Discovery Space: An AI-Enhanced Classroom for Deeper Learning in STEM [101086701]

Press Release

New research project aims to revolutionize STEM education through AI-enhanced classrooms

Discovery Space, a groundbreaking *Erasmus+ Partnerships for Innovation - Forward Looking* project, is set to transform traditional classrooms into dynamic learning environments that promote scientific exploration and foster the development of key skills for all students. Drawing upon rooted research in the field and extensive experience employing ICT-based innovations in education, the project will introduce AI-driven learning companions and VR/AR interfaces to support the student and enhance the learning experience, alongside with a roadmap for the **AI-Enhanced Classroom for Deeper Learning in STEM**.

Traditional assessments of cognitive skills and knowledge acquisition often fail to align with the innovative and multidisciplinary curricula proposed by current educational reforms. To bridge this gap, Discovery Space seeks to integrate emerging technologies such as AI-enabled assessment systems combined with AR/VR interfaces into STEM teaching. By doing so, the project aims to facilitate a transformative shift in the educational paradigm, ensuring STEM education becomes a fulfilling and essential part of core education everywhere.

The three-year project, which commenced in January 2023, envisions an AI-Enhanced Classroom that harnesses the potential of AI tools and applications to enable effective and interactive learning experiences for students. The project will focus on designing an Exploratory Learning Environment that empowers students to develop inquiry and problem-solving skills through virtual and remote labs. AI-driven lifelong learning companions will provide personalized support and guidance, while VR/AR interfaces will enhance the learning experience, collaboration, and problem-solving capabilities.

Aligned with the Erasmus+ Programme's priority of supporting high-quality and inclusive digital education, Discovery Space aims to:

- Design and deliver an Innovation Model and a road mapping documentation, outlining the effective integration of AI in the Deeper Learning Classroom.
- Select, develop, and provide the technical components, tools, and services required for pedagogical scenarios in the Discovery Space classroom.
- Design and test scenarios in real-life classrooms, refining them as "Plausible scenarios of the STEM classroom of the future" based on field findings and stakeholder consultation.
- Build a group of change leaders among teachers who possess future literacy and can influence policy development.

- Define specific measures to support effective communication, dissemination, and exploitation of project results.

As Professor *Franz Bogner* at University of Bayreuth and the project's coordinator stated, '*we expect to deep dive into the emerging technologies for STEM teaching, providing research evidence for adapting digitally enhanced inquiry-based approaches, offering good practices and scenarios for the creative, critical, and inclusive use of technology, and developing an innovative teacher training program aligned with the AI-Enhanced Classroom.*'

Discovery Space Consortium brings together a multidisciplinary team with significant expertise in designing, developing, implementing, validating, and bringing to the market innovative educational products and tools:

University of Bayreuth (Germany), University of Deusto (Spain), Ellinogermaniki Agogi (Greece), Institute of Communication and Computer Systems (Greece), LabsLand (Spain), Athens Technology Center (Greece), European Physical Society Association (France), NUCLIO – Núcleo Interativo de Astronomia e Inovação em Educação (Portugal).

Disclaimer
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