ELTE | FACULTY OF EDUCATION AND PSYCHOLOGY

Materials on artificial intelligence for reconsidering present approaches toward learning results, learning and teaching activities, and assessment

May 2024

In order to assess the continuous challenges posed by artificial intelligence and to offer potential answers to them, a **special committee** was established at ELTE PPK which, supported by the Students' Union and the Doctoral Students' Union of the faculty, released a statement regarding the use of artificial intelligence in teaching and research. The policy can be found in the following document (in Hungarian):

The use of AI-generated content at the Faculty

Since PPK is dedicated to spreading the guidelines for the reasonable and responsible use of artificial intelligence, this document can be circulated freely if the source material is referenced properly.

Materials on artificial intelligence for reconsidering present approaches toward learning results, learning and teaching activities, and assessment

We have collected some useful and practical guidelines and ideas about the AI-related challenges faced by higher education pedagogy. First, we selected a few thought-provoking ideas from the **recommendations of the Oregon State University**. This page also lists practical tips and guidelines to follow related to further questions. We are looking forward to any feedback, questions or further suggestions you may have, which you can send to the email address of the incumbent Vice-Dean for Education **(oktdh@ppk.elte.hu)**.

> „*The following recommendations are meant to assist in creating a positive learning experience for instructors and students. The provided suggestions and samples should be tailored to meet the specific requirements and goals of individual courses. Faculty members are encouraged to adapt and modify as needed.*
>
> *Early steps:*
> - *Use the tools yourself; experiment and test how these AI tools could impact what students will produce in your course. [...]*
> - *Explicitly describe both what is and what is not allowed on every assignment. [...]*
> - *Require process documentation (production of images, video, visual representations, handwritten process documentation, or use of a specific tool) as part of an assignment submission. [...]*
> - *Ask students to weave in findings from previous assignments or details from prior discussion assignments. [...]*
> - *Create space for students and you to talk about ethical challenges in higher education and/or invite students to help craft an academic integrity statement/commitment. [...]*
> - *Include a required reflection component with major assignments prompting students to describe their process. Alternatively, at key points in the term ask students to describe the challenges of working with new Artificial Intelligence tools and how they worked ethically to produce work in the course. [...]*"

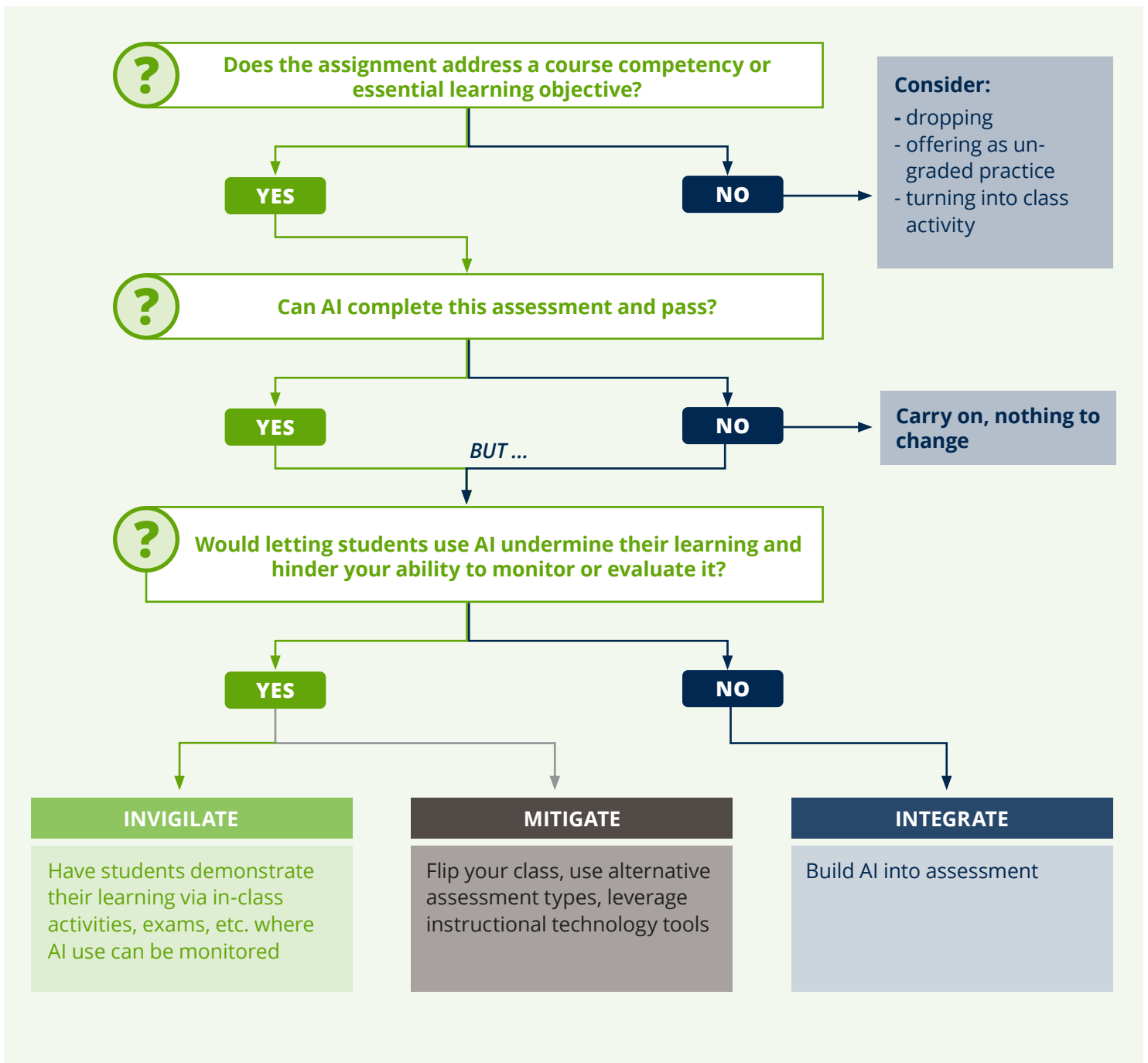## What exactly is the challenge here and why should I be bothered?

Artificial Intelligence (AI)	Generative Artificial Intelligence (GenAI)	Large Language Model (LLM)
A catch-all term for techniques to help computers solve problems the way people would or to model computational problem solving on biological brains.	Techniques to allow AI systems to produce works based on the data they have been trained on. These can be text, images, translations, sound, video or more. Other types of AI systems might do things like classify inputs.	A type of AI system that generates text based on the probability of words in its training data and the text that it has already generated.

Source: Anselmo, L. & Kendon, T. (2023). Exploring Artificial Intelligence and Assessments: A guide for instructors considering artificial intelligence in their assessments. taylorinstitute.ucalgary.ca/resources/exploring-artificial-intelligence-and-assessments

The webpage of the University of Calgary (edited by Lorelei Anselmo and Tyson Kedon) gives a detailed overview of the limits of ethical AI usage. It presents the potential limitations and risks of generative AI solutions, risk management ideas, as well as the possible uses of AI.

What frameworks should I use to reconsider the assessment system of my course?

The following flowchart, made by the staff of the University of Michigan, may help in reconsidering the kind of approach to be used. The subsequent sections contain further ideas and sources related to these possibilities.

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Does the assignment address a course competency or essential learning objective?

YES | **NO** →

Consider:
- dropping
- offering as un-graded practice
- turning into class activity

Can AI complete this assessment and pass?

YES | *BUT ...* | **NO** → **Carry on, nothing to change**

Would letting students use AI undermine their learning and hinder your ability to monitor or evaluate it?

YES | **NO**

INVIGILATE	**MITIGATE**	**INTEGRATE**
Have students demonstrate their learning via in-class activities, exams, etc. where AI use can be monitored	Flip your class, use alternative assessment types, leverage instructional technology tools	Build AI into assessment

Source: genai.umich.edu/guidance/faculty/redesigning-assessments

How can I determine if my students use generative AI?

- **(Not recommended!)** **Using AI detectors:** Currently, there are several available AI detectors which are being continuously developed (parallel to the generative models), but research says that these detectors do not provide trustworthy information. OpenAI themselves stated that these detectors are practically useless **(see here)**. In fact, they can produce rather unreliable results with regard to non-native English-language content **(see here)**.

- **Watch out for telling signs!** This webpage of the Montclair State University enumerates a few "red flags" to watch out for when trying to decide if a given content was generated by AI or not **(see here)**, such as factual errors, "hallucinated" / nonexistent sources, surprisingly correct grammar, inconsistency in terms of the student's writing style, etc. Naturally, these are not perfectly reliable signs either, so it is best to handle suspicious cases with reservation. The results of **the following research** (Fleckenstein, J., Meyer, J., Jansen, T., Keller, S. D., Köller, O., & Möller, J. (2024). Do teachers spot AI? Evaluating the detectability of AI-generated texts among student essays. *Computers and Education: Artificial Intelligence, 6, 100209.* https://doi.org/10.1016/j.caeai.2024.100209) reinforce that even simple prompts are enough for the AI to generate content that is difficult for teachers to detect without mistake (although teachers may be overconfident in their skills); what is more, AI-generated essays tend to be assessed more positively than student-written texts.

How can I modify assessment methods and learning & teaching activities?

BASIC FRAMEWORKS FOR RECONSIDERING THE ASSESSMENT OF STUDENT WORK	
	Docker, A. (2023). *Promoting Authenticity of Student Work in the Age of Artificial Intelligence: A Faculty Guide.* Lamar University. lamar.edu/lu-online/_files/documents/blog/ai-faculty-guide.pdf
	A comprehensive material from Lamar University. It briefly reviews the most important AI-related concepts, then goes on to present different aspects and specific ideas that instructors may use to reconsider their assessment methods. They offer a wide range of solutions: this guide gives ideas on how to prevent students from using AI in academically dishonest ways, but it also suggests ideas on how to get human-made content prioritised over machine-generated content, offering specific examples as well.

Oregon State University (é.n.). *Advancing meaningful learning in the age of AI.* ecampus.oregonstate.edu/faculty/artificial-intelligence-tools/meaningful-learning

This material compiled by the Oregon State University juxtaposes the different cognitive domain levels of Bloom's Taxonomy with the capabilities currently possessed by AI, with special focus on how AI fares in the tasks at a given level and what remains still a distinctive human quality. It is worth reconsidering each level with AI in mind, but emphasis should be placed on activities related to remembering (recalling bits of factual knowledge, concept definitions, etc) and analysing.

PRACTICAL ASSESSMENT IDEAS AND SOLUTIONS

Universit y of Exeter (é.n.). *Generative AI and Assessment Matrix.* s3.eu-west-2.amazonaws.com/assets.creode.advancehe-document-manager/documents/advance-he/AI%20and%20Assessment%20matrix_1693985641.pdf

This material from the University of Exeter rethinks AI-related assessment possibilities in a practical table format. The table shows what competences and capabilities are measured by the different assessment methods (e.g. essay, presentation, online open book exam, multiple choice questions, etc), the extent to which these methods can be influenced by the academically dishonest use of AI, how these methods could be rendered more resilient against such misconducts, and how to use AI during assessment.
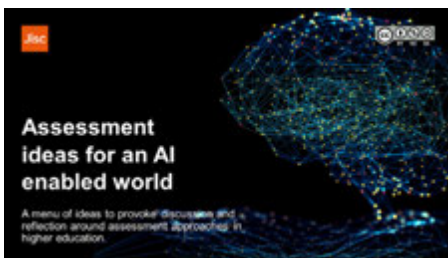
JISC (2023). *Assessment ideas for an AI enabled world.* repository.jisc.ac.uk/9234/1/assessment-ideas-for-an-ai-enabled-world.pptx

This freely available presentation by the Joint Information Systems Committee summarises several AI-related assessment methods in a logically structured and visually appealing manner. The list includes the detailed description of more than 30 methods, most of which are concerned with how to consciously adopt, use and tap the potentials of AI.

LEARNING AND TEACHING ACTIVITIES

Nerantzi, C., Abegglen, S., Karatsiori, M. and Martinez-Arboleda, A. (Eds.) (2023). 101 Creative ideas to use AI in education. A collection curated by #creativeHE. zenodo.org/records/8355454

This is a collection of ideas gathered during the #creativeHE open crowdsourced campaign (83 instructors from 21 countries contributed), which contains 101 creative ideas on how to use AI in the learning and teaching process.