Assessment within the era of Artificial Intelligence

Lidija Kralj, Education Analyst and Adviser

AI magic?

- Students enjoy an innovative and engaging experience.
- AI will make the teacher role more exciting

- Enjoyable, quick and efficient AI-driven testing and feedback
- Teacher dashboard lets you know everything that happens in your class during activities

- AI can be 100% objective and accurate

How would you in ONE WORD describe assessment supported with AI?

Word cloud

Menti.com

code 3253 6556

AI can be defined as "automation based on associations."

When computers automate reasoning based on associations in data (or associations deduced from expert knowledge), two shifts fundamental to AI occur and shift computing beyond conventional edtech:

(1) from capturing data to *detecting patterns* in data and

(2) from providing access to instructional resources to *automating decisions* about instruction and other educational processes.

Detecting patterns and automating decisions are leaps in the level of responsibilities that can be delegated to a computer system. The process of developing an AI system may lead to bias in how patterns are detected and unfairness in how decisions are automated.

U.S. Department of Education: Artificial Intelligence and the Future of Teaching and Learning

AI-driven approaches to assessment

- **Automated grading** saves teachers' time and enables consistent and objective assessment.
- **Plagiarism** detection holds students accountable for their work by identifying instances of plagiarism.
- **Predictive analytics** uses AI to forecast student performance based on their past assessments and coursework. Identify factors that are likely to lead to success or failure.
- **Assessment analytics** analyses data from summative assessments to evaluate students' learning progress and identify knowledge gaps.
- **Item analysis** examines the effectiveness of individual assessment questions.

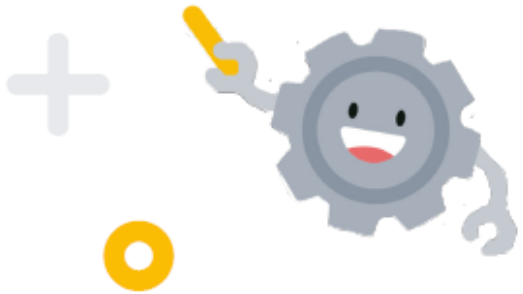
Differentiation within Assessments

AI support for differentiation

- **Adaptive assessments**: AI algorithms can analyse data on students' responses to assessment questions to adjust the difficulty level of subsequent questions, ensuring that each student is challenged appropriately and accurately assessed.
- Use AI with an **existing assessment to differentiate** it for different students, levels of complexity, etc
- Create **multiple types of assessments** and let students choose their method.
- Use AI to create **targeted formative assessments** for students with learning differences. Start with the AI-generated assessment and then **YOU** modify it for the individual student.

SINGAPORE

Student Learning Space



Adaptive Learning System (ALS)

AVAILABLE NOW FOR P5 MATH

ALS is an AI-enabled system which recommends customised learning pathways for each student by analysing their responses to learning content and questions.

Data Insights

Mastery of prerequisites

Students' preferences and learning needs

Responses to learning content

Learning Pathways

Content

Assessment

Accessing Adaptive Learning

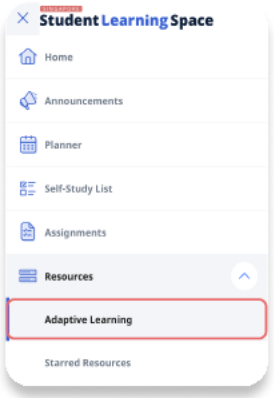
SINGAPORE Student Learning Space

1 Select Adaptive Learning
under Resources

2 Set Learning Goals
You will be asked some questions for the AI system to get to know you better, and find out your goals.

3 Start Learning!
You will now receive customised learning recommendations.

For Students



ACCESS FOR P5 TEACHERS
Experience ALS by switching to your student account!
You must be a teacher of a P5 Math class in school cockpit to access ALS.

ALS supports students' self-directed learning by giving them guided choices about what, how and how fast they learn.

	Teacher-directed	Self-directed	Self-directed (adaptive)	
In SLS	assignments	MOE Library/ class group resources	Adaptive Learning System	
Content*	customised to the needs of the class or groups	personalised	personalised and guided	Student chooses among recommended topics, content adapts to student's readiness
Agency*	teacher-facilitated	student-driven	student-driven	Student sets learning goals and modes
Pace*	determined by teacher	determined by student	guided by system based on student mastery	

*in general

Using Learning Progress Dashboard

Monitor students' learning in the ALS and decide on appropriate interventions:

Monitor by class or by individual student

identify learning gaps and address them in class

set further practices or provide remediation for students who have not mastered specific subtopics

group students by readiness levels and assign differentiated activities

STAY TUNED!
ALS will be expanded to more levels and subjects over time.

Educational Technology Division
Ministry of Education

European Commission

SINGAPORE

Student Learning Space

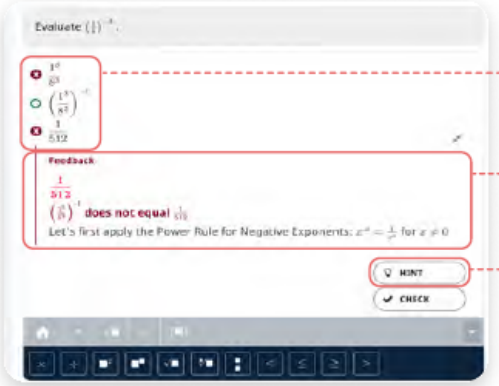
Features for Math Learning

SLS has introduced two features to enhance the Teaching & Learning of Mathematics!

Feedback Assistant - Mathematics (FA-Math)

AVAILABLE NOW

FA-Math provides line-by-line immediate feedback to students' workings, and marks for a wide variety of question types.



each step is evaluated

custom feedback

hint available

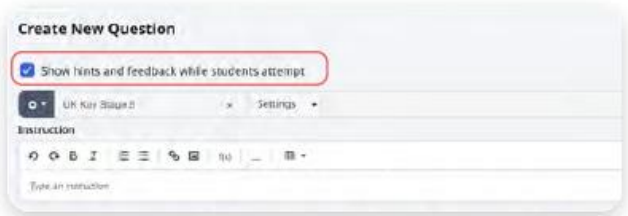
Question Types

- Geometry and Graphs
- Written Arithmetic
- Arithmetic Notebook
- Number Line
- Multistep

and more...

#Assess_with_SLS
#Self-Study_with_SLS

How you can use FA-Math



Immediate Feedback

☑ Show hints and feedback while students attempt

Students receive line-by-line feedback and can view hints as they attempt questions.

This allows scaffolding to be provided to students who may require more help.

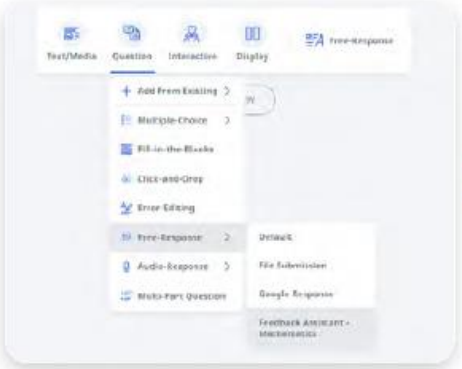
Delayed Feedback

☐ Show hints and feedback while students attempt

Students are provided feedback only **after** completing the lesson.

This allows students to attempt questions on their own first, before checking back to learn from their mistakes.

Adding FA-Math to Questions



OR

1 Access via Questions in Component Bar

Select Free-Response then Feedback Assistant - Mathematics

1 Access via Free-Response Question

☑ Use and select Feedback Assistant - Mathematics

☑ Marks

2 Select x=?

Explore how to add various question types and generate similar questions by randomising variables (e.g. number values) through our user guide. Search #FA_Math in SLS Community Gallery for sample questions on "*Numbers and their operations*" from our question bank! More topics coming soon!

Educational Technology Division
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European Commission

Chatbots as shortcuts or helpers

- chatGPT offers a short-cut to those who are short on time. Are you *unknowingly* pushing students to take short-cuts? Most of us try to cram too much into our teaching already.
- Students may find conversing with an AI tutor less intimidating than asking questions in class. This could increase engagement.
- Test Prep: AI assist to tailor study plans and materials based on a student's individual learning preferences and progress, leading to more effective study sessions.
- Students may be vulnerable to manipulation or inappropriate conduct from AI systems.

Create Authentic Assessments Using an AI Chatbot

Authentic Assessment Prompt

- You are an expert teacher, proficient in developing authentic assessments that enable students to develop and exhibit their learning. Create [number] authentic assessments for my [grade level and subject] students studying [topic]. These tasks should emphasize real-world application, complex tasks, varied response formats, and meaningful feedback. The assessments should engage students and effectively demonstrate their learning, as well as enhance their skills and understanding of the subject in meaningful ways. Be thoughtful and unique, do not include [insert any remaining specifications].

https://www.aiforeducation.io/prompts/authentic-assessments

Rethinking assessment

- Consider the entire program of learning rather than focusing on individual assessment in isolation. Clear understanding of how each assessment contributes to the learning objectives of a particular subject or program.
- Ensure that the principles of quality assessment are consistently applied across all assessments for a cohesive and comprehensive learning and assessment experience.
- Make exams meaningful and motivating to the students with authentic tasks (topic, specific case, ways of showing knowledge)
- Make the assessments low-stakes and repetitive, throughout the school year. The resource-intensiveness of traditional assessment methods made it difficult to host assessments frequently.
- Mixing new and old concepts and approaches, with a minimum grade that needs to be achieved each week/month.
- Exam count for a small amount of the overall grade.

Assesment literacy

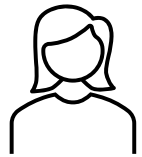
- Developing quality assessment
- Designing and constructing assessment tasks
- Creating and using marking guides
- Providing accessible assessment
- Quality assurance and effective planning
- Using feedback
- Making meaning from assessment data.

Effective feedback

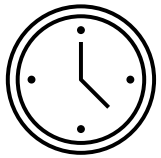
- Feed-up = Where am I going?
- Feed-back = How am I doing?
- Feed-forward = Where to next?

Design assessment that guides students in demonstrating their learning in valid ways and promotes academic integrity

Potential good practice of using AI for feedback



Personalised: Feedback can be tailored to each learner's specific goals and can help them identify areas where they need to improve.



Immediate: AI can provide learners with immediate feedback on their performance, allowing them to make adjustments to their learning strategies in real-time. This can help learners to stay motivated and engaged, as they can see the impact of their efforts immediately.

Multimodal: AI can provide feedback in a variety of formats, including text, audio, and video. This can help learners to engage with the feedback in a way that is most meaningful to them and can help to reinforce learning.

Potential good practice of using AI for feedback

Actionable: feedback that provides specific and concrete suggestions or steps that can be taken to improve or address a particular situation or performance.

Interactive: AI-powered systems can provide learners with interactive feedback that allows them to engage with the feedback in a more meaningful way. For example, learners may be able to ask questions or receive additional information about specific concepts or topics.

Detailed: AI-powered systems can provide learners with detailed feedback on their performance, including specific areas where they need to improve and suggestions for how to do so. This can help learners to better understand their strengths and weaknesses and develop more effective study strategies..

Lovely scenario

OR NOT

- Another key benefit of using AI in assessment is that companies and education providers get access to massive amounts of advanced data analytics.
- Educators can leverage advanced data insights to understand learning and skill gaps and improve the quality of learning resources and assessment content.

What do you think?

Menti.com code 3253 6556

Ethical questions

- Collecting large amounts of data - academic and personal
  - Who has access, how long, for what purposes, right to be forgotten?
  - Are you sharing students' data with AI systems?
- Personalization of learning
  - Are we guiding or limiting learning?
- Automatic assessment
  - Can we foresee all correct answers; can we automatically grade everything?
  - Is there a difference between computer's feedback and teacher's feedback
- Predictions of failure
  - Self-fulfilling prophecy, limited by past results?

What bad could happen?

Not a fairytale

- If the feedback provided by the AI system is used to grade a student's work, it could indirectly influence his academic records, which could further affect his access to educational or vocational opportunities.
- It could influence the classes student is placed in or the support he/she receives. This can be positive, but it also holds a risk if the AI system makes incorrect assessments due to biases or inaccuracies in the algorithms.

What bad could happen?

Not a fairytale

- While the use of AI for formative assessment can be considered a limited risk, its use for high-stakes assessment could be more problematic if it extends beyond well-established objective formats such as multiple-choice questions into grading more open-ended type assessments, such as essays and reports.
- In all high-risk areas, it is essential to ensure that AI systems are developed and used responsibly, with particular attention paid to the accuracy and fairness of their decisions, as well as the respect of privacy rights.

Possible scenario

Before you say yes...

- To support and personalise education, the school decided to implement AI-powered automated grading systems. These systems could assess a variety of assignments, from multiple-choice quizzes to written essays and oral presentations.
- The AI grading system not only reduced teacher workload, but also provided students with timely and consistent feedback, as it also identified patterns in student performance, highlighting areas where additional support might be needed.
- The AI system also played a key role in personalising learning for each student. It tracked students' progress, identified their strengths and weaknesses, and tailored learning materials accordingly.
- For example, the AI-enabled learning management system would recommend additional resources for a student struggling with maths or suggest advanced content for a student excelling in science. It could also provide tailored tutoring support outside the classroom.

THE ETHICAL GUIDELINES **ON THE USE OF AI AND DATA IN TEACHING AND LEARNING** FOR EDUCATORS

ETHICAL CONSIDERATIONS AND REQUIREMENTS
TO FORMULATE GUIDING QUESTIONS FOR EDUCATORS

4 key considerations...

Key considerations that underpin the ethical use of AI and data in teaching, learning, and assessment:

- Human agency
- Fairness
- Humanity
- Justified choice

7 key requirements...

Based on the AI HLEG Ethics Guidelines for Trustworthy AI (ALTAI):

- Human agency and oversight
- Transparency
- Diversity
- Non-discrimination and fairness
- Societal and environmental well-being
- Privacy and data governance
- Technical robustness and safety
- Accountability

European Comission (2022), Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for Educators

THE ETHICAL GUIDELINES **ON THE USE OF AI AND DATA IN TEACHING AND LEARNING** FOR EDUCATORS

What do they include?

Examples of AI and data use in education

- to teach students
- to support their learning
- to support teachers
- to support diagnostic or system-wide planning

Ethical considerations and requirements

to refer when starting or processing a project based on AI and data

Guiding questions

and approach to raise the awareness and community engagement and plan for effective use of AI and data in school

Emerging competences

for ethical use of AI and data

Glossary terms applied to education

EU policy overview on AI

and the regulatory framework as well as further information

European Comission (2022), Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for Educators

1 Human Agency and Oversight

- Is the teacher role clearly defined so as to ensure that there is a teacher in the loop while the AI system is being used? How does the AI system affect the didactical role of the teacher?
- Are the decisions that impact students conducted with teacher agency and is the teacher able to notice anomalies or possible discrimination?
- Are procedures in place for teachers to monitor and intervene, for example in situations where empathy is required when dealing with learners or parents?
- Is there a mechanism for learners to opt-out if concerns have not been adequately addressed?
- Are there monitoring systems in place to prevent overconfidence in or overreliance on the AI system?
- Do teachers and school leaders have all the training and information needed to effectively use the system and ensure it is safe and does not cause harms or violate rights of students?

European Comission (2022), Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for Educators

2 Transparency

- Are teachers and school leaders aware of the AI methods and features being utilised by the system?
- Is it clear what aspects AI can take over and what not within the system?
- Do teachers and school leaders understand how specific assessment or personalisation algorithms work within the AI system?
- Are the system processes and outcomes focussed on the expected learning outcomes for the learners? How reliable are the predictions, assessments and classifications of the AI system in explaining and evaluating the relevance of its use?
- Are the instructions and information accessible and presented in a way that is clear both for teachers and learners?

European Comission (2022), Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for Educators

3 Diversity, non-Discrimination and Fairness

- Is the system accessible by everyone in the same way without any barriers?
- Does the system provide appropriate interaction modes for learners with disabilities or special education needs? Is the AI system designed to treat learners respectfully adapting to their individual needs?
- Is the user interface appropriate and accessible for the age level of the learners? Has the usability and user-experience been tested for the target age group?
- Are there procedures in place to ensure that AI use will not lead to discrimination or unfair behaviour for all users?
- Does the AI system documentation or its training process provide insight into potential bias in the data?
- Are procedures in place to detect and deal with bias or perceived inequalities that may arise?

European Comission (2022), Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for Educators

4 Societal and Environmental Wellbeing

- How does the AI system affect the social and emotional wellbeing of learners and teachers?
- Does the AI system clearly signal that its social interaction is simulated and that it has no capacities of feeling or empathy?
- Are students or their parents involved in the decision to use the AI system and support it?
- Is data used to support teachers and school leaders to evaluate student wellbeing and if so, how is this being monitored?
- Does use of the system create any harm or fear for individuals or for society?

European Comission (2022), Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for Educators

5 Privacy and Data Governance

- Are there mechanisms to ensure that sensitive data is kept anonymous? Are there procedures in place to limit access to the data only to those who need it?
- Is access to learner data protected and stored in a secure location and used only for the purposes for which the data was collected?
- Is there a mechanism to allow teachers and school leaders to flag issues related to privacy or data protection?
- Are learners and teachers informed about what happens with their data, how it is used and for what purposes?
- Is it possible to customise the privacy and data settings?
- Does the AI system comply with General Data Protection Regulation?

European Comission (2022), Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for Educators

6 Technical Robustness and Safety

- Is there sufficient security in place to protect against data breaches?
- Is there a strategy to monitor and test if the AI system is meeting the goals, purposes and intended applications?
- Are the appropriate oversight mechanisms in place for data collection, storage, processing, minimisation and use?
- Is information available to assure learners and parents of the system's technical robustness and safety?

European Comission (2022), Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for Educators

7 Accountability

- Who is responsible for the ongoing monitoring of results produced by the AI system and how the results are being used to enhance teaching, learning and assessment?
- How is the effectiveness and impact of the AI system being evaluated and how does this evaluation consider key values of education?
- Who is responsible and accountable for final decisions made regarding the procurement and implementation of the AI system?
- Is there a Service Level Agreement in place, clearly outlining the support and maintenance services and steps to be taken to address reported problems?

“

What could be done or what should be done?

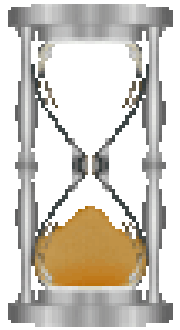
Student’s comment

- Feedback is fine. I know that we need it and all but my favourite English teachers give feedback in a way that makes me feel known.
- The feedback makes me want to write.
- It’s critical, yeah, but it’s critical in a way where I think, ‘My teacher gets me.’

https://spencerauthor.com/ai-education/

Time

- Cut time
- Waste time
- Decide how we are spending our time
- Return on investment
- Amount of time for prompting and fixing errors
- Decide on which task you will use AI and don’t waste time searching for AI solutions for the rest of tasks.



GIF by Peace,love,happiness from Pixabay

Are we intentionally deskilling ourselves

- Outsourcing to AI
- Deskilling of teachers
- Are teachers enfeebling their impact by using AI
- Who and what deserves your time and effort
- Who decides what will AI do instead of teachers

AI reality check

It doesn’t really understand
It doesn’t really think - problem solving is a problem
It’s not great at maths
It’s over-confident
It does make things up
It is not up to date

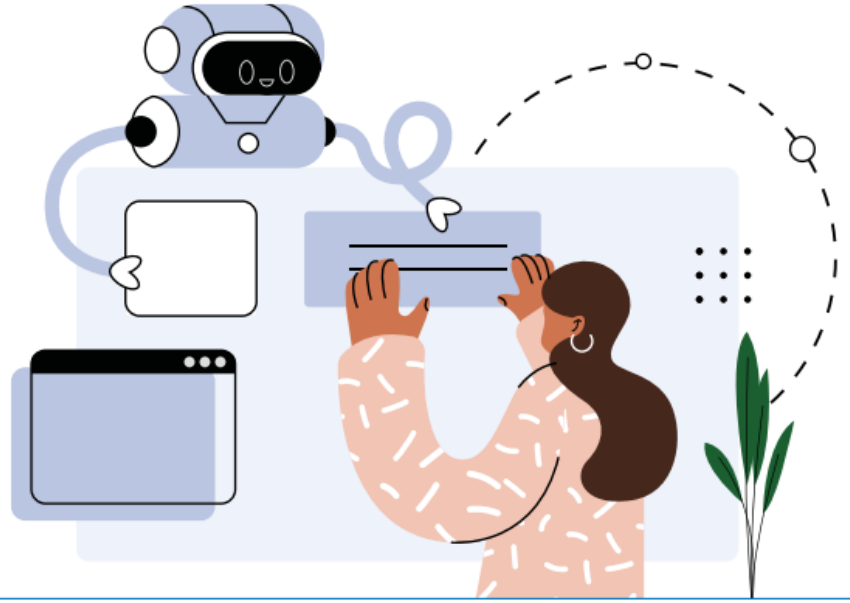
AI Assistants for Human Educators

- Assistant has hallucinations → validating often questionable outputs
- Data privacy risk → what sorts of information we're sharing and who we're sharing it with.
- No exclusivity → human-assistant relationship may feel private and exclusive, but it isn't.
- Essential knowledge → ability to recognise what is missing in the AI's knowledge or capabilities.

https://drphilippahardman.substack.com/p/openai-assistants-for-educators

unesco

Guidance for generative AI in education and research



Education 2030

Regulations on GenAI - Individual users

- Awareness of terms of reference on the use of GenAI
- Ethical use of GenAI applications
  - Exercise strict ethical validation of GenAI applications before they are officially adopted in educational
- Monitoring and reporting unlawful GenAI applications
- Build validation mechanism - Pedagogical validation & Meaningful use
  - do no predictable harm to students, are educationally effective and valid for the ages and abilities of the target learners, and are aligned with sound pedagogical principles
- Inform learners, Address the complex issue of informed consent
- Use the feedback to decide whether and how specific GenAI tools should be deployed

AI Competency frameworks for students and teachers

- The **AI competency framework for teachers** will define the knowledge, skills and attitudes that teachers should possess to understand the roles of AI in education and utilize AI in their teaching practices in an ethical and effective manner.
- The **AI competency framework for school students** will articulate the knowledge, skills and attitudes students should acquire to understand and actively engage with AI in a safe and meaningful manner in education and beyond.

Both frameworks are guided by human rights principles and the need to protect human dignity and privacy and strengthen human agency.

Aspects

- **Human-Centred Mindset:** Teacher competencies related to critically navigating and ethically integrating AI in education ensuring the safety and rights of humans, while understanding AI's societal impact and implications on human values. This aspect emphasises the critical role of teacher agency in realising AI's benefits while mitigating its negative repercussions on humans.
- **AI Ethics:** Teacher competencies related to understanding fundamental AI ethics contextualised to their local policy or guidance, critically assessing AI tools for ethical implications, advocating for ethical use, and actively contributing to shaping a more ethical AI in education ecosystem.
- **AI Foundations & Applications:** Teacher competencies related to comprehending fundamental AI concepts and the educational implications of ubiquitous AI tools, recognizing accessibility issues, and understanding the importance of teacher validation. This aspect is about the identification and critical evaluation of AI tools based on specific needs in specific domains and contexts, adapting AI tools to educational contexts, or potentially modifying them.

Aspects

- **AI Pedagogy:** Teacher competencies related to understanding AI's pedagogical limitations and benefits, potential implications of AI on pedagogical practices, adeptly employing AI-enhanced teaching methods, and designing innovative pedagogies for teaching with AI. This aspect is about making informed decisions on when and how to use AI in teaching approaches.
- **AI for Professional Development:** Teacher competencies related to understanding AI’s potential in professional development, utilising AI tools for participation in learning communities and collaboration to meet professional development needs as well as synthesising, or potentially modifying AI tools to meet their communities’ transformative professional development across changing contexts.

Progression Levels

- **Level 1 – Acquisition** This stage involves the comprehension of the fundamental principles and concepts of AI in Education, where teachers grasp the essence of AI competency in a given aspect and its relevance to their personal and professional development. It's about gaining the basic awareness, knowledge, and skills to use AI safely, marking the beginning of the AI competence acquisition process.
- **Level 2 – Deepening** Building upon the first level, this stage focuses on the practical application and refinement of the acquired knowledge, skills, and attitudes of AI competency. At this level, teachers develop the ability to utilize AI in real-world contexts independently, demonstrating a deeper knowledge and skill progression.
- **Level 3 – Creation** This stage builds upon the previous two levels of competence. Teachers at this stage exhibit a more intuitive understanding of the complex issues of AI in Education, demonstrating the ability to use AI in various complex contexts independently and innovatively, as well as aiming to contribute to societal advancement. They not only master the knowledge and skills, but also innovate new ways of doing things, signifying the transformational progress, and capability of influencing practice more broadly with insights from their contexts.

AI competency framework for teachers

Aspects	Progression		
	Level 1	Level 2	Level 3
Human-centred Mindset	Teachers are aware of the opportunities and risks AI presents in the educational context, based on an understanding of human rights, social justice, and human values.	Teachers can integrate AI tools into their educational practices safely and responsibly, by taking into account national and local policies and prioritising the safety, privacy, and rights of all stakeholders.	Teachers can critically evaluate, reflect upon, and contribute to the evolution of AI in education, demonstrating a deep understanding of its societal impact, prepared for and engaging in transformational actions to address the challenges of AI in Education.
Ethics of AI	Teachers are aware and understand the importance of the fundamental ethical principles related to AI, recognise its human-led nature and the pivotal role of humans in the stages and considerations of AI development.	Teachers can critically assess and apply AI tools based on their ethical implications, uphold the values of equity, inclusion, and diversity in educational use, communicate these considerations, and understand that the design decisions of AI creators enable or undermine its ethical use.	Teachers can lead by example in their critical advocacy of the ethics of AI in Education, promote an ethics of care and empathy in their use, and participate in communities for the iterations of institutional and societal regulatory environments.

AI competency framework for teachers

Aspects	Progression		
	Level 1	Level 2	Level 3
AI Foundations & Applications	Teachers can recognize and are aware of fundamental AI concepts, demonstrating an understanding of how AI functions.	Teachers can proficiently identify, evaluate, select, and apply appropriate AI tools based on specific educational contexts.	Teachers can demonstrate comprehensive proficiency in adapting or potentially modifying open-source and other AI tools to design solutions that cater to unique educational contexts.
AI Pedagogy	Teachers can identify the pedagogical benefits of specific AI systems, demonstrating an understanding of effective strategies for incorporating them in specific subject areas.	Teachers can adeptly employ pedagogical strategies in their use of AI, ensuring human-centric teaching.	Teachers can critically evaluate AI's role in pedagogical practice, and design AI-enhanced transformative pedagogies.
AI for Professional Development	Teachers are aware of the potential of AI to support their continuous professional development and are motivated to use AI to engage in professional lifelong learning.	Teachers can proficiently use appropriate AI tools for participation in learning communities and collaboration to meet professional development needs across changing contexts.	Teachers can critically adapt, synthesise, or potentially modify AI tools to meet their own and their communities' transformative professional development across changing contexts.

EDEH stands for

A. Environmental Data Exchange Hub
B. European Disaster Evaluation Hurdles
C. European Digital Education Hub
D. Empowering Diverse Entrepreneurs Holistically

European Digital Education Hub

https://education.ec.europa.eu/focus-topics/digital-education/action-plan/european-digital-education-hub

EDEH Squad AI in Education Briefing reports

February – June 2023

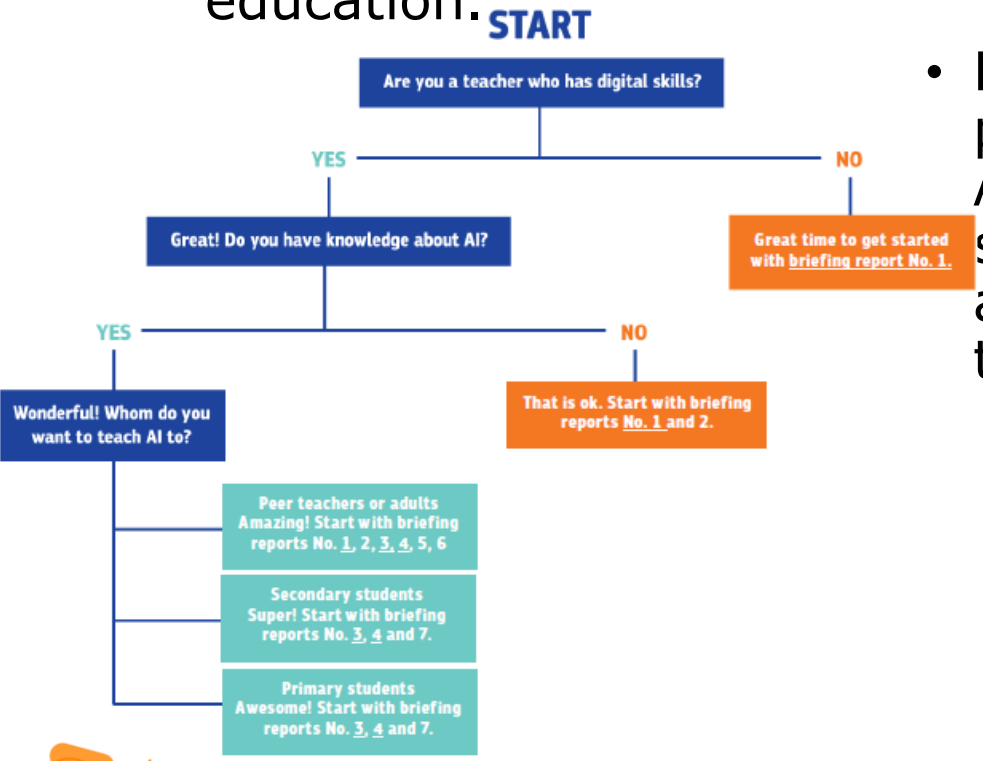
1. Teachers' competences
2. How to support teachers to use AI in teaching
3. Use scenarios & practical examples of AI use in education
4. Education about AI
5. Influence of AI on governance in education
6. AI and Ethics, human rights, law, education data
7. Teaching with AI – assessment, feedback and personalisation

BR No1. Teachers‘ competences

- Different competences are needed for teachers, school leaders, IT support personnel and other professionals in education. This can mean varying levels of knowledge, skills and attitudes related to teaching for, with and about AI.
- There are significant differences in competences for those who will teach about AI (the techniques and the technologies) and those who will just use AI as support for teaching and learning processes, but all teachers need to know what impact
- AI has on people and have competences to teach for and with AI.
- All competences need to be described contextually and with existing subject-specific examples.

BR No2. How to Support Teachers to Use AI in Teaching

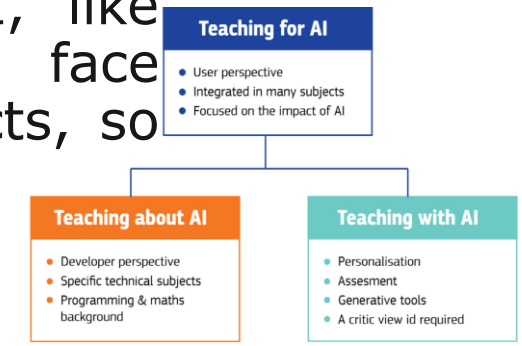
- Create an online course for school management on integrating AI at the school level to support education.
- Define "human-AI interface interaction skill".
- Make recommendations for including "teaching with AI" in initial teacher education.



- Propose several professional development pathways for teachers to get acquainted with AI. Teachers who are wondering how to get started with AI could access this flowchart and find guidance depending on the choices they make.

BR No3. Use Scenarios & Practical Examples of AI Use in Education

- Focus first on teaching for AI by means of practical projects and learning scenarios that provide activities for teachers to engage students in activities that improve knowledge, skills, and attitudes towards how AI systems are used in today's society and focus on everyday application that are driven by AI.
- Take advantage of existing resources for teaching with AI to enhance teaching and learning. It is essential to know how to select tools that align with the curriculum, pedagogical goals, and students' requirements, while considering the efficacy, ease of use, and privacy issues associated with these tools.
- Apply a developer approach when teaching about AI to train more specialised students in the fundamental areas of real-world AI, like perception, reasoning, representation or learning. They must face different AI challenges through hands-on and programming projects, so they attain the AI basics from a more technical perspective.

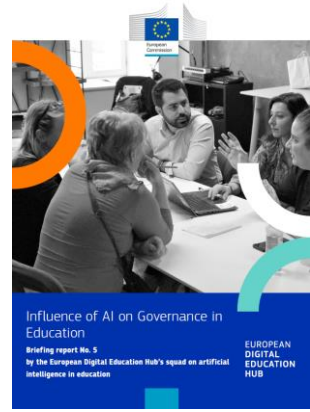


BR No4. Education about AI

- To ensure a comprehensive and unbiased approach to learning, it is essential that AI curricula are not tied to specific technologies or brands.
- With the aim of facilitating the development of the European Education Area, it would be beneficial if Member States shared good practice examples, thereby ensuring that students entering tertiary education possess comparable levels of competence about AI.
- Integrating AI into curricula requires both resource development and teacher training.
- The evidence-based approach would enhance the content and effectiveness of AI curriculum.
- Education about AI is needed, but freely embracing education with AI needs to be done with some caution.

BR No5. Influence of AI on governance in education

- It is difficult now to have a clear picture of what this virtual AI-based ecosystem
will look like, what governance it will have, what actors will be involved, but from the national and regional policies four common areas of concern emerge: importance of governance for data and privacy, importance of openness to ensure equal universal access and promote transparency, curriculum innovation that can address the potential and implications of AI and financial support for the effective implementation of AI.
- The primary purpose of applying AI in education should be to enhance learning, enabling every learner to develop their individual potential, and policies should reflect and support it. A comprehensive AI strategy is recommended covering: interdisciplinarity, humanity, ethics, scalability and sustainability, responsibility, equity and lifelong learning for all.



BR No6. AI and Ethics, human rights, law, education data

- Caution should be a keyword at every level in using AI in education.
- Students need to be taught their rights and how to protect themselves,
- teachers need to be cognizant of the range of information collected in the AI tools they use,
- Developers need to guard against undue influence and be aware of potential bias, and finally
- Government bodies need to take a firm position with robust legislations to protect their citizens while excising a rigorous approach to their own use of AI in data collection.

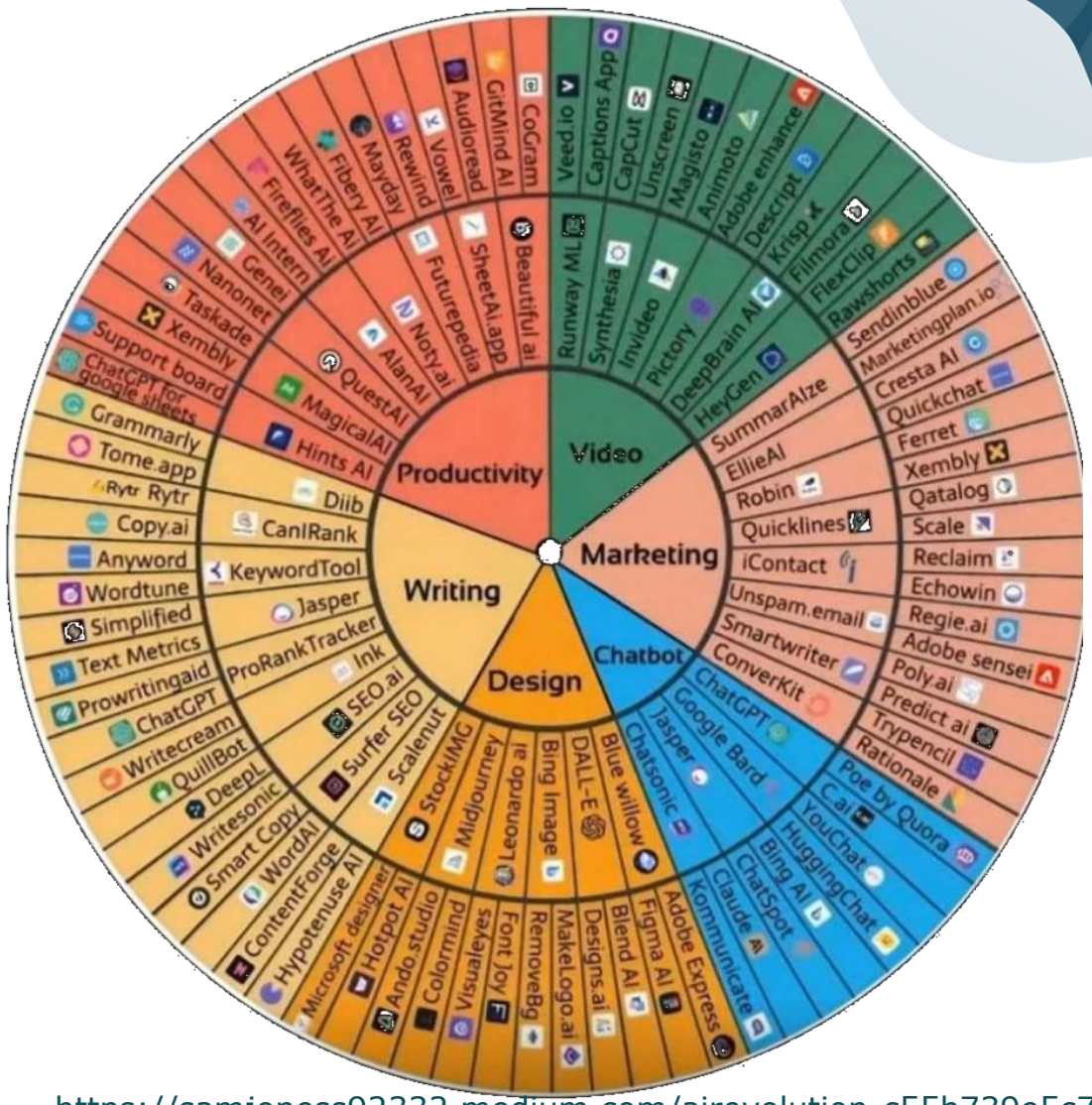
BR No7. Teaching with AI – assessment, feedback and personalisation

- Proper checks and balances, transparency, and human oversight are key to mitigating the potential risks associated with AI in education.
- AI should be used to complement and enhance existing pedagogical practices rather than replace
them. AI algorithms, especially in education, should be designed to produce understandable and interpretable outcomes.
- Despite the use of AI for automating various processes, human oversight should still be a significant part of the system.
- Educators should have the final say in grading or making decisions that significantly affect students' academic standing.
- AI systems must respect and protect the privacy of the students.
- Biases can influence the fairness of the system and have serious implications for all stakeholders in education, so efforts should be made to identify and mitigate biases in AI algorithms.
- If the system fails or produces erroneous results, there should be mechanisms in place to identify the cause of the issue and rectify it.
- To ensure the accuracy of the performance of AI systems, they should be regularly monitored and evaluated to identify and address any emerging issues promptly and to help to ensure fairness and effectiveness.

Are we drowning in AI sea of apps?

Too many tools, too little time

- AI assessment tools chosen largely by convenience and cost rather than pedagogical soundness or core values.
- Tools gain popularity due to clever marketing and cute design.



https://samjoness92332.medium.com/airevolution-c55b739e5c7e

Is it cheating if AI...

Student's or Teacher's perspective?

- Explains something to you?
- Gives you ideas for your essay?
- Suggests how to improve your essay?
- Writes your essay for you?
- Do we tell teacher?

- Create tasks for assessment?
- Create rubrics
- Autograde student's work
- Write feedback
- Write recomendations
- Do we tell students?

Rethinking assessment in the era of Artificial Intelligence

Your advice for teachers?

https://**bit.ly/AIESEP**

http://linoit.com/users/LidijaKralj/canvases/Rethinking-assessment

Hvala

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