

# **Ethical AI and Education: The need for international regulation to foster human rights, democracy and equity**

**Tuesday, 22nd of July 2025  
in Palermo, Italy**

<https://doi.org/10.5281/zenodo.16679900>

**Workshop at AIED 2025 in Palermo, Italy**  
<https://aied2025.learning-innovations.eu>



# **Introductory speech**

**of the Third AIED Workshop on  
“Ethical AI and Education”**

**at 26th International AIED Conference 2025  
hold by Dr. Christian M. Stracke**

**The program including this presentation and  
all results of the workshop are published on:**

**<http://aied2025.learning-innovations.eu>**



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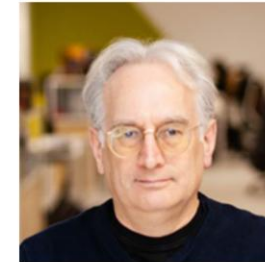
## Meet the Organizers



Christian M. Stracke  
University of Bonn,  
Germany



Beth Havinga  
European EdTech  
Alliance, Germany



Wayne Holmes  
University College  
London, UK



Ron Salaj  
University of Turin,  
Italy



Introductory speech by

**Ahmet Murat KILIÇ**

Head of the Digital Transformation Unit, Education  
Department, Council of Europe

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# Workshop sessions: Overview

Sessions	Agenda Item	Duration (minutes)
1. Start	Welcome to the workshop	20'
	Introduction to the CoE work on AIED	10'
	Discussion of two questions (Q1 and Q4)	30'
	Summarising participants' input and wrap up	30'
2. World Café	Introduction to the World Café	5'
	First round of group discussions	25'
	Second round of group discussions	25'
	Third round of group discussions	25'
3. Plenary	Results from the group tables	30'
4. Closing	Collecting participants' input for future CoE work	15'
	Envisioning future steps and directions	10'

90 min.

80 min.

30 min.

25 min.

<http://aied2025.learning-innovations.eu>



# Ethical AI and Education: The need for international regulation to foster human rights, democracy and equity



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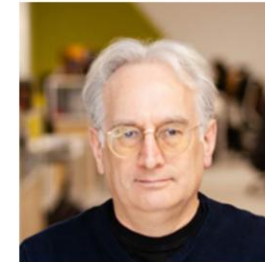
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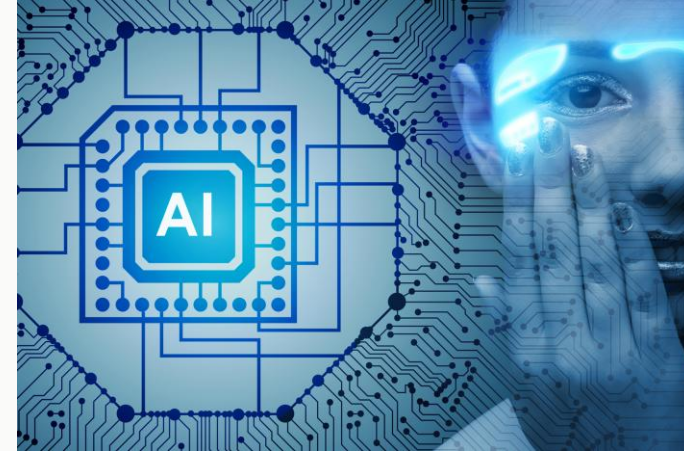
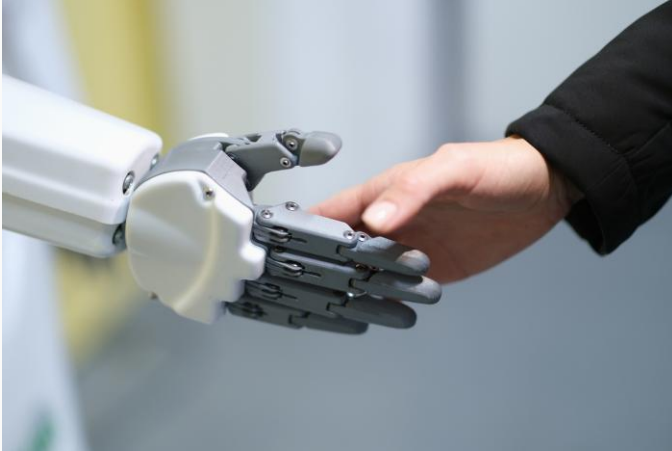


Ron Salaj  
University of Turin,  
Italy

Workshop at AIED 2025 in Palermo, Italy  
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# What is AI?

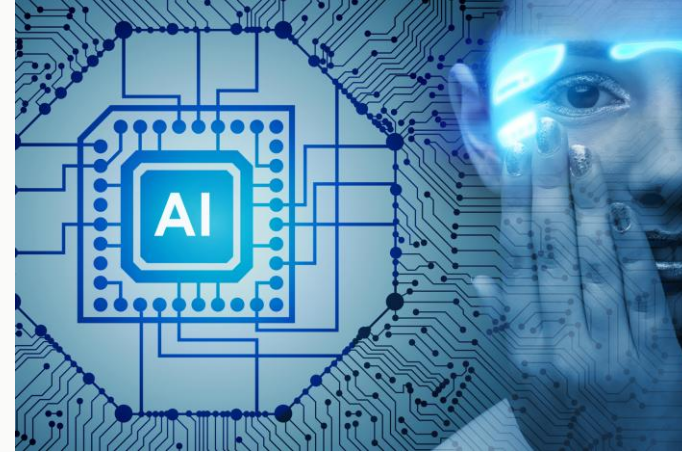


**Definition of Human Intelligence**

**Definition of Artificial Intelligence (AI)**

**How do you define AI?**

# What is AI?

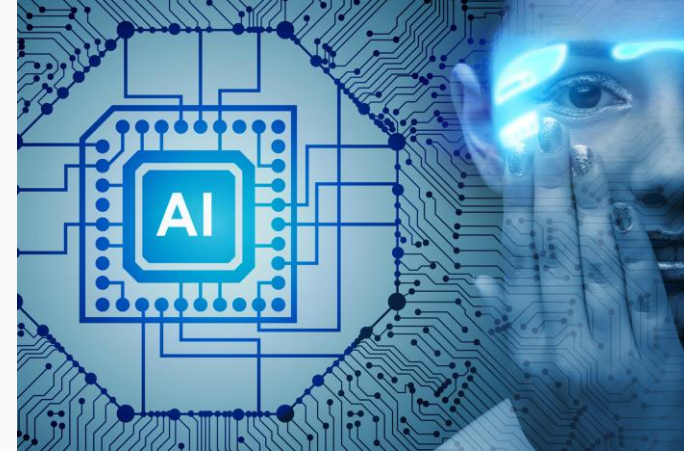


**AI is a unique digital tool**

**AI is always a human-to-human relationship  
(in the responsibility)**



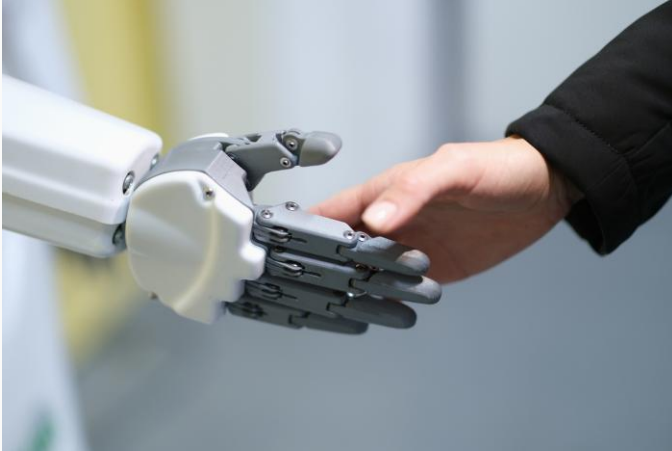
# History of AI



**AI concept by McCarthy and research since 1950ies**  
**weak AI vs. strong AI vs. super-intelligence**  
**knowledge-based AI vs. data-driven AI**  
**hybrid systems & trainings (GenAI / GPAI)**

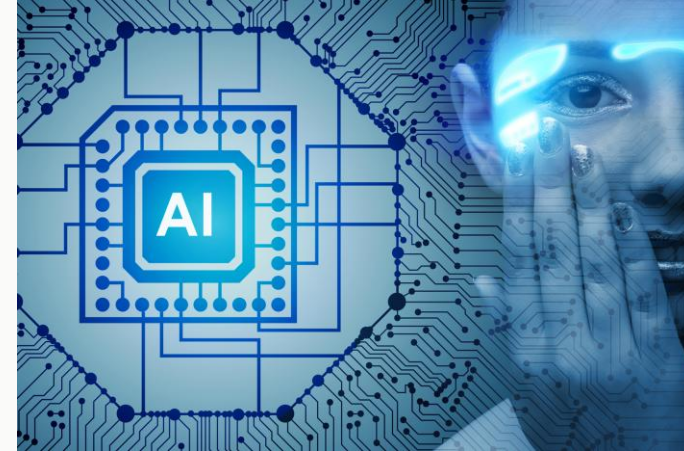
Stracke, C. M. et al. (2024). [https://doi.org/10.1007/978-3-031-64315-6\\_21](https://doi.org/10.1007/978-3-031-64315-6_21) (pre-print: <https://doi.org/10.5281/zenodo.11518072>)

# Different Types of AI



**Weak AI:**

**Programming  
Automatisation  
Training**



**Strong AI:**

**Self-development  
"Intelligence"  
Self-decisions**

# The Special Case of Education



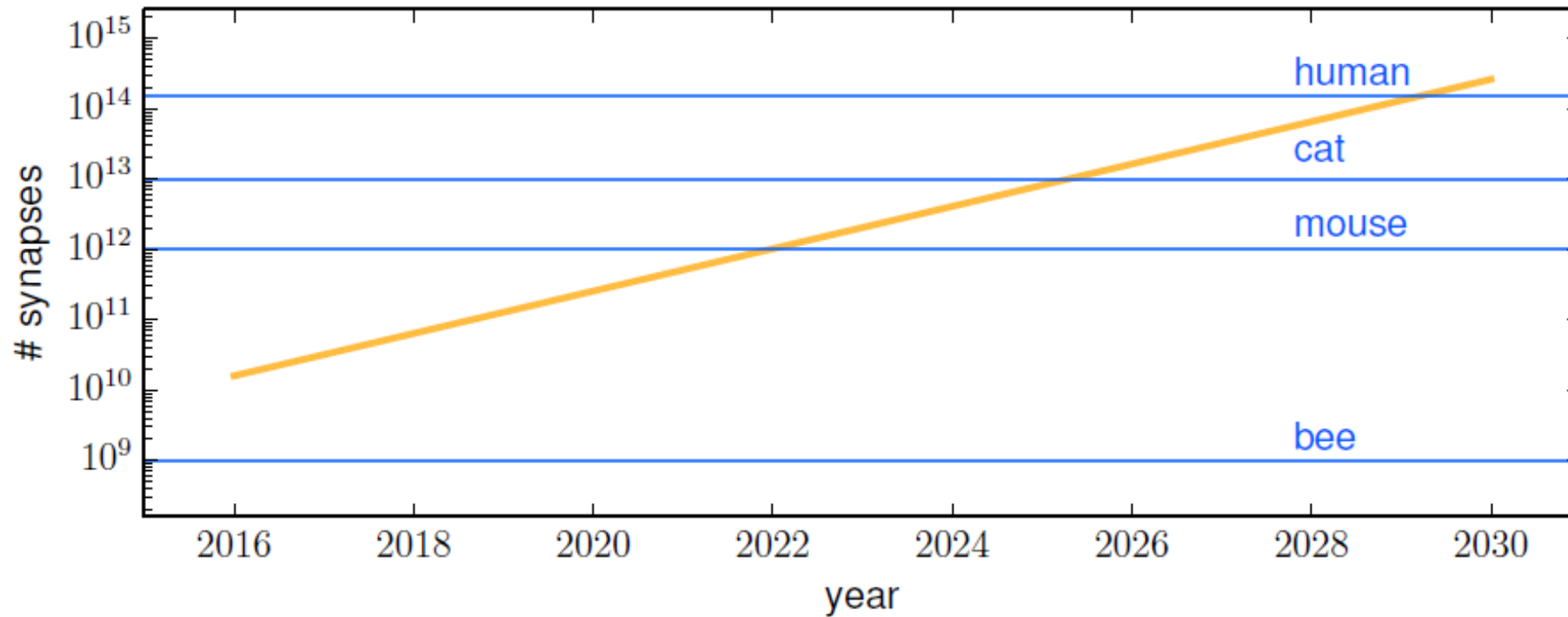
**Education as human right**  
**SDG 4: "Quality Education for All"**  
**Equity, inclusion & mandatory school visit**  
**Learning cannot be forced**

<https://opening-up.education/publications>

Photos: <https://www.pixabay.com> (345950) <https://www.pexels.com> (207691)



# Time pressure



Graphic: Christian Bauckhage (University of Bonn)

# International crises



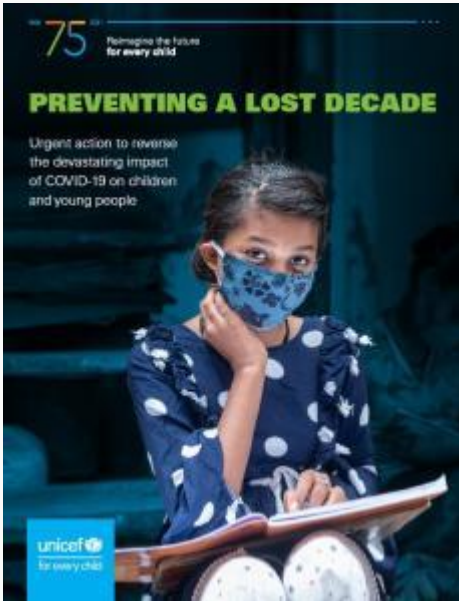
**Economic crisis (Hayes, profit only)**  
**Education crisis (innovations, quality)**  
**Media crisis (literacy, fake news)**  
**Societal crisis (ethics, egoism)**

**Crisis? What Crisis?**

[https://en.wikipedia.org/wiki/File:Supertramp\\_-\\_Crisis.jpg](https://en.wikipedia.org/wiki/File:Supertramp_-_Crisis.jpg)

**We need regulation to foster quality**  
**Open Education for all** as human right

# Current challenges



**New Normal?**

<https://www.unicef.org/reports/unicef-75-preventing-a-lost-decade>

**COVID-19 pandemic & lockdowns**

**War in Ukraine & many countries**

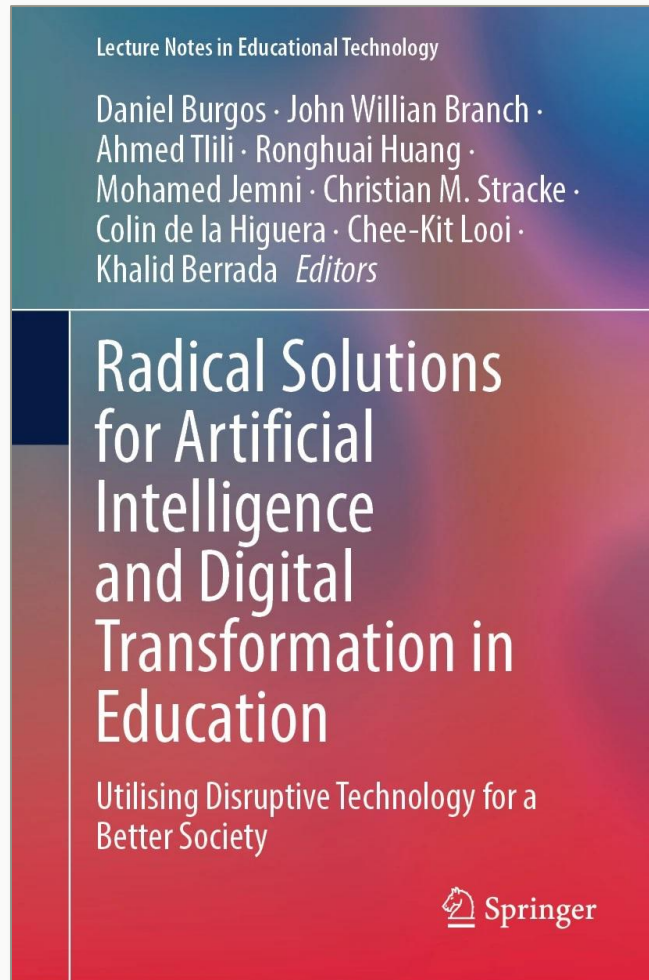
**Climate change, poverty, hunger**

**And now, Artificial Intelligence (AI)  
is appearing and changing mindsets**



# Ethics of AI

# Ethical AI&ED & Human Rights



**AI&ED for strengthening the society:  
"Artificial Intelligence and Education:  
Ethical Questions and Guidelines for  
Their Relations Based on Human  
Rights, Democracy and the Rule of  
Law" (Dezember 2024)**

**[https://doi.org/10.1007/978-981-97-8638-1\\_7](https://doi.org/10.1007/978-981-97-8638-1_7)**

# Networks "Ethical Use of AI"



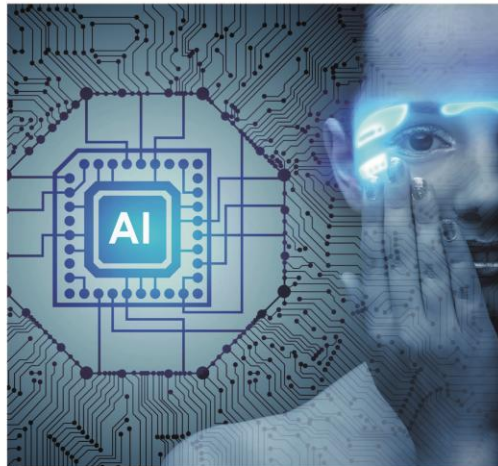
**German Network since March 2023:**  
<https://ethischeki.ecompetence.eu>

**European Network since AIED 2023:**  
<https://ethicalai.ecompetence.eu>

**Monthly meetings for collaboration:  
Everybody is most welcome!**



# Network "Ethical Use of AI"



Ethical Use of Artificial Intelligence (AI)  
in Higher Education – a Handout

Developed and approved on 7th of March 2024 by the  
Netzwerk „Ethische Nutzung von KI“  
<https://ethischeki.eocompetence.eu>  
Revised Version 1.1 from 18th of July 2024:  
<https://doi.org/10.5281/zenodo.10995669>

**"Ethical Use of AI in Higher Education  
– a Handout" for university teachers  
(Version 1.1 from 18<sup>th</sup> of July 2024)**

- **10 statements (1 page) and  
FAQ list with answers (4 pages),  
both revised and updated**

**<https://doi.org/10.5281/zenodo.10995669>**

# Ethical AI&ED: SLR Protocol

## Systematic Literature Review (SLR): Standardised PRISMA-based protocol for SLR on AI and Education by Stracke, C.M.; Chounta, I.-A.; Holmes, W.; Tlili, A. & Bozkurt, A. (2023).

<https://doi.org/10.37074/jalt.2023.6.2.38>



# SLR on Ethical AI&ED

## SLR on Ethical AI and Education: "Global trends in scientific debates on trustworthy and ethical Artificial Intelligence and Education" by Stracke, C.M.; Chounta, I.-A. & Holmes, W. (2024) – presented at AIED 2024 in Recife

<https://doi.org/10.5281/zenodo.11518072>

### Global trends in scientific debates on trustworthy and ethical Artificial Intelligence and Education

Christian M. Stracke <sup>1</sup> [ORCID: 0000-0001-9056-4281], Irene-Angelica Chounta <sup>2</sup> [ORCID: 0000-0001-9159-0604], and Wayne Holmes <sup>3</sup> [ORCID: 0000-0001-4350-1594]

<sup>1</sup>University of Bonn, Germany; <sup>2</sup>University of Duisburg-Essen, Germany; <sup>3</sup>University College London, UK  
stracke@uni-bonn.de, irene-angelica.chounta@uni-due.de, wayne.holmes@ucl.ac.uk

**Abstract.** This paper presents a systematic review of the scientific literature on trustworthy and ethical Artificial Intelligence (AI) and Education (AI&ED), including both AI *applied* in education to support teaching and learning (AI&ED), as well as education *about* AI (AI literacy). Key interest is the identification of global trends with a special focus on unbalanced disparities. Strictly following the standardised protocol and the underlying PRISMA approach, 324 records were identified and selected according to the pre-defined protocol for the systematic review. Finally, 62 articles were included in the quantitative and qualitative analysis in response to four research questions: Which (i) journals, (ii) disciplines, and (iii) regions are leading scientific debates and sustainable developments in education and trustworthy/ethical AI and (iv) what are the past trends? The articles revealed an unbalanced distribution across the various dimensions, together with an exponential growth over recent years. Building upon our analysis, we argue for an increase in interdisciplinary research that shifts the focus from the currently dominant technological focus towards a more human-centred (educational and societal) focus. Only through such a development AI can contribute effectively to the UN Sustainable Development Goal no. 4 of a world with equitable and universal access to quality education. The results of our systematic review provide the basis to address and facilitate equality in the future AI&ED progress across regions worldwide.

**Keywords:** Trustworthy and ethical AI, AI&ED, Web of Science articles, Systematic literature review, Informatics and information technologies, Education and learning sciences, Sustainable digital transformations.

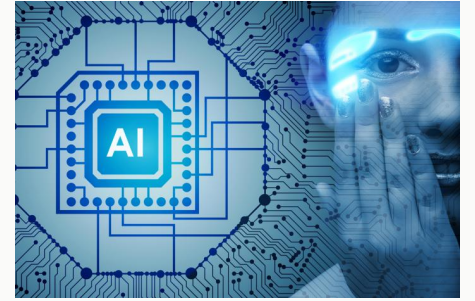
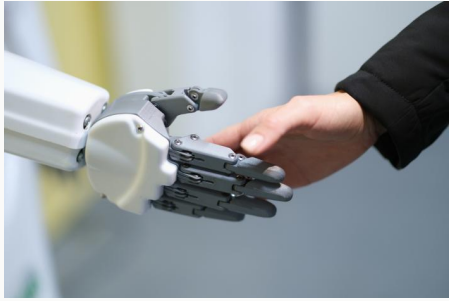
#### 1 Introduction

The concept of Artificial Intelligence (AI) has been controversial since the term was first coined [4, 14, 18]. Nonetheless, AI has been introduced in many disciplines, including – for around fifty years – in education [2, 13, 15, 20, 23]. However, it remains the case that AI in education was mostly researched by computer scientists rather than educators in the beginning [33].

Pre-print of the camera-ready version, recommended citation:  
Stracke, C. M., Chounta, I.-A., & Holmes, W. (2024). Global trends in scientific debates on trustworthy and ethical Artificial Intelligence and education. In *Artificial Intelligence in Education, AIED 2024, Communications in Computer and Information Science, Springer*. (accepted, pre-print) <https://doi.org/10.5281/zenodo.11518072>  
[Final official publication: [https://doi.org/10.1007/978-3-031-64315-6\\_31](https://doi.org/10.1007/978-3-031-64315-6_31)]

# Legal regulation of AI





# AI Regulations

**European Commission:  
Ethical Guidelines (2022) & AI Act (2024)**

**European Parliament:  
Hearing of Committee for Education (2022)**

**Council of Europe:  
Framework Convention on AI - "Treaty" (2024)**



# AI Act

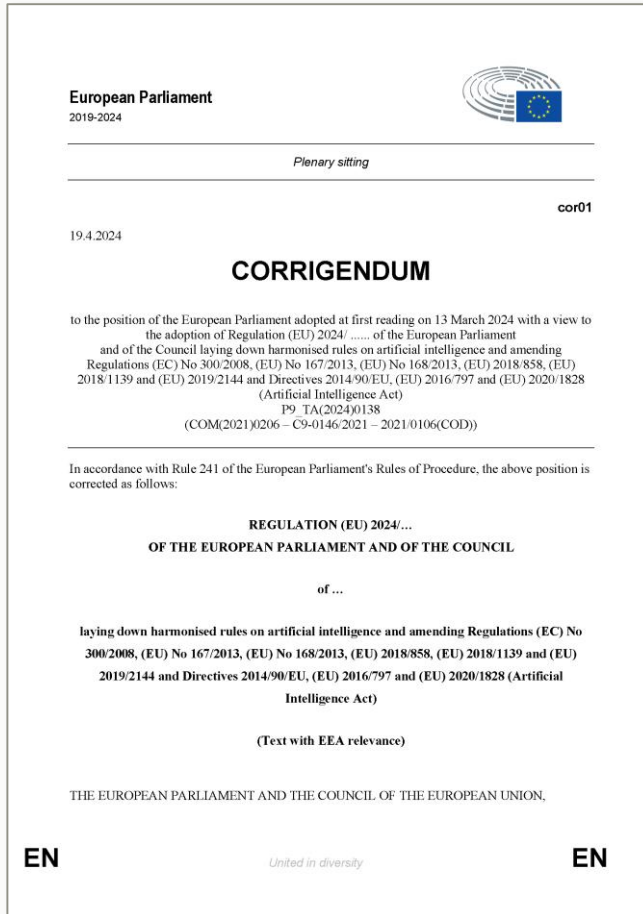
**Unacceptable risk** of AI: prohibited

**High-risk** of AI: regulated

**Limited risk** of AI: transparency and awareness obligations

**Minimal risk** of AI: unregulated

**General-purpose AI** added later

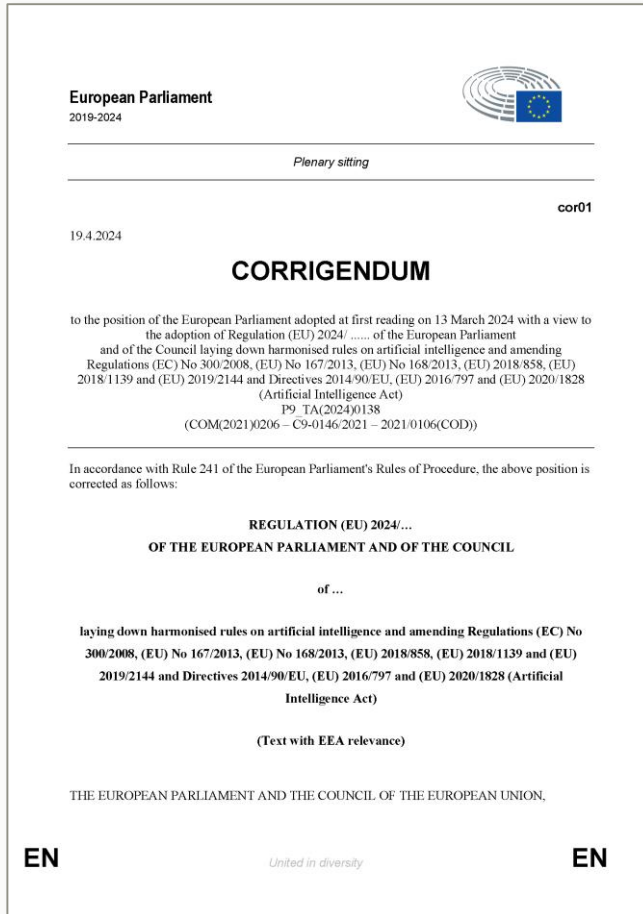




# AI Act

## Education in AI Act:

- Recitals 4, 48, 44, 56 & 96
- Articles 4 (AI literacy), 5 (Prohibited) & 9 (High-risk)
- Annex III (High-risk)





# Framework Convention

## Treaty no. 225 (5th of September 2024)

- Human dignity & individual autonomy
- Transparency and oversight
- Accountability and responsibility
- Equality and non-discrimination
- Privacy and personal data protection
- Reliability
- Safe innovation



Council of Europe Treaty Series - No. 225

### Council of Europe Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law

Vinius, 5 IX 2024

#### Preamble

The member States of the Council of Europe and the other signatories hereto,

Considering that the aim of the Council of Europe is to achieve greater unity between its members, based in particular on the respect for human rights, democracy and the rule of law;

Recognising the value of fostering co-operation between the Parties to this Convention and of extending such co-operation to other States that share the same values;

Conscious of the accelerating developments in science and technology and the profound changes brought about through activities within the lifecycle of artificial intelligence systems, which have the potential to promote human prosperity as well as individual and societal well-being, sustainable development, gender equality and the empowerment of all women and girls, as well as other important goals and interests, by enhancing progress and innovation;

Recognising that activities within the lifecycle of artificial intelligence systems may offer unprecedented opportunities to protect and promote human rights, democracy and the rule of law;

Concerned that certain activities within the lifecycle of artificial intelligence systems may undermine human dignity and individual autonomy, human rights, democracy and the rule of law;

Concerned about the risks of discrimination in digital contexts, particularly those involving artificial intelligence systems, and their potential effect of creating or aggravating inequalities, including those experienced by women and individuals in vulnerable situations, regarding the enjoyment of their human rights and their full, equal and effective participation in economic, social, cultural and political affairs;

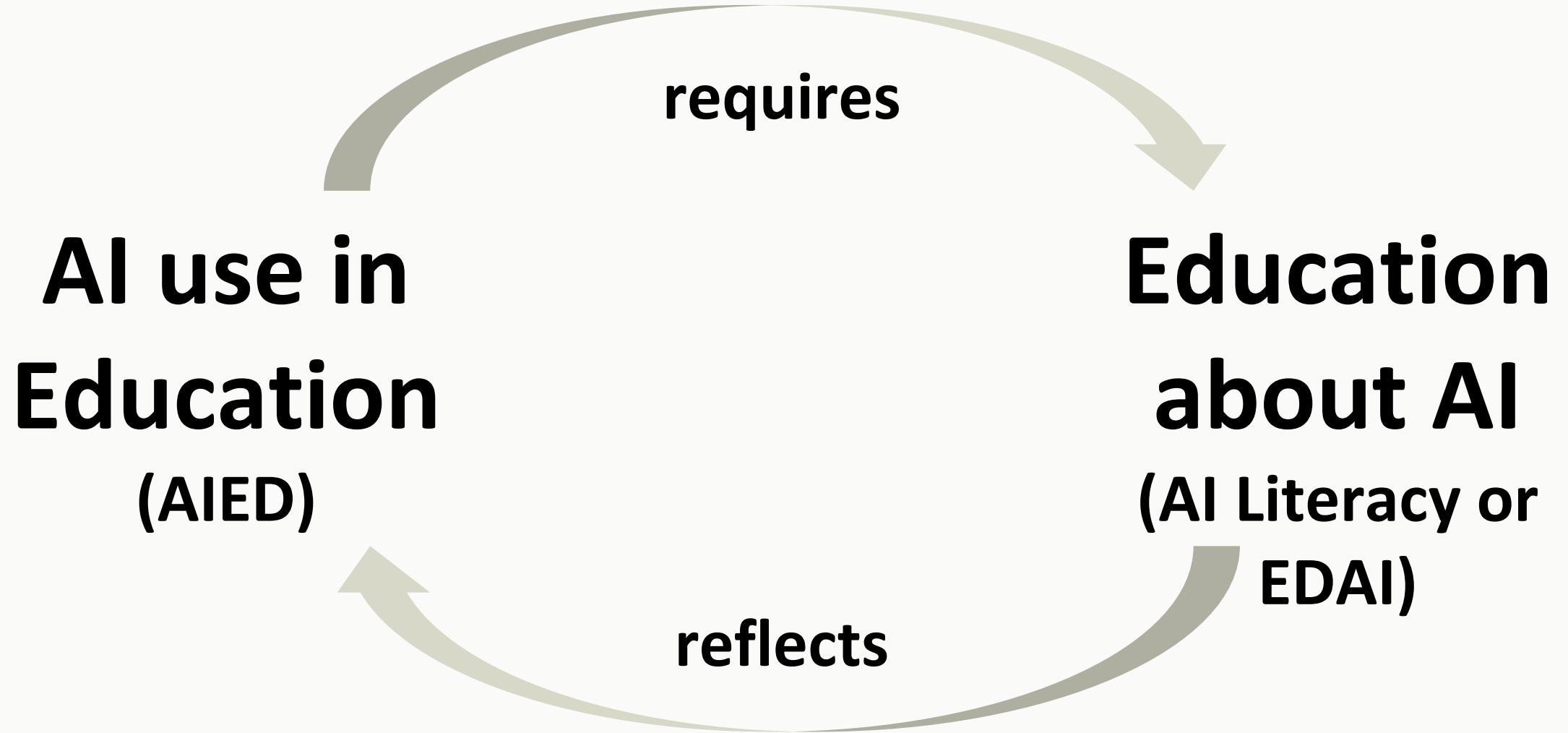
Concerned by the misuse of artificial intelligence systems and opposing the use of such systems for repressive purposes in violation of international human rights law, including through arbitrary or unlawful surveillance and censorship practices that erode privacy and individual autonomy;

Conscious of the fact that human rights, democracy and the rule of law are inherently interwoven;



# **AI and Education (AI&ED)**

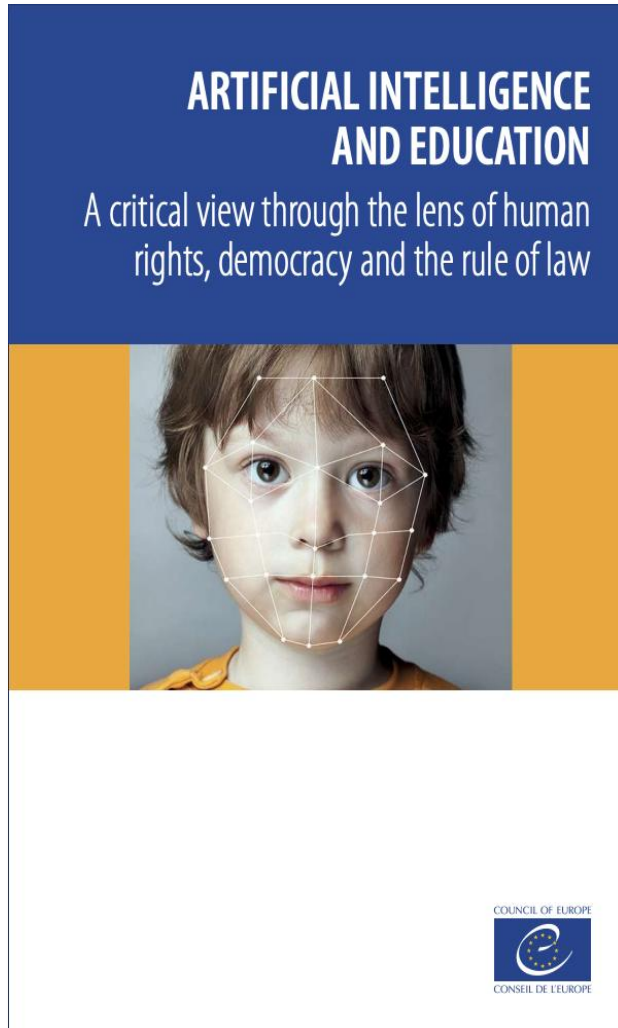
$$\text{AI\&ED} = \text{AIED} + \text{AI Literacy}$$



# AI&ED Expert Group by CoE



<https://opening-up.education/artificial-intelligence-and-education>



**Artificial Intelligence and Education.** A critical view through the lens of human rights, democracy and the rule of law.

Available at:

<https://tinyurl.com/CoE-AI-ED-1>





26th session of the Council of Europe Standing Conference of Ministers of Education held on September 28 and 29, 2023, in Strasbourg, France

### **Draft Resolution 3 on harnessing the potential of digital transformation in and through education**

We, Ministers responsible for Education, meeting in Strasbourg, France, for the 26<sup>th</sup> Session of the Council of Europe Standing Conference on 28-29 September 2023:

8. **WELCOME** the development of (i) a legally-binding instrument\* on the use of Artificial Intelligence systems in education to protect and promote human rights, democracy and the rule of law;
9. **Also WELCOME** the development of (ii) a recommendation to ensure that teaching and learning about AI incorporates the impact of AI on human rights, democracy and the rule of law and prioritises the active participation and agency of teachers and learners;

Protection of Individuals with regard to Automatic Processing of Personal Data (ETS No. 108), other relevant international and European conventions;

- c. the Recommendation CM/Rec(2019)10 of the Committee of Ministers to member States on developing and promoting digital citizenship education, Recommendation

# AI&ED Expert Group by CoE

## Mandate by Ministries of Education:

1. International legal instrument as European law for AIED
2. Recommendation for AI Literacy

<https://opening-up.education/artificial-intelligence-and-education>



### Council of Europe Standing Conference of Ministers of Education REGULATING ARTIFICIAL INTELLIGENCE IN EDUCATION

#### 1. Why regulate Artificial Intelligence in Education?

Artificial Intelligence (AI) is a rapidly evolving and complex technology that is increasingly impacting various aspects of daily life, including education. While AI might present opportunities for enhancing teaching and learning, it also poses potential risks and challenges related to its implications on human behavior, child development, and the overall socio-economic conditions of those involved. Thus, regulating AI in educational contexts is crucial.

It has been argued that, when deployed in educational settings, AI-enabled technologies have the potential to support diverse learners, including children and lifelong learners, as well as those who have special needs. Data analytics might also offer insights into the learning process, while voice assistants and adaptive tutoring might have the potential to foster more inclusive education.

However, it is essential to acknowledge also the potential negative impacts of AI-enabled technologies on education. Poor pedagogic practices might be automated, and existing biases and discriminatory approaches could be perpetuated and disseminated, along with disinformation and misinformation. This could result in disempowering both teachers and students and could undermine human rights, in particular the right to quality education. Moreover, there is a risk of devaluing certain important aspects of education, in particular the role and the tasks of teachers as educators, incrementing the mistrust in their capacity to teach in a digital and AI learning environment. Additionally, an overemphasis on easily measurable skills rather than promoting humanistic values such as collaboration, critical thinking, ethics, and democratic ideals that are harder to assess also poses a threat to quality education. The scarcity of independent evidence for the efficacy, impact, or safety of AI-enabled technologies in educational settings necessitates proper investigation through common standards and an international review system of such technologies.

Over the past decade, significant strides have been made in digital transformation within European education systems. The Digital Citizenship Education (DCE) program, based on the 20 Competences for Democratic Culture, has provided valuable policy guidance and practical tools to member States. The Recommendation CM/Rec(2019)10 on developing and promoting





## Artificial Intelligence and Education

A view through the lens of human rights, democracy and the rule of law. Legal and organizational requirements.

*An AIED 2023 workshop*

Irene-Angelica Chounta, Vania Dimitrova, Christian M. Stracke, Beth Havinga



# TUT-03 "Ethical AI and Education"

## Artificial Intelligence & Education: International Regulation for the Human Rights

### Meet the Organizers



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University of Bonn,  
Germany



Irene-Angelica Chounta  
University of Duisburg-  
Essen, Germany



Vania Dimitrova  
University of Leeds, UK



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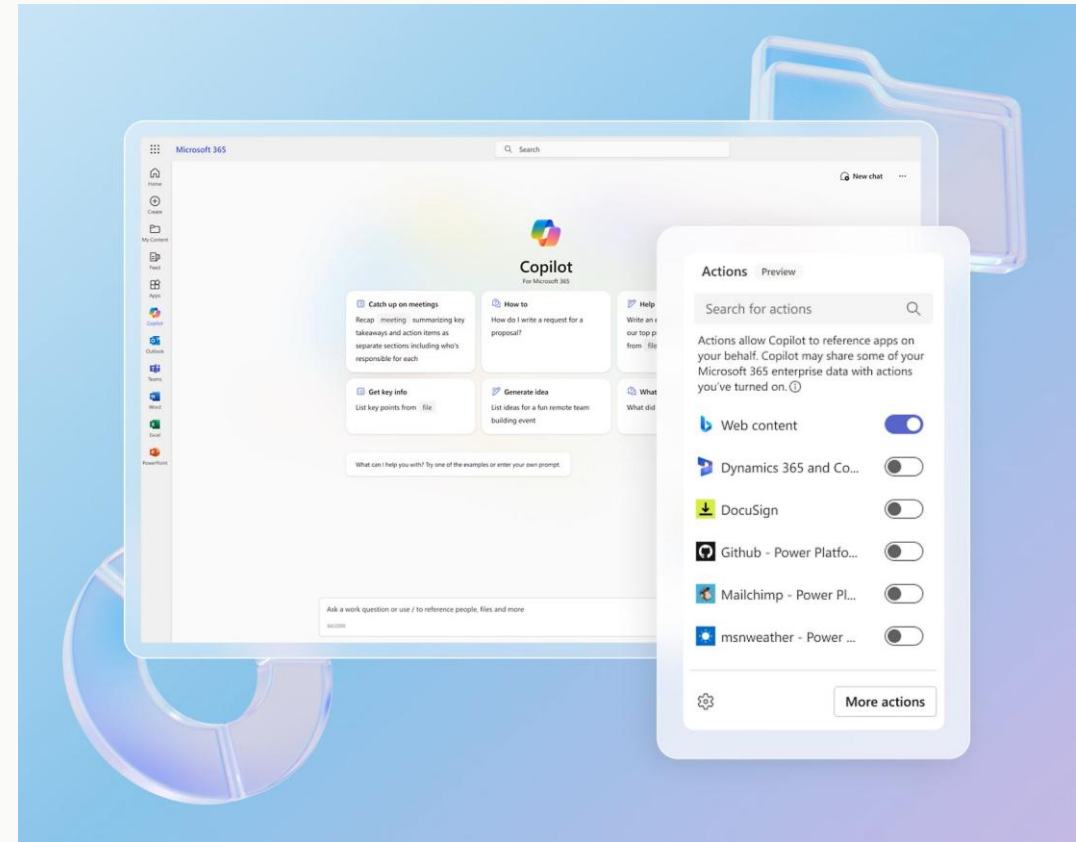


Wayne Holmes  
University College  
London, UK

<https://doi.org/10.5281/zenodo.12744447>

Workshop at AIED 2024 in Recife, Brazil  
<http://aied2024.learning-innovations.eu>

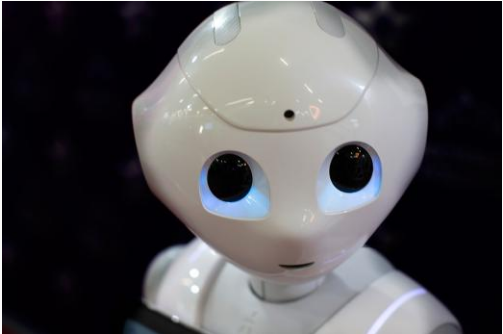
# And the AI future?



# Central Hypotheses



**1. Artificial Intelligence changes more than COVID-19 and any other digital tools**



**2. Artificial Intelligence has to be globally regulated: in particular in education**



**3. AI and Education have to focus stronger ethics, democracy and our whole society**



**Open Education**

<https://opening-up.education/artificial-intelligence-and-education>

# Workshop Overview



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90 min.

80 min.

30 min.

25 min.

<http://aied2025.learning-innovations.eu>



# Session 1: Intro & Scene Setting

- Q1. Which regulations of AI and education do you know?**
- Q2. Which guidelines for AI and education have you to follow?**

# Session 2: World Café

## Procedure at the tables:

1. **Reading** the open question and clarifying it
2. **Collecting** contributions (= answers) on the question as post-it at a flipchart or on a notebook
3. **Sorting** of all collected contributions in open discussion and clustering them

Document your results & send them to [stracke@uni-bonn.de](mailto:stracke@uni-bonn.de)

# Session 3: Plenary

**Presenting** the sorted and clustered contributions

**Discussing** and **reflecting** them

# Session 4: Closing

**Collecting & documenting** participants' input for the future work of the Council of Europe and its AI&ED Expert Group

**Envisioning & defining** next steps, directions and activities

**Concluding** with a wrap up

# AI and Education

**Interested? Contact me!**



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[www.hrz.uni-bonn.de](http://www.hrz.uni-bonn.de)  
[www.opening-up.education](http://www.opening-up.education)







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# Let us cooperate!



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# Thank you for your attention!

## Interested? What are your questions?



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