AIRED

AI reshapes education

WP4: ETHICAL AND INCLUSIVE USE OF AI

D4.2. Defining Best Practices for Ethical AI Use: Guidelines for Mitigation

Co-funded by the European Union

May 13th 2025

Project acronym	AIRED
Project full title	AIRED: Artificial Intelligence Reshapes Education
Action type	KA220-VET - Cooperation partnerships in vocational education and training (KA220-VET)
Grant agreement no.	2024-1-FR01-KA220-VET-000256094
Deliverable name	Defining Best Practices for Ethical AI Use: Guidelines for Mitigation
Distribution level	Public
Responsible authors:	Aleksandra Szproch, Dr. Moya O'Brien, Rebecca Kummer (ICEP Europe)
Contributing authors:	Frédéric Beleme (Haikara) Asun Alonso, José Ma Arrieta (AEG) Sarah Hönigsber, Sabrine Mallek (ICN Business School)

Revision history

Number	Date	Description
1	01/05/2025	Draft 1
2	13/05/2025	Final

Statement of Originality

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation, or link.

Copyright

Disclaimer

Funding Acknowledgement

The **AIRED** project has received funding from the European Union EACEA.A – Erasmus+, EU Solidarity Corps under Grant Agreement n. 2024-1-FR01-KA220-VET-000256094. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Table of Contents

1. Executive Summary 4

2. Introduction 5

3. Summary of Identified Risks 6

4. Mitigation Principles and Guidelines 8

4.1 Over-reliance on AI 8

4.2 Bias and Discrimination 9

4.3 Digital Inequity 9

4.4 Job Displacement 10

4.5 Emotional Dependency 10

4.6 Limited Resources and Infrastructure 11

4.7 Algorithmic Transparency 11

4.8 Cultural Bias 12

4.9 Linguistic Inequity 12

4.10 Inaccurate Outputs 12

4.11 Ethical Concerns 13

4.12 Lack of Educator Expertise 13

4.13 Academic Integrity and Plagiarism 14

4.14 Privacy and Data Protection 14

5. Examples of Mitigation in Practice 15

5.1 Ireland 15

5.2 Spain 16

5.3 France 17

6. Conclusion 19

7. References 20

AIRED
AI reshapes education

1. Executive Summary

The AIRED: Artificial Intelligence Reshapes Education project (2024-1-FR01-KA220-VET-000256094) explores the ethical and inclusive use of artificial intelligence (AI) in education and training. The current report, developed as part of Work Package 4 aims to support the ethical, inclusive, and pedagogically sound integration of AI technologies in education and training across Europe. Building on prior research that mapped AI-related risks in educational settings in Ireland, Spain, and France, this document provides a structured framework of actionable mitigation strategies and best practices for addressing these risks. In addition to presenting sector-specific mitigation strategies, the report features concrete examples of how Ireland, Spain, and France are already responding to these challenges. The best practices and mitigation strategies offered here serve as a practical guide for educators, policymakers, and institutions committed to ensuring AI supports equitable, transparent, and human-centred education systems.

2. Introduction

This document forms the second deliverable of Work Package 4 (WP4): Ethical and Inclusive Use of AI of the AIRED: Artificial Intelligence Reshapes Education (2024-1-FR01-KA220-VET-000256094) project. The overarching goal of this work package is to promote ethical, inclusive, and pedagogically sound approaches to AI adoption in education and training across Europe.

Building on the findings of Deliverable 4.1: Mapping AI Risks in Education and Training: Insights from Ireland, Spain, and France, this report defines a framework of best practices and mitigation strategies. The previous activity identified core risks through desk research, in-depth national case studies, and surveys conducted with educators and training professionals. These methods enabled the consortium to surface shared concerns as well as context-specific challenges.

In this deliverable, Activity 2 focuses on providing practical, context-aware responses to the risks identified. The structure of this report is as follows:

- A summary of key risks and their potential impacts;
- A set of overarching principles for ethical AI use in education;
- Specific mitigation guidelines for each identified risk, organised by educational sector where appropriate;
- Concrete examples of best practices from partner countries, including institutional initiatives, teacher training models, and digital policy frameworks.

Together, these guidelines are designed to support educational institutions, teachers, and policymakers in navigating AI integration in a safe, equitable, and values-driven manner.

3. Summary of Identified Risks

The first phase of WP4 identified a broad spectrum of AI-related risks in educational and training contexts, shaped by technological, institutional, and cultural factors. These risks were observed across Ireland, Spain, and France and were supported by empirical evidence from surveys, case studies and national research reports. Each risk carries distinct implications for learner outcomes, teacher autonomy, data security, and inclusion. The table below provides a summary of all risks identified and their potential impact.

Table 1. Summary of identified risks and their potential impact on the educational sector.

Risk	Description	Potential Impact
Over-Reliance on AI	Relying too heavily on AI tools can hinder critical thinking and creativity among students and educators.	Reduced learner autonomy, creativity, and deeper understanding; weakening of core teaching practices.
Bias and Discrimination	AI models may reinforce negative stereotypes and biases due to being trained with unregulated data and by developers with unconscious biases.	May perpetuate existing social inequalities and disadvantage already marginalised groups of learners.
Digital Inequity	Access to AI tools is often unequal, particularly in rural or under-resourced schools.	Deepens the digital divide and educational inequality between well-resourced and under-resourced communities.
Job Displacement	Concerns that AI could change skill requirements and potentially replace certain educational roles.	May lead to role redefinition or loss, particularly for administrative and support staff; potential resistance to AI adoption.
Emotional Dependency	Interacting with AI systems that mimic human behaviour may lead to emotional attachment.	Could affect students' emotional development and social interactions; risk of reduced human empathy.
Limited Resources and Infrastructure	Schools and institutions may lack the technical support and resources needed to integrate AI effectively.	AI implementation may be partial or ineffective, creating inconsistent learner experiences across contexts.
Algorithmic Transparency	AI systems often lack transparency and clear disclosure of how data is synethsised.	Lack of clarity may hinder appropriate use or lead to blind trust in AI outputs, reducing accountability.

Defining Best Practices for Ethical Use: Guidelines for Mitigation

Cultural Bias	AI systems can misinterpret cultural expressions, leading to unfair assessments.	Learners from diverse cultural backgrounds may be misunderstood or unfairly penalised.
Linguistic Inequity	Limited training data for minority languages poses challenges for dual-language education.	Speakers of minority languages may be excluded or underserved by AI tools, undermining inclusion.
Inaccurate Outputs	AI systems can produce incorrect or misleading information.	Can misinform learners and educators, potentially impacting grades, learning outcomes, and trust in AI tools.
Ethical Concerns	Uncertainty around the ethical use of AI-generated content and intellectual property.	May discourage AI use or result in legal and reputational risks for institutions.
Lack of Educator Expertise	Many educators lack the training and confidence to effectively implement AI.	Limits meaningful and pedagogically sound integration of AI into learning environments.
Academic Integrity and Plagiarism	Use of tools like ChatGPT for assignments raises issues around authenticity and originality.	Increases risks of plagiarism, undermines assessment validity, and devalues learning achievements.
Privacy and Data Protection	Concerns around the collection and use of personal data, particularly regarding GDPR compliance.	May breach legal obligations and erode student and parent trust in educational institutions.

4. Mitigation Principles and Guidelines

The following section outlines specific mitigation strategies for each identified AI risk in education and training. These guidelines have been developed based on a comprehensive synthesis of findings from the AIRED project's cross-country desk research, partner-conducted surveys, and real-world case studies in Ireland, Spain, and France, as well as a review of relevant European policy frameworks and international literature on AI ethics and education.

By triangulating insights from national contexts and aligning them with broader ethical and pedagogical principles, the strategies aim to offer realistic, context-sensitive responses to the key risks highlighted in D4.1 Mapping AI Risks. Each risk is paired with recommended mitigation actions to support educators and students, and where appropriate, categorised by the level at which they are best addressed: school, higher education and lifelong learning, and government/policy.

4.1 Over-reliance on AI

Government/Policy	Higher Ed and Lifelong Learning	Schools
Fund professional development initiatives that help educators use AI meaningfully without diminishing pedagogical agency.	Provide training and guidelines for academic staff to critically evaluate AI tools and avoid overuse in grading, content creation, or student monitoring.	Schools should support teachers in using AI tools as a supplement, not a substitute, for professional judgment, lesson planning, and feedback.
	Encourage assessments that go beyond content generation to evaluate analytical reasoning, personal insight, and academic integrity.	Where appropriate, teachers should design lessons that combine AI with teacher-led activities and use them to educate students on AI's benefits and limitations (Zhang et al., 2024).

Defining Best Practices for Ethical Use: Guidelines for Mitigation

4.2 Bias and Discrimination

Government/Policy	Higher Ed and Lifelong Learning	Schools
Develop and share national guidelines to help schools and institutions choose AI tools that support fairness and inclusion.	Provide training and resources for faculty and IT teams on recognising bias in AI systems used for teaching, training, assessment, or admissions.	Choose AI tools that are designed for educational use and come with clear documentation about inclusivity and intended learner groups.
Implement frameworks around regular testing and validation of generative AI tools used by public markets, in line with ongoing EU regulations (Byrne et al., 2024).		

4.3 Digital Inequity

Government/Policy	Higher Ed and Lifelong Learning	Schools
Fund infrastructure, internet access, and device provision in underserved areas.	Ensure equitable access to AI-enabled platforms in libraries and labs (O'Donnell et al., 2024).	Integrate AI tools into existing school infrastructure (e.g., interactive whiteboards, shared PCs in libraries or ICT labs), making AI accessible without requiring new investments.
Embed best practice guidelines into the National Curriculum to ensure consistency in AI literacy across schools and prevent the propagation of future digital inequality (Jefferson, 2024).	Support low-income students with tech grants.	Encourage use of inclusive, low-bandwidth tools only when they meet clear educational needs and combine with teacher-led instruction to minimise reliance on individual access.

Defining Best Practices for Ethical Use: Guidelines for Mitigation

4.4 Job Displacement

Government/Policy	Higher Ed and Lifelong Learning
Monitor the impact of emerging AI on labour market trends.	Integrate AI-related pedagogical tools in teacher education programmes; support staff to adapt roles rather than replace them (Bukartaite & Hooper, 2023).
Invest in incentives to promote professional development opportunities in the workplace that are aligned with the views of educator on their evolving roles to promote a positive and adaptive adoption of AI (Goos & Savona, 2024).	

4.5 Emotional Dependency

Government/Policy	Higher Ed and Lifelong Learning	Schools
Issue ethical guidelines limiting anthropomorphic AI use in education.	Include modules/activities exploring the psychological and social dynamics of AI use.	Integrate digital wellbeing and emotional literacy into health, social, or citizenship education curricula, focusing on healthy relationships with technology.
	Support student-led research and critical debate on AI and emotional design, including ethical concerns, dependency risks, and social impact (O'Donnell et al., 2024).	Provide teachers with guidance on monitoring student interactions with emotionally responsive AI tools (e.g., chatbots, virtual tutors), including age-appropriate usage.
	Offer wellbeing, digital resilience and cognitive load management training to staff and students, especially in programmes where AI tools are heavily used (Naseer et al., 2025).	Encourage open classroom discussions about trust, emotions, and technology, helping students reflect on their own experiences.

Defining Best Practices for Ethical Use: Guidelines for Mitigation

4.6 Limited Resources and Infrastructure

Government/Policy	Higher Ed and Lifelong Learning	Schools
Provide targeted investment in school IT infrastructure, including supplementing students experiencing digital poverty with necessary resources (Jefferson, 2024).	Leverage existing platforms and tools already in use within the institution or training centre (e.g., learning management systems) by integrating AI functionalities rather than introducing entirely new systems.	Use AI tools that integrate with existing devices and platforms, reducing the need for new hardware.
	Pilot AI tools at the department or course level to evaluate effectiveness before committing to wider adoption, keeping resource use targeted and manageable.	Establish a "digital champions" model, where a few trained staff support others in using AI effectively with limited infrastructure.

4.7 Algorithmic Transparency

Government/Policy	Higher Ed and Lifelong Learning	Schools
Provide national guidance and evaluation checklists for transparency in AI tools used in education, helping schools and institutions assess tools before adoption.		Train staff to critically evaluate AI systems and interpret outputs transparently, supplementing their assessment of AI tools with research-informed checklists and guidelines (Ellis, 2024).
Promote procurement policies that favour AI tools with clear documentation on how decisions are made, how data is used, and how outputs can be interpreted.		
Support development of educator-friendly resources that explain common AI systems used in schools and universities, including risks, benefits, and how to talk about them with learners.		

Defining Best Practices for Ethical Use: Guidelines for Mitigation

4.8 Cultural Bias

Government/Policy	Higher Ed and Lifelong Learning	Schools
Fund awareness-raising initiatives that help schools and universities understand how cultural bias can manifest in digital tools, e.g., webinars, guidance briefs, educator-facing explainers.	Encourage educators, trainers and students to critically reflect on AI content and how it might reflect or omit certain cultural perspectives.	Raise basic awareness among educators and students about how AI tools can reflect cultural norms or biases (e.g., through examples or short training modules) (Fesakis & Prantsoudi, 2021).

4.9 Linguistic Inequity

Government/Policy
Fund and support the integration of minority/regional languages into national educational AI tools or platforms, beginning with the implementation of basic functions such as spelling support and speech recognition (Rehm et al., 2021).

4.10 Inaccurate Outputs

Government/Policy	Higher Ed and Lifelong Learning	Schools
Develop and disseminate guidance for educators on common limitations of AI in education, using non-technical language and practical examples.	Encourage a supportive dialogue with students about AI's role, potential, and limitations (O'Donnell et al., 2024) and offer practical tips on fact-checking AI outputs.	Introduce students to the idea that AI tools can make mistakes, using simple examples or demonstrations.
	Pilot optional assignment components where students briefly critique or compare AI-generated content with academic sources, without overhauling full assessments.	Encourage basic verification strategies in classwork (e.g., "check it in a book," "ask your teacher," or "compare with another source").
		Provide simple guidance for teachers on identifying misleading or incomplete AI-generated content, even without technical training.

Defining Best Practices for Ethical Use: Guidelines for Mitigation

4.11 Ethical Concerns

Government/Policy	Higher Ed and Lifelong Learning	Schools
Provide clear and accessible guidance on responsible AI use in schools and universities (Chan, 2023), aligned with EU/UNESCO principles.	Embed introductory content on ethical AI use into digital skills workshops, academic integrity training, or tutorial sessions, especially for new students.	Encourage students to think critically about their own use of AI tools (e.g., "Is it fair to use this for homework?" "Should I say I used it?") through guided classroom discussion.
Support the creation of template policies or toolkits that institutions can adapt to establish their own guidelines on ethical AI use.	Encourage staff to model ethical use (e.g., by explaining when they use AI to support teaching or assessment prep), to promote transparency (O'Donnell et al., 2024).	
Promote awareness-raising initiatives (e.g., webinars, explainer videos, workshops) on fairness, transparency, and accountability in educational AI.		

4.12 Lack of Educator Expertise

Government/Policy	Higher Ed and Lifelong Learning	Schools
Launch national AI-focused upskilling programmes for teachers and lecturers that are relevant, interactive and acessible (Polak et al., 2022).	Develop simple guidance sheets or toolkits for common AI use cases (e.g., using AI for feedback, planning) with clear pros, cons, and examples.	Offer hands-on training for teachers; develop peer mentoring or 'digital lead' teacher roles.
	Encourage cross-disciplinary collaboration between digital learning teams and academic departments to explore subject-specific uses of AI.	

Defining Best Practices for Ethical Use: Guidelines for Mitigation

4.13 Academic Integrity and Plagiarism

Government/Policy	Higher Ed and Lifelong Learning	Schools
Support development of sector-wide academic integrity frameworks that address AI use.	Create integrity policies covering generative AI.	Clarify rules on AI use in coursework; design tasks that reward process, creativity, and reflection.
	Promote assessment formats that reduce reliance on AI-tools and support educators with practical strategies for AI integration (Awadallah Alkouk & Khlaif, 2024) and include AI acknowledgement forms in assignments (National College of Ireland, 2024).	

4.14 Privacy and Data Protection

Government/Policy	Higher Ed and Lifelong Learning	Schools
Develop easy-to-use privacy risk assessment templates or procurement checklists for schools and institutions adopting AI tools.	Ensure students and educators are informed of how AI tools may process their personal and learning data (Huang, 2023), especially when used in assessments or learning analytics.	Raise awareness among teachers and students about the dangers of sharing personal information with AI tools.
Run awareness campaigns for education leaders and school boards on the risks of data misuse and their legal responsibilities under GDPR.		Discourage the use of AI tools for tasks involving personal, behavioural, or academic data
	Encourage use of institution-managed AI tools over freely available ones that may monetise user data.	Provide guidelines that outline what types of tasks are appropriate for AI support and what should be avoided.
	Emphasise that AI tools should not replace professional judgment in decisions involving student welfare, learning needs, or behaviour.	

5. Examples of Mitigation in Practice

As part of the AIRED project's commitment to responsible and inclusive AI in education and training, this section highlights promising practices and policy responses from the three participating countries: Ireland, France, and Spain. Each country offers distinct examples of how AI-related risks identified through research are already being addressed in context-specific ways - through national strategies, policy frameworks, governance mechanisms, teacher training, and educational innovation.

Rather than presenting a one-size-fits-all solution, these national snapshots illustrate the multi-level and context-sensitive nature of effective risk mitigation. By exploring the approaches taken in each country, this section provides insights into how AI risks are being anticipated, minimised, and managed, and how education systems are working to ensure that AI enhances rather than undermines core educational values. These examples also point to the importance of stakeholder collaboration, including government agencies, educators, researchers, and learners themselves, in shaping the responsible use of AI across different educational settings.

5.1 Ireland

Ireland has taken proactive steps to mitigate AI-related risks in education and training through a range of national policies and guidelines. One of the key resources supporting this effort is the Digital Strategy for Schools to 2027, published in 2022 by the Department of Education. This strategy provides direction for school management and the use of digital technology in both primary and secondary educational environments (Le Borgne et al., 2024). Another important policy document is QQI's Generative AI: Guidelines for Educators (2023), which offers guidance on the ethical and effective use of generative AI in education. The guidelines help educators understand AI's capabilities and limitations, navigate institutional policies, and maintain academic integrity. They encourage informed discussions with students, the development of AI-aware assessments, and the responsible integration of AI tools in teaching and learning. The Department of Education is also developing comprehensive national guidelines for the safe, ethical, and responsible use of AI in Irish schools, aiming to raise awareness of both its potential benefits and risks (Department of Education, 2024). This work includes research into the impact of digital devices in classrooms and consultations with EU member states to inform future policy focused on AI and data literacy.

Defining Best Practices for Ethical Use: Guidelines for Mitigation

To ensure educators are equipped to integrate AI responsibly, Ireland has introduced various training opportunities. A free online course provided by Oide (Oide Technology in Education, 2025) offers foundational knowledge on AI, including key policy documents, ethical considerations, and the strengths and limitations of AI in education. This course is aligned with the Digital Strategy for Schools to 2027 and includes input from organisations such as the Adapt Centre to ensure it reflects the latest developments and research. The course is designed to help educators navigate the evolving AI landscape and address both opportunities and risks in classroom settings.

At the student level, best practice examples include the 'AI in My Life' programme—a teacher-led modular workshop designed to enhance AI literacy, ethics, and career awareness among Transition Year students in Ireland (Barber et al., 2024). Developed collaboratively with teachers and students, the programme covers AI basics, ethics, and the future of work. Evaluations noted increased student understanding, greater ethical awareness, and improved confidence in discussing AI. At higher education level, the €40m N-TUTORR programme supports student engagement through focused projects and student champion roles, while also providing AI training for staff and senior leaders across seven technological universities (Flynn et al., 2024).

5.2 Spain

Efforts to mitigate AI-related risks in Spanish education have focused strongly on upskilling educators, with various training initiatives reflecting a growing recognition of the need for targeted professional development. Regional governments, particularly in the Basque Country, have launched several short courses to address this. These include sessions on ethical use, privacy, and practical applications of generative AI in classrooms. For instance, the Department of Education's 2023–2024 course, Introduction to AI, covered topics from curriculum integration to ethics and privacy, although it required teachers to attend during their own time, a recurring barrier to meaningful participation.

Another strong initiative was Tknika's 2025 course on generative AI, which introduced 50 teachers to practical applications of language models in education. These courses are well-aligned with international recommendations for responsible AI use and demonstrate a proactive approach to professional development, equipping educators with tools for content creation, differentiation, and student engagement. While some programmes are brief or delivered outside regular school hours, they nonetheless mark an important cultural and systemic shift towards embedding AI literacy in teacher training. The fact that such courses are increasingly available illustrates growing momentum and demand for AI-related CPD.

A range of AI-focused professional development courses were made available to Spanish educators in 2023–2024, demonstrating strong institutional commitment to upskilling in this

rapidly evolving area. Examples include Google NoteBook LM (5 hours, 20 teachers, in-person), Introduction to NLP and Transformer Models using Hugging Face I (10 hours, 100 teachers, online), and From the Metaverse to the Classroom (16 hours, 25 teachers, blended format), which explored immersive virtual environments supported by AI. These courses reflect a diverse and growing menu of training opportunities aimed at enhancing both technical competence and pedagogical application of AI across educational contexts.

In addition to funding professional development courses, the Spanish Government is shifting policy to mitigate AI-related risks in key sectors, including education. Recently, a draft bill was approved which aligns with current EU policy and initiatives aimed at regulating practices by AI developers, particularly with tools used in education and healthcare. From August 2025, companies that implement harmful practices, such as measuring and exploiting vulnerable user data, will be fined up to €15 million (Ministry for Digital Transformation and Public Service, 2025). Guidelines for educators have also been published to mitigate risks directly within the educational system. In 2024, the National Institute of Educational Technologies and Teacher Training published the Guide on the Use of Artificial Intelligence in Education, which outlines the specific applications of AI in the educational sector, provides context-specific guidelines on the risks, challenges, and strategies involved in the use of AI by students, teachers, and administrators, and provides ethical guidelines to mitigate the identified risks (Ministry Of Education, Vocational Training And Sports, 2025).

5.3 France

Building on France's proactive national AI strategy and growing educator engagement, several initiatives illustrate how risks associated with AI in education are being addressed through concrete, research-supported practices. One central focus has been AI literacy. Research shows that incorporating AI into coursework improves students' critical engagement and understanding (Hönigsberg et al., 2024). In line with this, the AI4T project, launched in 2021 and co-funded by the European Commission, offers structured training for secondary school teachers across France. It supports educators in understanding AI, evaluating its classroom applications, and using it without over-reliance on automated systems.

France is also promoting explainability and trust in AI systems. A 2024 report (DNE-TN2) highlights that AI tools must be interpretable and auditable to be meaningfully integrated into teaching. The national strategy encourages the development of certified educational AI tools that provide clear rationales for their outputs, ensuring teachers retain control over pedagogical decisions.

Data governance is another key area of development. The Open Platform for French Public Data supports transparency and innovation by giving researchers and developers access to public

datasets. However, the platform still faces challenges, including inconsistent updates and limited data volume. Drawing on international models like Carnegie Mellon's Cognitive Tutor—which evolved through long-term data collection in thousands of U.S. schools—France is beginning to recognise the need for regular data updates and broader metrics to support effective AI integration.

Ethical and inclusive use of AI is also being emphasised. Studies show that AI systems can replicate existing social biases if not carefully monitored (Verger, 2024). In response, France promotes bias mitigation through professional development. Educators are encouraged to cross-check AI-generated assessments with their own evaluations and to foster classroom discussions on fairness in AI. These efforts are helping to embed critical digital literacy and equity awareness into everyday teaching practice.

Finally, France's education strategy promotes the use of AI as a support, not a substitute, for human educators. AI is used to streamline administrative tasks—such as grading or attendance—so teachers can focus more on interactive and student-centered learning. This "co-pilot" model ensures that technology enhances rather than undermines teacher agency and student connection, supporting a human-centered vision of AI in education.

6. Conclusion

While the integration of artificial intelligence in education and training undoubtedly presents a myriad of risks, there is growing evidence that these risks can be managed and mitigated. Across Ireland, Spain and France, some proactive mitigation strategies are already in place, spanning from national policy initiatives to practical training programmes for educators and students. These examples show that with thoughtful planning, stakeholder collaboration and commitment to ethical principles, many risks associated with AI can be significantly reduced or eradicated.

The mitigation strategies identified in this report are largely practical, accessible and adaptable across diverse educational contexts. Initiatives such as national guidelines, educator and student training courses and awareness campaigns illustrate that embedding ethical and inclusive AI use into education is not only achievable but already in progress.

Moving forward, it will be essential for governments and heads of educational institutions to invest in ongoing research on the impacts of AI in education and to translate findings into concrete policies and practices. Regularly updating guidelines based on emerging evidence, funding targeted professional development and establishing clear institutional frameworks for ethical AI will help ensure that AI adoption strengthens, rather than undermines, ethical and inclusive education across Europe.

7. References

Awadallah Alkouk, W., & Khlaif, Z. N. (2024, December). AI-resistant assessments in higher education: Practical insights from faculty training workshops. In *Frontiers in education* (Vol. 9, p. 1499495). Frontiers Media SA. https://www.frontiersin.org/journals/education/articles/10.3389/feduc.2024.1499495/pdf

Barber, G. L., Grehan, L., Dunne, J., Davis, B., & Qadeer, H. (2024, December). Towards an educational framework for integrating AI education into second-level education in Ireland: Preliminary insights from a national workshop series on AI ethics and privacy (Work in Progress). In *Proceedings of the 2024 Conference on Human Centred Artificial Intelligence-Education and Practice* (pp. 29-33).

Bukartaite, R., & Hooper, D. (2023). Automation, artificial intelligence and future skills needs: an Irish perspective. *European Journal of Training and Development, 47*(10), 163-185. https://www.emerald.com/insight/content/doi/10.1108/ejtd-03-2023-0045/full/pdf

Byrne, A., Lee, D., & Le, Q. (2024). *Bias in AI: tackling the issues through regulations and standards*. Puplic Policy: Evidence for Policy. https://publicpolicy.ie/papers/bias-in-ai-tackling-the-issues-through-regulations-and-standards/

Chan, C. K. Y. (2023). A comprehensive AI policy education framework for university teaching and learning. *International Journal of Educational Technology in Higher Education, 20*(1), 38.

Department of Education. (2024, April 1). *Minister Foley pledges commitment to establishing guidelines on the use of AI*. https://www.gov.ie/en/press-release/87b43-minister-foley-pledges-commitment-to-establishing-guidelines-on-the-use-of-ai/

DNE-TN2. (2024). Intelligence artificielle et éducation : Apports de la recherche et enjeux pour les politiques publiques (édition 2024) [Billet]. *Éducation, numérique et recherche*. https://edunumrech.hypotheses.org/10764

Ellis, B. (2024). *A Teacher Rubric and Checklist for Assessing AI Tools*. TCEA. https://blog.tcea.org/rubric-checklist-assessing-ai-tools/

Fesakis, G., & Prantsoudi, S. (2021, November). Raising artificial intelligence bias awareness in secondary education: the design of an educational intervention. In *ECIAIR 2021 3rd European Conference on the Impact of Artificial Intelligence and Robotics (p. 35)*. Academic Conferences and publishing limited.

Flynn, S., O'Reilly, S., & O'Neill, C. (2024). N-TUTORR: Addressing Artificial Intelligence as one element of the transformation of Ireland's technological higher education sector. *Ubiquity Proceedings, 4*(1).

Goos, M., & Savona, M. (2024). The governance of artificial intelligence: Harnessing opportunities and mitigating challenges. *Research Policy*, 53(3), 104928. https://doi.org/10.1016/j.respol.2023.104928

Hönigsberg, S., Watkowski, L., & Drechsler, A. (2024). *Feeding two birds with one scone: Teaching students AI literacy alongside regular IS topics by integrating generative AI into assignment design*. CACAIS 2024 Proceedings.

Huang, L. (2023). Ethics of artificial intelligence in education: Student privacy and data protection. *Science Insights Education Frontiers, 16*(2), 2577-2587.

Jefferson, C. (2024). *Rethinking Education with Generative AI: Examining the intersection of AI, learning, and digital inequality in the UK's education system*. Digital Poverty Alliance. https://digitalpovertyalliance.org/wp-content/uploads/2024/12/DPA-AI-Research-Report_December-2024.pdf

Le Borgne, Y. A., Bellas, F., Cassidy, D., Vourikari, R., Kralj, L., Obae, C., ... & Weber, M. (2024). *AI Report.* Royal College of Surgeons in Ireland. Report. https://doi.org/10.25419/rcsi.25021193.v1

Ministry for Digital Transformation and Public Service. (2025). *The Government approves the draft law for the ethical, inclusive, and beneficial use of Artificial Intelligence*. https://digital.gob.es/comunicacion/sala-de-prensa/comunicacion_ministro/2025/03/2025-03-11.html

Ministry of Education, Vocational Training, and Sports. (2025). *Guide on the use of artificial intelligence in education*. https://www.miteco.gob.es/es/ceneam/recursos/materiales/guia-sobre-el-uso-de-la-inteligencia-artificial-en-el-ambito-edu.html

National College of Ireland. (2024). *Use of AI in Teaching and Learning: Student Guide*. https://libguides.ncirl.ie/useofaiinteachingandlearning/studentguide

Naseer, A., Ahmad, N. R., & Chishti, M. A. (2025). Psychological Impacts of AI Dependence: Assessing the Cognitive and Emotional Costs of Intelligent Systems in Daily Life. *Review of Applied Management and Social Sciences, 8*(1), 291-307. https://www.ramss.spcrd.org/index.php/ramss/article/download/458/479

O'Donnell, F., Porter, M., & Fitzgerald, S. (2024). The role of artificial intelligence in higher education: Higher education students use of AI in academic assignments. *Irish Journal of*

Technology Enhanced Learning, 8(1). https://journal.ilta.ie/index.php/telji/article/download/169/186/919

Oide Technology in Education. (2024). (New!) *AI for Schools*. https://www.oidetechnologyineducation.ie/onlinecourses/ai-for-schools/

Polak, S., Schiavo, G., & Zancanaro, M. (2022, April). Teachers' perspective on artificial intelligence education: An initial investigation. In *CHI conference on human factors in computing systems extended abstracts* (pp. 1-7). https://iris.unitn.it/bitstream/11572/348321/1/Polak%20et%20al.%20-%202022%20-%20Teachers%27%20Perspective%20on%20Artificial%20Intelligence%20-preprint.pdf

Rehm, G., Gaspari, F., Rigau, G., Giagkou, M., Piperidis, S., Grützner-Zahn, A., ... & Way, A. (2021). *The European Language Equality Project: Enabling digital language equality for all European languages by 2030.* Dublin City University. https://doras.dcu.ie/28377/1/EFNIL-Cavtat-06-Rehm.pdf

Verger, M. (2024, May 29). Using AI in the classroom to recommend exercises to students: What is the benefit, what are the biases? *The Conversation*. https://www.sorbonne-universite.fr/en/news/using-ai-classroom-recommend-exercises-students-what-benefit-what-are-biases

Zhang, H., Lee, I., & Moore, K. (2024, March). An effectiveness study of teacher-led AI literacy curriculum in K-12 classrooms. In *Proceedings of the AAAI Conference on Artificial Intelligence* (Vol. 38, No. 21, pp. 23318-23325).