a forum for dynamic discussions and groundbreaking research. Key topics under the spotlight include: How can AI tools enhance teaching and learning processes? What level of AI literacy is essential for responsible usage? How can we design inclusive teaching environments that effectively leverage AI for better learning outcomes? And to what extent can AI support personalized learning in science education across schools and universities. Equally important are the research-oriented discussions that will be fostered within the SIG. These will focus into questions like: How can AI enhance qualitative and quantitative research methods? What new insights can AI-powered methods unveil? And how should we address ethical challenges, such as bias and data protection, in science education research?

It is important to understand how teaching and learning in the science subjects can work with, on, thanks to, or despite AI. The SIG members' concrete goals should include developing actionable frameworks and recommendations to guide the ESERA community and science educators across Europe and beyond. One of the first initiatives could be to review and potentially refine the European Reference Framework for Digital Competences (DigiCompEdu) in the context of AI and its associated competencies. Additionally, strategies need to be developed to manage the growing challenges of handling large datasets, safeguarding personal rights, and mitigating the risks of AI bias in data interpretation.

By adapting methodologies and ethical stances the SIG can make significant contributions to educational practices within ESERA. Expert meetings will play a crucial role in disseminating cutting-edge research, while workshops organized by the SIG will offer opportunities for ESERA members less familiar with AI to gain valuable insights and skills.

To kickstart this exciting journey, all interested ESERA members should be invited to an online meeting where the necessity of the SIG can be discussed, ideas can be exchanged, and specific goals can be outlined. We envision the official launch of the SIG at the upcoming ESERA

conference in Copenhagen, marking the beginning of a vibrant and impactful collaboration that will shape the future of science education in the age of AI.

Interested?

If you would like to join us in supporting the initiation of this SIG, please fill in your details using this form:

https://forms.gle/Bpj1mVT2NV959YUv6

For questions, please contact us:

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