Arene's recommendations on the use of artificial intelligence for universities of applied sciences

Note! These guidelines have been prepared by the Arene working group[1], and they are not joint guidelines for universities of applied sciences. Universities of applied sciences prepare their own guidelines independently.

The recent rapid development of artificial intelligence has placed universities of applied sciences in a situation where they must consider the role of artificial intelligence extensively, as part of the learning process and as a working life skill.

Arene recommends that universities of applied sciences operate at two different levels:

- a) at the organisational level, universities of applied sciences are encouraged to ensure the capability of the staff and students to use artificial intelligence responsibly
- b) at the level of teaching, teachers are encouraged to ensure that AI is used in accordance with its purpose and in an ethical manner

Arene also recommends that universities of applied sciences support, guide and advise students in the use of artificial intelligence.

Arene will monitor the development of generative artificial intelligence and AI-assisted technologies and update this guidance as necessary.

Recommendations for the organisational level of universities of applied sciences

At the organisation's management level, universities of applied sciences must enable responsible use of AI tools for teachers, staff and students. Instructions must be prepared regarding the use of AI tools and their use must be encouraged primarily by the tools offered by the organisation.

Universities of applied sciences must take the following into account when using artificial intelligence:

- **Ethical principles:** In the use of artificial intelligence tools, fairness, equality and respect for others must be realised.
- **Responsibility**: Artificial intelligence tools must promote students' learning and the development of working life skills.
- **Data protection:** The use of AI tools must not endanger the data protection or privacy of staff or students.
- **Competence:** Universities of applied sciences must ensure competence of staff and students in the basic use of artificial intelligence tools by providing instructions and training.

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[1] Forss Maria, Arcada University of Applied Sciences; Isohanni Jari, Centria University of Applied Sciences; Kareinen Marjaana, LUT universities; Pakanen Lotta, Oulu University of Applied Sciences; Simpanen Sami, Häme University of Applied Sciences

Universities of applied sciences must act as follows at the organisational level:

- **Enable:** Artificial intelligence tools must be available, and their use must be instructed to both staff and students.
- **Guide:** The use of AI tools must be in accordance with good scientific practice.
- **Ensure equality:** The use of AI tools must not affect the equal treatment of students, staff or other stakeholders.
- **Share information:** Communicate AI tool capabilities, limitations and uses to stakeholders
- **Train**: Universities of applied sciences must train students and staff in the responsible use of AI tools.
- **Ensure**: The use of AI systems involves risks of leaking sensitive information and copyright infringements. Universities of applied sciences must identify data protection risks and process sensitive data appropriately.
- **Follow developments in this field**: Monitoring the development of artificial intelligence technology as a university of applied sciences and awareness of new practices affect the use of artificial intelligence in universities of applied sciences. If necessary, the university of applied sciences assesses and updates its ethical and operating instructions to correspond to the latest trends and best practices. Whenever possible, when participating in a wider discussion on the ethical use of artificial intelligence and participating in initiatives by organisations in the field to promote responsible use of artificial intelligence, the university of applied sciences influences the development of the matter at the national level.
- **Monitor use:** By collecting feedback on the use of artificial intelligence through an open channel and reporting on flaws, the university of applied sciences promotes openness and develops the use of artificial intelligence in its community.

Recommendations for the teachers of universities of applied sciences

Teachers at universities of applied sciences play an important role in teaching working life skills. Artificial intelligence is one of the tools of working life. Teachers must ensure that students graduating from universities of applied sciences have the competence to use artificial intelligence tools.

In the teaching activities of universities of applied sciences, the following must be taken into account when using artificial intelligence:

- **Responsibility:** The teacher must use artificial intelligence responsibly and ensure that its use promotes students' learning and development. The author is always responsible for their output.
- **Ethical principles** The teacher must observe general ethical principles, such as fairness, equal treatment and respect for other students and teachers.
- **Data protection**: The teacher must follow the data protection practices of the university of applied sciences also when using artificial intelligence tools.

- **Restrictions**: Artificial intelligence systems are only programs and have limitations. Be aware of these limitations so that you can assess the suitability of the use of artificial intelligence in different situations.

In the teaching activities of universities of applied sciences, the use of AI tools must strengthen students' working life skills, which is why teachers are encouraged to:

- **Encourage:** Students are positively encouraged to use artificial intelligence as part of their studies.
- **Guide:** By guiding students, the appropriate and responsible use of artificial intelligence is ensured. Instruct students on how to use artificial intelligence in a manner suitable for each course.
- **Use:** By using artificial intelligence tools to support the planning, evaluation and guidance of teaching, the teacher increases their competence and understanding of the opportunities and limitations of artificial intelligence.
- **Participate**: The teacher should share their knowledge of the capabilities, limitations and uses of the tool in their university of applied sciences community. The teacher, when participating in the discussion on the ethical use of AI in their university of applied sciences community and participating in initiatives related to AI in school communities and organisations, promotes the responsible use of AI.

The recommendations in appendix 1 contain optional examples of AI guidelines for teachers.

Students

Using AI tools can enhance learning and make the learning experience more multidimensional. However, it should be noted that the student is always responsible for the content of their study assignments and the materials to be assessed.

 When using AI tools, the student must pay attention to the following:

- **Responsibility:** The author is always responsible for their output.
- **Knowledge** Artificial Intelligence Systems are only program and have limitations, and artificial intelligence does not have competence or understanding in content. Be aware of these limitations so that you can assess the suitability of the use of artificial intelligence in different situations.
- **Ethical principles:** Observe general ethical principles, such as fairness, equal treatment and respect for other students and teachers.

Students at universities of applied sciences are encouraged to use artificial intelligence in order to develop their own working life skills.

- **Adopt:** Use artificial intelligence skilfully as an assistant and support in learning
- **Provide feedback:** Discuss and give feedback on the success of AI use to the teacher.
- **Participate in the discussion and share information:** You are part of the community of the university of applied sciences. Discuss the ethical use of artificial intelligence and participate in initiatives of school communities and organisations to promote responsible use of artificial intelligence.

- **Report:** quickly on errors and problems related to the use of artificial intelligence in teaching.

Introduction to recommendations

The development of generative artificial intelligence has progressed considerably in recent years. Today, generative artificial intelligence can already produce credible images, videos, sound and text that approaches human-made works. In the future, generative artificial intelligence will develop further, and its areas of use will expand significantly. In the future, generative artificial intelligence will be able to create more complex and realistic images, videos, sound and text. This will enable, for example, the development of better virtual reality and virtual environments that are increasingly realistic. In addition, generative artificial intelligence will enable better personal assistance through dialogue interaction in the future. For example, voice-based virtual assistants will be able to answer increasingly complex questions and produce better and more personalised answers. Similarly, generative artificial intelligence will enable better and faster development and provision of the most accessible services through multilingualism.

The role of universities of applied sciences in ensuring working life competence

The role of universities of applied sciences is to ensure that graduates have sufficient working life skills (professional competence, general working life skills and self-management skills) when they start working at companies. Even before artificial intelligence becomes a tool for all sectors, digital competence has been identified as one of the most significant competence needs of the 21st century, which can be included in both professional competence and general civic skills (European Commission 2021). In the future, the use of artificial intelligence that is part of digital competence will become increasingly common at work, and artificial intelligence will affect employees at different levels (Ministry of Education and Culture 2023).

Despite the diverse potential of artificial intelligence, it will not replace human thinking and development through social interaction and value creation. However, AI can help individuals develop their skills and improve their performance, which can contribute to both more efficient work and better well-being at work. It is important that students graduating from Finnish universities of applied sciences have the skills to use artificial intelligence regardless of the sector.

Artificial intelligence = Supportive intelligence and its ethical use

Artificial intelligence should rather be referred to as supportive intelligence. It can act as an assistant, a brainstormer, a sparring partner, a mentor, a booster, etc. Artificial intelligence is not "smart" and, for example, its applications do not have an understanding of content. The grammatically correct and ostensibly sensible text creates a misconception of the intelligence of the application and the correctness of the answer, even though it may be completely distorted in terms of content. In other words, it does not eliminate the need for substance competence from the user, but instead emphasises it so that we can ensure that the information produced by artificial intelligence is correct.

Artificial intelligence reflects the source material entered into it. Possible inaccuracy of the information, i.e., hallucination in the response, must be borne in mind as a restriction on use. In addition, it may provide biased or harmful information, which is due to the source material used in the teaching of the language model. The majority of the source material used to teach today's language model (April 2023) comes from Western countries. The fact that materials from, for example, China or Africa have not been used as source material weakens the quality of the application and its ability to produce objective information, taking into account different cultures. The responsibility for the accuracy of the written information rests with the user of artificial intelligence. Because artificial intelligence itself does not care whether something is true that it generates for the user.

The discussion around artificial intelligence is strongly related to ethics. For example, the European Union has prepared its own ethical guidelines on artificial intelligence[2]. These guidelines have previously been largely linked to the development of artificial intelligence. With the introduction of generative AI, ethics will also extend to the use of artificial intelligence.

The ethics of the use of artificial intelligence can be derived from good general scientific practices at universities of applied sciences:

1) The authors are responsible for the accuracy, correctness, integrity and originality of their works, including the use of artificial intelligence.
2) AI does not fulfil the author's requirements, taking into account accountability.
3) Scientific writing practices must be followed in the use of artificial intelligence. The works must be the author's own, and they must not present the ideas, information, words or other material of others without sufficient reference. Artificial intelligence is not a source of scientific text. The author must ensure that the citations are correct.
4) The content produced by AI can be biased and damaging or strengthen existing harmful stereotypes. The author must always take ethical perspectives into account.

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[2] European Commission 2022, https://op.europa.eu/fi/publication-detail/-/publication/d81a0d54-5348-11ed-92ed-01aa75ed71a1/language-en

Appendix 1 – Example of instructions for teachers on the use of artificial intelligence

Teachers are encouraged to provide instructions for the use of artificial intelligence as part of producing the content of the work in their own courses. The following examples serve as help. It is recommended to use as permissive a line as possible, and it should be noted that as artificial intelligence becomes part of the tools for creating works, it is challenging to distinguish the boundary between content generated by humans and content generated by artificial intelligence.

The use of artificial intelligence does not need to be reported: Students can use AI to create works without notice. However, students must take good scientific practices and responsibility into account.

This option is a good choice when the teacher wants to enable students to use AI freely without restrictions.

The use of artificial intelligence is permitted, but it must be reported: Students are allowed to use artificial intelligence to create works, but they must clearly indicate this.

The use of the AI tool can be described in the methods of the work or in the corresponding section as follows (American Psychological Association, 2020):

The authors have used the ChatGPT AI tool to describe the potential of the platform economy in section 2.1. The authors have reviewed and modified the content created by the tool and assume full responsibility for the content of the work.

A reference to the text produced by AI is made by referring to the tool and the version used, for example:

When asked "What is the most significant challenge for the spread of the platform economy?" ChatGPT responds that it is the impact on the traditional business model and the labour market (OpenAI, 2023).

In this case, if using the APA style (American Psychological Association, 2020), the following will be indicated in the references:

OpenAI. (2023). ChatGPT (March 14 version) [large language model]. Available at https://chat.openai.com/chat. Referenced on 29 April 2023

This option is a good choice if you want to enable students to use AI and also want to ensure that the students understand the limitations of using AI and can explain how they have used it.

The use of artificial intelligence is not allowed: Students are not allowed to use artificial intelligence to create the content of works without separate permission or approval. However, artificial intelligence may be used for brainstorming, planning and proofing.

This option is good if it is not desired to allow the use of AI in a specific course or assignment, or if the teacher wants to ensure that students learn skills and knowledge manually without the ease of using AI.

Sources

American Psychological Association, 2020, *How to cite ChatGPT*, available at https://apastyle.apa.org/blog/how-to-cite-chatgpt. Referenced on 8 May 2023