INGENIUM, Staff Academy

20-22 May 2025 University of Grete, UoC

Tuesday 20th May HALL 324

9.00-10.00 **Opening Presentation**
The Center for Training and Lifelong Learning (KEDIVIM) of the University of Crete and the Center of Teaching and Learning CTL TotT

10.00-10.30 Coffee Break

10.30-11.30 **Breda O Dwyer, Munster Technological University**
Supporting entrepreneurial educators to use Lego SERIOUS Play (LSP) to enable reflective practice in multi discipline education

11.45-12.45 **Fouskaki Maria and Ioannis Metaxas, University of Crete**
Chemistry Outreach Group (COG): Building Reflective and Inclusive Educational Outreach activities in Science Education

13.00-14.30 **Lunch Break**

14.30-15.30 **Elisaveta Petrove-Gerretto, Medical University of Sofia**
A collaborative effort to develop a theatre play to explore medical ethics
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Ivanka Mihaylova Vasileva, Medical University of Sofia
Social Medicine and Psychological Perspectives in Dental Students' Education

15.45-16.45 **Mercedes Bravo, University of Rouen Normandy**
Fostering Student Agency through Active Pedagogical Approaches

Co-funded by the European Union

Wednesday 21st HALL 324

9.00-10.00 **Eleni Vasilaki & Aristea Mavrogianni, University of Crete**
Enhancing History Education with Interactive AI: Managing Cognitive Load and Learning Anxiety through GNOSTIS AI

10.00-10.30 **Coffee Break**

10.30-11.30 **Peter Becker, The Karlsruhe University of Applied Sciences**
Online Assessment applying the STACK concept

11.45-12.45 **Neochoritis Konstantinos & Kallia Katsampoxaki-Hodgetts, University of Crete**
From Lab Reports to Multimodal Learning Artifacts: Evaluating Student-Generated Multimodal Videos in Chemistry Education

13.00-14.30 **Lunch Break**

14.30-15.30 **Corina Cimpanu, Gheorghe Asachi Technical University of Iaşi**
Shaping the Future of eLearning: Organizing Teaching Materials, Elaborating Micro-Credentials, and Badges

15.45-16.45 **Juhee Bae, University of Skövde**
Understanding eXplainable AI through Practical Business Scenarios

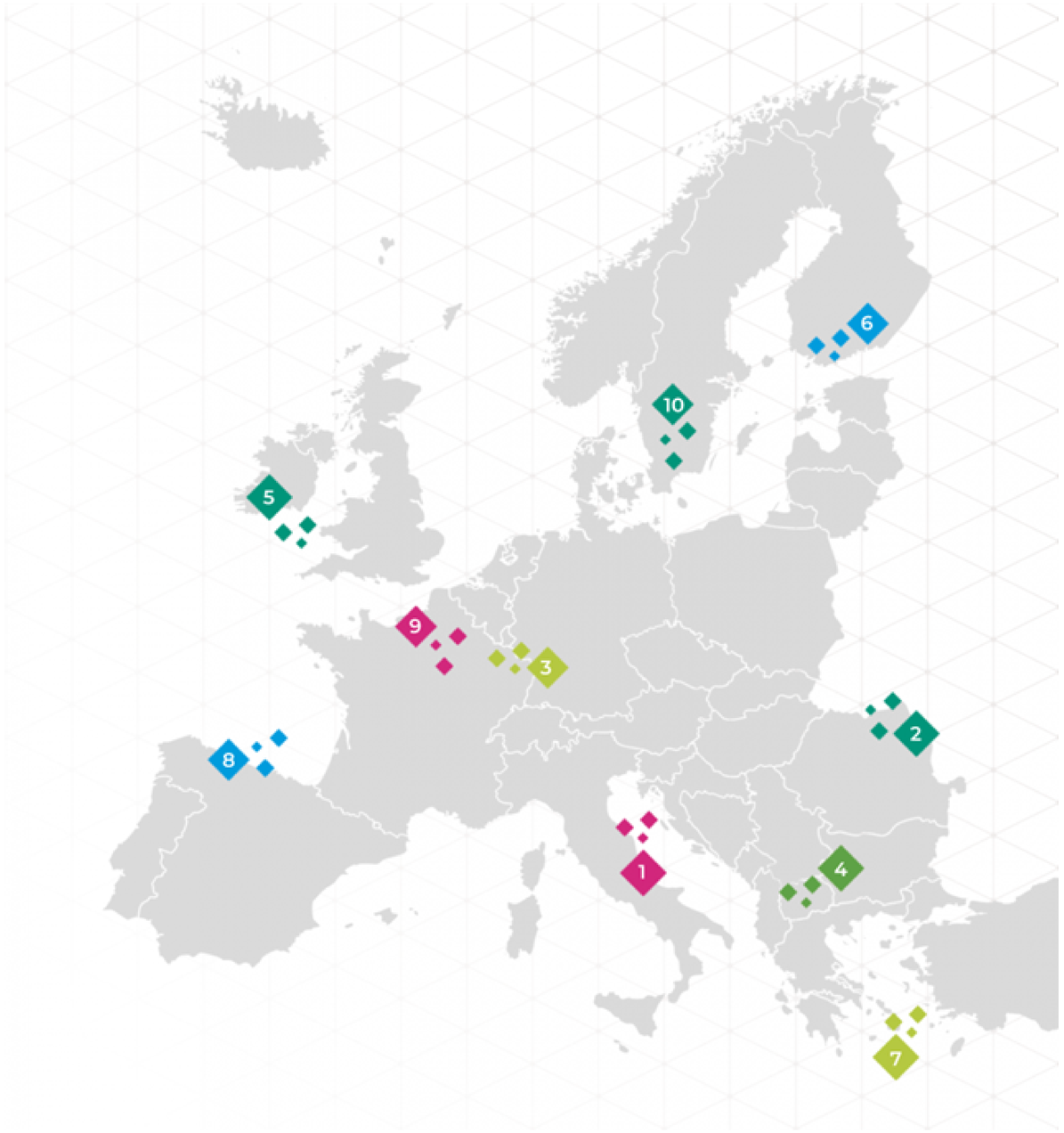
Some sessions may require the use of a laptop or mobile device, if you can please bring your own device (BYOD)

INGENIUM, Staff Academy

20-22 May 2025 University of Grete, UoC

Thursday 22nd May **HALL 324**

9.00-10.00	**Melody Mehravari, University of Oviedo** *Fostering academic writing by (oral and written) participation in bilingual scientific conference*
10.00-10.30	Coffee Break
10.30-11.30	**Stamatios Papadakis, University of Crete** *Fostering Algorithmic and Computational Thinking in Early Childhood Education: Pedagogical Approaches and University-Level Training for Future Educators*
11.45-12.45	**Katariina Kovanen & Laura Pulkkinen, South-Eastern Finland University of Applied Sciences** *Audio escape game – gamification method proofing interaction and practical skills on online teaching*
13.00-14.30	**Lunch Break**
14.30-15.30	**Miriam D'Ignazio & Mariano Pierantozzi, Universitá degli Studi "G. d'Annunzio" Chieti - Pescara** Learning by Creating: Student-Centered Teaching with AI Tools



Co-funded by
the European Union

Tuesday 20th May

10.30-11.30

Breda O Dwyer
Munster Technological University

Supporting entrepreneurial educators to use Lego SERIOUS Play (LSP) to enable reflective practice in multi discipline education

Abstract

The focus of entrepreneurship education should be to empower, enable, and encourage students to explore their entrepreneurial attributes, intentions, and competencies, as well as their capacity for entrepreneurial actions. This can be achieved through role innovation, where the teacher assumes the role of a facilitator of the process, enabling the student to embark on a journey of self-discovery through questioning, probing, obtaining feedback, and reflecting (Assen, 2022). Thus, the aim of this workshop is to focus on using LegoSERIOUSPlay LSP to support reflective learning practices. The reflective practice, in this case a guided process, strengthens the experiential learning process, enabling participants to translate their experiences into more defined learning outcomes (Perusso et al., 2019). The key questions to be investigated during this workshop, highlighting existing innovative practices, are:

1. How can the use of LSP in reflective practice help students develop an entrepreneurial mindset?
2. How can the role of the educator be effectively used to facilitate the reflective practice process?
3. How can the use of LSP in reflective practice help students to explore their entrepreneurial attributes and intentions?
4. How can the use of LSP in reflective practice help to develop their capacity for entrepreneurial actions?

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Co-funded by the European Union

Tuesday 20th May

11.45-12.45

Maria Fouskaki & Ioannis Metaxas

Chemistry Outreach Group (COG): Building Reflective and Inclusive Educational Outreach activities in Science Education

Abstract

Outreach activities serve as a crucial bridge between the scientific community and the public, reinforcing science education across all levels. Chemistry demonstrations, in particular, are a powerful medium for educators, enhancing the accessibility and appeal of scientific knowledge. These demonstrations not only support school education but also forge connections between academia and broader communities. Engaging students in such outreach fosters enthusiasm for science, cultivates critical thinking, and inspires potential career paths in scientific fields. For university researchers, outreach offers a unique opportunity to share their expertise, instil a passion for lifelong learning, and strengthen connections with the community. Through participation in outreach, university students experience both emotional and intellectual growth, gaining valuable communication and teaching skills essential for their professional development.

This workshop presents the University of Crete's Chemistry Outreach Group (COG) as a model for inclusive, student-centred science education through public outreach. Established to create a sustainable framework for outreach within the Department of Chemistry, COG exemplifies an adaptable and reflective approach to community engagement. Workshop participants will learn the foundational aspects of establishing similar outreach initiatives, with hands-on experience in designing safe and effective chemistry demonstrations. The workshop illustrates how outreach initiatives can effectively support community engagement, inspire young students, and develop scientific literacy.

Co-funded by the European Union

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UNIVERSITY OF CRETE

INGENIUM

Tuesday 20th May

14.30-15.00

Elisaveta Petrove-Gerretto, Medical University of Sofia

A collaborative effort to develop a theatre play to explore medical ethics

Abstract

Theatre offers a unique and powerful approach to teaching medical ethics, as it engages both intellect and emotions. Unlike traditional lectures or presentations, theatre brings ethical dilemmas to life through real-life characters, impossible decisions to make, and narrative. It allows students to witness complex situations unfold in real time, helping them understand not only the theoretical principles involved—the four principles of medical ethics, autonomy, beneficence, non-maleficence, and justice—but also the human emotions, relationships, context, interdependence, and consequences tied to each decision. Immersing students in emotionally charged scenarios, yet in a safe space, theatre helps foster empathy and compassion, which are essential qualities in medical practice. Through storytelling, students are encouraged to see situations from multiple perspectives: those of the patient, the family, the healthcare provider, the medical team, and society.

This multidimensional view helps to move beyond black-and-white thinking and grapple with the nuances and uncertainties of real-life clinical practice and human life. Theatre also encourages active participation and reflection. Post-performance discussions can deepen ethical analysis, linking scenes to frameworks such as deontology, utilitarianism, or virtue ethics. Students analyse what happened and reflect on what should have happened and why. They are challenged to confront their own values, biases, assumptions and expectations. The proposed approach could successfully transform abstract theory into a lived experience, enabling students to feel, reflect, and critically engage. As future healthcare professionals, this kind of embodied ethical learning prepares them to navigate complex moral dilemmas with professionalism, but above all, with compassion and clarity.

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Co-funded by the European Union

INGENIUM

Tuesday 20th May

15.00-15.30

Ivanka Mihaylova Vasileva, Medical University of Sofia

Social Medicine and Psychological Perspectives in Dental Students' Education

Abstract

The advancement of technology, the increasingly rapid and seamless access to information, and the refinement and application of artificial intelligence present contemporary dental medicine with novel and complex challenges. Although the changes are broad, diverse, and dynamic, what remains constant in dental practice is the disease, the patient, and the healthcare providers. The process of systematising and classifying diseases has undergone a long and complex evolution. As of today, the International Classification of Diseases (ICD) has undergone eleven official revisions. The ICD establishes a framework for common standards and criteria in medicine, ensuring strict determinacy in the definition and diagnosis of diseases, as well as promoting synchronicity across healthcare systems. The individuality of each disease arises not only from its distinct symptom complex but also from the patient's personality traits and the broader social context in which the illness unfolds. The patient is placed at the heart of a complex, dynamic, and highly individualised approach to healthcare. This model demands not only clinical reasoning but also expertise in personality theory and communication skills. Despite the rapid advancement of technology, the essence of dental care lies in the clinician. At the same time, to provide high-quality treatment, dental professionals must possess essential knowledge and skills in disease prevention, treatment, and health promotion. Their professional effectiveness also depends on ergonomic working conditions and their psychosocial well-being. The triad of patient, illness, and healthcare provider is characterised by dynamism and a unique socio-personal identity. The upcoming presentation focuses on the core of teaching and academic activity within the Department of Public Dental Health, with particular emphasis on the study and development of communication skills among dental medicine students, in the context of contemporary dental practice.

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INGENIUM

Tuesday 20th May

15.45-16.45

Mercedes Bravo, University of Rouen Normandy

Fostering Student Agency through Active Pedagogical Approaches

Abstract

This session offers a focused exploration into my early attempts, informed by current research, to cultivate student agency at both undergraduate and graduate levels. As an instructor deeply invested in fostering meaningful engagement, I have implemented several pedagogical approaches designed to empower student agency. This presentation will briefly introduce them and explore the design and execution of two distinct successful interventions: a collaborative gamified learning module simulating a climate summit (Diplo-climat) and a dynamic debate activity. By presenting preliminary findings and drawing connections to established theoretical frameworks, I aim to critically evaluate the effectiveness of these strategies in promoting student autonomy, active learning behaviours, and overall engagement across different stages of higher education. To further explore the potential of these methods, the latter part of the session will involve a practical application: participants will engage in a dynamic debate centred on the very concept of student agency itself, allowing for firsthand exploration of its empowering dynamics. My intention is to move beyond a purely descriptive account and critically analyse the successes, challenges, and lessons learned from these specific implementations, engaging in a discussion on how we, as educators, can effectively empower our students as active and self-directed participants in their learning journeys.

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Co-funded by the European Union

Wednesday 21st May

9.00-10.00

Eleni Vasilaki & Aristea Mavrogianni, University of Crete

Enhancing History Education with Interactive AI: Managing Cognitive Load and Learning Anxiety through GNOSTIS AI

Abstract

This session presents a pedagogically innovative approach to history education that blends Cognitive Load Theory (CLT) and Multimedia Learning Theory (MLT) with AI-enhanced instructional design. Central to the innovation is the use of GNOSTIS AI, an interactive learning environment that integrates AI avatars, multimedia content, and GIS-based storytelling to support learners, reduce cognitive overload, and create emotionally responsive learning environments. Rather than treating technology as an add-on, the model embeds it strategically to address both the cognitive and emotional dimensions of digital learning. A standout feature is the inclusion of a readiness self-assessment, which enables participants to evaluate their preparedness for using AI tools pedagogically, promoting self-awareness and reflective practice. The session employs structured, active methods, including a brief conceptual grounding (15 minutes), a live demonstration of GNOSTIS AI (15–20 minutes), and a hands-on exploration (20–25 minutes) that allows participants to engage directly with the tools. Interactive platforms such as Mentimeter, Padlet, and Google Forms facilitate collaboration and real-time feedback. A final reflective discussion (10–15 minutes) encourages participants to critically examine how AI can support inclusive, student-centred teaching. By the end, attendees will have experienced a concrete model for future-ready pedagogy that combines theory, emotion, and technology in meaningful ways.

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Wednesday 21st May

10.00-11.30

Peter Becker, The Karlsruhe University of Applied Sciences

Online Assessment applying the STACK concept

Abstract

STACK is the world-leading open-source automatic assessment system for mathematics, science and related disciplines like economics and engineering. Online tasks of the STACK type offer a significant advantage over traditional methods of online assessment. Due to the back-up of STACK by a computer algebra system, there are many additional possibilities, especially for online tasks with mathematical content. Additional features include, among others, the evaluation of mathematical expressions, randomisation of numerical values, and the provision of specific feedback for students. With the help of JSXGraph, graphical and interactive task elements can also be created and included in problems to enhance understanding of technical concepts. In addition to mathematics, STACK tasks are of interest for all teaching modules where calculations are involved, which is often the case in technical teaching modules. For Technical Mechanics and Thermodynamics, an extensive problem collection has already been created and will be shared as part of the workshop. The goal of the workshop is to inform participants about online tasks, particularly the possibilities associated with the STACK concept, and to enable them to independently create STACK tasks tailored to their specific teaching field.

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Wednesday 21st May

11.45-12.45

Neochoritis Konstantinos & Kallia Katsampoxaki-Hodgetts, University of Crete

From Lab Reports to Multimodal Learning Artifacts: Evaluating Student-Generated Multimodal Videos in Chemistry Education

Abstract

This interactive workshop introduces a student-centred and inclusive approach to assessment in Chemistry education through the use of student-generated multimodal videos as evidence of learning. Drawing on pedagogical models that promote active learning, multimodal literacy, and formative assessment, the session focuses on how Chemistry students can communicate scientific understanding creatively, using digital tools to produce video artifacts of their laboratory work.

Following a brief presentation outlining the theoretical and practical rationale for integrating multimodal assignments into science curricula, participants will engage in a hands-on collaborative activity. In small groups, they will watch and compare two Chemistry lab videos created by students and extract key quality indicators that could serve as assessment criteria. They will then apply and refine these collaboratively generated criteria to evaluate a third student-produced video, reflecting on the process and considering inclusive alternatives for assessment. This workshop supports educators in rethinking assessment practices by shifting from traditional lab reports to flexible, multimodal learning artifacts that value process, creativity, and student agency. It also models how inclusive pedagogies can be embedded in STEM contexts by encouraging peer-driven feedback and the co-construction of evaluation rubrics. Participants will leave with a richer understanding of how to design authentic, equity-oriented assessment frameworks that align with the goals of the INGENIUM European University.

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Wednesday 21st May

14.30-15.30

Corina Cimpanu, Gheorghe Asachi Technical University of Iaşi

Shaping the Future of eLearning: Organizing Teaching Materials, Elaborating Micro-Credentials, and Badges

Abstract

The world of eLearning continues to grow, and for all stakeholders, remaining connected becomes crucial in mastering new technologies and specific methodologies that enhance their overall experience. Delivering content in small, manageable units reinforces key concepts and facilitates information absorption and retention, ensuring personalised progress for the learner. Micro-learning allows learners to access user-tailored content anywhere, anytime, empowering them to fit learning sessions into their schedules, and can increase engagement and participation. Continuously monitoring end-user performance and providing personalised feedback allows adjustments to each participant's needs. It supports them to achieve performance and motivates the participants. Increased responsiveness provided through customised support and an adjustable learning experience helps participants with information retention and a deeper understanding of the concepts. Engaging in a collaborative environment that fosters a sense of community enables learners to stay connected and facilitates a deeper exploration of the learning session, thereby increasing participation in discussions. This learning session proposes a methodology and continues with hands-on activities on teams, focusing on dividing learning content into bite-sized units, distributing scores, and associating competencies. It also explores discovering micro-credentials and designing badges for participants who reach certain levels based on feedback from grade sheets.

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Wednesday 21st May

15.45-16.45

Juhee Bae, University of Skövde

Understanding eXplainable AI through Practical Business Scenarios

Abstract

This session introduces teaching methods for learning eXplainable AI (XAI) using a real-world dataset to enhance engagement, drawing on experiential and situated learning theories for deeper understanding and practical application. It aligns with constructivist theory, emphasising active learning and knowledge construction through peer interactions. Problem-Based Learning (PBL), illustrated through a rental bike business example, fosters critical thinking and decision-making. Flipped classroom methods, peer teaching, and real-world problem-solving promote active participation and deeper learning. Students analyse bike rental data (e.g., weather, customer types) using an AI model and XAI approaches to interpret predictions, with guidance from the teacher. Situated Learning connects AI concepts to business applications, improving retention and practical use. A key activity involves students discussing a CEO's decision-making process using XAI results, guided by structured questions, in a collaborative space with interactive discussions and movable whiteboards for brainstorming. Students not only learn XAI approaches but also understand their limitations. While XAI provides valuable insights, AI models are not always accurate, and over-reliance on them can lead to flawed conclusions. This approach encourages responsible AI as attendees explain XAI results and business strategies to peers, reinforcing comprehension and guiding them to apply their findings thoughtfully to real-world decisions.

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Thursday 22nd May

9.00-10.00

Melody Mehravari, University of Oviedo

Fostering academic writing by (oral and written) participation in bilingual scientific conference

Abstract

One of the main challenges of academic writing is that university students often encounter this type of writing in their final projects without having received adequate linguistic and functional training to effectively tackle this task, or with limited training focused solely on the final project as a textual genre. To address this issue, a questionnaire on academic texts was administered to students to diagnose their training needs and propose innovative teaching methods to comprehensively address these text genres. The results reveal that the students possess knowledge of academic texts that are closely related to their own experiences (such as thesis, final projects, and articles). However, they lack an understanding of the correct structure, lexical-syntactic characteristics, and verbal patterns of these texts. Furthermore, it is worth noting that the students generally hold a negative perception of these textual genres, perceiving them as difficult to comprehend and produce, despite recognising their usefulness in the classroom. Based on these findings, a teaching innovation focusing on linguistic-contrastive training for these genres was implemented in two courses, culminating in a specially organised conference where students were given opportunities to engage in oral and written interventions in both French and Spanish. This session aims to showcase the implementations, connections between different courses, and discuss the difficulties of academic and scientific writing among students. According to the SDG (UN), education and scientific research are key elements of the European future workforce. So, teachers, in conjunction with active educational strategies, play a crucial role in the acquisition of professional competences, which will help students to better adapt to the changing labour and scientific contexts.

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Universidad de Oviedo

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Thursday 22nd May

10.30-11.30

Stamatios Papadakis, University of Crete

Fostering Algorithmic and Computational Thinking in Early Childhood Education: Pedagogical Approaches and University-Level Training for Future Educators

Abstract

This presentation examines the pedagogical design and implementation of university-level teaching practices designed to cultivate algorithmic and computational thinking skills among students in the Department of Preschool Education at the University of Crete. Emphasising the role of educational technology, visual programming environments, and constructivist learning strategies, the course empowers future preschool educators to meaningfully integrate foundational computing concepts into early childhood settings. Drawing on hands-on, reflective, and inclusive methodologies, this approach not only enhances digital literacy but also equips students with the competence to foster 21st century skills in young learners through developmentally appropriate and engaging activities.

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INGENIUM

Thursday 22nd May

11.45-12.45

Katariina Kovanen & Laura Pulkkinen, South-Eastern Finland University of Applied Sciences

Audio escape game – gamification method proofing interaction and practical skills on online teaching

Abstract

The Submarine audio escape game has been developed as a collaboration between hospitality management teaching and the Sustainable food services research group as part of Xamk RestoLab's activities. The purpose of the Submarine audio escape game is to diversify online education in Xamk's hospitality management program. Online education should combine practical skills and, at the same time, promote interaction, which requires high-quality digital pedagogy and diverse methods, such as gamification. In the tourism and hospitality industry, critical thinking, self-direction, and knowledge of sustainability are crucial skills for future professionals. The game is designed to strengthen these skills through problem-solving and collaboration. The game is part of the Food service planning course. Before playing, students take an exam about sustainable menu planning. Future-oriented submarine menu planning, an online escape game played through Teams, guides students in designing menus that take into account sustainability, resources, and customer needs. The Submarine game is designed to enhance learning through storytelling and the incorporation of gamification elements. The game was first introduced in the spring of 2023 and has been played in three courses so far. Student surveys have helped develop the game and its features while providing interesting insights into the use of gamification in education. Data from each session will be collected, and future research will focus on the impact of gamification on learning and community building in higher education.

Co-funded by the European Union

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INGENIUM

Thursday 22nd May

14.30-15.30

Miriam D'Ignazio & Mariano Pierantozzi, Università degli Studi "G. d'Annunzio" Chieti - Pescara

Learning by Creating: Student-Centered Teaching with AI Tools

Abstract

This workshop introduces an innovative, student-centered teaching approach that leverages generative AI tools to enhance learning engagement and foster reflective practice. Based on an experiential learning model implemented in my university courses, the method empowers students to become co-creators of knowledge by developing multimedia educational content (videos, podcasts, and interactive presentations) on complex scientific topics, such as heat transfer by convection.

Participants will explore how students are encouraged not only to present academic content but also to reflect critically on their learning process, identifying the strengths and limitations of AI-assisted study. This dual focus promotes metacognitive awareness and improves both content mastery and digital skills.

The pedagogical innovation lies in the integration of AI tools—such as ChatGPT for text generation, ElevenLabs for voice synthesis, and Canva or D-ID for video creation—within an active learning framework that emphasiz-es creativity, collaboration, and self-assessment. The approach is adaptable to various disciplines and fosters inclusivity by allowing students to choose their preferred media and expression style.

By the end of the session, participants will have a clear understanding of how to implement this methodology to support effective, student-centered learning in their own teaching practice.

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