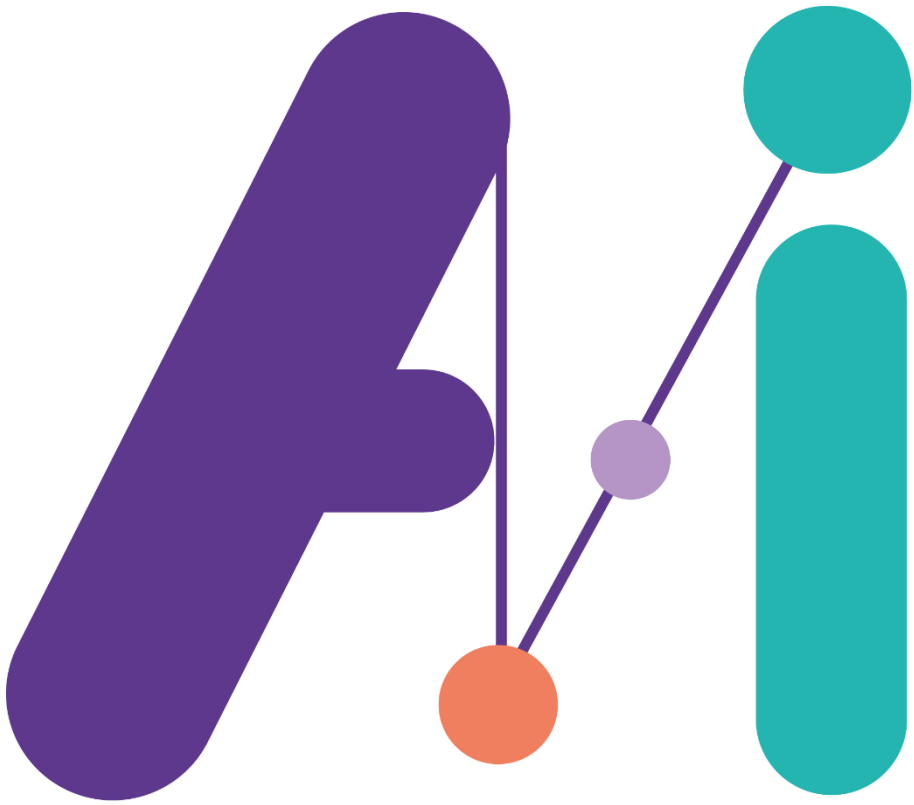

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WP3 Scenario-based training and piloting

Scenarios

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https://leaderai.eu/

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Project Information

Project Title	LEAarning analytics and AI for personaliseD lEaRning
Project acronym	LEADER AI
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Introduction to the document

In the framework of the LEADER AI project, a Training Program (Work Package 3) has been developed to equip higher education teaching staff (e.g., academics, instructors, lecturers, support staff) with the necessary skills to personalise their instruction through open source/freeware AI-based and data visualisation tools that do not require highly specialised computer skills such as programming.

The specific objectives of the training programme are to:

- develop HE teaching staff's pedagogic and digital skills on how to use selected AI-based and data visualisation tools for personalised teaching and support
- prepare educators to adopt and adapt the project resources in their course practices
- raise awareness on the ethical implications of using AI-based and analytics tools for teaching and learning

The training aims to engage the participants with hands-on tasks for experimentation and application of skills, using real case scenarios from diverse fields/disciplines in HEIs. For this purpose, the current document includes nine scenarios prepared as part of the training programme. Specifically, you will find a short description of each scenario and the respective link to its interactive presentation in English and partner languages (Greek, Estonian, Romanian, Portuguese). For a detailed guidance on how to deliver the learning scenarios, you can consult the complete training package with the training plans included.

Note: This document is useful to any trainer who wish to deliver the learning scenarios. Even though the target group of the scenario-based training is higher education teaching staff, you can adapt it according to the needs of adult learners of other education levels (e.g., pre-service or in-service teachers).

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Scenarios

Scenario 1: Personalising the Flipping Course with Learning Analytics and AI Chatbot

Description

In this scenario, trainees (HEI staff) will recognise the potential of learning analytics and AI chatbots to inform more personalised learning designs in the context of a flipped laboratory-based course, when LMS is utilised at an institutional level. Moreover, they will acknowledge the important role of ethics in AI. This scenario is wrapped-around the fictional persona "Dr. George" and his effort to enhance his students' overall performance to the course during the semester.

Learning Objectives:

- Identify the role of learning analytics
- Identify the use of learning analytics in LMS
- Identify examples of using ChatGPT as personal tutor
- Correlate analytics with students' performance
- Adapt learning design based on analytics and personal AI tutors

Link to the interactive presentation

Below you will find the links to the scenarios prepared as interactive presentations with the Gamma application. The material is available in English, Greek, Estonian, Romanian, and Portuguese.

- **English**
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Scenario 2: Empowering HE Through Nolej.io: A Personalized Learning Paradigm

Description

In this scenario, once the trainees identify students or cohorts of students that are struggling with a specific topic, they use Nolej.io to upload material. Nolej.io is a platform that automatically creates a quiz or other assessment to test the students' understanding of the material. This scenario can be used in a variety of higher education courses, such

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as online courses, blended courses, and traditional face-to-face courses. It can also be used with students of all levels, from first-year students to graduate students.

Learning Objectives:

- Identify the different features of Nolej that can be used to personalize learning
- Use Nolej to create a personalized learning package
- Export learning package and import it to Moodle

Link to the interactive presentation

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Scenario 3: Personalised writing support with AI-based tools

Description

In this scenario, the trainees will explore AI-based writing analysis tools to enhance student writing support and feedback. The target group includes teaching staff, especially those focusing on writing and communication skills. Pedagogical strategies will emphasise scenario-based and inquiry-based learning. Participants will meet Professor Alison, responsible for teaching Communication Skills to undergraduates. The challenge is to deliver prompt, personalised assistance within large cohorts. Students encounter hurdles like grammar, clarity, coherence, and idea generation. AI-based tools offer tailored support integrated into tasks or recommended during studies.

Learning Objectives:

- Identify and compare at least three AI-based writing support tools.
- Analyse the benefits and challenges of AI-based tools for providing personalised feedback.
- Recognise ethical considerations related to AI integration in writing.

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- Select AI-based tools to furnish students with individualised feedback.

Link to the interactive presentation

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- **Portuguese**

Scenario 4: Personalised teaching intervention with learning analytics

Description

In this scenario, the trainees will explore interpreting student data from the learning management system (LMS) for personalised interventions. They will learn about Professor Alison, who faces the challenge of providing personalised support to students in large cohorts, addressing issues like engagement and time management. Utilising students' digital footprint in online learning environments can help identify studying behaviors for personalised support.

Learning objectives:

- Describe common types of data sources and data points utilised in learning analytics.
- Design personalised interventions using data from learning analytics dashboards (e.g., Intelliboard and Edwiser Reports).
- Select personalised teaching interventions based on students' behavioral patterns in eLearning environments.
- Develop personalised interventions to enhance engagement with content using AI-powered chatbots like Kaya and AppyPie.

Link to the interactive presentation

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Scenario 5: AI-enhanced learning design to foster students' engagement

Description

This scenario focuses on applying ChatGPT for planning diverse learning paths for the students while implementing the ICAP framework. To enhance the support for learners' personalised learning experiences, the scenario enables to plan diverse learning trajectories guided by the ICAP framework, accommodating the varied backgrounds and skill levels of the students. Understanding the diverse starting points of the learners, the teacher may begin with passive and active learning modes. This method lets students initially assimilate information at their own pace, followed by active engagement through interactive exercises and practical applications, where the teacher introduces an element of choice and autonomy. Additionally, the teacher may plan a range of task options, enabling learners to select the method that best aligns with their interests. This could include options like research projects, creative multimedia presentations, or hands-on experiments.

Learning Objectives:

- Gain an understanding of the capabilities and applications of ChatGPT in educational settings to design learning activities based on ICAP framework
- Develop knowledge of instructional design principles to create personalised learning trajectories, focusing on formulating learning objectives and tasks that not only engage students in higher-order thinking and knowledge construction but also consider their individual interests and skill levels
- Build a solid knowledge base of various digital tools as part of the learning trajectories, including their features and benefits, to promote different level of students' engagement
- Acquire skills in designing personalised learning trajectories using ChatGPT, focusing on creating instructional activities aligned with the ICAP framework that effectively stimulate and sustain students' cognitive engagement
- Acquire proficiency in selecting and implementing a range of digital tools to promote students' cognitive engagement

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Link to the interactive presentation

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Scenario 6: Empowering HE Through Science of Learning

Description

In this learning scenario, the trainees will look into the use of AI tools for meaningful implementation of personalised learning. Once the teacher identifies students or cohorts of students who are struggling with memorising the study material, they can use ForgetNot for distributed practice and Wisdolia for free recall tasks (that students can create from PDF materials or video links using the platform). Wisdolia automatically creates flashcards about the material in the PDF or video and checks responses, promoting individual recall tasks. Quizlet provides possibilities for recall and self-tests. Anki enables distributed learning on separate days (to trigger free recall) to test the students' understanding of the material and show individual advancement. This scenario can be used in a variety of higher education courses, such as online courses, blended courses, and traditional face-to-face courses. It can also be used with students of all levels, from first-year students to graduate students.

Learning Objectives:

- Promote efficient learning through Science of Learning strategies
- Identify the possibilities of AI tools for personalised learning through free recall and prompt feedback (using texts or videos as learning input)
- Explore the possibilities for self-tests with personalised approach
- Design human-centred, customised learning activities integrating AI-based tools for personalised learning (generating free recall tasks)
- Teach students about learning options with AI-based tools for personalised learning

Link to the interactive presentation

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Scenario 7: Personalised learning with AI in HE Challenge-Based Learning

Description

In this scenario, the trainees will explore and use content-generation AI-powered tools to provide individualised learning materials and pathways to your students. The scenario shows how to select AI-powered tools based on their affordances, and match them to the students' different levels of knowledge and skills for the taught subject. The trainees will learn how to use Challenge-Based Learning (CBL) to customise learning to the students' learning pace and capacity, at the same time making learning more attractive, explanatory and interactive. This scenario will help learn how to use AI-powered tools to create adaptive learning materials and contents, namely WebQuests for CBL, for various learning skills levels (e.g. introductory, intermediate and advanced level).

Few of the AI-based tool that we recommend to achieve this goal are: Powtoon, Zappar/ Zapworks Studio and Smart Sparrow (you will discover more within the scenario).

Learning Objectives:

- Identify various AI-powered tools for content generation (generation of adaptive learning/study materials), for 3 learning skills levels (introductory, intermediate and advanced), based on their affordances.
- Analyse the benefits and challenges of AI-based tools for generation of personalised learning content and pathways.
- Recognise ethical considerations related to AI integration in HE teaching and learning.

Link to the interactive presentation

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Scenario 8: Personalized research support with AI-based tools

Description

In this scenario, the trainees will explore AI-based tools for personalised research tools that can be used to teach students to search for diverse information related to a specific topic and to provide feedback on topics covered in their scientific papers. The three AI-based tools for personalised research that we propose in this scenario are: Zeno Chat, Bard and BingAI. These tools are presented based on a real-case scenario, so you can easily find yourself in the situations described and you can use the tool that best suits your course's needs.

Learning Objectives:

- Identify and compare three AI-based tools for personalised research support based on their affordances.
- Analyse the benefits and challenges of AI-based tools for personalised research support.
- Recognise ethical considerations related to AI integration in research
- Select AI-based tools to teach students to search for diverse information related to a specific topic.
- Select AI-based tools to provide feedback on topics covered in their scientific papers

Link to the interactive presentation

Below you will find the links to the scenarios prepared as interactive presentations with the Gamma application. The material is available in English, Greek, Estonian, Romanian, and Portuguese.

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Scenario 9: Unleashing Creativity: WebQuests Elevated with Plaito AI

Description

This scenario specifically highlights the capabilities of Plaito AI, offering a unique and creative perspective on integrating AI into WebQuests within the Higher Education setting. It is meant to be an example for teachers who want to apply the challenging methodology of WebQuest in the classroom and who wants to explore the magic of AI. The scenario dives deeper into Plaito AI and how it works in synergy with WebQuest. For that you will need an account on www.plaito.ai or you can download the app from Play Store for Android or AppStore for IOS (works only on tablets). There are free versions and paid ones.

Learning Objectives:

- Identify various AI-powered tools for content generation (generation of adaptive learning/study materials), for 3 learning skills levels (introductory, intermediate and advanced), based on their affordances.
- Analyse the benefits and challenges of AI-based tools for generation of personalised learning content and pathways.
- Recognise ethical considerations related to AI integration in HE teaching and learning.

Link to the interactive presentation

Below you will find the links to the scenarios prepared as interactive presentations with the Gamma application. The material is available in English, Greek, Estonian, Romanian, and Portuguese.

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