

AI Maturity in Education Scan (AIMES)

Increasing AI Literacy

Implementation Guidelines

January 2025

Luuk Terbeek



The development of the AI Maturity in Education Scan (AIMES) is a joint initiative of VU Amsterdam and the University of Amsterdam

"I am sure that the Open Education Resource version of AIMES offers institutions worldwide an opportunity to democratize AI literacy. By making cutting-edge AI education accessible to learners everywhere, AIMES empowers institutions to bridge the gap between emerging technologies and the skills needed to navigate our increasingly AI-driven world."

Emrah Cinkara, Gaziantep University

"As AI becomes integral to various aspects of life, universities must equip teachers and students to integrate it meaningfully and ethically into the curriculum — with AIMES as a valuable guide."

Isabella Ivory, VU Amsterdam

"AI is increasingly integrated into our daily lives, rapidly transforming the digital infrastructure of education. The challenge lies in empowering teachers and administrators within our faculty to achieve digital autonomy. Digital and AI literacy can be enhanced by employing AIMES."

Jolanda Broex, University of Amsterdam

"AI is as new and transformative for students as it is for university staff. Just like we are learning to become experts in our fields, we also need guidance in using AI ethically, equitably, and effectively. We look to our lecturers, program directors, and faculty administrators for that support. AIMES can ensure that our educators have the AI literacy we expect and deserve, empowering them to guide us confidently through this new landscape."

Linda Meinders, VU Amsterdam

"To make their teaching AI-proof, teachers need training, access to AI tools and support. AIMES facilitates this by offering self-assessments and referring to useful resources and tips to improve your AI literacy."

Erdinç Saçan, Fontys University of Applied Sciences

"AIMES is a game changer for higher education. It increases AI literacy and takes education quality to the next level."

Nienke Stumpel, VU Amsterdam



AI Maturity in Education Scan (AIMES)

[VU Amsterdam AIMES homepage](#)



[University of Amsterdam AIMES homepage](#)



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Introduction

[The AI Maturity in Education Scan \(AIMES\)](#) enables teachers, programme directors and faculty board members to conduct self-assessment in order to determine and advance their AI Literacy. Each of the actor-specific survey is tailored to the actor responsibilities and provide actionable feedback, tips and recommend readings. AIMES enables the development of a shared narrative among these actors, promoting (more) effective collaboration. AIMES is a joint initiative by VU Amsterdam and the University of Amsterdam and is developed in collaboration with an (international) expert panel by applying the Delphi Method. AIMES contains many references e.g. recent reports from OECD, UNESCO including the AI competency framework for teachers (Fengchun & Mutlu, 2024) as well as references from both VU Amsterdam and the University of Amsterdam, including the e-module 'The impact of Generative Artificial Intelligence (GenAI) on higher education' (TLC Science University of Amsterdam, 2024).

AIMES is grounded in the seven [Key Requirements for Trustworthy AI \(EU, 2019\)](#): 1.) Human agency and oversight, 2.) Technical Robustness and safety, 3.) Privacy and data governance, 4.) Transparency, 5.) Diversity, non-discrimination and fairness, 6.) Societal and environmental well-being, 7.) Accountability. By completing a brief survey (5-10 minutes), users gain immediate, tailored feedback, practical tips, and curated resources, all presented in a downloadable report that can be used as a reference.

In addition to self-assessment, AIMES offers a range of other practical applications. AIMES can be easily integrated into existing professional development programs, such as (senior) teaching qualifications and educational leadership programs. Since AIMES is also available as an Open Educational Resource (OER), AIMES' content is adaptable for various educational contexts, potentially offering institutions worldwide the opportunity to promote AI literacy. In addition, AIMES offers educational professionals structured guidance to ensure the meaningful and ethical integration of AI in education. Institutions worldwide can use AIMES as a reference for developing workshops, to conduct Scholarship of Teaching and Learning (SoTL) activities or to conduct research on AI Literacy.

Moreover, AIMES can make a valuable contribution to institutional strategy by serving as a reference for developing a vision on AI in Education and to determine education policies accordingly. Given the ongoing developments in AI, AIMES will be updated semi-annually. New releases of AIMES appear in June and November. The expansion of AIMES with; a student survey, (more) evidence informed tips and further alignment with the [EU AI ACT](#) is planned for the next AIMES release in June 2025.

Would you like to be kept informed about AIMES and/or would you like to contribute to the development of AIMES yourself? Please fill in the [AIMES interest form](#).

Use Cases

Self-assessment

The AI Maturity in Education Scan (AIMES) enables teachers, programme directors and faculty board members to conduct self-assessment in order to determine and advance their AI Literacy. In addition to its use for self-assessment, AIMES offers a number of other possible uses to promote AI Literacy.

Integrating AIMES into Educational Professional Development

AIMES complement professionalisation programs like [University Teaching Qualification \(UTQ\)](#), [Senior Teaching Qualification \(STQ\)](#) and the [Educational Leadership Course](#). Within these programs, AIMES can be incorporated as a stand-alone self-assessment or integrated into program content (in whole or in part) to ensure the advancement of AI Literacy. Accordingly, AIMES can serve as a reference for agreements on these programs at (inter)national level.

AIMES as an Open Educational Resource: Reusing content of AIMES

AIMES is an Open Educational Resource, all content is made available through this document: 'AIMES Implementation Guidelines'. The content of AIMES can be freely shared, remixed, adapted, and built upon in any medium or format with regard to non-commercial purposes ([CC BY-NC-SA 4.0](#)). As a result, AIMES enables educational institutions around the world to improve AI literacy in their unique contexts by reusing or adapting content to their specific educational needs.

Leveraging AIMES for workshops, e-modules, research or Scholarship of Teaching and Learning (SoTL) activities

AIMES content can enhance several activities focused on AI literacy. AIMES thematic structure facilitates focus and guidance for the development of workshops, e-modules, research or [Scholarship of Teaching and Learning](#) (SoTL) activities concerning AI in education.

AIMES: Driving Strategic AI Integration in Education

AIMES serves as a reference for the development or refinement of institutional plans, educational visions, policy and midterm reviews. Its holistic design facilitate the alignment of strategic plans and institution wide initiatives and activities on AI in education.

AIMES Surveys Content

1. Teacher Survey

The AI Maturity in Education Scan (AIMES): Teacher Survey

I. Human Agency and Oversight

AI systems should empower human beings, allowing them to make informed decisions and fostering their fundamental rights. At the same time, proper oversight mechanisms need to be ensured, which can be achieved through human-in-the-loop, human-on-the-loop, and human-in-command approaches.

TQ1. Verifying accuracy

Ensuring the accuracy of generative AI outputs is crucial for effective teaching.

TQ1. Beginner Level: "I never check whether the content of the generative AI I use is actually correct"

Feedback: Use generative AI tools responsibly and critically approach the accuracy of the output. It is highly recommend to check the content of the generative AI, since the content is not always correct. Therefore, start verifying the accuracy of AI-generated content.

Tips:

- Verify AI-generated content with reliable sources.
- Have AI list the sources it uses and systematically check them.
- Regularly compare AI outputs with trusted data. AI can make mistakes or provide irrelevant information.
- Always read AI-generated text carefully and consider what you can or cannot take from it.
- Use a checklist to verify key aspects of content when developing course materials.
- Discuss your findings with students and/or fellow teachers.
- Train yourself to routinely apply the above tips.

Read more:

VU Amsterdam reference(s):

[Teaching & AI](#)

[How to deal with ChatGPT and Microsoft Copilot as a teacher](#)

[ChatGPT](#)

[Microsoft Copilot](#)

[Teach your students to use ChatGPT as a personal teacher](#)

University of Amsterdam reference(s):

[What is Generative AI?](#)

[What is GenAI?](#)

[List of GenAI Tools](#)

Other reference(s):

[AI competency framework for students](#) (UNESCO)

[How generative AI works](#) (University of Sydney)

[General principles for use of generative AI](#) (University of Sydney)

[Different generative AI tools](#) (University of Sydney)

[Large Language Models explained briefly](#) (Grant Sanderson)

TQ1. Intermediate Level: "I sometimes verify whether the content of generative AI is accurate."

Feedback:

Regular verification is important as the output cannot always be trusted. Use generative AI tools responsibly and critically approach the accuracy of the output. It might be beneficial to implement a structured verification process.

Tips:

- Verify AI-generated content with reliable sources.
- Have AI list the sources it uses and systematically check them.
- Regularly compare AI outputs with trusted data. AI can make mistakes or provide irrelevant information.
- Ensure you understand how your use of AI supports [Constructive Alignment](#).
- Reserve time to verify generated AI content during your course development.
- Compile a shared list of tasks where AI use is beneficial, and include standard (and more specific) prompts to minimize the risk of inaccuracies from poor prompting (A prompt is the input or instruction you give to an AI to generate a specific response, like text, images, or code).
- Create a site (or booklet) with FAQ's (e.g. to inspire your peers to enhance your courses with the use of (generative) AI for energizers or activities).
- Discuss with colleagues what AI in education means to them (e.g., does it feel challenging, does it stimulate creativity, or cause anxiety). Make it a topic for team meetings or intervision sessions.
- Share best practices of (generative) AI use in your team and institutional events.

Read more:

VU Amsterdam reference(s):

[Teaching & AI](#)

[How to deal with ChatGPT and Microsoft Copilot as a teacher](#)

[ChatGPT](#)

[Microsoft Copilot](#)

[Teach your students to use ChatGPT as a personal teacher](#)

University of Amsterdam reference(s):

[What is Generative AI?](#)

[What is GenAI?](#)

[List of GenAI Tools](#)

[Constructive alignment](#)

Other reference(s):

[AI competency framework for students](#) (UNESCO)

[How generative AI works](#) (University of Sydney)

[General principles for use of generative AI](#) (University of Sydney)

[Different generative AI tools](#) (University of Sydney)

[Large Language Models explained briefly](#) (Grant Sanderson)

TK1. Advanced Level: "I often verify whether the content of generative AI is accurate."

Feedback:

Frequently verifying generative AI content using a verification process is important, keep up this good work. Consider to think about how to spread the message about verifying output within your institution and or develop a comprehensive AI verification framework, preferably together with your peer teachers.

Tips:

- Work with colleagues to refine the review process for course development with regard of AI usage, ensuring quality education.

- Share best practices for using generative AI at conferences and in publications.

- Collaborate with AI researchers to better understand what contributes to educational quality and what does not.

Read more:

VU Amsterdam reference(s):

[Teaching & AI](#)

[How to deal with ChatGPT and Microsoft Copilot as a teacher](#)

[ChatGPT](#)

[Microsoft Copilot](#)

[Teach your students to use ChatGPT as a personal teacher](#)

University of Amsterdam reference(s):

[What is Generative AI?](#)

[What is GenAI?](#)

[List of GenAI Tools](#)

Other reference(s):

[AI competency framework for students](#) (UNESCO)

[How generative AI works](#) (University of Sydney)

[General principles for use of generative AI](#) (University of Sydney)

[Different generative AI tools](#) (University of Sydney)

[Large Language Models explained briefly](#) (Grant Sanderson)

II. Technical Robustness and safety

AI systems need to be resilient and secure. They need to be safe, ensuring a fall back plan in case something goes wrong, as well as being accurate, reliable and reproducible. That is the only way to ensure that also unintentional harm can be minimized and prevented.

TQ2. Understanding students' use of generative AI

Manage and understand your students' use of generative AI in assignments to ensure academic integrity and foster meaningful learning.

TQ2. Beginner Level: "I have no idea how students use generative AI to work on my assignments."

Feedback:

Understand how your students use AI tools.

Tips:

- Participate in AI in Education workshops offered by your institution.
- Customize assignments to reduce plagiarism, promoting authentic assessments. See: https://en.wikipedia.org/wiki/Authentic_assessment
- Understand how students use generative AI. Discuss this with your students and peers. Reflect on how you would use AI as a student.
- Emphasize the importance of academic integrity and alignment with institutional policies.
- Follow your institution's guidelines on AI use.
- Assess if learning objectives are met with AI use
- Explore how AI can enhance learning activities or reduce your workload

- Clarify how students can use AI in assignments.
- Involve students in course redesign, making ethical dilemmas clear and open for discussion. Adjust assignments and assessments accordingly.
- Design assignments requiring disclosure of AI tool use e.g. ask students to include the AI tool and prompt used to gain insight into their AI usage and reconsider the formulation of the assignment.

Read more:

VU Amsterdam reference(s):

[Generative AI, Copilot and ChatGPT](#) (VU student information)

University of Amsterdam reference(s):

[AI & Assessment](#)

[Assessment](#)

[Fraud](#)

[Tips & Tricks](#)

Other reference(s):

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

TQ2. Intermediate level: "I have some idea of how students use generative AI to work on my assignments."

Feedback:

Encourage responsible AI usage in assignments.

Tips:

- Your use of the AI tool(s) should contribute to students' needs and make their learning more effective.
- Let your students discuss their AI usage, to learn from each other and to reduce inequality.
- Design assignments that anticipate and incorporate AI use, ensuring academic integrity.
- Engage with students to better understand their AI usage and encourage critical analysis and reflection on AI's impact on learning.
- Consult guidelines on responsible AI use based on institutional policies.
- Ensure the connection between the use of AI and learning objectives.
- Critically assess AI tools for their reliability and appropriateness for your teaching practice.
- Encourage responsible AI use in assignments, in order to ensure quality education.
- Explain the advantages and disadvantages of generative AI tools.

- Engage with students to better understand their AI usage and encourage critical analysis and reflection on AI's impact on learning and its broader impact on society and environment.

- Launch an "AI Awareness Week" to engage students.

Read more:

VU Amsterdam reference(s):

[Generative AI, Copilot and ChatGPT](#) (VU student information)

University of Amsterdam reference(s):

[AI & Assessment](#)

[Assessment](#)

[Fraud](#)

[Tips & Tricks](#)

Other reference(s):

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

TIQ2. Advanced Level: "I know how students use generative AI to work on my assignments."

Feedback:

Innovate teaching methods with advanced AI tools.

Tips:

- Your AI usage doesn't have to be increased if you develop more AI knowledge. AI is not inevitable; it does not have to be used to the largest extent.

- Integrate advanced AI tools into your teaching methods, e.g. as a course co-designer or chatbot as teaching assistant, see table 4 (p.30) 'Co-designing uses of GenAI to support teachers and teaching' of the '[Guidance for generative AI in education and research](#)'(UNESCO, 2023)

- Foster the development of students' prompting skills by using targeted exercises and real-world applications.

- Promote creativity to foster solutions for complex real-world challenges.

- Focus on developing students' skills in critical evaluation of AI outputs. Explain to your students how AI works.

- Promote creativity to foster solutions for complex real-world challenges.

- Lead or collaborate on research projects on AI in education.

- Mentor colleagues on incorporating AI into curriculum design.

- Consider collaboration with AI developers to stimulate the creation of tools tailored to educational needs, accessible to everyone.

- Collaborate with AI in Education experts from your institution to enable them to help other teachers, based on your knowledge and experiences.
- Mentor colleagues on incorporating AI into course design.
- Collaborate within your team on the development of a vision on AI-use within the curriculum (and exit qualifications).

Read more:

VU Amsterdam reference(s):

[Generative AI, Copilot and ChatGPT](#) (VU student information)

University of Amsterdam reference(s):

[AI & Assessment](#)

[Assessment](#)

[Fraud](#)

[Tips & Tricks](#)

Other reference(s):

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

TQ3. Consulting information on AI safety*

*AI systems need to be resilient and secure. They need to be safe, ensuring a fall back plan in case something goes wrong, as well as being accurate, reliable and reproducible.

TQ3. Beginner Level: "I never seek information about the safe use of generative AI tools I use in my teaching."

Feedback:

Consult and follow basic guidelines for responsible use of AI.

Tips:

- Consult the evaluation of institutional pilot projects of the AI tool and the possible awareness of the effectiveness and long-term consequences of different applications of it.
- Consult institutional guidelines regularly.
- Attend workshops or training sessions on responsible use of AI to understand basic principles of a safe use of AI.
- Incorporate discussions about AI safety into your teaching to raise awareness among students to foster safe, ethical and meaningful use of AI.

Read more:

University of Amsterdam reference(s):

[How to help your students use GenAI responsibly](#)

[Limitations of GenAI](#)

TQ3. Intermediate Level: "I sometimes seek information about the safety of generative AI tools I use in my teaching."

Feedback:

Stay up to date with AI safety practices.

Tips:

- Keep up with your institutional AI guidelines.
- Attend workshops or training sessions on responsible use of AI to understand basic principles of a safe use of AI.
- Stay updated with the latest research and best practices in AI safety
- Work with peers and managers to improve methods for the ethical evaluation of AI tools
- Incorporate discussions about AI safety into your teaching to raise awareness among students to foster safe, ethical and meaningful use of AI.
- Share your knowledge with colleagues to foster a culture of safety and awareness.

Read more:

University of Amsterdam reference(s):

[How to help your students use GenAI responsibly](#)

[Limitations of GenAI](#)

TQ3. Advanced Level: "I often seek information about the safety of generative AI tools I use in my teaching."

Feedback:

Good that you often consult information about the safety of generative AI tools, keep up the good work.

Tips:

- Establish comprehensive AI safety guidelines in collaboration with relevant institutional experts.
- Consider to participate or lead workshops and training programs on AI safety for educators and students.
- Consider to collaborate with AI developers to address safety concerns and improve AI systems.
- Conduct research and publish your findings on AI safety practices.
- Consider to contribute to the development of (inter)national safety standards.

Read more:

University of Amsterdam reference(s):

[How to help your students use GenAI responsibly](#)

[Limitations of GenAI](#)

III. Privacy and data governance

Besides ensuring full respect for privacy and data protection, adequate data governance mechanisms must also be ensured, taking into account the quality and integrity of the data, and ensuring legitimised access to data

TQ4. Understanding data processing

Understand how data is processed in AI systems to ensure privacy and data governance.

TQ4. Beginner Level: "I have no idea what happens to my data when I use AI systems for teaching."

Feedback:

Familiarize yourself with your institutional data governance and act accordingly in your AI usage.

Tips:

- Upload student work or research data only with an institutional AI license and be aware of privacy risks.
- Consult institutional data processing information with regard to AI tools you use.
- Familiarize yourself with your institutional data governance and the implications of data sharing and storage.

Read more:

[Ethical guidelines on the use of artificial intelligence \(AI\) and data in teaching and learning for Educators](#) (EU, 2022)

TQ4. Intermediate Level: "I have some idea for what purposes my data is processed with the AI systems I use in my teaching (e.g. Improving personalized learning, monitoring performance with instant feedback, or automating administrative tasks)."

Feedback:

Ensure compliance with your institutional data protection regulations.

Tips:

- Consult institutional data processing information with regard to AI tools you use and ensure compliance
- Consult your institutional student guidelines for the use of (generative) AI with regard to data protection and inform your students about this.
- Inform students about of how data is collected by

the AI applications you use.

- Consult or conduct research to ensure that generative AI does not undermine students' human rights nor disempower you as teacher.

Read more:

[Ethical guidelines on the use of artificial intelligence \(AI\) and data in teaching and learning for Educators](#) (EU, 2022)

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

TQ4. Advanced Level: "I know how my data is processed by the AI systems I use in my teaching."

Feedback:

(Co-)develop advanced data governance frameworks.

Tips:

- Know the AI systems your students use and inform them about opportunities and threats.
- Keep up to date with institutional data processing information.
- Design or help to develop flyers or posters that clearly explain the essence of data governance (for example using infographics)
- Deepen your understanding by taking advanced courses on data governance.
- Collaborate on initiatives to (co-)develop advanced data governance frameworks within your faculty.
- Help to develop (basic) courses on data governance for your institute. Also consult (international) existing offerings.
- Publish research on best practices for data governance regarding AI in education (or research).
- Collaborate with AI developers to ensure ethical data processing practices are embedded in AI systems.
- Mentor colleagues on advanced data management techniques and compliance with (inter)national data protection standards.

Read more:

[Ethical guidelines on the use of artificial intelligence \(AI\) and data in teaching and learning for Educators](#) (EU, 2022)

IV. Transparency

The data, system and AI business models should be transparent. Traceability mechanisms can help achieving this. Moreover, AI systems and their decisions should be explained in a manner adapted to the stakeholder concerned. Humans need to be aware that they are interacting with an AI system, and must be informed of the system's capabilities and limitations.

TQ5. Using Generative AI in teaching

Integrate generative AI in your teaching to enhance learning outcomes.

TQ5. Beginner Level: "I have no idea of how generative AI can be used in teaching."

Feedback:

Consult the information provided by your institution.

Tips:

- Join an AI workshop offered by your institution.
- Explore case studies and examples of AI integration in teaching, such as co-designing lesson plans.
- Take note of successful experiments from scientific literature or peers' experiences and assess whether AI might be beneficial for your teaching practice.
- Experiment with AI in non-critical assignments or for tasks like summarizing texts.
- Develop a step-by-step plan for AI integration, and evaluate based on your reflections and student feedback.
- Ask students to include their prompts in their work, highlight AI-generated content they used, and reflect on how AI helped them.
- Provide clear guidelines for students on using AI tools.

Read more:

VU Amsterdam reference(s):

[5 active learning activities to teach students to work with AI](#)

[ChatGPT is terrific - but at what costs?](#)

University of Amsterdam reference(s):

[Teaching and AI](#)

[Use cases](#)

[Developing AI guidelines](#)

[AI tools and your studies](#)

[How to formulate good prompts](#)

[Example prompts](#)

Other reference(s):

[Writing prompts](#) (University of Sydney)

[Students 'cheating' with Generative AI](#) (Podcast Education Technology Society by Neil Selwyn)

[The assessment of students' creative and critical thinking skills in higher education across OECD countries: A review of policies and related practices](#)", *OECD Education Working Papers*, No. 293, Bouckaert, M. (2023)

TQ5. Intermediate Level: "I have some idea of the pros and cons of using generative AI for my teaching."

Feedback:

Optimize learning activities, testing activities and learning outcomes with AI tools.

Tips:

- Emphasize institutional AI guidelines with your students.
- Use AI tools in teaching, e.g., for efficient feedback via chatbots or to reduce workload by co-designing lesson plans with generative AI.
- Enhance your [prompt-engineering](#) skills to produce more accurate AI output. See:
 - Consult prompting libraries for inspiration.
 - Create learning activities and discussion forums where students can exchange AI experiences.
 - Encourage critical thinking about the pros and cons of AI. Have students analyze the AI's methodologies, content accuracy, and underlying biases.
 - Continuously improve AI-assisted teaching by analyzing, designing, implementing, and evaluating.

Read more:

VU Amsterdam reference(s):

[5 active learning activities to teach students to work with AI](#)

[ChatGPT is terrific - but at what costs?](#)

University of Amsterdam reference(s):

[Teaching and AI](#)

[Use cases](#)

[Developing AI guidelines](#)

[AI tools and your studies](#)

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Other reference(s):

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[The assessment of students' creative and critical thinking skills in higher education across OECD countries: A review of policies and related practices](#)", *OECD Education Working Papers*, No. 293, Bouckaert, M. (2023)

TQ5. Advanced Level: "I know how to benefit of the opportunities that generative AI offers to improve my teaching."

Feedback:

Revolutionize teaching practices with advanced AI tools.

Tips:

- Co-organize or participate in (e.g. monthly) brainstorming sessions
- Review case studies on AI integration in teaching.
- Co-develop advanced AI teaching tools and techniques.
- Conduct and publish research on AI's impact in education.
- Mentor colleagues on AI integration in teaching.

- Structurally evaluate how (generative) AI works with you and your students and how it influences thinking and learning.
- Create an AI coach for teacher development, supporting self-assessment, skill practice, and scenario simulations (e.g., addressing student needs or AI-related ethical dilemmas).

Read more:

VU Amsterdam reference(s):

[5 active learning activities to teach students to work with AI](#)

[ChatGPT is terrific - but at what costs?](#)

University of Amsterdam reference(s):

[Teaching and AI](#)

[Use cases](#)

[Developing AI guidelines](#)

[AI tools and your studies](#)

[How to formulate good prompts](#)

[Example prompts](#)

Other reference(s):

[Writing prompts](#) (University of Sydney)

[Students 'cheating' with Generative AI](#) (Podcast Education Technology Society by Neil Selwyn)

[The assessment of students' creative and critical thinking skills in higher education across OECD countries: A review of policies and related practices](#)", *OECD Education Working Papers*, No. 293, Bouckaert, M. (2023)

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

Q6. Increasing educational quality

Leverage AI tools to increase educational quality and student engagement through effective integration into teaching practices.

TQ6. Beginner Level: "I have no idea of how AI tools can be used to enhance my education."

Feedback:

Identify specific AI tools that can address your educational needs.

Tips:

- Experiment with AI for lesson design and share your experiences within your team.
- Explore specific AI tools that align with your teaching practices, and understand how they can enhance educational outcomes.
- Work with peer teachers and educational management to evaluate AI tools, decide on adoption, and curate a collection of trusted, validated AI tools
- Evaluate the impact on student engagement and learning outcomes to ensure educational quality, tailor adjustments also based on student feedback.
- Participate on institutional workshops on AI tools.

Read more:

VU Amsterdam reference(s):

[Stimulate deep reading and learning](#)

[Perusall vs FeedbackFruits, which tool should I use?](#)

[Panopto video](#)

[Tips and tricks from the ALP on AI and writing](#)

University of Amsterdam reference(s):

[List of GenAI tools](#) (UvA)

Other reference(s)

[AI for Teachers: an Open Textbook](#) (De La Higuera & Iyer, 2024)

TQ6. Intermediate Level: "I have some idea of the pros and cons of applying the AI tools I use for my teaching."

Feedback:

Identify specific AI tools that can address your educational needs.

Tips:

- Experiment further with AI for lesson design and share your experiences within your team.
- Explore more specific AI tools that align with your teaching practices, and understand how they can enhance educational outcomes.
- Evaluate the impact on student engagement and learning outcomes to ensure educational quality, tailor adjustments also based on student feedback.
- Participate on institutional workshops on AI tools.
- Start or join pilot programs to test new AI tools and gather feedback from students and colleagues.
- Experiment with AI for curriculum design, formulating questions, tests, or sample rubrics.

Read more:

VU Amsterdam reference(s):

[Stimulate deep reading and learning](#)

[Perusal vs FeedbackFruits, which tool should I use?](#)

[Panopto video](#)

[Tips and tricks from the ALP on AI and writing](#)

University of Amsterdam reference(s):

[List of GenAI tools](#) (UvA)

Other reference(s)

[AI for Teachers: an Open Textbook](#) (De La Higuera & Iyer, 2024)

TQ6. Advanced Level: "I know how to make the most of the opportunities that AI tools offer to improve my teaching."

Feedback:

Collaborate on efforts to develop and implement advanced AI tools that enhance teaching and learning.

Tips:

- Develop a continuous improvement plan based on regular evaluations and feedback from students and peers (e.g. by (co-) hosting an internal online environment.
- Publish your findings and reflections in news items and provide guidelines.
- Lead efforts to develop and implement advanced AI tools that significantly enhance teaching and learning.

- Publish research on best practices and the impact of AI on education.
- Mentor peers on the effective use of AI tools and collaborate with educational technology developers to create innovative solutions that foster educational quality.

Read more:

VU Amsterdam reference(s):

[Stimulate deep reading and learning](#)

[Perusall vs FeedbackFruits, which tool should I use?](#)

[Panopto video](#)

[Tips and tricks from the ALP on AI and writing](#)

University of Amsterdam reference(s):

[List of GenAI tools](#) (UvA)

Other reference(s):

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

[AI for Teachers: an Open Textbook](#) (De La Higuera & Iyer, 2024)

TQ7. Understanding algorithms

Acquire algorithm knowledge to use AI tools effectively and ensure reliability and fairness in your educational practice.

TQ7. Beginner Level: "I have no idea how the algorithms are built up within AI tools that I (might want to) use."

Feedback:

Watch tutorials and consult resources that explain AI algorithms in simple terms, make sure you understand their implications.

Tips:

- Focus on understanding the foundational concepts and gradually move to more complex aspects (e.g. see https://en.wikipedia.org/wiki/Artificial_intelligence)
- Participate in introductory courses or webinars on AI and machine learning (e.g. by attending Massive Online Open Courses (MOOC's))

Read more:

[Artificial intelligence](#) (Wikipedia)

[About algorithms](#) (Dutch government)

[What exactly is an algorithm?](#) (Video) (BBC)

TQ7. Intermediate Level: "I have some idea of how the algorithms are built up within AI tools that I (might want to) use."

Feedback:

Deepen your knowledge by taking advanced courses or certifications in AI.

Tips:

- Apply your knowledge to critically assess the AI tools you use and contribute to their development and improvement.
- Take advanced courses or certifications in AI.
- Critically assess AI tools and contribute to their development.
- Publish your findings and reflections in news items.

Read more:

[Artificial intelligence](#) (Wikipedia)

[About algorithms](#) (Dutch government)

[What exactly is an algorithm?](#) (Video) (BBC)

TQ7. Advanced Level: "I know how the AI algorithms are built up within AI tools that I (might want to) use."

Feedback:

Collaborate on advanced training programs on AI algorithms for educators and students.

Tips:

- Conduct and publish research on AI algorithm development and its implications for education.
- Collaborate with your institutional IT staff and or AI developers to enhance the transparency and efficacy of AI algorithms used in educational tools.
- Mentor colleagues on advanced AI algorithm concepts and their practical applications in teaching.
- Engage with technical documentation and research papers to fully understand the algorithms' workings and their implications.
- Conduct research and publish findings on AI algorithm development and its educational implications.
- Join or lead knowledge networks within your institute or at (inter)national level.

Read more:

[Artificial intelligence](#) (Wikipedia)

[About algorithms](#) (Dutch government)

[What exactly is an algorithm?](#) (Video) (BBC)

V. Diversity, non-discrimination and fairness

Unfair bias must be avoided, as it could have multiple negative implications, from the marginalization of vulnerable groups, to the exacerbation of prejudice and discrimination. Fostering diversity, AI systems should be accessible to all, regardless of any disability, and involve relevant stakeholders throughout their entire life circle.

TQ8. Ensuring fairness and inclusivity

Be aware of possible biases in generative AI to ensure fairness and inclusivity

TQ8. Beginner Level: "I have no idea that using generative AI can reinforce biases."

Feedback:

Educate yourself on AI biases.

Tips:

- Know your own biases and minimize its adverse effect on your teaching practice.
- Be mindful of biases of AI tools and their potential to exclude or marginalize persons with disabilities and students from vulnerable groups.
- Document instances of bias in AI tools, discuss and share them within your team and responsible agencies.
- Learn about common [AI biases](#), systematic and repeatable errors in a computer system that create “unfair” outcomes, such as “favoring” one category (e.g., people of a certain race, socioeconomic status, or gender)

Read more:

University of Amsterdam reference(s):

[Ethical issues with GenAI](#)

Other reference(s):

[Fairness and Bias in Artificial Intelligence: A Brief Survey of Sources, Impacts, and Mitigation](#) (Ferrara, 2023):

[Consider ethics](#) (University of Sydney)

TQ8. Intermediate Level: "I have some idea that the use of generative AI can reinforce biases."

Feedback:

Implement strategies to mitigate bias arising from AI use.

Tips:

- Incorporate bias mitigation strategies by using diverse materials that reflect different perspectives and critically assessing AI tools for potential biases.

- Create an inclusive environment by promoting equitable participation, using objective assessment criteria, and reflecting on your own biases to ensure fair teaching practices
- Collaborate with educators to develop best practices for bias detection.
- Facilitate classroom discussions on AI bias and its societal impact.
- Learn about common [AI biases](#), systematic and repeatable errors in a computer system that create “unfair” outcomes, such as “favoring” one category (e.g., people of a certain race, socioeconomic status, or gender)

Read more:

University of Amsterdam reference(s):

[Ethical issues with GenAI](#)

Other reference(s):

[Fairness and Bias in Artificial Intelligence: A Brief Survey of Sources, Impacts, and Mitigation](#) (Ferrara, 2023):

[The potential impact of Artificial Intelligence on equity and inclusion in education](#) (OECD, 2024)

[Consider ethics](#) (University of Sydney)

TQ8. Advanced Level: "I know possible biases that the use of generative AI entails."

Feedback:

Address systemic issues with comprehensive bias mitigation.

Tips:

- Reveal and report any evidence-based findings of biases or ethical risks.
- Conduct and publish research on AI biases.
- Mentor colleagues on bias detection techniques.
- Lead or collaborate in a AI development project and invite interdisciplinary collaboration on it, bringing together teachers, students and technologists to co-design an ethical AI tool that addresses a specific educational need.
- Collaborate with a community of co-creators to add functions to existing AI tools or design new ones to facilitate accessibility, targeting AI or digital learning platforms for people with disabilities.

Read more:

University of Amsterdam reference(s):

[Ethical issues with GenAI](#)

Other reference(s):

[Fairness and Bias in Artificial Intelligence: A Brief Survey of Sources, Impacts, and Mitigation](#) (Ferrara, 2023):

[The potential impact of Artificial Intelligence on equity and inclusion in education](#) (OECD, 2024)

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

[Consider ethics](#) (University of Sydney)

VI. Societal and environmental well-being

AI systems should benefit all human beings, including future generations. It must hence be ensured that they are sustainable and environmentally friendly. Moreover, they should take into account the environment, including other living beings, and their social and societal impact should be carefully considered.

TQ9. Understanding environmental implications of generative AI

Understand the environmental impact of generative AI usage.

TQ9. Beginner Level: "I have no idea what the environmental implications are of using generative AI."

Feedback:

Learn about AI's environmental impact.

Tips:

- Attend a workshops and or read articles and reports on the environmental impact of AI.
- Attend a workshop, online course or webinar on sustainability and AI.
- Opt for energy-efficient AI tools and practices, e.g. by choosing platforms that are known for their energy efficiency.
- Use generative AI only when it adds value; for simple information searches, use search engines as they produce fewer CO2 emissions than generative AI tools.

Read more:

[The Climate and Sustainability Implications of Generative AI](#) (Bashir et al., 2024) :

[Everyone must understand the environmental costs of AI](#) (OECD, 2024)

[Navigating the environmental impact of AI](#) (OECD, 2024)

TQ9. Intermediate Level: "I have some idea of the environmental implications of using generative AI."

Feedback:

Integrate a thoughtful use of AI use since its adverse implication for sustainability.

Tips:

- Adopt environmentally friendly AI practices by choosing AI tools that prioritize energy efficiency and minimizing data usage.
- Limit the use of AI only to essential tasks, and educate students about the environmental impact of AI, encouraging responsible and sustainable use of technology in the classroom.
- Stay updated on AI sustainability research, to deepen your understanding of Sustainability of AI and review how sustainability AI can be integrated into your teaching.
- Reduce your carbon footprint by adjusting AI use.
- Use generative AI only when it adds value; for simple information searches, use search engines as they produce fewer CO2 emissions than generative AI tools.

Read More:

[The Climate and Sustainability Implications of Generative AI](#) (Bashir et al., 2024)

[Everyone must understand the environmental costs of AI](#) (OECD, 2024)

[Navigating the environmental impact of AI](#) (OECD, 2024)

TQ9. Advanced Level: "I know environmental consequences of using generative AI."

Feedback:

Good that you are aware of the environmental consequences of GenAI and that you use it in such a way that you only use it when it is necessary.

Tips:

- Ensure knowledge sharing from which clear goals and actions can be identified.
- Co-develop sustainable AI practices within your faculty.
- Conduct and publish research on AI's environmental impact. Share your findings, also with your students.
- Collaborate with developers to create eco-friendly AI tools.
- Collaborate on policies that promote sustainability.
- Mentor colleagues on best practices for reducing the environmental footprint of AI usage.
- Integrate AI tools to support inclusive and sustainable futures.
- Develop a vision of how Sustainability AI can relate to your field of education and integrate this into your educational program.
- Lead or collaborate on an AI project involving educators, students and developers to jointly pursue tools that contribute to achieving the Sustainable Development Goals, see: <https://sdgs.un.org/goals>

Read More:

- The Climate and Sustainability Implications of Generative AI (Bashir et al., 2024) : <https://mit-genai.pubpub.org/pub/8ulgrckc/release/2>

- AI for Sustainable Development Goals (AI4SDGs) Think Tank : [https://www.ai-for-sdgs.academy/Everyone must understand the environmental costs of AI](https://www.ai-for-sdgs.academy/Everyone%20must%20understand%20the%20environmental%20costs%20of%20AI) (OECD, 2024)

[Navigating the environmental impact of AI](#) (OECD, 2024)

VII. Accountability

Mechanisms should be put in place to ensure responsibility and accountability for AI systems and their outcomes. Auditability, which enables the assessment of algorithms, data and design processes plays a key role therein, especially in critical applications. Moreover, adequate an accessible redress should be ensured.

TQ10. Evaluating effectiveness of AI applications

Evaluate the effectiveness of AI applications to ensure quality education.

TQ10. Beginner Level: "I do not evaluate the effectiveness of AI applications that I use in my teaching."

Feedback:

Start with basic evaluations by collecting feedback from students and monitoring their performance.

Tips:

- Develop simple metrics to measure the impact of AI on learning outcomes.
- Measure the time that you spend and win by using (generative) AI.

Read more:

[AI competency framework for teachers](#) (UNESCO)

[Guidance for generative AI in education and research](#) (UNESCO)

[A real-world test of artificial intelligence infiltration of a university examinations system: A "Turing Test" case study](#) (Scarfe et al, 2024)

TQ10. Intermediate Level: "I sometimes evaluate the effectiveness of AI applications that I use in my teaching."

Feedback:

Enhance AI integration with comprehensive evaluation frameworks.

Tips:

- Develop a fixed evaluation method for quality assurance and systematically discuss it with fellow teachers and your program director.
- Measure the time that you spend and (hopefully) win by using (generative) AI.

- Cooperate with peers or experts to examine whether the design of AI systems to determine its pedagogical implications.
- Understand and explain the key pedagogic assumptions to your students that underpin the AI tool you use.
- Implement a comprehensive evaluation framework e.g. to measure adherence to learning goals and students' experience
- Use your collected data to make informed decisions about AI usage.
- Use your evaluations to continuously improve your AI integration strategy.
- Share evaluation findings with the educational community to contribute to best practices and innovations in AI-enhanced teaching.
- Rethink what exactly should be learned and to what ends, and how learning is to be assessed and validated.
- Share your data with researchers, possible als to promote Scholarship of teaching and learning, see: https://en.wikipedia.org/wiki/Scholarship_of_teaching_and_learning

Read more:

[AI competency framework for teachers](#) (UNESCO)

[Guidance for generative AI in education and research](#) (UNESCO)

[A real-world test of artificial intelligence infiltration of a university examinations system: A "Turing Test" case study](#) (Scarfe et al, 2024)

Q10. Advanced Level: "I often evaluate the effectiveness of AI applications that I use in my teaching."

Feedback:

Drive AI tool refinement with advanced evaluation frameworks.

Tips:

- Develop advanced AI evaluation frameworks.
- Conduct and publish research on AI effectiveness.
- Mentor colleagues on AI evaluation best practices.
- Collaborate with AI developers to refine and enhance AI tools based on evaluation findings.
- Share your data with researchers, possible als to promote Scholarship of teaching and learning, see: https://en.wikipedia.org/wiki/Scholarship_of_teaching_and_learning

Read more:

[AI competency framework for teachers](#) (UNESCO)

[Guidance for generative AI in education and research](#) (UNESCO)

[A real-world test of artificial intelligence infiltration of a university examinations system: A “Turing Test” case study](#) (Scarfe et al, 2024)

Programme Director survey

I. Human Agency and Oversight

AI systems should empower human beings, allowing them to make informed decisions and fostering their fundamental rights. At the same time, proper oversight mechanisms need to be ensured, which can be achieved through human-in-the-loop, human-on-the-loop, and human-in-command approaches.

Q1. Empowering teachers to make informed decisions

Empower teachers to make informed decisions with proper oversight.

PDQ1. Beginner Level: "I don't ensure my teachers know where to get basic AI training."

Feedback: Start by familiarizing yourself with AI training resources.

Tips:

- Make sure you are familiar with the existing range of AI related teacher professionalization options offered by your institution.
- Conduct surveys to identify specific and or complementary AI training needs.
- Make sure that the range of AI tools that you make available or that you agree to use is in accordance with the guidelines of your faculty and institute.
- Encourage teachers to explore AI tools provided by your faculty and institution. Ensure focus on ethical considerations and practical applications.
- Invite your teachers to share their AI resources (tools, articles etc.) in a shared document, to gain insight into what they find important. Use this overview regularly to put points of interest on the agenda and have them present their findings in your team meeting.

Read more:

[Teaching and AI](#) (VU)

[AI competency framework for teachers](#) (UNESCO)

PDQ1. Intermediate Level: "I inform my teachers about AI training."

Feedback:

Provide ongoing training and resources about AI systems.

Tips:

- Integrate AI into professional development plans and educational evaluations.
- Partner with Centres for Teaching and Learning, departments or organizations offering up-to-date AI training resources for continuous professional development.

- Foster a community where teachers share their AI learning experiences or make use of existing communities within your program.
- Make sure you are aware of AI workshops being offered within your institution and encourage your teachers to attend them.
- Ensure you safeguard teachers' rights and accountability for AI use, aligned with your faculty and institutional policies.

Read more:

[AI competency framework for teachers](#) (UNESCO)

PDQ1. Advanced Level: "I ensure my teachers receive extensive AI training."

Feedback:

Maintain current practices and stay updated with AI advancements.

Tips:

- Share best practices within your network.
- Contribute to AI policy development.
- Implement peer-mentoring for advanced AI teachers to support and train less experienced colleagues.
- Suggest new AI tools to add to the institution list.

Read more:

[AI competency framework for teachers](#) (UNESCO)

II. Technical Robustness and safety

AI systems need to be resilient and secure. They need to be safe, ensuring a fall back plan in case something goes wrong, as well as being accurate, reliable and reproducible. That is the only way to ensure that also unintentional harm can be minimized and prevented.

PDQ2. Ensuring AI is safe and reliable

Ensure AI is safe and reliable way to ensure that unintentional harm can be minimized and prevented.

PDQ2. Beginner Level: "I never consult information on AI system safety."

Feedback:

Review resources on AI system robustness and safety.

Tips:

- Follow guidelines from relevant institutions for high-risk AI systems and participate in professional development focused on AI safety.

- Ensure all AI systems used in education meet international safety standards.
- Consult your teachers' and/or peer directors' reviews of AI tools.

Read more:

[Impact Assessment of the Regulation on Artificial intelligence](#) (EU, 2020)

PDQ2. Intermediate Level: "I sometimes check AI system safety information."

Feedback:

Frequently consult available information and stay updated with new developments.

Tips:

- Conduct systematic evaluations of AI system safety and ensure all AI tools are vetted for safety and reliability.
- Develop a comprehensive AI safety protocol that includes regular audits and updates based on the latest research.
- Actively engage with your network of fellow directors.
- Make it a priority to inform each other, share updates, collaborate on designs, and exchange experiences regularly.
- Regularly update your knowledge and practices.
- Share insights with peers and contribute to institutional efforts.
- Stay informed about the latest regulatory updates and advocate for policies prioritizing AI system safety in educational settings.
- Participate in formal networks that disseminate information about AI regulations.

Read more:

[Impact Assessment of the Regulation on Artificial intelligence](#) (EU, 2020)

PDQ2. Advanced Level: "I review AI system safety information with every new AI tool I use."

Feedback:

Conduct research, share knowledge, and mentor peers to champion sustainable AI practices within your educational community.

Tips:

- Ensure that AI tools within your program are validated for safety and robustness before they are used, consult your faculty or institutional AI regulations.
- Engage in thorough research to deepen your understanding of AI and sustainability
- Actively share your findings and knowledge with your colleagues
- Provide mentorship to peers to elevate their expertise.

- Act as an ambassador for sustainable AI practices within your institution and the broader educational community
- Advocate for responsible and effective AI integration.

Read more:

[Impact Assessment of the Regulation on Artificial intelligence](#) (EU, 2020)

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

Q3. Addressing system vulnerabilities

To prevent unintended harm, ensure AI is secure and reliable by identifying and addressing system vulnerabilities. Since AI can amplify bias and inequality, automated assessments may be inaccurate, and insecure systems can lead to privacy risks and access to sensitive data.

PDQ3. Beginner Level: "I do not have an idea of the potential vulnerabilities in AI systems."

Feedback:

Educate yourself on the basics of AI vulnerabilities.

Tips:

- Attend workshops or training sessions focused on AI system security.
- Start by identifying and documenting potential vulnerabilities in the AI tools you use.

Read more:

[Impact Assessment of the Regulation on Artificial intelligence](#) (EU, 2020)

PDQ3. Intermediate Level: "I have some idea of the potential vulnerabilities in AI systems."

Feedback:

Develop a regular assessment schedule for AI system vulnerabilities.

Tips:

- Use frameworks and or tools to identify and mitigate these vulnerabilities.
- Collaborate with your faculty or institutional IT professionals to ensure comprehensive coverage and response plans for any identified issues.
- Share your knowledge with your peers.
- Make sure that your program's policy is clear to teachers and students.

Read more:

[Impact Assessment of the Regulation on Artificial intelligence](#) (EU, 2020)

PDQ3. Advanced Level: "I know vulnerabilities in our AI systems."

Feedback:

Lead initiatives to develop and implement robust AI vulnerability management frameworks.

Tips:

- Conduct in-depth security audits and share findings with the broader educational community.
- Advocate for and contribute to the development of industry standards on AI system security.
- (Co-) Develop frameworks to detect vulnerabilities in AI.

Read more:

[Impact Assessment of the Regulation on Artificial intelligence](#) (EU, 2020)

III. Privacy and data governance

Besides ensuring full respect for privacy and data protection, adequate data governance mechanisms must also be ensured, taking into account the quality and integrity of the data, and ensuring legitimised access to data

PDQ4. Safeguarding privacy and data integrity

Safeguard privacy and data integrity with robust governance.

PDQ4. Beginner Level: "I have no idea about how data protection and GDPR relates to AI usage."

Feedback:

Understand the basics of data protection and GDPR in the context of AI applications.

Tips:

- Inform teachers about secure data storage and the importance of data protection in AI systems.
- Apply your institutional GDPR guidelines to ensure the protection of student data and the ethical use of AI.
- Ensure aligned with your institutional GDPR guidelines, the regulations from your faculty or institutional IT department and the AI tools used by your teachers.

Read more:

[The impact of the General Data Protection Regulation \(GDPR\) on artificial intelligence](#) (European Parliament, 2020)

[Ethical guidelines on the use of artificial intelligence \(AI\) and data in teaching and learning for Educators](#) (EU, 2022)

[EU AI Act \(EU, 2024\)](#)

[EU AI ACT Guide Dutch government, 2024](#) (Dutch)

PDQ4. Intermediate Level: "I have some idea about how data protection and GDPR relates to AI usage."

Feedback: Systematically enforce data protection and GDPR compliance in AI usage.

Tips:

- Regularly update practices for full compliance using available resources.
- Inform your teachers.
- Implement a robust data governance plan incorporating GDPR compliance measures tailored to AI use in education.
- Share best practices, and stay informed about the latest GDPR and AI compliance developments.

Read more:

[The impact of the General Data Protection Regulation \(GDPR\) on artificial intelligence](#) (European Parliament, 2020)

[Ethical guidelines on the use of artificial intelligence \(AI\) and data in teaching and learning for Educators](#) (EU, 2022)

[EU AI Act \(EU, 2024\)](#)

[EU AI ACT Guide Dutch government, 2024](#) (Dutch)

PDQ4. Advanced Level: "I know how data protection and GDPR relates to AI usage."

Feedback:

Continuously update your knowledge and strategies regarding data protection and GDPR in AI.

Tips:

- Collaborate on contribute to faculty and institutional policies for data governance in AI systems.
- Ensure that AI systems used in your program respect privacy and process data securely.
- Regularly review and update data protection policies to reflect new regulations and technological changes. E.g. by establishing a data monitoring team within your faculty to ensure ongoing compliance with data protection and ethical AI use.

Read more:

[The impact of the General Data Protection Regulation \(GDPR\) on artificial intelligence](#) (European Parliament, 2020)

[Ethical guidelines on the use of artificial intelligence \(AI\) and data in teaching and learning for Educators](#) (EU, 2022)

[EU AI Act \(EU, 2024\)](#)

[EU AI ACT Guide Dutch government, 2024](#) (Dutch)

IV. Transparency

The data, system and AI business models should be transparent. Traceability mechanisms can help achieving this. Moreover, AI systems and their decisions should be explained in a manner adapted to

the stakeholder concerned. Humans need to be aware that they are interacting with an AI system, and must be informed of the system's capabilities and limitations.

PDQ5. Ensuring transparency in AI teaching tools

Ensure transparency in AI teaching tools with traceable data and clear explanations of capabilities and limitations.

PDQ5. Beginner Level: "I have no idea of how generative AI can be used in teaching."

Feedback:

Develop awareness of the opportunities and threats generative AI poses to educational quality.

Tips:

- Consult teacher tips or your faculty or institutional guidelines.
- Explore applications of generative AI in teaching, experiment with AI tools, and gather feedback from educators and students.
- Introduce workshops on the foundational principles and limitations of generative AI in education.

Read more:

VU Amsterdam reference(s):

[5 active learning activities to teach students to work with AI](#)

[ChatGPT is terrific - but at what costs?](#)

University of Amsterdam reference(s):

[Teaching and AI](#)

[Use cases](#)

[Developing AI guidelines](#)

[AI tools and your studies](#)

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Other reference(s):

[Students 'cheating' with Generative AI](#) (Podcast Education Technology Society by Neil Selwyn)

Bouckaert, M. (2023), "The assessment of students' creative and critical thinking skills in higher education across OECD countries: A review of policies and related practices", *OECD Education Working Papers*, No. 293, OECD Publishing, Paris, <https://doi.org/10.1787/35dbd439-en>.

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

[AI+Education: How Large Language Models Could Speed Promising New Classroom Curricula](#) (Stanford, 2024)

[Gen AI strategies for Australian higher education: Emerging practice](#) (Australian Government, 2024)

[University of Sydney's AI assessment policy: protecting integrity and empowering students](#) (2024)

PDQ5. Intermediate Level: "I have some idea of how generative AI can be used in teaching."

Feedback:

Deepen your knowledge by integrating advanced applications of generative AI into the curriculum.

Tips:

- Stay updated with the latest research and innovations in AI teaching methodologies.
- Encourage participation in international forums and conferences on AI in education.
- Assess both benefits and potential risks to ensure responsible AI use.
- Update curriculum, learning outcomes and assessment.
- Share your expertise with colleagues

Read more:

VU Amsterdam reference(s):

[5 active learning activities to teach students to work with AI](#)

[ChatGPT is terrific - but at what costs?](#)

University of Amsterdam reference(s):

[Teaching and AI](#)

[Use cases](#)

[Developing AI guidelines](#)

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[Students 'cheating' with Generative AI](#) (Podcast Education Technology Society by Neil Selwyn)

Bouckaert, M. (2023), "The assessment of students' creative and critical thinking skills in higher education across OECD countries: A review of policies and related practices", *OECD Education Working Papers*, No. 293, OECD Publishing, Paris, <https://doi.org/10.1787/35dbd439-en>.

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

[AI+Education: How Large Language Models Could Speed Promising New Classroom](#)

[Curricula](#) (Stanford, 2024)

[Gen AI strategies for Australian higher education: Emerging practice](#) (Australian Government, 2024)

[University of Sydney's AI assessment policy: protecting integrity and empowering students](#) (2024)

PDQ5. Advanced Level: "I know how generative AI can be used in teaching."

Feedback:

Develop advanced AI teaching strategies to enhance educational quality while mitigating risks.

Tips:

- Regularly update your curriculum with the latest AI advancements and advocate for policies supporting the safe and beneficial integration of AI tools.
- Take the lead in formulating new learning outcomes from and in collaboration with (inter)national networks.
- Include or have included in your faculty AI policy that AI tools that are allowed for use should provide clear and transparent algorithms in order to provide traceable and explainable decisions on how output is created, ensuring its' accountability.
- Make sure that AI tools audits, that examine traceability and document the logic behind AI decision-making, are a permanent part of audits within your program.

Read more:

VU Amsterdam reference(s):

[5 active learning activities to teach students to work with AI](#)

[ChatGPT is terrific - but at what costs?](#)

University of Amsterdam reference(s):

[Teaching and AI](#)

[Use cases](#)

[Developing AI guidelines](#)

[AI tools and your studies](#)

[How to formulate good prompts](#)

[Example prompts](#)

Other reference(s):

[Students 'cheating' with Generative AI](#) (Podcast Education Technology Society by Neil Selwyn)

Bouckaert, M. (2023), "The assessment of students' creative and critical thinking skills in higher education across OECD countries: A review of policies and related practices", *OECD Education Working Papers*, No. 293, OECD Publishing, Paris, <https://doi.org/10.1787/35dbd439-en>.

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

[AI+Education: How Large Language Models Could Speed Promising New Classroom Curricula](#) (Stanford, 2024)

[Gen AI strategies for Australian higher education: Emerging practice](#) (Australian Government, 2024)

[University of Sydney's AI assessment policy: protecting integrity and empowering students](#) (2024)

PDQ6. Enhancing Teacher Engagement with AI

Ensure AI teaching tools are transparent, with traceable data and clear explanations, to enhance teacher engagement.

PDQ6. Beginner Level: "I have no idea of how AI tools can be used to engage teachers."

Feedback:

Start by exploring various AI tools designed to enhance teacher engagement.

Tips:

- Conduct small-scale trials and collect feedback from teachers to understand the impact of these tools on their teaching experience.
- Develop basic guidelines for effective use of AI in engaging teachers.
- Collaborate with experienced teachers to promote teacher engagement.

Read more:

[AI competency framework for teachers](#) (UNESCO, 2024)

PDQ6. Intermediate Level: "I have some idea of how AI tools can be used to engage teachers."

Feedback: Integrate AI tools into your regular training practices to enhance teacher engagement.

Tips:

- Share successful strategies and tools with colleagues to foster a collaborative learning environment.
- Regularly review and refine your methods based on teacher feedback and outcomes.
- Establish a minimum level of AI Literacy for your teachers.
- Determine the most important characteristics of AI use within curricula, including assessments.

Read more:

[AI competency framework for teachers](#) (UNESCO, 2024)

PDQ6. Advanced Level: "I know how AI tools can be used to engage teachers."

Feedback:

Lead initiatives to develop innovative AI-driven engagement strategies.

Tips:

- Mentor colleagues on best practices for using AI to enhance teacher engagement.
- Conduct and publish research on the effectiveness of AI tools in improving teacher engagement and teaching outcomes.

Read more:

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

[AI competency framework for teachers](#) (UNESCO, 2024)

PDQ7. Personalising learning with AI for Teachers

Ensure AI teaching tools are transparent, with traceable data and clear explanations, to support personalized learning for teachers. AI teaching tools include platforms for personalized learning, automated grading, virtual tutors, learning analytics, and content creation, designed to enhance teaching efficiency and student outcomes.

PDQ7. Beginner Level: "I have no experience using AI for personalized teacher training."

Feedback:

Start with familiarizing yourself with AI tools that offer personalized training experiences for teachers.

Tips:

- Participate in workshops or pilot programs to explore how these tools can be used to tailor professional development content to individual teacher needs.

Read more:

[AI competency framework for teachers](#) (UNESCO, 2024)

PDQ7. Intermediate Level: "I have some experience using AI for personalized teacher training."

Feedback:

Regularly use AI tools to personalize learning pathways for teachers.

Tips:

- Develop a structured approach to assess the effectiveness of these tools and refine your strategies based on data and feedback.
- Collaborate with other program directors to share insights and best practices.
- Gather feedback from teachers and adjust your approach accordingly.
- Establish a structured approach, including procedures and aligned with your faculty or institutional policies.

Read more:

[AI competency framework for teachers](#) (UNESCO, 2024)

PDQ7. Advanced Level: "I'm very experienced using AI for personalized teacher training."

Feedback:

Lead efforts to implement advanced personalized learning systems across your institution.

Tips:

- Share your expertise through workshops and training sessions.
- Conduct research on the impact of personalized AI learning and contribute to academic publications and policy development.

Read more:

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

[AI competency framework for teachers](#) (UNESCO, 2024)

V. Diversity, non-discrimination and fairness

Unfair bias must be avoided, as it could have multiple negative implications, from the marginalization of vulnerable groups, to the exacerbation of prejudice and discrimination. Fostering diversity, AI systems should be accessible to all, regardless of any disability, and involve relevant stakeholders throughout their entire life circle.

PDQ8. Being aware of AI and ethics

Avoid unfair bias to prevent marginalization and discrimination, ensuring AI systems foster diversity and accessibility.

PDQ8. Beginner Level: "I have no idea about ethical considerations related to AI use in education."

Feedback: Discuss the ethical implications of AI with teachers and explore case studies on ethical dilemmas.

Tips:

- Familiarize yourself with ethical guidelines and frameworks and develop strategies for addressing these issues.

Read more:

[Recommendation on the Ethics of Artificial Intelligence](#) (UNESCO, 2021)

[Opportunities, guidelines and guardrails for effective and equitable use of AI in education](#) (Discussion paper) (OECD, 2023)

[The potential impact of Artificial Intelligence on equity and inclusion in education](#)(working paper) (OECD, 2024)

[SURF Onderwijsdagen 2024 - Keynote Peter Paul Verbeek](#) (Dutch)

PDQ8. Intermediate Level: "I discuss the main ethical considerations of using AI in education with my teachers."

Feedback:

Deepen your engagement with ethical AI practices by integrating comprehensive ethical frameworks into your curriculum.

Tips:

- Encourage critical discussions on AI ethics, regularly update your knowledge with the latest developments, and develop a code of ethics for AI use in education, incorporating input from various stakeholders.

Read more:

[Recommendation on the Ethics of Artificial Intelligence](#) (UNESCO, 2021)

[Opportunities, guidelines and guardrails for effective and equitable use of AI in education](#) (Discussion paper) (OECD, 2023)

[The potential impact of Artificial Intelligence on equity and inclusion in education](#)(working paper) (OECD, 2024)

[SURF Onderwijsdagen 2024 - Keynote Peter Paul Verbeek](#) (Dutch)

PDQ8. Advanced Level: "I ensure ethically responsible use is central to our AI use."

Feedback:

Continuously update your knowledge and strategies on AI ethics.

Tips:

- Share expertise with peers, contribute to institutional AI ethics policies, and stay informed about the latest guidelines and practices.

- Conduct regular ethics audits of AI systems and practices, making results transparent to all stakeholders.

- Collaborate on faculty or institutional policies aimed at evaluating AI systems for inclusivity, fairness, and non-discrimination.

- Ensure the use of AI systems that have been validated for inclusivity, fairness, and non-discrimination, within your program.

Read more:

[Recommendation on the Ethics of Artificial Intelligence](#) (UNESCO, 2021)

[Opportunities, guidelines and guardrails for effective and equitable use of AI in education](#) (Discussion paper) (OECD, 2023)

[The potential impact of Artificial Intelligence on equity and inclusion in education](#)(working paper) (OECD, 2024)

[SURF Onderwijsdagen 2024 - Keynote Peter Paul Verbeek](#) (Dutch)

VI. Societal and environmental well-being

AI systems should benefit all human beings, including future generations. It must hence be ensured that they are sustainable and environmentally friendly. Moreover, they should take into account the environment, including other living beings, and their social and societal impact should be carefully considered.

PDQ9. Ensuring AI Systems are Environmentally Friendly and Socially Responsible

Ensure AI systems benefit current and future generations by being sustainable, environmentally friendly, and considering their social and societal impacts.

PDQ9. Beginner Level: "I have no idea about opportunities and threats of AI in the context of sustainability and social and societal impacts."

Feedback:

Make sure AI systems used within your program are designed with sustainability in mind, minimizing environmental impact and consider their social and societal impacts.

Tips:

- Start with online courses or webinars on AI and sustainability to understand the fundamental concepts and opportunities.
- Review case studies of AI applications in sustainability to see practical examples of benefits and challenges.
- Join professional groups or forums focused on AI and sustainability to connect with experts and stay updated on the latest developments.

Read more:

[Amsterdam AI, technology for people](#) (UvA, Amsterdam.AI)

[Towards social generative AI for education: theory, practices and ethics](#) (Sharples, 2023)

OECD (2023), AI and the Future of Skills, Volume 2: Methods for Evaluating AI Capabilities, Educational Research and Innovation, OECD Publishing, Paris, <https://doi.org/10.1787/a9fe53cb-en>

[Everyone must understand the environmental costs of AI](#) (OECD, 2024)

[Navigating the environmental impact of AI](#) (OECD, 2024)

Tuomi, I. Beyond Mastery: Toward a Broader Understanding of AI in Education. *Int J Artif Intell Educ* **34**, 20–30 (2024). <https://doi.org/10.1007/s40593-023-00343-4>

[Education in the age of artificial intelligence](#) (UNESCO, 2023)

[International Journal of Artificial Intelligence for Sustainable Development](#) (IRCAI, UNESCO)

PDQ9. Intermediate Level: "I have some idea about opportunities and threats of AI in the context of sustainability and social and societal impacts."

Feedback:

Focus on integrating sustainable and socially responsible AI practices into your program to ensure positive outcomes for both the environment and society.

Tips:

- Develop a vision and put into practice how AI for sustainability can be incorporated into your program.
- Partner with sustainability and AI experts to implement advanced AI solutions in educational contexts.
- Initiate and evaluate pilot projects within your program that use AI for sustainable practices, gathering data to refine and scale successful strategies.
- Engage in research on AI for sustainability initiatives and their long-term impacts within and outside your program.

Read more:

[Amsterdam AI, technology for people](#) (UvA, Amsterdam.AI)

[Towards social generative AI for education: theory, practices and ethics](#) (Sharples, 2023)

OECD (2023), AI and the Future of Skills, Volume 2: Methods for Evaluating AI Capabilities, Educational Research and Innovation, OECD Publishing, Paris, <https://doi.org/10.1787/a9fe53cb-en>

[Everyone must understand the environmental costs of AI](#) (OECD, 2024)

[Navigating the environmental impact of AI](#) (OECD, 2024)

Tuomi, I. Beyond Mastery: Toward a Broader Understanding of AI in Education. *Int J Artif Intell Educ* **34**, 20–30 (2024). <https://doi.org/10.1007/s40593-023-00343-4>

[Education in the age of artificial intelligence](#) (UNESCO, 2023)

[International Journal of Artificial Intelligence for Sustainable Development](#) (IRCAI, UNESCO)

PDQ9. Advanced Level: "I anticipate opportunities and threats of AI in the context of sustainability and social and societal impacts."

Feedback:

Ensure your AI-based education initiatives within your program are best practices of sustainability, balancing innovation with environmental responsibility and social and societal impact impact, also for the benefits of future generations.

Tips:

- Lead the development of AI-driven sustainability projects.

- Advocate for and help shape policies that promote sustainable AI practices at institutional and governmental levels.
- Publish insights and case studies on the successful integration of AI and sustainability to inspire the broader educational community.

Read more:

[Amsterdam AI, technology for people](#) (UvA, Amsterdam.AI)

[Towards social generative AI for education: theory, practices and ethics](#) (Sharples, 2023)

OECD (2023), AI and the Future of Skills, Volume 2: Methods for Evaluating AI Capabilities, Educational Research and Innovation, OECD Publishing, Paris, <https://doi.org/10.1787/a9fe53cb-en>

[Everyone must understand the environmental costs of AI](#) (OECD, 2024)

[Navigating the environmental impact of AI](#) (OECD, 2024)

Tuomi, I. Beyond Mastery: Toward a Broader Understanding of AI in Education. *Int J Artif Intell Educ* **34**, 20–30 (2024). <https://doi.org/10.1007/s40593-023-00343-4>

[Education in the age of artificial intelligence](#) (UNESCO, 2023)

[International Journal of Artificial Intelligence for Sustainable Development](#) (IRCAI, UNESCO)

VII. Accountability

Mechanisms should be put in place to ensure responsibility and accountability for AI systems and their outcomes. Auditability, which enables the assessment of algorithms, data and design processes plays a key role therein, especially in critical applications. Moreover, adequate and accessible redress should be ensured.

PDQ10. Evaluating AI Effectiveness

Ensure responsibility and accountability for AI systems by implementing mechanisms for auditability, crucial for evaluating AI effectiveness in education.

PDQ10. Beginner Level: "I do not evaluate the effectiveness and impact of AI systems."

Feedback:

Set up basic evaluation frameworks for assessing AI systems.

Tips:

- Use simple metrics to measure effectiveness and gather feedback from teachers and students.

Read more:

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

[Responsibility as a practice - Bridging the gap between academia and reality](#) (SURF, 2024)

PDQ10. Intermediate Level: "I sometimes assess the impact and effectiveness of AI systems."

Feedback:

Implement comprehensive and systematic evaluation methods for AI systems.

Tips:

- Ensure evaluations are integrated into your educational strategy, using a mix of qualitative and quantitative data to assess AI tool effectiveness, involving diverse stakeholder feedback.
- Pilot projects to gather initial data on the impact of AI systems using straightforward evaluation tools.

Read more:

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

[Responsibility as a practice - Bridging the gap between academia and reality](#) (SURF, 2024)

PDQ10. Advanced Level: "I often evaluate the effectiveness and impact of AI systems."

Feedback:

Lead initiatives to develop advanced AI evaluation frameworks.

Tips:

- Conduct regular assessments during audits to ensure that AI tools are used ethically and responsibly by teachers within your program.
- Collaborate on the development of a clear accountability structure for your faculty or institution's AI policy, outlining goals, constraints, roles, and responsibilities, ensuring that human accountability remains central to AI decision-making.
- Conduct research on AI effectiveness in education, mentor colleagues on best practices for AI evaluation, and collaborate with AI developers to refine tools based on findings.
- Publish AI system evaluation findings in academic journals and share best practices with the educational community.

Read more:

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

[Responsibility as a practice - Bridging the gap between academia and reality](#) (SURF, 2024)

Faculty Board Member Survey

I. Human Agency and Oversight

AI systems should empower human beings, allowing them to make informed decisions and fostering their fundamental rights. At the same time, proper oversight mechanisms need to be ensured, which can be achieved through human-in-the-loop, human-on-the-loop, and human-in-command approaches.

FBQ1. Understanding AI in Education

Ensure to understand AI, so that you are able to implement AI systems aimed at the empowerment of your staff and students, allowing them to make informed decisions while safeguarding their fundamental rights.

FBQ1. Beginner Level: "I have no idea about how to facilitate AI Literacy among program directors."

Feedback:

Continuous learning and informing program directors is essential in an educational landscape rapidly changed by AI.

Tips:

- Consult online courses or books that explain AI fundamentals in simple terms.
- Promote interactive activities like hands-on workshops
- Follow reputable AI blogs, journals, and news sites to keep up with the latest developments.
- Join small AI projects to gain practical experience and deeper understanding.
- Find a mentor with experience in AI training to guide you and provide valuable insights.

Read more:

[International Research Centre on Artificial Intelligence](#) (UNESCO)

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

[Centre for Educational Research and Innovation](#) (CERI, OECD)

[Responsibility as a practice - Bridging the gap between academia and reality](#) (SURF, 2024)

FBQ1. Intermediate Level: "I have some idea about how to facilitate AI Literacy among program directors."

Feedback:

Your understanding of how to facilitate AI literacy among program directors is commendable. Make sure to further develop your skills to enhance your effectiveness.

Tips:

- Deepen your knowledge of AI fundamentals by enrolling in advanced courses and reading comprehensive literature on the subject.
- Familiarize yourself with real-world AI use cases across various industries to understand its practical applications, be able to provide relevant examples.
- Practice explaining complex AI concepts in clear and simple terms to ensure that program directors with non-technical backgrounds can easily understand the essence and implications.
- Evaluate AI's impact on learning outcomes to foster informed decisions
- Follow reputable AI blogs, journals, and news sources to stay informed about the latest developments and advancements in the field.
- Initiate small AI projects to gain practical experience, which will enhance your understanding and provide you with concrete examples to share during training sessions.
- Identify and collaborate with experienced AI professionals or seek mentorship to gain insights and guidance that can improve your training programs.
- Participate in workshops and seminars focused on advanced AI applications in education to expand your expertise.
- Embed AI Literacy in (senior) qualification programs focused on educational leadership programs for the attention of program directors.

Read more:

[International Research Centre on Artificial Intelligence](#) (UNESCO)

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

[Centre for Educational Research and Innovation](#) (CERI, OECD)

[Responsibility as a practice - Bridging the gap between academia and reality](#) (SURF, 2024)

FBQ1. Advanced Level: "I know how to facilitate AI Literacy among program directors."

Feedback:

Great that you have the knowledge to facilitate AI literacy among program directors. Enhance your effectiveness to ensure increase your impact.

Tips:

- Deepen your knowledge of AI by exploring cutting-edge research and emerging technologies to stay ahead.
- Tailor training sessions to address the specific needs and challenges faced by program directors.
- Leverage data and analytics to measure the effectiveness of training programs and ensure continuously improvement.
- Encourage program directors to participate in AI pilot projects.

- Stay connected with the AI community through conferences, webinars, and professional networks to exchange insights and best practices.
- Develop a repository of AI resources, including case studies, articles, and tools, to support ongoing learning and application.
- Foster a culture of continuous learning by providing opportunities for program directors to engage in advanced AI courses and certifications.
- Lead research initiatives to assess the effectiveness of AI tools in educational settings and share your findings to promote best practices.
- Encourage interdisciplinary research collaborations to foster innovative AI solutions in education.
- Advise the executive board and/or executive board existing advisory bodies. Actively work on (revising) the institutional/faculty education vision and the institutional plan.

Read more:

[International Research Centre on Artificial Intelligence](#) (UNESCO)

[Guidance for generative AI in education and research](#) (UNESCO, 2023)

[Centre for Educational Research and Innovation](#) (CERI, OECD)

[Connecting the dots in trustworthy Artificial Intelligence: From AI principles, ethics, and key requirements to responsible AI systems and regulation](#) (Díaz-Rodríguez et al., 2023)

[Responsibility as a practice - Bridging the gap between academia and reality](#) (SURF, 2024)

FBQ2. Be involved in the development of AI policy

Policies for implementing AI systems should empower staff and students, enabling informed decision-making while safeguarding their fundamental rights.

FBQ2. Beginner Level: "I am not involved in AI policy"

Feedback:

Engage with AI policy development to stay informed about its implications and contribute to your institution's strategic direction.

Tips:

- Gain practical experience in various AI applications.
- Engage actively in AI policy discussion groups to increase your contribution and influence. Understanding the ethical, inclusive, and equitable use of AI in education is essential for effective policy-making.
- Participate in webinars and forums to stay informed about global AI policy trends.
- Attend introductory workshops or seminars on AI policy to build foundational knowledge.
- Consult AI policy documents and guidelines from reputable sources.

- Join relevant committees or working groups within your institution to observe and gradually participate in discussions about AI policy.
- Network with colleagues who are already involved in AI policy to learn from their experiences and insights.
- Stay updated with the latest developments in AI policy by following relevant news sources and publications.

Read more:

[AI and education: guidance for policy-makers](#) (UNESCO, 2021)

[European AI Office](#) (EU, 2024)

[Artificial Intelligence and Education](#) (Council of Europe)

[Artificial Intelligence and the Future of Teaching and Learning](#) (U.S. Department of Education, 2023)

[National Educational Technology Plan](#) (U.S. Department of Education, 2024)

[AI regulation in Latin America: Balancing global trends with local realities](#) (IAPP, 2023)

[How generative AI is reshaping education in Asia-Pacific](#) (UNESCO, 2024)

[University policies on generative AI in Asia](#) (Dai et al., 2024)

[Generative AI guidelines at South African universities](#) (African Observatory, 2022)

[Looking into the crystal ball: Artificial intelligence policy and regulation in Africa](#) (ECDPM, 2023)

FBQ2. Intermediate Level: "I am somewhat involved in AI policy"

Feedback:

Your involvement in AI policy is commendable; deepening your engagement and understanding will further enhance your contribution and influence.

Tips:

- Contribute to AI policy development meetings, providing valuable insights based on your experience.
- Collaborate with stakeholders across disciplines to develop comprehensive AI policies.
- Develop policy briefs and position papers to articulate your institution's stance on AI in education.
- Participate actively in policy discussions and contribute your perspectives and expertise.
- Take advanced courses or attend conferences focused on AI policy to expand your knowledge.
- Collaborate with interdisciplinary teams to understand the broader implications of AI policy on various aspects of your institution.
- Develop a strategic plan for AI policy implementation that aligns with your institution's goals and objectives.
- Advocate for the inclusion of AI policy topics in faculty meetings and decision-making processes.

Read more:

[AI and education: guidance for policy-makers](#) (UNESCO, 2021)

[European AI Office](#) (EU, 2024)

[Artificial Intelligence and Education](#) (Council of Europe)

[Artificial Intelligence and the Future of Teaching and Learning](#) (U.S. Department of Education, 2023)

[National Educational Technology Plan](#) (U.S. Department of Education, 2024)

[AI regulation in Latin America: Balancing global trends with local realities](#) (IAPP, 2023)

[How generative AI is reshaping education in Asia-Pacific](#) (UNESCO, 2024)

[University policies on generative AI in Asia](#) (Dai et al., 2024)

[Generative AI guidelines at South African universities](#) (African Observatory, 2022)

[Looking into the crystal ball: Artificial intelligence policy and regulation in Africa](#) (ECDPM, 2023)

FBQ2. Advanced level: "I am fully involved in AI policy"

Feedback:

Lead AI policy initiatives, mentor colleagues, publish insights, establish partnerships, and continuously improve AI policies to stay ahead and effective.

Tips:

- Lead initiatives to develop and refine AI policy guidelines that address both challenges and opportunities.
- Mentor colleagues in AI policy development, especially those less experienced, to build a knowledgeable and capable team while staying informed about the latest regulations and best practices.
- Publish articles or white papers on AI policy to share your insights and contribute to the broader academic and professional community.
- Establish partnerships with external organizations, including industry leaders and policymakers, to stay at the forefront of AI policy developments.
- Continuously evaluate and improve your institution's AI policies to ensure they remain relevant and effective in a rapidly evolving landscape. Involve and ensure representatives of all stakeholders involved, including students.
- Consider to establish an AI ethics committee to oversee policy implementation.

Read more:

[AI and education: guidance for policy-makers](#) (UNESCO, 2021)

[European AI Office](#) (EU, 2024)

[Artificial Intelligence and Education](#) (Council of Europe)

[Artificial Intelligence and the Future of Teaching and Learning](#) (U.S. Department of Education, 2023)

[National Educational Technology Plan](#) (U.S. Department of Education, 2024)

[AI regulation in Latin America: Balancing global trends with local realities](#) (IAPP, 2023)

[How generative AI is reshaping education in Asia-Pacific](#) (UNESCO, 2024)

[University policies on generative AI in Asia](#) (Dai et al., 2024)

[Generative AI guidelines at South African universities](#) (African Observatory, 2022)

[Looking into the crystal ball: Artificial intelligence policy and regulation in Africa](#) (ECDPM, 2023)

II. Technical Robustness and safety

AI systems need to be resilient and secure. They need to be safe, ensuring a fall back plan in case something goes wrong, as well as being accurate, reliable and reproducible. That is the only way to ensure that also unintentional harm can be minimized and prevented.

FBQ3. Evaluating the Impact AI

Apply metrics for evaluating AI's impact on learning outcomes, wellbeing, safety, accuracy, reliability, and reproducibility of output.

FBQ3. Beginner Level: "I don't apply metrics to evaluate AI's impact"

Feedback:

Evaluating AI's impact is crucial for understanding its effectiveness and ensuring it aligns with your institution's goals.

Tips:

- Identify key performance indicators (KPIs) relevant to your AI initiatives.
- Take introductory courses on data analytics and statistics to build your foundational skills.
- Use simple metrics to measure the effectiveness of AI in education.
- Collaborate with colleagues who have expertise in metrics and evaluation to learn best practices.
- Gradually implement basic evaluation tools and software to begin collecting and analysing data.
- Use analytics tools to track student performance and engagement more comprehensively.

Read more:

[Connecting the dots in trustworthy Artificial Intelligence: From AI principles, ethics, and key requirements to responsible AI systems and regulation](#) (Díaz-Rodríguez et al., 2023)

FBQ3. Intermediate Level: "I apply some metrics to evaluate AI's impact"

Feedback:

Further refinement and expansion of your approach can provide deeper insights into AI's impact.

Tips:

- Combine qualitative and quantitative metrics to get a holistic view of AI's impact.
- Explore the use of data visualization tools to better communicate your findings.
- Consider conducting controlled experiments or pilot studies to test AI initiatives more rigorously.
- Establish continuous feedback systems to regularly improve the implementation and outcomes of AI tools.
- Ensure that AI applications meet needs of your staff and students.

Read more:

[Connecting the dots in trustworthy Artificial Intelligence: From AI principles, ethics, and key requirements to responsible AI systems and regulation](#) (Díaz-Rodríguez et al., 2023)

FBQ3. Advanced Level: "I apply a lot of metrics to evaluate AI's impact"

Feedback:

Further enhance your practices by incorporating qualitative data, fostering interdisciplinary collaboration, and updating methodologies with the recent AI research advancements.

Tips:

- Stay updated with the latest advancements in AI evaluation techniques by attending conferences and reading relevant literature.
- Share your evaluation strategies and results with peers to contribute to a culture of data-driven decision-making.
- Mentor colleagues who are less experienced in using metrics to evaluate AI's impact.
- Consider incorporating machine learning techniques to enhance your data analysis and predictive capabilities.
- Continuously refine and validate your metrics to ensure they remain relevant and accurate in measuring AI's impact.
- Share your successful strategies and outcomes with other institutions to foster broader improvements in AI usage.
- Publish white papers and case studies to document and disseminate your findings.
- Develop dashboards to visualize key metrics and trends for better decision-making.

Read more:

[Connecting the dots in trustworthy Artificial Intelligence: From AI principles, ethics, and key requirements to responsible AI systems and regulation](#) (Díaz-Rodríguez et al., 2023)

III. Privacy and data governance

Besides ensuring full respect for privacy and data protection, adequate data governance mechanisms must also be ensured, taking into account the quality and integrity of the data, and ensuring legitimised access to data

FBQ4. Ensuring basic privacy and data protection in AI applications

With regard to the use of AI in Education; Ensure full respect for privacy and data protection, by implementing adequate data management mechanisms, taking into account the quality and integrity of the data and that legitimate access to it.

FBQ4. Beginner Level: "I don't ensure basic privacy and data protection in AI applications."

Feedback:

It's essential to implement fundamental data management mechanisms to ensure the privacy and protection of data in AI applications.

Tips:

- Ask privacy and IT experts what basic information is relevant to your role.
- Ensure full respect for privacy and data protection while implementing AI tools.
- Implement basic data governance mechanisms to ensure the quality and integrity of the data being used.
- Familiarize yourself with privacy regulations and ensure all data collected is handled responsibly.
- Provide basic AI and data protection training for all faculty members to ensure everyone is aware of privacy protocols related to AI systems.

Read more:

[EU AI Act \(EU, 2024\)](#)

[EU AI ACT Guide Dutch government, 2024](#) (Dutch)

FBQ4. Intermediate Level: "I ensure some privacy and data protection in AI applications through comprehensive data management strategies".

Feedback:

Enhance your effectiveness, focus on integrating more advanced AI data protection technologies and foster a culture of data security within the faculty.

Tips:

- Experiment with new AI tools and methodologies while maintaining data governance standards.
- Ensure that data is collected, stored, and processed in compliance with privacy regulations.
- Regularly review and update data protection policies to address evolving privacy concerns and maintain data integrity.
- Develop and implement AI data security awareness programs for faculty and students.
- Regularly review and update your AI data management policies to incorporate new technologies and best practices.

- Conduct regular audits of your AI data management processes to identify and address potential vulnerabilities.
- Stay updated with local and international AI data protection regulations.

Read more:

[EU AI Act \(EU, 2024\)](#)

[EU AI ACT Guide Dutch government, 2024](#) (Dutch)

FBQ4. Advanced Level: "I establish advanced privacy and data protection frameworks with robust data governance for AI applications "

Feedback:

Ensure continuous improvement of your exemplary advanced frameworks for privacy and data protection in AI through innovative practices and strategic partnerships.

Tips:

- Conduct workshops to train administrative staff on effective AI tool integration, emphasizing the importance of privacy and data governance.
- Develop comprehensive data governance frameworks to ensure legitimized access to data, maintaining high standards for data quality and integrity.
- Promote transparency in data handling processes and establish robust mechanisms to monitor compliance with privacy regulations.
- Implement advanced AI data protection tools such as encryption and intrusion detection systems.
- Collaborate with other institutions and industry experts to stay ahead of emerging AI threats and best practices.
- Invest in AI research to proactively address future data protection challenges.

Read more:

[EU AI Act \(EU, 2024\)](#)

[EU AI ACT Guide Dutch government, 2024](#) (Dutch)

IV. Transparency

The data, system and AI business models should be transparent. Traceability mechanisms can help achieving this. Moreover, AI systems and their decisions should be explained in a manner adapted to the stakeholder concerned. Humans need to be aware that they are interacting with an AI system, and must be informed of the system's capabilities and limitations.

FBQ5. Understanding AI Ethics

Ensure transparency of data, systems, and AI business models, enabling you to clearly explain their working and implications to your stakeholders.

FBQ5. Beginner Level: "I'm not familiar with AI ethics principles."

Feedback:

It's crucial to understand AI ethics principles to ensure the responsible use of AI in educational settings.

Tips:

- Register for specialized courses on AI ethics to deepen your understanding and application of ethical principles in AI.
- Review ethical guidelines and frameworks to guide your AI implementation.
- Consult introductory resources such as articles, books, or online courses that explain the basics of AI ethics.
- Familiarize yourself with core concepts like fairness, transparency, accountability, and privacy in AI.
- Attend seminars or workshops focused on AI ethics to gain foundational knowledge.
- Engage in discussions with knowledgeable colleagues to learn from their insights and experiences.
- Reflect on the ethical implications of AI applications you encounter in your professional environment.
- Begin exploring how AI ethics principles are incorporated into educational policy and regulations.
- Ensure educational innovation with AI in accordance with the EU AI ACT*

Read more:

* [EU AI Act: first regulation on artificial intelligence](#)

[The AI Act – what is the impact on education? \(webinar in Dutch\)](#) (Npuls, Dutch National Growth Fund programme by and for all public vocational and education training schools, universities of applied sciences and research universities in The Netherlands.)

[EU AI Act: What it means for universities](#) (Digital Education Council)

[Recommendation on the Ethics of Artificial Intelligence](#) (UNESCO, 2021)

[Ethics of Artificial Intelligence](#) (UNESCO)

[A call for a vision and a policy](#) (DUB, UU, 2024)

[Gen AI strategies for Australian higher education: Emerging practice](#) (Australian Government, 2024)

[SURF Onderwijsdagen 2024 - Keynote Peter Paul Verbeek](#) (Dutch)

FBO5. Intermediate Level: "I'm aware of AI ethics in educational contexts."

Feedback:

Expand your understanding of AI ethics to increase quality education.

Tips:

- Develop and share case studies on the application of AI ethics within your institution to promote ethical practices.
- Addressing data ethics and algorithmic biases is essential.
- Create ethics checklists and audit tools to ensure compliance with ethical standards.
- Read case studies and research papers on AI ethics in education to see real-world applications and challenges.
- Participate in professional development opportunities that focus on ethical AI practices. Integrate ethical considerations into your decision-making processes for AI-related projects.
- Collaborate with interdisciplinary teams to explore the broader ethical implications of AI in education.
- Advocate for including AI ethics discussions in faculty meetings and curriculum planning.
- Engage with policymakers to understand how AI ethics are addressed at the institutional and governmental levels, and seek opportunities to contribute to policy development.
- Ensure educational innovation with AI in accordance with the EU AI ACT*

Read more:

* [EU AI Act: first regulation on artificial intelligence](#) (EU)

[The AI Act – what is the impact on education? \(webinar in Dutch\)](#) (Npuls, Dutch National Growth Fund programme by and for all public vocational and education training schools, universities of applied sciences and research universities in The Netherlands.)

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[Gen AI strategies for Australian higher education: Emerging practice](#) (Australian Government, 2024)

[SURF Onderwijsdagen 2024 - Keynote Peter Paul Verbeek](#) (Dutch)

FBQ5. Advanced Level: "I establish advanced privacy and data protection frameworks, to protect sensitive educational data in AI applications."

Feedback:

Implementing your frameworks will help maintain data quality and integrity.

Tips:

- Lead forums and discussions on emerging AI ethics issues, fostering a culture of ethical awareness and practice.
- Promote inclusive and equitable AI practices and share best practices
- Develop and implement an AI ethics policy that outlines standards and procedures for ethical AI use.
- Establish a continuous improvement process for AI data protection practices, incorporating feedback from regular assessments and audits.
- Collaborate with other institutions and experts to benefit from opportunities of AI to enhance education, while minimizing risks of AI
- Invest in AI research to proactively address future data protection challenges.
- Ensure educational innovation with AI in accordance with the EU AI ACT*

Read more:

[*EU AI Act: first regulation on artificial intelligence](#)

[The AI Act – what is the impact on education? \(webinar in Dutch\)](#) (Npuls, Dutch National Growth Fund programme by and for all public vocational and education training schools, universities of applied sciences and research universities in The Netherlands.)

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[SURF Onderwijsdagen 2024 - Keynote Peter Paul Verbeek](#) (Dutch)

V. Diversity, non-discrimination and fairness

Unfair bias must be avoided, as it could have multiple negative implications, from the marginalization of vulnerable groups, to the exacerbation of prejudice and discrimination. Fostering diversity, AI systems should be accessible to all, regardless of any disability, and involve relevant stakeholders throughout their entire life circle.

FBQ6. Avoiding bias and ensuring accessibility

AI systems must be designed to avoid bias, ensuring accessibility for all and involving relevant stakeholders throughout their lifecycle to foster diversity and prevent marginalization and discrimination.

FBQ6. Beginner Level: "I don't know how to prevent bias in AI systems and/or how to ensure accessibility for everyone."

Feedback:

Understanding and addressing bias and ensuring accessibility in AI systems are fundamental for creating equitable and inclusive education.

Tips:

- Attend training sessions focused on understanding and mitigating bias in AI systems.
- Ensure that AI tools and support materials are accessible to all colleagues, including those with disabilities.
- Promote the principles of diversity and non-discrimination in your support activities, ensuring that AI tools are used fairly and inclusively.
- Learn about the basics of AI ethics, bias, and accessibility through online courses and introductory articles.
- Familiarize yourself with common sources of bias in AI and the impact they can have on marginalized groups.
- Attend workshops and seminars on AI ethics and accessibility to gain foundational knowledge.
- Engage with resources from organizations focused on AI ethics.
- Collaborate with colleagues who have experience in AI ethics to learn from their insights and practices.

Read more:

[Opportunities, guidelines and guardrails for effective and equitable use of AI in education](#) (Discussion paper) (OECD, 2023)

[The potential impact of Artificial Intelligence on equity and inclusion in education](#)(working paper) (OECD, 2024)

FBQ6. Intermediate Level : "I am aware of the importance of avoiding bias and ensuring accessibility in AI systems."

Feedback:

Deepening your understanding and applying practical measures will further decrease bias and increase access for everyone.

Tips:

- Continue to educate yourself on advanced topics related to AI ethics, understanding algorithms and bias reduction, and accessibility.
- Implement basic measures to mitigate bias
- Ensure that your AI projects adhere to established ethical guidelines and standards.

- Promote discussions on bias and accessibility within your team or department to foster a culture of awareness.
- Seek feedback from diverse stakeholders to identify and address potential biases in AI systems.
- Create comprehensive AI support materials and tutorials that emphasize the importance of avoiding unfair bias.
- Develop training programs that focus on the ethical use of AI and the need to foster diversity.
- Involve diverse stakeholders in the development and evaluation of AI support initiatives to ensure broad accessibility and fairness.

Read more:

[Opportunities, guidelines and guardrails for effective and equitable use of AI in education](#) (Discussion paper) (OECD, 2023)

[The potential impact of Artificial Intelligence on equity and inclusion in education](#)(working paper) (OECD, 2024)

FBQ6. Advanced Level: "I actively implement AI systems that avoid bias, ensure accessibility for all."

Feedback:

By implementing AI systems that avoid bias and ensure accessibility for all, you foster an inclusive and ethical learning environment; share your knowledge and insights with others.

Tips:

- Stay updated with the latest research and advancements in AI ethics, bias mitigation, and accessibility.
- Attend advanced workshops, seminars, and conferences to continuously enhance your knowledge and share with your team members.
- Implement a routine schedule for comprehensive audits and impact assessments to ensure that your AI systems remain free from bias and are accessible.
- Engage with a wider range of stakeholders, including underrepresented groups, to gain diverse perspectives and insights.
- Utilize advanced metrics and tools to measure and analyze bias and accessibility in your AI systems.
- Collaborate with other institutions, organizations, and experts in the field of AI ethics.
- Share your experiences, methodologies, and successes through publications, conferences, and internal training sessions to contribute to the broader community and inspire your peers.
- Mentor and train colleagues on best practices for avoiding bias and ensuring accessibility in AI systems.
- Encourage a culture of continuous learning and ethical awareness within your team

- Lead the development and implementation of comprehensive policies and guidelines for ethical AI within your institution. Ensure these policies are regularly reviewed and updated to reflect the latest standards and practices.
- Develop a structured AI support program that incorporates principles of diversity, non-discrimination, and fairness.
- Ensure that AI systems are designed and implemented to avoid marginalizing vulnerable groups and to promote inclusion.
- Regularly review AI initiatives to identify and address any potential biases, and involve a diverse group of stakeholders throughout the AI system's lifecycle.

Read more:

[Opportunities, guidelines and guardrails for effective and equitable use of AI in education](#) (Discussion paper) (OECD, 2023)

[The potential impact of Artificial Intelligence on equity and inclusion in education](#)(working paper) (OECD, 2024)

FBQ7. Facilitating AI Support Processes

Facilitating AI support processes is crucial for the enhancement of teaching quality, to foster professional development, to support innovative research, to ensure ethical and inclusive AI use and to help the institute take advantage of unprecedented opportunities.

FBQ7. Beginner Level: " I do not facilitate AI support processes for my colleagues."

Feedback:

Facilitating AI support processes is essential for enhancing teaching quality, fostering professional development, and preparing your institution for future technological advancements.

Tips:

- Learn about the potential benefits of AI in education through articles, webinars, and workshops; also to improve your understanding of how to identify and avoid unfair biases in AI.
- Engage with your colleagues to understand their needs and challenges regarding AI integration.
- Identify basic AI tools that can benefit faculty and arrange introductory training sessions.
- Advocate for AI support as a priority in faculty meetings and strategic planning sessions.
- Ensure that data collection and processing methods promote equity and fairness.
- Develop a basic understanding of how to make AI tools accessible to all users, regardless of disability.

Read more:

[Policies, data and analysis for trustworthy artificial intelligence](#) (OECD)

FBQ7. Intermediate Level: "I facilitate some AI support processes for my colleagues."

Feedback:

Further expand your efforts to empower your colleagues.

Tips:

- Develop a more structured and comprehensive plan for AI support.
- Gather feedback from your colleagues to identify areas where AI support can be improved and expanded
- Create a centralized repository of AI resources, such as tutorials, case studies, and best practices.
- Encourage your colleagues to share their AI experiences and successes to promote a culture of collaboration and continuous learning.
- Stay updated with the latest AI advancements
- Document standard operating procedures that include guidelines for preventing bias and ensuring accessibility for all users.

Read more:

[Policies, data and analysis for trustworthy artificial intelligence](#) (OECD)

FBQ7. Advanced Level: "I facilitate a lot of AI support processes for my colleagues."

Feedback:

Further improve your effort by innovating, mentoring, organizing advanced training, regularly reviewing strategies, and documenting success stories.

Tips:

- Continue to innovate and expand your AI support programs by incorporating the latest AI developments and best practices.
- Organize advanced workshops and seminars with external AI experts to provide deeper insights and training.
- Regularly review and update your AI support materials and strategies to ensure they remain effective and relevant.
- Document and share success stories and the impact of your AI support initiatives to inspire others and demonstrate their value.
- Establish a continuous feedback loop with your colleagues to identify emerging needs and tailor support accordingly.
- Foster collaborations with AI experts and industry partners to bring in fresh perspectives and advanced knowledge.

- Share your successful strategies for promoting diversity and fairness in AI support with the broader educational community.
- Collaborate on AI innovations that enhance accessibility and inclusivity.

Read more:

[Policies, data and analysis for trustworthy artificial intelligence](#) (OECD)

FBQ8. Participating in AI Support Training

Participate in training about AI in education, to make informed strategic decisions, to promote innovative and ethical AI implementation that advance education and community.

FBQ8. Beginner Level: "I have not participated in AI education training."

Feedback:

Participating in AI education training is essential for understanding how AI can enhance teaching, research, and administration in your faculty.

Tips:

- Start by exploring introductory AI courses and webinars to build foundational knowledge.
- Engage with colleagues who have experience in AI to understand its practical applications in education.
- Set aside time to attend AI training sessions offered by reputable institutions or organizations.
- Read articles and case studies on how AI is being used in educational contexts to familiarize yourself with its benefits and challenges.
- Encourage a culture of continuous learning by initiating discussions about AI during faculty meetings.
- Regularly attend AI training sessions that focus on diversity, non-discrimination, and fairness.
- Continuous professional development should include learning about the impact of bias and how to foster inclusivity in AI systems.
- Encourage peer learning and discussions on how to make AI tools accessible to all.

Read more:

[Towards an Effective Digital Education Ecosystem](#) (OECD, 2023)

[Education GPS](#) (OECD)

FBQ8. Intermediate Level: "I have attended some AI education training sessions and have a basic understanding of AI implementation in education."

Feedback:

Deepening your understanding and application of AI can contribute to achieving and enriching your institution's objectives.

Tips:

- Pursue advanced AI courses that cover ethical considerations, including avoiding bias and promoting diversity.
- Training should address how to design and implement AI systems that are accessible to everyone.
- Seek certifications in AI ethics and fairness to enhance your qualifications.
- Apply what you've learned by initiating small AI projects within your faculty to demonstrate AI's potential benefits.
- Collaborate with colleagues to share insights and best practices learned from your training sessions.
- Stay updated with the latest advancements in AI by attending conferences and joining professional AI networks.
- Provide feedback to training organizers to help tailor future sessions to better meet your faculty's needs.

Read more:

[Towards an Effective Digital Education Ecosystem](#) (OECD, 2023)

[Education GPS](#) (OECD)

FBQ8. Advanced Level: "I actively participate in AI education training and lead initiatives to implement and promote ethical and innovative AI practices within the institution."

Feedback:

Your active participation and leadership in AI education training contribute to the advancement of AI practices within your institution; to improve further, continue to innovate, mentor colleagues, organize advanced workshops, and establish partnerships with AI experts.

Tips:

- Develop and implement new AI training programs that emphasize the importance of diversity, non-discrimination, and fairness.
- Invite experts to lead sessions on mitigating bias and fostering inclusivity in AI systems.
- Regularly evaluate the effectiveness of training programs and update them to address emerging challenges related to fairness and accessibility.
- Continue to innovate by integrating the latest AI developments and best practices into your initiatives.
- Mentor other faculty members to foster a broader understanding and implementation of AI across your institution.
- Organize advanced workshops and seminars with external AI experts to provide deeper insights and training.

- Regularly review and update your AI strategies and materials to ensure they remain effective and relevant.
- Document and share success stories and the impact of your AI initiatives to inspire and educate others within your institution and beyond.
- Establish partnerships with AI experts and industry leaders to bring in new perspectives and advanced knowledge.
- Implement a feedback loop to continually assess and improve the effectiveness of AI training and implementation strategies.

Read more:

[Towards an Effective Digital Education Ecosystem](#) (OECD, 2023)

[Education GPS](#) (OECD)

VI. Societal and environmental well-being

AI systems should benefit all human beings, including future generations. It must hence be ensured that they are sustainable and environmentally friendly. Moreover, they should take into account the environment, including other living beings, and their social and societal impact should be carefully considered.

FBQ9. Exploring AI Applications in Education

AI systems should be sustainable, environmentally friendly, and consider their social and societal impacts to benefit all humans, including future generations.

FBQ9. Beginner Level: "I am not incorporating sustainability and social impact considerations into AI system implementations."

Feedback:

Incorporating sustainability and social impact considerations into AI implementations is essential for ensuring long-term benefits and ethical use of technology.

Tips:

- Experiment with basic AI tools to better understand their potential and limitations while ensuring they are environmentally friendly and socially beneficial.
- Focus on AI applications that promote sustainability and have minimal negative impact on the environment.
- Start with simple AI applications that help reduce resource usage and improve operational efficiency.
- Educate yourself on the principles of sustainable and ethical AI through courses, articles, and seminars.
- View case studies and best practices to learn how AI applications can contribute to sustainability and well-being.

- Identify one or two AI related projects where you can introduce basic sustainability and social impact assessments.
- Engage with experts in sustainability and ethics to understand how these considerations can be integrated into AI projects and advocate for the importance of these considerations in faculty meetings and strategic planning sessions.

Read more:

[Amsterdam AI, technology for people](#) (UvA, Amsterdam.AI)

[Towards social generative AI for education: theory, practices and ethics](#) (Sharples, 2023)

OECD (2023), AI and the Future of Skills, Volume 2: Methods for Evaluating AI Capabilities, Educational Research and Innovation, OECD Publishing, Paris, <https://doi.org/10.1787/a9fe53cb-en>

[Everyone must understand the environmental costs of AI](#) (OECD, 2024)

[Navigating the environmental impact of AI](#) (OECD, 2024)

Tuomi, I. Beyond Mastery: Toward a Broader Understanding of AI in Education. *Int J Artif Intell Educ* **34**, 20–30 (2024). <https://doi.org/10.1007/s40593-023-00343-4>

[Education in the age of artificial intelligence](#) (UNESCO, 2023)

[International Journal of Artificial Intelligence for Sustainable Development](#) (IRCAI, UNESCO)

[Small language models \(SLMs\): A cheaper, greener route into AI](#) (UNESCO)

FBO9. Intermediate Level: "I am aware of the importance of sustainability and social impact in AI systems and have started to integrate these considerations into some projects."

Feedback:

Expand your efforts to integrate sustainability and social impact into AI projects.

Tips:

- Implement pilot projects to test new AI applications, considering their societal and environmental impacts.
- Gather data on the effectiveness of these applications in promoting sustainability and social well-being.
- Use pilot results to make data-driven decisions about scaling AI initiatives, ensuring they benefit all stakeholders, including future generations.
- Develop a structured plan to consistently incorporate sustainability and social impact assessments in all AI projects.
- Collaborate with colleagues and departments focused on environmental science and social ethics to broaden your perspective.
- Create guidelines and checklists to ensure all AI projects are evaluated for their sustainability and societal impacts. Attend advanced training and workshops to deepen your understanding and

application of these principles. Share your experiences and successes within your faculty and institution to encourage wider adoption of these practices.

Read more:

[Amsterdam AI, technology for people](#) (UvA, Amsterdam.AI)

[Towards social generative AI for education: theory, practices and ethics](#) (Sharples, 2023)

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[Small language models \(SLMs\): A cheaper, greener route into AI](#) (UNESCO)

[Released the first issue of The Journal of Artificial Intelligence for Sustainable Development](#) (IRCAI, UNESCO)

[Journal of Artificial Intelligence for Sustainable Development \(JAISD\)](#) (NAIXUS Network)

FBQ9. Advanced Level: "I actively ensure that all AI systems are sustainable, environmentally friendly, and consider their social and societal impacts in every implementation."

Feedback:

Your active efforts to ensure AI systems are sustainable, environmentally friendly, and socially responsible are interesting for others to follow. To improve; continue innovating, mentor colleagues and establish formal policies.

Tips:

- Publish your findings on AI applications that enhance societal and environmental well-being, and collaborate with other institutions to drive innovation and improvement.
- Focus on developing AI solutions that are sustainable, environmentally friendly, and socially responsible.
- Participate in AI research conferences and networks to stay at the forefront of developments that prioritize the well-being of all living beings and future generations.
- Continue to innovate by exploring cutting-edge sustainable AI technologies and methodologies.
- Mentor and train other faculty members to help them integrate sustainability and social impact considerations into their AI projects.

- Establish formal policies and frameworks within your institution to mandate sustainability and social impact assessments for all AI projects.
- Organize and lead workshops, seminars, and conferences to share best practices and foster a culture of sustainability and ethical AI use.
- Regularly review and update your practices to stay aligned with the latest developments and standards in sustainable and ethical AI.
- Document and publish your methods and successes to contribute to the broader academic and professional community, inspiring others to follow your lead.

Read more:

[Amsterdam AI, technology for people](#) (UvA, Amsterdam.AI)

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VII. Accountability

Mechanisms should be put in place to ensure responsibility and accountability for AI systems and their outcomes. Auditability, which enables the assessment of algorithms, data and design processes plays a key role therein, especially in critical applications. Moreover, adequate an accessible redress should be ensured.

FBQ.10 Ensuring responsibility and accountability for AI

Ensure responsibility and accountability for AI systems by investing in faculty knowledge and ownership, focusing on algorithm audits, data assessment, and accessible redress mechanisms.

FBQ10. Beginner Level: "I am not involved in ensuring responsibility and accountability for AI systems within my faculty."

Feedback:

Ensuring responsibility and accountability for AI systems is crucial for maintaining ethical standards, trust in technology, and compliance with regulations within your institution.

Tips:

- Learn about AI governance frameworks and how they apply to your institution's AI practices.
- Familiarize yourself with the principles of auditability to enable the assessment of algorithms, data, and design processes.
- Learn about the basics of AI ethics and accountability through introductory courses and resources.
- Engage with colleagues who have experience in AI to understand current practices and challenges.
- Identify areas where responsibility and accountability can be integrated into existing AI projects.
- Advocate for the importance of AI accountability in faculty meetings and strategic discussions.
- Participate in workshops and seminars focused on AI ethics to build a foundational understanding.

Read more:

[Coordinated Plan on Artificial Intelligence](#) (EU, 2018)

[Ethics guidelines for Trustworthy AI](#) (EU, 2019)

[Communication on boosting startups and innovation in trustworthy artificial intelligence](#) (EU, 2024)

[University of Sydney's AI assessment policy: protecting integrity and empowering students](#) (2024)

FBQ10. Intermediate Level: "I have started investing in faculty knowledge and ownership for AI systems."

Feedback:

Expand your efforts to promote responsibility and accountability for AI systems to further enhance their effectiveness.

Tips

- Participate in policy-making groups focused on AI governance to influence and shape effective governance practices.
- Develop mechanisms to ensure responsibility and accountability for AI systems and their outcomes.
- Engage in developing processes for regular audits and assessments of AI systems.
- Ensure that mechanisms for accountability are in place, including clear procedures for addressing any issues that arise from AI applications.
- Develop a structured plan to consistently integrate algorithm audits and data assessments into all AI projects.

- Collaborate with other departments and experts to gain diverse perspectives and enhance your approach.
- Provide training and resources to faculty members to deepen their understanding of AI accountability.
- Implement regular review sessions to evaluate the effectiveness of your current practices and identify areas for improvement.
- Encourage open discussions and feedback from your colleagues to continuously refine and improve AI accountability measures.

Read more:

[Coordinated Plan on Artificial Intelligence](#) (EU, 2018)

[Ethics guidelines for Trustworthy AI](#) (EU, 2019)

[Communication on boosting startups and innovation in trustworthy artificial intelligence](#) (EU, 2024)

[University of Sydney's AI assessment policy: protecting integrity and empowering students](#) (2024)

FBQ10. Advanced Level: "I actively ensure responsibility and accountability for AI systems used within my faculty."

Feedback:

Further strengthen your efforts by continuing to innovate, mentor colleagues, establish formal policies, and document and share best practices.

Tips:

- Develop comprehensive AI governance policies that include robust mechanisms for responsibility and accountability.
- Implement auditability measures to regularly assess algorithms, data, and design processes, particularly in critical applications.
- Ensure that there are accessible redress mechanisms in place for stakeholders to address grievances and issues related to AI outcomes.
- Establish oversight committees to continuously monitor AI systems and ensure compliance with governance standards.
- Continue to innovate by exploring advanced techniques and best practices for algorithm audits and data assessments.
- Mentor other faculty members to help them implement comprehensive accountability measures in their AI projects.
- Establish formal policies and frameworks to standardize AI accountability practices across your institution.

- Organize advanced workshops and seminars with external experts to provide deeper insights and training.
- Regularly review and update your accountability practices to ensure they remain effective and relevant.
- Document and share success stories and best practices to inspire and guide others in the broader academic community.
- Foster collaborations with industry leaders and policymakers to stay informed about the latest developments and integrate them into your practices.

Read more:

[Coordinated Plan on Artificial Intelligence](#) (EU, 2018)

[Ethics guidelines for Trustworthy AI](#) (EU, 2019)

[Communication on boosting startups and innovation in trustworthy artificial intelligence](#) (EU, 2024)

[University of Sydney's AI assessment policy: protecting integrity and empowering students](#) (2024)

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About the Author



'If education is the most powerful weapon for change, it is time to strengthen it, using technology—thoughtfully.'

Luuk Terbeek

[Luuk Terbeek](#), MSc, is specialised in blended learning and the integration of Artificial Intelligence (AI) in education. He currently serves as project leader AI in Education at the VU Amsterdam and the University of Amsterdam. Luuk chairs the AI in Education working groups of both institutions.

Central theme of Luuk's career is enhancing education through the effective use of ICT. Over 25 years ago, he developed a course internet for children and conducted research on the value of computer games in primary math education. A pivotal moment in his early career occurred during an email exchange between his class in the Netherlands and a class of a peer student in Australia, where children asked questions like, "Does it snow at your place too?", while it was high summer in the Netherlands. Experiences like these made Luuk realise the transformative potential of ICT to connect students worldwide, enhancing (not only) educational experiences.

Building on this early inspiration, Luuk deepened his expertise in ICT as a consultant and studied Educational Sciences. He spent a decade in the Dutch e-learning industry, serving as project leader in the field of learning and development and networked learning. Furthermore, Luuk was a board member of the Simulation and Gaming Association The Netherlands (SAGANET) and the Dutch Moodle user group (Ned-Moove). He volunteered for Open Learning Exchange Nepal (OLE Nepal), contributing to the implementation of Moodle in the One Laptop Per Child (OLPC) initiative. In addition, Luuk co-founded the SURF Special Interest Group Blended Learning, which he co-chaired for several years, a community that still exists today (900+ members). Subsequently, he participated in the Dutch national programme 'The Acceleration Plan', within the zone evidence-informed educational innovation with ICT. The last ten years, Luuk has focused on the didactic implementation of learning management systems and blended learning, delivering numerous presentations and leading strategic projects. For many years, Luuk developed and taught the blended learning design course for the university teacher training program at VU Amsterdam. Within this course, students used the [VU Amsterdam Blended Learning Design \(BLD\) template](#) developed by Luuk (available as an Open Educational Resource). Blended learning became the subject of his PhD research, which he has temporarily paused to dedicate himself fully to advance AI in education.

In recent years, Luuk has been working increasingly internationally, leading multi-year innovative educational projects including a Blended Learning program for Gaziantep University, Türkiye and the Blended Learning and AI program for Royal Thimphu College, Bhutan. The rationale for these collaborations is simple, according to Luuk: 'Learning from and with each other, as humans, remains essential and is now more relevant than ever'.