Transformation of Education in the Age of GenAI: Rethinking Pedagogy for a New Generation

Dr. Omid Noroozi

Associate Professor at Wageningen University and Research, the Netherlands

ABSTRACT

The digital revolution has profoundly reshaped various aspects of our lives, with education experiencing one of the most significant transformations. As technology advances at an unprecedented pace, the future of education is being redefined through innovative pedagogical approaches and the integration of Generative AI (GenAI). This shift is not only reshaping learning experiences for students and teachers but also driving systemic changes in educational institutions. To prepare learners for complex and global challenges, there is an urgent need for continuous innovation in educational programs that equip students with transformative competencies.

In this evolving landscape, digital technologies—particularly GenAI—play a critical role in modern pedagogy. Educational institutions are increasingly leveraging AI-driven tools to develop adaptive and personalized learning environments that enhance student engagement and foster deeper learning. In the age of GenAI, the emphasis is shifting towards cultivating transformative competencies such as **creating new value, reconciling tensions and dilemmas, and taking responsibility**. These competencies are essential for students to navigate the complexities of the digital era and contribute to a world centered on well-being and sustainability.

To achieve this, education must go beyond traditional models and embrace **Technology-Enhanced Learning (TEL)** environments that support both **first-order scaffolding (tools for living)**—helping students acquire knowledge to tackle immediate challenges—and **second-order scaffolding (tools for learning)**—enabling them to self-regulate and transfer their knowledge to novel, complex situations. The integration of GenAI into pedagogy offers unprecedented opportunities to personalize learning, provide instant feedback, and enhance collaborative knowledge construction.

This keynote will explore the key characteristics of pedagogical transformation in the digital age, with a special focus on how GenAI is reshaping education. It will also provide insights into the future of learning environments, highlighting the potential of AI-driven innovations to make education more **effective, engaging, and equitable** for all.

Keywords: Education Transformation; GenAI; Pedagogy; Scaffolding; Technology-Enhanced Learning