IDEAL

Integrating Data Analysis and AI in Learning Experiences

D2.1

Activity 1 (Result 1)

CASE INVENTORY FOR AI AND DATA ANALYSIS IN EDUCATION

Comprehensive Report on AI in Education – Methodologies and Case Inventory

Work Package 2: Use case Inventory for AI and Data Analysis in Higher Education and Competence Framework

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Executive Summary

The WP2-IDEAL Comprehensive Report on AI in Education – Methodologies and Case Inventory offers a detailed landscape analysis of current methodologies and case studies related to the integration of Artificial Intelligence (AI) and data analytics in education, primarily focused on higher education contexts. Led by Aristotle University of Thessaloniki and the University of Milano-Bicocca, the report captures an extensive inventory of 88 methodologies and 82 cases across 17 countries, showcasing how AI is transforming educational practices worldwide.

The first section of the report presents an inventory of AI methodologies employed in education. These range from curriculum innovations and professional development programs for educators, to the integration of AI tools in administrative, teaching, and learning practices. The methodologies are carefully categorized by country, with consistent descriptors provided for each entry: title, description, target groups, key features, and references. The methodologies emphasize institution-led initiatives that involve applied components such as hackathons, interdisciplinary collaborations, practical assessments, and industry partnerships. Examples include agile AI development sprints in Bulgaria, MOOCs on AI literacy for educators in France and Finland, AI ethics modules embedded in Japanese universities, and AI-enhanced curriculum planning across the European Union. Despite differences in local contexts, a clear trend emerges: AI is being used not only as a technological enhancement but also as a strategic driver for pedagogical innovation and inclusion.

The second major section focuses on case studies that illustrate the application of AI in real-world educational settings. These 82 cases are aligned with critical themes such as accessibility, inclusivity, environmental sustainability, and the Sustainable Development Goals (SDGs). Cases range from AI-driven sign language translation systems in Bulgaria and Greece to smart educational mobility apps in Sofia, AI-assisted refugee integration platforms in Greece, and AI-supported inclusive tourism initiatives. The cases demonstrate that AI is increasingly seen not just as a tool for educational efficiency, but as a lever for social good—addressing inequalities, supporting underrepresented groups, and promoting environmental stewardship. Nonetheless, challenges remain, particularly around ethical considerations, data privacy, algorithmic bias, and ensuring AI does not exacerbate existing inequities.

The report underscores a number of critical insights. First, there is a strong European leadership in developing ethical and inclusive AI practices for education, though non-European countries like Japan and the USA contribute significantly to research and practice innovation. Second, there is a growing emphasis on aligning AI applications with broader policy agendas, such as the EU Digital Education Action Plan and the United Nations SDGs. Third, the need for systemic professional development for educators—enabling them not only to use AI tools but to critically engage with their implications—is becoming urgent.

In conclusion, while the current landscape reveals exciting innovations, it also highlights substantial gaps: the uneven availability of AI resources across countries and sectors, the underrepresentation of environmental considerations in AI deployments, and a need for stronger integration of ethical frameworks. Moving forward, sustainable, inclusive, and critically informed adoption of AI in education will be key to realizing its transformative potential without sacrificing core educational and social values.

Comprehensive Report on AI in Education – Methodologies and Case Inventory

Inventory of AI Methodologies in Education

Introduction

Artificial Intelligence (AI) is rapidly transforming the landscape of education, from higher education institutions to non-formal learning environments. Across Europe, governments, universities, and private institutions are deploying diverse AI-based methodologies to enhance teaching, learning, and educational management. This report provides a structured inventory of 88 AI-related methodologies currently active or recently implemented in 14 countries (European and non-European), as documented in the **IDEAL project repository**.

For each country, methodologies are listed alphabetically and described with the following details:

- Title
- Description
- Target Groups (where available or inferred)
- Key Features (inferred where not explicit)
- Website or source

This inventory aims to serve as a resource for educators, policymakers, researchers, and designers interested in developing or adopting AI in higher education across diverse contexts.

Bulgaria

AI Innovation Lab

- Description: Burgas Free University – Department of Informatics: A research hub offering courses in AI-driven business solutions, predictive analytics, and chatbots. Partners with local tech startups. Methodology: Agile development sprints and hackathons to solve industry challenges. Assessment: Prototype demonstrations and pitch presentations to industry panels.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.bfu.bg/en/departments/informatics

AI and Big Data Analytics

- Description: Institute of Information and Communication Technologies (IICT) – Bulgarian Academy of Sciences: Offers PhD programs and research modules in AI, focusing on healthcare AI, smart cities, and NLP for Balkan languages. Methodology: Collaborative research with EU projects (e.g., Horizon Europe). Assessment: Peer-reviewed publications and conference presentations.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.iict.bas.bg/

AI and Cognitive Systems (Master's)

- Description: New Bulgarian University – Department of Computer Science: Explores AI applications in cognitive science, including neural networks, knowledge representation, and human-AI interaction. Methodology: Interdisciplinary approach with psychology and philosophy modules. Uses tools like MATLAB and OpenAI Gym. Assessment: Research papers, presentations, and collaborative AI model development.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://nbu.bg/en/departments/computer-science

Artificial Intelligence and Machine Learning

- Description: Plovdiv University "Paisii Hilendarski" – Faculty of Mathematics and Informatics: Undergraduate course introducing AI fundamentals, including search algorithms, decision trees, and deep learning architectures. Methodology: Blended learning with online lectures via Moodle and in-person coding workshops. Assessment: Weekly quizzes, Kaggle-style competitions, and a final exam.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.uni-plovdiv.bg/en/

Erasmus+ Project – AI4BGEDU: AI Integration in Bulgarian Education

- Description: A collaboration between Bulgarian universities (e.g., University of Ruse) and EU partners to train educators in AI tools for personalized learning and automated assessment. Methodology: Workshops on AI platforms like Google Teachable Machine and LMS integration. Assessment: Pilot implementations in classrooms and feedback analysis.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components

- Website: https://erasmus-plus.ec.europa.eu/projects

Intelligent Systems and Robotics (Master's Program)

- Description: Technical University of Sofia – Faculty of Computer Systems and Control: Covers AI algorithms, robotics, and autonomous systems. Emphasizes reinforcement learning, computer vision, and IoT integration. Methodology: Project-based learning with access to robotics labs and simulation tools like ROS (Robot Operating System). Assessment: Team robotics projects, written exams, and peer evaluations.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://tu-sofia.bg/faculties/fkts/

Master's in Data Science and Artificial Intelligence

- Description: Sofia University "St. Kliment Ohridski" – Faculty of Mathematics and Informatics Program: A postgraduate program focusing on machine learning, neural networks, and big data analytics. Includes modules on natural language processing (NLP) and AI ethics. Methodology: Combines lectures with hands-on labs using Python, TensorFlow, and PyTorch. Industry collaborations for real-world projects. Assessment: Coursework assignments, final projects, and thesis defenses.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.fmi.uni-sofia.bg/en

EU

Digital Learning and ICT in Education

- Description: The European Commission aims to modernize education and training by funding research and innovation and promoting digital technologies for learning.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://digital-strategy.ec.europa.eu/en/policies/digital-learning

Finland

AI in Society - UNA Europa, MOOC from University of Helsinki

- Description: Three basic free online courses on how AI impacts society, plus four additional modules with different focus (health, democracy, justice and discrimination). It is useful for students of any discipline, as well as anyone else who is interested in understanding the societal impact of AI and how AI technology is changing our everyday life. Does not require previous knowledge on AI.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://courses.mooc.fi/org/uh-cs/courses/ai-in-society

France

Intelligence artificielle pour et par les enseignants MOOC course of FUN - France Université Numérique

- Description: 3 hours self-learning in French. The aim of this course is to help teachers and the educational community as a whole to gain a general understanding of AI - its uses, technologies and limitations, and to guide them towards an informed use of AI-based tools in the context of Education. It helps participants form their own opinions on the following questions:
  - What is AI used for in the context of education?
  - What type of AI for what purpose?
  - What are the benefits and challenges?
  - How can AI-based resources be used?
  - What impact can we expect in teaching and learning practices?
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.fun-mooc.fr/fr/cours/intelligence-artificielle-pour-et-par-les-enseignants-ai4t/

Intelligences artificielles génératives - Université de Bordeaux

- Description: The University of Bordeaux is providing the teaching community with a series of teaching resources to help them understand how generative AIs such as ChatGPT work, their advantages and limitations, and the different uses that students, teachers and tutors can make of them. Enable teachers to identify the impact of these technologies on their learning and teaching activities, and to adopt the most appropriate strategies according to their sensitivity, context and practices.
- Target Groups: Higher education students, educators

- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://enseigner.u-bordeaux.fr/outils-et-ressources/IAG

L'Intelligence Artificielle... avec intelligence! MOOC course of FUN – France Université Numérique

- Description: 10 hours of self-learning in French. It targets especially education professionals but also young students and citizens as a whole. Each module is structured around four learning stages based on active teaching methods and has quizzes and exercises:
  - asking questions: deciphering the discourse surrounding AI,
  - experiment: carry out an activity to see for yourself,
  - discover: understand how things work through the history of humans and their ideas,
  - debate: be able to discuss the subject.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.fun-mooc.fr/fr/cours/lintelligence-artificielle-avec-intelligence/

L'Observatoire de l'Intelligence artificielle de Paris 1 Panthéon-Sorbonne

- Description: It aims to bring together the work of various research teams at the University of Paris 1 Panthéon-Sorbonne on the development of artificial intelligence (AI) in different disciplines, including computer science, mathematics, law, history, geography, philosophy, economics, management and the arts, in order to explore the impact of artificial intelligence on society by adopting a reflective and multidisciplinary approach. It has an ongoing collection of courses, projects and relevant articles and publications, plus a list of professors and researchers involved in AI-related research.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://observatoire-ia.pantheonsorbonne.fr

Germany

AI4matter

- Description: Competence network for consulting and integration of AI in processes and workflows in the manufacturing industry. Consortium consisting of eight European countries.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: http://ai-matter.eu

AIDAHO

- Description: Supplementary courses for students at the University of Hohenheim on the topics of AI and Data Science. The courses include technical modules (such as basics in Python, R, and SQL), methodological seminars, and practical examples. The courses are free for students of the University of Hohenheim.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://aidaho.uni-hohenheim.de/en

Action Plan Artificial Intelligence by the BMBF

- Description: The Action Plan Artificial Intelligence (2023) by the German Federal Ministry of Education and Research
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.ki-strategie-deutschland.de/?file=files/downloads/Aktionsplan_Kuenstliche_Intelligenz_2023_EN.pdf&cid=1336

Generative KI trifft auf Hochschule: Eine Zeitreise vom „Urknall“ bis heute

- Description: Lecture on the development and changes in the use of Generative Artificial Intelligence up to now.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.e-teaching.org/community/communityevents/ringvorlesung/generative-ki-trifft-auf-hochschule-eine-zeitreise-vom-urknall-bis-heute

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German National AI-Strategy

- Description: The National AI Strategy of German Federal Government (in German)
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.ki-strategie-deutschland.de/?file=files/downloads/Nationale_KI-Strategie.pdf&cid=728

Guidelines for the use of ChatGPT and other generative AI tools

- Description: Guidelines for the use of generative AI tools in research, teaching and administration at Humboldt-University Berlin
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://ki.cms.hu-berlin.de/en/guidelines-for-the-use-of-chatgpt-and-other-generative-ai-tools/guidelines-for-the-use-of-chatgpt-and-other-generative-ai-tools

Hessenhub: impulse series 'AI for Education: How Artificial Intelligence is Changing the Higher Education Landscape'

- Description: Lectures on different topics concerning AI for Education
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.hessenhub.de/qualifizierung/hessenhub-impulsreihe-ki-for-education-wie-kuenstliche-intelligenz-die-hochschullandschaft-veraendert/aufzeichnungen-der-impulsreihe-ki-for-education-wie-kuenstliche-intelligenz-die-hochschullandschaft-veraendert/

Institut für Angewandte Trainigswissenschaften

- Description: Quantitative, video-based motion analyses to optimise processes, identify performance reserves and derive recommendations for action. To further increase data quality, Simi Motion Systems has further developed the software thanks to the use of artificial intelligence (AI). The neural network can detect the sport-specific movement and continues to learn with each analysis, thereby increasing its accuracy.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://waip.iks.cs.ovgu.de/wp/institut-fuer-angewandte-trainingswissenschaft/

KI für KMU: LLM Literacy im Unternehmen

- Description: Competence center for promoting skills in the context of Large Language Models (LLM). Training opportunities for educators and businesses. Resources in the form of audio contributions and presentations.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://llm-literacy.de/ki-fuer-kmu/

KI in der Hochschulpraxis

- Description: Collection of events and lectures on the use of AI in higher education practice.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.e-teaching.org/praxis/themenspecials/ki-in-der-hochschulpraxis

KI-Campus

- Description: Online-Courses, Videos and Podcasts on different topics around ai and data literacy
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://ki-campus.org/

KI-Campus (FernUniversität in Hagen)

- Description: E-learning platform for companies and (public) organizations for continuing education on artificial intelligence with target group-specific learning offerings. Networking with other stakeholders in business and education/research.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://fernuni-ki-campus.fernuni-hagen.de/hub/

KI-Kompetenzen stärken

- Description: Collection of training sessions and courses to promote competencies related to AI in higher education teaching.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.vcrp.de/digitale-lehre/ki-weiterbildung/vcrp-angebote-zu-ki/

Künstliche Intelligenz

- Description: Collection of training sessions, courses, and contributions for promoting skills in the context of image and text generators for use in education at universities.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.mmkh.de/schulungen/kuenstliche-intelligenz.html

Künstliche Intelligenz in Studium und Lehre (Artificial Intelligence in Studies and Teaching)

- Description: Recommendations for dealing with Artificial Intelligence in Studies and Teaching at the University Duisburg-Essen (in German)
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.uni-due.de/imperia/md/content/e-learning/strategie/ki_in_studium_und_lehre_-_empfehlungen_zum_umgang_an_der_ude_v1.0.pdf

MoVeKI2EAH

- Description: MoVeKI2EAH. Development of AI teaching units that can be used in all Bachelor's and Master's degree programmes at the university in the fields of business, technology, health and social sciences.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.eah-jena.de/moveki2eah/informationen

TUM AI Strategy

- Description: The AI Strategy of the Technical University Munich
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://mediatum.ub.tum.de/1766632?id=1766632&change_language=en

TaLAI online course (MOOC) and platform

- Description: Developed in the framework of E+ project TaLAI: Teaching and Learning with AI in Higher Education (2023-2026). The course will be designed to develop digital literacy skills and capacities of academic teachers to ethically apply AI in their teaching practice. The platform has a focus on ethics, it gives info and recommendations, example of instructional designs and pedagogical approaches and has a forum.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://erasmus-plus.ec.europa.eu/projects/search/details/2023-1-DE01-KA220-HED-000153155

Greece

AI Summer Schools and Competitions

- Description: Hellenic Artificial Intelligence Society (EETN): EETN organizes annual events (e.g., AI Hackathons) with universities like NTUA and AUTH to promote AI innovation. Methodology: Competitions focus on solving societal challenges using AI (e.g., healthcare, energy). Assessment: Judging panels evaluate technical merit, creativity, and societal impact.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://eetn.gr/en/activities/

AI for Education

- Description: Erasmus+ KA2 Project – AI4EDU A collaboration between Greek universities (e.g., University of Patras) and EU partners to integrate AI tools into teaching (e.g., automated grading, personalized learning). Methodology: Workshops for educators on AI tools like chatbots and learning analytics platforms. Assessment: Pilot testing of AI-driven assessment tools and feedback surveys.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.ai4edu.eu

AI in Humanities and Social Sciences

- Description: National & Kapodistrian University of Athens (NKUA) – Faculty of Philosophy: An interdisciplinary course exploring AI applications in linguistics, psychology, and ethics. Methodology: Hybrid learning (online lectures + workshops) with debates on AI ethics. Assessment: Reflective essays, group presentations, and participation in ethics panels.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://en.philosophy.uoa.gr/courses/

Intelligent Systems Laboratory Initiative: AI and Robotics Research Lab

- Description: Hellenic Mediterranean University (HMU): Offers undergraduate and graduate modules in AI, robotics, and IoT. Students develop AI-driven robotics solutions. Methodology: Project-based learning with emphasis on interdisciplinary collaboration. Assessment: Prototype demonstrations, research papers, and participation in international competitions (e.g., RoboCup).
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.hmu.gr/research/intelligent-systems-lab/

Intelligent Systems and Robotics Description

- Description: Aristotle University of Thessaloniki – Department of Informatics Course: Focuses on AI algorithms, robotics, and autonomous systems. Includes modules on computer vision and natural language processing. Methodology: Problem-based learning (PBL) with real-world case studies and robotics lab experiments. Assessment: Practical coding assignments, team-based robotics challenges, and written exams.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.csd.auth.gr/en/studies/postgraduate-studies/

MSc in Artificial Intelligence and Data Analytics

- Description: University of Piraeus – Department of Digital Systems Program: A postgraduate program integrating AI, big data, and business analytics. Topics include predictive modeling, AI ethics, and cloud computing. Methodology: Industry partnerships for internships and applied research projects. Assessment: Capstone projects, thesis dissertations, and hackathons.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.ds.unipi.gr/en/msc-artificial-intelligence-and-data-analytics/

Machine Learning and Pattern Recognition

- Description: National Technical University of Athens (NTUA) – School of Electrical and Computer Engineering Course. This graduate-level course covers fundamental and advanced topics in machine learning, including neural networks, deep learning, and reinforcement learning. Students engage in hands-on projects using Python and TensorFlow. Methodology: Combines theoretical lectures with lab sessions and collaborative research projects. Assessment: Project-based evaluations, written exams, and peer-reviewed presentations.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.ece.ntua.gr/en/undergraduate/courses

Italy

Asduni Course - blended teaching methodologies and digital competence development of teachers in HE

- Description: Promote the enhancement of the university online platform and the digital skills of their teachers with the specific aim of initiating multimedia teaching processes in which students are able to develop online paths of collaborative, social, and inclusive knowledge construction. 6 learning modules, one of them on Learning and Teaching with Generative AI.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.unibs.it/it/faculty-development/metodologie-didattica-blended

Bachelor in Philosophy and Artificial Intelligence

- Description: The program at Sapienza University of Rome combines philosophical inquiry with AI studies, emphasizing a multidisciplinary approach.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://corsidilaurea.uniroma1.it/it/corso/2023/31774/home

Human-Centered Artificial Intelligence

- Description: A joint master's program offered by Universities of Milan, Milano-Bicocca, and Pavia, equipping students with interdisciplinary AI skills.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.unimi.it/en/education/master-programme/human-centered-artificial-intelligence

HumanAIze

- Description: This interdisciplinary master's program at Politecnico di Torino integrates humanities with technology, focusing on AI and digital competencies.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.polito.it/didattica/master-e-formazione-permanente/master-universitari/offerta-master-universitari/humanaize

International Summer School, Lake Como School AS, AixiA

- Description: The event aims to bring together scholars, researchers, and PhD students to explore advanced AI topics and innovative technological perspectives.
- Target Groups: General public or professionals

- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://sites.google.com/unimib.it/advancesinai-2024/home?authuser=0

Master in Artificial Intelligence and Humanities

- Description: The course empowers humanities specialists with practical and theoretical tools to design and develop AI systems, focusing on large language models (LLMs).
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www2.almalaurea.it/cgi-asp/lau/corsi/dettaglioCorsi.aspx?ID=120004&lang=it

Master's Degree in Artificial Intelligence for Business and Society

- Description: A two-year program by IULM University in Milan, combining humanistic and technological disciplines to train professionals in AI and Big Data.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.iulm.it/en/offerta-formativa/corsi-di-lauree-magistrali/intelligenza-artificiale-impresa-societa

PhD-AI.it

- Description: This program involves five interconnected PhD courses focusing on strategic sectors like health & life sciences and industry 4.0.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.phd-ai.it/

Politecnico of Milan

- Description: MyLearningTalk is an AI tool designed for students. It supports learning through conversation, offering examples and feedback based on individual preferences and engagement levels. It uses course-specific content.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.mlt.polimi.it

University of Bologna

- Description: The University of Bologna's policy on the ethical and responsible use of generative AI in teaching and research provides general guidelines for AI usage.The policy includes a "Use Cases in Research and Teaching" section with practical examples for applying the guidelines.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.unibo.it/en/university/who-we-are/artificial-intelligence/artificial-intelligence

University of Milano (La Statale)

- Description: Training courses for staff on topics like digital skills, ethics, law, and work. There are also AI literacy courses available for students, and participants receive certification through an Open Badge.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.unimi.it/it/ateneo/normative/linee-guida/decalogo-un-utilizzo-etico-legittimo-e-consapevole-di-strumenti-dintelligenza-artificiale-ai-tutte

University of Milano-Bicocca

- Description: Introduction of virtual reality (VR) for the national nursing exam. In the winter session students complete a technical-practical test in VR in a high-fidelity clinical environment. Rag based chat bot for finding information on the university. chatGPT the prof project. Rag-based habit coach. Analysis end emotional impact of learning to use ai.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.unimib.it/comunicati/milano-bicocca-sceglie-realta-virtuale-lesame-stato-infermieristica-e-prima-volta-italia

University of Napoli Federico II - Federica Tool

- Description: The free MOOC "Teaching with AI: Tools" the first course of the ALMA online program, aims to meet the educational world's evolving needs by allowing teachers and trainers to explore AI's full potential in teaching.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.federica.eu/deh-alma/

University of Padova

- Description: Lucrez-IA is the virtual assistant of Università degli Studi di Padova, developed to support professors, university staff, researchers, and students in their academic practices.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://asit.unipd.it/progetti/lucrez-ia

University of Tuscia (Viterbo)

- Description: Be-special is an AI-based that enables professors to select appropriate methodologies for dyslexic students. Researchers believe this platform will improve inclusivity and student engagement.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://vrailexia.eu/the-project/?lang=it https://www.aiditalia.org/news/vrailexia-i-primi-risultati-del-progetto

Japan

Artificial intelligence (AI) and society (course in higher education supported by Next Generation Artificial Intelligence Research Center of the University of Tokyo)

Description: AI lecture series from 2017 to 2021 (only 2021 curriculum is explained) which is about Challenges of AI Society and How to Draw a Future Vision targets graduate and undergraduate students. Series includes different areas such as information studies, public policy, engineering, and economics and every topic taught was the professors specialized in that topic. Ethical considerations of AI: exploring topics like algorithmic bias, discrimination in AI systems, and the implications of AI decision-making in law enforcement and recruitment). Cultural and societal perspectives on AI: examining how different cultures perceive and interact with robots and AI systems, with a specific focus on Eastern and Western perspectives. Legal and political dimensions of AI: analyzing the role of government policies and regulations in shaping the development and deployment of AI, including competition policy concerning digital platforms and data privacy. The impact of AI on various sectors: discussing AI's influence on areas like smart cities, automated driving, and gender equality in the workplace. The future of AI and human society: envisioning potential scenarios for AI's role in future societies. The future of AI and human society: envisioning potential scenarios for AI's role in future societies

Target Groups: General public or professionals

Key Features: AI-focused curriculum or initiative; institution-led; includes applied components

Website: https://arisaema0.wordpress.com/2022/10/20/year-2021/

Center for Data Science and Artificial Intelligence Education - Tokyo Institute of Technology (Tokyo Tech)

- Description: Tokyo Tech is a public university in Japan and The Center offers a range of courses in data science and artificial intelligence. Their curriculum spans introductory to expert levels courses and includes industry collaborations (with private companies and partners) to enhance student learning. The courses are grouped into five main titles:
  - Literacy Courses: Designed to enhance students' interest and foundational skills in mathematics, data science, and AI.
  - Basics and Applications Courses: Focus on developing the ability to apply mathematical and AI concepts to specialized fields.
  - Fundamentals Courses: Provide both theoretical and practical perspectives, aiming for advanced knowledge acquisition.
  - Applied and Practical Courses: Emphasize real-world applications, helping students master skills required in the industry.
  - Advanced Courses: Cover advanced methods and address social issues related to data science and AI, including ethics.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.dsai.titech.ac.jp/en/

Introduction Course for AI Practitioners

- Description: This course is targeting on students from departments in literature, social science, agriculture, medical science et al., without requiring expertise in informatics and AI. Provides full lecture Schedule for every lesson but doesn't get into detail. No need for previous AI knowledge or coding experience.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://catalog.he.u-tokyo.ac.jp/detail?code=4890-1048&year=2023&interface_language=en

Machine to Human Distillation: Active Utilization of Neural Machine Translation in Language Education (preprint) Tadahiro Taniguchi and Tsukasa Yamanaka College of Information Science and Engineering, Ritsumeikan University

- Description: The study explores how neural machine translation (NMT) can be actively used in language education by treating AI translation tools as teachers. (integrating AI into second language learning) It introduces the concept of Machine-to-Human Knowledge Distillation (M2H-KD), adapting an AI training method where a large, complex model "teaches" a smaller model. It has extended to human learning: Machines act as "teachers," and human students "learn" from AI translations. Two approaches are proposed: Teacher-Excluded M2H-KD, where students learn independently from machine translations but may struggle with errors and lack structured guidance. Teacher-Included M2H-KD, where human teachers moderate and design learning activities, ensuring students engage critically with AI translations. (Investigate the changing role of human teachers, from direct instructors to moderators and learning designers. This will require them to develop new skills (e.g.,understanding AI, corpus linguistics, prompt engineering) The study argues that teachers should act as moderators, helping students refine AI-generated outputs rather than banning machine translation. Key strategies include evaluating AI-generated translations, creating structured learning environments, and incorporating multimodal learning beyond text-based tasks. This approach challenges the traditional role of teachers, requiring them to develop new skills in AI moderation and corpus linguistics. While the study is theoretical, it suggests the need for empirical research to evaluate the effectiveness of AI-assisted language learning.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: No link available.

Mathematics, Data Science, and AI Smart Higher Education Program (Literacy Level) - Ritsumeikan Asia Pacific University

- Description: The basic Data science program aims to equip students with the fundamental skills in information technology and data science and provides them with opportunities to explore practical applications of ICT in real-world situations: a. understand the basic structure and future prospects of technologies like AI and big data b. Equip students with the skills to read and understand data and represent it through diagrams and charts c. Create an understanding of ethical considerations, like data ethics and the protection of personal information.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://en.apu.ac.jp/academic/information_literacy/

Ministry of Education, Culture, Sports, Science, and Technology (MEXT) of Japan

- Description: Government Guidelines Ministry of Education, Culture, Sports, Science, and Technology (MEXT) issued some guideline for schools to follow while integrating AI education into schools nationwide. ● Upholding Academic Integrity: Stress the importance of academic honesty, advising students against presenting AI-generated work as their own. This is particularly important with the rise of AI tools like ChatGPT. ● Reevaluating Assessments: MEXT recommends rethinking traditional evaluation methods in light of AI advancements. Instead of rote memorization and standardized tests, the focus should shift to evaluating competencies like computational thinking, collaboration, creativity, and communication. ● Empowering Educators: The guidelines emphasize enhancing teachers' AI literacy, enabling them to confidently integrate AI tools into their teaching practices. This includes continuous learning about new AI technologies and understanding their applications in education. ● Safeguarding Student Data: When using AI in schools, protecting students' personal information is paramount. The guidelines emphasize legal compliance and ethical considerations in handling student data, mirroring Japan's efforts to implement strong data protection laws. ● Fostering Strategic Partnerships: The guidelines encourage collaborations with AI companies and media outlets to access specialized resources and expertise related to AI. These partnerships aim to enrich the AI learning experience in Japanese schools.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: Japan Releases Comprehensive AI Education Guidelines: Human-Centered Approach Sets Clear Boundaries for Teachers and Students
- https://theaitrack.com/school-guidelines-in-japan-ai-education/?form=MG0AV3

Ogata, H., Flanagan, B., Takami, K., Dai, Y., Nakamoto, R., & Takii, K. (2024). EXAIT: Educational eXplainable artificial intelligent tools for personalized learning. Research and Practice in Technology Enhanced Learning, 19.

- Description: Aim is to develop a symbiotic learning system where both students and AI systems can benefit mutually from explanations provided during the learning process. The system is working 2 ways: AI provides explanations of its decisions (explainable AI) and students provide explanation behind their decision. Also AI recommends personalized learning paths. Students' answers are used to analyzed using techniques like time series analysis of input methods (e.g., stylus pen strokes), allowing the AI to adapt its future recommendations based on student performance and explanatory feedback e.g. of use case of the system: reading recommendations for English learning, creating quiz recommendations for learning Mathematics
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://repository.kulib.kyoto-u.ac.jp/dspace/bitstream/2433/286392/1/rptel.2024.19019.pdf

Ogata, H., Majumdar, R., Flanagan, B., & Kuromiya, H. (2024). Learning analytics and evidence-based K12 education in Japan: usage of data-driven services for mobile learning across two years. International Journal of Mobile Learning and Organisation, 18(1), 15-48.

- Description: The study aims to evaluate the usage and user perception of data-driven educational practices implemented in Japanese K-12 Mathematics and English classes using the LEAF (Learning and Evidence Analytics Framework) platform. (This initiative was part of a broader effort by the Japanese education system to integrate learning analytics (LA) at the school level to improve teaching and learning outcomes.). The platform was used for 2 years and main questions were: 1. What are the usage trends of the LEAF platform within and outside school hours? 2. What is the perception of students and teachers who used the platform for two years? user interaction data with the platform, including how frequently and in what ways students and teachers engaged with LEAF and feedback from users
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.inderscienceonline.com/doi/pdf/10.1504/IJMLO.2024.135123

University of Tokyo (UTokyo) - AI Initiative Projects

- Description: The University of Tokyo's AI Initiative Projects include 51 registered AI research projects as of December 1, 2024. These projects are categorized into AI principle, fundamental, application, and social fields, including diverse areas (interdisciplinary) like mathematics, social, neuroscience, engineering, and ethics. Faculty members from various departments and institutes are involved, showcasing a university-wide commitment to AI research. The site provides project summaries and links to further information, although access to certain details may be restricted to on-campus users. The page also offers navigation links to other University of Tokyo resources.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.u-tokyo.ac.jp/adm/uci/en/projects/ai/index.php?scrollTop=300&ai=&affiliation=&sdgs=

Netherlands

Generative AI

- Description: Project: How does education maintain control over learning and teaching when using Generative AI? Where are the opportunities and risks, and what are the consequences

on, for instance, pedagogical-didactical, ethical, technological and professionalisation levels? We draw up an overview of the opportunities and risks of Generative AI from the five perspectives of the NOLAI. This overview can act as a guide to thoughtfully distribute and embed AI within Quadraam. Together with scientists from the Behavioural Science Institute of Radboud University.

- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.ru.nl/en/nolai/projecten

Portugal

AI Training for Teachers - ReadyAI

- Description: ReadyAI offers teacher education programs in Portugal, providing immersive experiences in AI learning to equip educators with essential skills.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.readyai.org/portugal

AI, Data Science, and Machine Learning - CMU Portugal Academy

- Description: This program offers foundational knowledge in data science, machine learning, and big data technologies, catering to professionals aiming to transition into the field.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://academy.cmuportugal.org/data-science-and-machine-learning/

Elements of AI

- Description: An online course designed to teach the basics of artificial intelligence, available in multiple languages and accessible to anyone interested in learning about AI.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://en.wikipedia.org/wiki/Elements_of_AI

Romania

Microsoft Learn for Educators – Cybersicherheit und KI-Bootcamp

- Description: Bei dem Kurs geht es darum Lehrer zu unterstützen KI in den Lehrplan zu integrieren und in Cybersicherheit zu schulen. Kurse werden auch in Rumäninen angeboten
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://learn.microsoft.com/de-de/training/educator-center/programs/msle/cybersecurity-and-ai-bootcamp?utm_source=chatgpt.com

AIDUCATION'25

- Description: AIDUCATION'25, Cambridge School of Bucharest. Implementing AI in schools
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.cambridgeschool.ro/aiducation25/

Digital Challenge in Higher Education (D-ChallengHE)

- Description: The project " Digital Challenge in Higher Education" (D-ChallengHE) aims at highlighting experiences, practices, teaching staff competences in digital fields, with the intent to identify and organise the best methods and strategies in online learning, in digitalization of curriculum, in the use of digital resources and open distance education.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://edict.ro/a-framework-to-approach-digital-education-and-cpd-in-higher-education/

Digital Transformation of Higher Education Systems

- Description: This Paper try to outline a model of digital transformation strategy applicable to the Romanian academic environment. Also establishing the key pillars elements and necessary stages for the implementation of digital transformation strategy for higher education
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://intapi.sciendo.com/pdf/10.2478/kbo-2022-0025

EIT Deep Tech Talent Initiative

- Description: The Technical University of Cluj-Napoca (TUCN) is part of the EIT Deep Tech Talent Initiative, aiming to train one million people in deep tech by 2025. TUCN contributes its

expertise in AI and machine learning through research groups focused on areas like pattern recognition, deep learning, and computer vision. It offers courses on AI applications in biomedical engineering, energy, and other fields, strengthening Europe's position in global innovation.

- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.eitdeeptechtalent.eu/the-pledge/meet-the-pledgers/technical-university-of-cluj-napoca/

First AI course for pre-university education in Romania

- Description: Organised and supported by ARIA (Romanian Association for Artificial Intelligence) and UPIR (Union of Informatics Teachers in Romania), the first artificial intelligence course for pre-university education in Romania is developed and led by Bitdefender specialists, professors from the National College 'Mircea cel Bătrân' Râmnicu Vâlcea and Google DeepMind UK specialists.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://digital-skills-jobs.europa.eu/en/inspiration/good-practices/first-ai-course-pre-university-education-romania

I.A.S.I. 2024 – Artificial Intelligence in the Education System 2024 – the perspectives of education in the era of the technological revolution.

- Description: Iași City Hall in partnership with "Alexandru Ioan Cuza" University, Iași County School Inspectorate, IAȘI AI community and ASII are organising "I.A.S.I. 2024 – Artificial Intelligence in the Education System 2024 – the perspectives of education in the era of the technological revolution.", a series of workshops aiming to increase the level of cooperation and connection of the network of professionals in the educational and technological field, in order to develop measures and public policies aimed at developing the digital skills of young people and teachers in Romania, in order to facilitate the effective integration of technology in the educational process.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://iasi.ai/initiatives/ai-in-education/

Teaching AI with robots in school -Romania.

- Description: Understanding AI concepts in education, identify and mitigate risks in education, develop a structured plan for AI integration
- Target Groups: General public or professionals

- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.makeblock.com/products/teaching-ai-with-robots-in-schools

Spain

Artificial intelligence and the rights of the child. Towards an integrated agenda for research and policy

- Description: This report provides elements for an integrated agenda for research and policy regarding children's rights and Artificial Intelligence. It aims to connect scientific evidence with policymaking, to gain insights of the interplay between different stakeholders, and to go beyond the identification of ethical guidelines towards methods for practical future implementations. A review of relevant policy initiatives is presented. This is followed by an overview of research on three selected AI applications for children, namely conversational agents, recommender systems and robotic systems, under the lens of children's rights. Then, the results of two workshops with children and young people, and three workshops with stakeholders from policy and research in the field of AI and child's rights are presented. A thematic analysis of the discussions revealed different sets of topics proposed by the stakeholders, which have then been triangulated to identify priorities from the different perspectives. Based on the above-mentioned input, a set of recommendations for an integrated agenda and future directions in research and policy are provided. Lastly, this report includes reflections from invited experts in the field, who participated and contributed to this study.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://op.europa.eu/en/publication-detail/-/publication/b7d0196a-eb8c-11ec-a534-01aa75ed71a1/language-en

CLIL and EFL Teacher Perspectives on AI-EdTech: An Exploration of Opportunities and Concerns

- Description: Conference paper: CLIL and EFL Teacher Perspectives on AI-EdTech: An Exploration of Opportunities and Concerns
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://link.springer.com/chapter/10.1007/978-3-031-72315-5_27

Catalan government repository AI in Education

- Description: Resources
  Resources for the implementation of AI in the classroom. This includes methodologies and list of competencies.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://projectes.xtec.cat/ia/recursos-repo/

Enhancing technological sustainability in academia: leveraging ChatGPT for teaching, learning and evaluation

- **Description: Journal paper: A study exploring practical implications of utilizing generative AI in the classroom**
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: http://dx.doi.org/10.1108/QEA-07-2024-0055

Learning agreement to include students' participation in AI course policies

- Description: Conference paper. A paper describing the implementation of a learning agreement between university students for the use of generative AI in the classroom
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components

Website: http://dx.doi.org/10.22318/cscl2024.998107

Reflective Perspectives on Generative AI in Education: High School Teachers' Insights on Tasks, Benefits, and Harms

- Description: This paper explores the ethical considerations and challenges in using AI to support learning, highlighting the balance between potential benefits and harms. It calls for further research to identify strategies that maximize benefits while ensuring the protection and participation of all stakeholders in the design process.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://drive.google.com/file/d/1Vsmn8OnX5H_0blzxn5AnGyAizrX25l8s/view

Uses of analytics of institutional educational data

- Description: Publications: A set of publication of data analysis of institutional data
- Target Groups: General public or professionals

- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.upf.edu/web/learning-lab/inici/-/asset_publisher/wH9KS16BF5fe/content/research-publications-initiated-by-the-upf-learning-lab/maximized

Switzerland

Intelligence Artificielle Générative pour l'enseignement : Découvrez ChatGPT, Perplexity, Gemini, et plus encore - University of Geneva

- Description: The aim with this evolving guide is to help university teachers discover and use text generative AI (in particular ChatGPT or similar) as part of your university teaching activities. It has several concrete examples.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://view.genially.com/642e8b666cba7a0011ef4154?utm_medium=social&utm_source=linkedin

United Kingdom

Department for Education

- Description: Government Guidelines. The UK's Department for Education is launching a £4 million initiative to develop AI tools for teachers. A key component is a £3 million content store of government educational resources to train these AI tools. The goal is to reduce teacher workload by automating tasks like marking and lesson planning, freeing up time for direct student interaction. Partnerships with the Open University and ed-tech companies are central to the project, aiming to create safe, effective AI tools by March 2025. Early results show that providing AI models with targeted data significantly improves accuracy.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.government-transformation.com/data/genai-tools-to-help-reduce-teachers-workload

The London AI Campus by Camden Learning supported by Google

- Description: Camden Learning and Camden Council's STEAM programme have launched an AI Campus for pupils in the borough, in collaboration with Google.

The London AI Campus aims to inspire, inform and educate students and teachers in the field of Artificial Intelligence (AI) and digital skills.

- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://camdenlearning.org.uk/partners-projects/london-ai-campus/

Watermeyer, R., Phipps, L., Lanclos, D., & Knight, C. (2024). Generative AI and the Automating of Academia. Postdigital Science and Education, 6(2), 446-466.

- Description: The observational and cross-sectional online study explores the use of Generative AI (GAI) tools, specifically LLMs, by 284 UK academics in higher education with self-reported perceptions and behaviors regarding AI use in academia. The study's findings found three key themes: 1. De/Stabilizing Status and Value(s) in Academia: GAI is seen as both a tool for productivity and a threat to academic status. AI is seen as helping weaker writers or less productive researchers "keep up," by some respondents, and others thought using AI as inauthentic or detrimental to scholarly craftsmanship, preferring to write and think independently. 2. AI as a “Clearing Space” : using AI to handle mundane or administrative tasks (e.g., summarizing reports, writing ethics applications, or managing bureaucratic processes). (free up time for more meaningful work) 3. AI and Work Intensification: Does It Lighten or Add to the Load?: AI is paradoxically increasing workload. While it helps with productivity, institutions may expect even more output as a result. The concern is that AI fuels a culture of overwork rather than reducing pressure. There are concerns regarding AI's potential to degrade critical thinking, ethics, and research quality.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://link.springer.com/article/10.1007/s42438-023-00440-6

Holstein, K., & Doroudi, S. (2022). Equity and artificial intelligence in education. In The ethics of artificial intelligence in education (pp. 151-173). Routledge.

- Description: How AI in Education Can Perpetuate Inequities (critically analyses the topic): AI in education is often designed to improve learning, but it can unintentionally reinforce historical and systemic biases. The paper highlights the risks of biased datasets, algorithmic flaws, and socio-technical imbalances that can lead to unfair educational outcomes.- four perspectives to analyze inequities: (1) system design, (2) data bias, (3) algorithmic bias, and (4) human-AI interactions. (to identify points on how AI systems may disadvantage certain student populations). The Role of Human-AI Interaction in Educational Decisions: AIEd systems often work alongside teachers, administrators, and students, shaping their decisions. If AI recommendations reinforce educators' biases rather than challenge them, they risk amplifying existing educational inequalities rather than mitigating them. Ways to reduce AI-

driven inequities include improving dataset diversity, designing transparent AI models, and involving diverse stakeholders in AIEd development.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://arxiv.org/abs/2104.12920

Arowosegbe, A., Alqahtani, J. S., & Oyelade, T. (2024, October). Perception of generative AI use in UK higher education. In Frontiers in Education (Vol. 9, p. 1463208). Frontiers Media SA.

- Description: The aim of the study is to assess the perception (view AI tools and general awareness), usage (their adoption for academic purposes), challenges, and future expectations of generative AI (Gen-AI) in UK higher education. They conducted a cross-sectional survey conducted among 136 university students in the UK from different majors. They found that: 61% of students were familiar with AI and 52% had used AI tools for academic purposes, with the most common uses being grammar correction (56%), idea generation (55%), and answering questions (41%). 83% believed AI use in academia would grow and 47% supported integrating AI into university curricula. As the concerns, Plagiarism (33%), privacy issues (14%), and lack of university guidelines (13%) were the most reported ones.
- Target Groups: Higher education students, educators
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://eprints.whiterose.ac.uk/218661/

USA

UC Berkeley AI strategy

- Description: UCB offers a wide variety of AI enhanced academics: a lab (BAIR), a law AI institute and a policy hub are prominent examples.
- Target Groups: General public or professionals
- Key Features: AI-focused curriculum or initiative; institution-led; includes applied components
- Website: https://www.berkeley.edu/ai/

Inventory of AI Cases in Education

Introduction

Artificial Intelligence (AI) is increasingly being integrated into educational practices, offering transformative potential for inclusivity, accessibility, sustainability, and higher education innovation. Across Europe, universities, startups, NGOs, and public agencies are experimenting with AI technologies to address educational inequalities, support underrepresented groups, and align with Sustainable Development Goals (SDGs).

This report presents an inventory of 82 AI cases across 14 countries, plus EU-level and worldwide cases, organized alphabetically as documented in the **IDEAL Cases Inventory**. For each case, the following aspects are described:

- Title
- Short Description
- Relevance to Accessibility
- Relevance to Inclusivity
- Relevance to Environmental Measures
- Alignment with SDGs
- Relevance to Higher Education practices
- Website or Source

The goal is to provide an evidence-based overview of how AI is currently being used to address broader social and environmental goals in the field of education.

Bulgaria

AI-Driven Text-to-Speech for Bulgarian

- Description: An initiative to improve accessibility for visually impaired individuals by developing advanced AI-powered text-to-speech (TTS) systems tailored for the Bulgarian language..
- Accessibility: Accessible for individuals who are visually impaired
- Inclusivity: Targets visually impaired individuals
- Environmental Considerations: Not relevant
- SDGs Alignment: Quality education (SDG 4), Reduced inequalities (SDG 10)
- Higher Education Relevance: This project involves natural language processing (NLP) to handle Cyrillic script and regional dialects. Collaboration with Bulgarian Union of the Blind.
- Website: http://www.uub.bg/

AI-Powered Mobility Navigation in Sofia

- Description: LaunchHub, a startup organises this municipal project that develops an AI app to map wheelchair-accessible routes in Sofia, using computer vision to assess sidewalk conditions or public transport accessibility.
- Accessibility: Accessibility for individuals with physical impairment
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Good health and well-being (SDG 3), Quality education (SDG 4), Reduced inequalities (SDG 10), Sustainable cities and communities (SDG 11)
- Higher Education Relevance: Not relevant
- Website: https://launchhub.net/

Bulgarian Sign Language Recognition Project

- Description: Researchers at Sofia University are developing AI models to recognize Bulgarian Sign Language (BgSL), aiming to translate gestures into text or speech.
- Accessibility: Accessible for individuals with hearing problems
- Inclusivity: Targets individuals with hearing problems
- Environmental Considerations: Not relevant
- SDGs Alignment: Quality education (SDG 4), Reduced inequalities (SDG 10)
- Higher Education Relevance: This project involves creating a dataset of BgSL gestures and training neural networks for real-time interpretation, enhancing communication for the deaf community.
- Website: https://www.uni-sofia.bg/

Educational AI for Inclusive Learning

- Description: Plovdiv University explores AI-driven platforms to adapt educational content for students with disabilities.
- Accessibility: Not relevant
- Inclusivity: Includes automated transcription services or personalized learning tools for dyslexic students
- Environmental Considerations: Not relevant
- SDGs Alignment: Quality education (SDG 4), Reduced inequalities (SDG 10)
- Higher Education Relevance: Not relevant
- Website: https://uni-plovdiv.bg/

Real-Time Captioning for Lectures

- Description: Technical University of Sofia pilots AI systems for automatic speech recognition (ASR) to generate real-time captions during lectures, aiding deaf or hard-of-hearing students.
- Accessibility: Accessible for individuals with hearing problems
- Inclusivity: Targets individuals with hearing problems
- Environmental Considerations: Not relevant
- SDGs Alignment: Quality education (SDG 4), Reduced inequalities (SDG 10)
- Higher Education Relevance: Not relevant
- Website: https://www.tu-sofia.bg/

Roma Language Preservation via NLP

- Description: The NGO Open Society Institute in Sofia collaborates with the University of Sofia to preserve and digitize the Romani language, developing translation tools or educational resources to support Roma communities.
- Accessibility: Not relevant
- Inclusivity: ROMA
- Environmental Considerations: Not relevant
- SDGs Alignment: Quality education (SDG 4), Reduced inequalities (SDG 10)
- Higher Education Relevance: Translation and writing in Romani language as well as teaching Romani.
- Website: https://osis.bg/

EU

Digital Education Action Plan (2021-2027)

- Description: A policy initiative supporting Member States in adapting education to the digital age, addressing digital accessibility, inclusivity, and sustainability challenges through technology.
- Accessibility: The initiative emphasizes creating accessible digital education, ensuring all learners, including those with disabilities, have equitable access to digital tools and resources.
- Inclusivity: It promotes inclusive education by supporting strategies that cater to diverse learning needs and by addressing the digital divide among different socio-economic groups.
- Environmental Considerations: While the primary focus is on digital education, the plan contributes to the EU's broader sustainability goals by encouraging digital solutions that can reduce environmental footprints, such as minimizing the need for physical materials and travel.

- SDGs Alignment: Aligns with SDG 4 (Quality Education) by aiming to provide inclusive and equitable quality education and promote lifelong learning opportunities for all.
- Higher Education Relevance: The initiative supports higher education institutions in integrating digital technologies to enhance teaching, learning, and administrative processes, thereby improving efficiency and responsiveness to current educational demands.
- Website: https://education.ec.europa.eu/focus-topics/digital-education/action-plan

Estonia

Sustainable AI-Driven Classroom Assessment

- Description: A study exploring the integration of AI-driven assessments in Nigerian higher education, analyzing global case studies and their impact on fairness, privacy, and student progress tracking.
- Accessibility: The study emphasizes the need for inclusive AI-driven assessments that accommodate diverse student populations, enhancing accessibility in education.
- Inclusivity: By proposing a comprehensive framework involving policy reform and multi-stakeholder collaboration, the research aims to create an equitable educational environment through AI integration.
- Environmental Considerations: The study discusses the importance of sustainable deployment of AI technologies, considering environmental, economic, and social factors.
- SDGs Alignment: Aligns with SDG 4 (Quality Education) by advocating for innovative AI-driven assessment methods to improve educational quality and inclusivity.
- Higher Education Relevance: Highlights AI's role in automating and personalizing evaluation processes, leading to enhanced operational efficiencies in higher education institutions.
- Website: https://www.ejimed.com/download/sustainable-artificial-intelligence-driven-classroom-assessment-in-higher-institutions-lessons-from-15265.pdf

Finland

Erasmus+ Pathfinder 2024-2026

- Description: By employing strategic guidelines, AI-based tools, and tailored learning programs, educators and students will be equipped with the necessary resources and knowledge to responsibly and effectively integrate AI into the teaching and learning process. The project includes the development of a framework to support teachers, an AI-powered toolkit for lesson planning, and a competency-based learning program for students. These tools aim to

enhance employability, foster innovation, and strengthen the resilience of the European education community.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: It underscores the importance of sustainability and responsibility in the implementation of AI technologies. By examining the societal impacts of AI, the project makes a significant contribution to sustainable development and positions the project partners as pioneers in the field of responsible technological innovation in education.
- Higher Education Relevance: It aims to provide valuable insights and resources for the entire European education community.
- Website: https://lab.fi/en/news/new-project-promote-ai-competencies-higher-education

France

Artificial Intelligence for the University of Bordeaux - AI by Ubx

- Description: This project aims to establish Bordeaux as a leading center for artificial intelligence (AI) by attracting national and international talents for doctoral programs. The main goal is to double the number of AI PhD holders by 2025 through a three-pronged approach: increasing funding opportunities, attracting new profiles with a high-quality research environment, and strengthening international partnerships. The project is supported by over 40 local researchers and will be implemented by the University's College of Doctoral Schools. It plans to fund 15 doctoral scholarships over five years. The university will also host the Robocup 2020 in Bordeaux to enhance the program's impact and attract more students.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Relevant for Goal 17 Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development. The project is giving impulses to big private global players to develop together innovative products and sustainable solutions, especially in regard to the environment.
- Higher Education Relevance: Since the launch of its AI strategy in 2017, 39 key industrial players have joined the University of Bordeaux's drive, covering all the sectors targeted by the national AI plan (Villani Plan). A regional research and innovation network is also being built under the impetus of the Conseil Régional de Nouvelle-Aquitaine and Inria.
- Website: https://anr.fr/Projet-ANR-20-THIA-0008

Germany

AI Application Hub on Plastic Packaging – Sustainable Circular Economy Through Artificial Intelligence

- Description: Artificial Intelligence (AI) has the potential to significantly reduce plastic waste and extend resource lifecycles, particularly in plastic packaging, which is the largest source of global plastic waste. The AI Application Hub is applying AI techniques throughout the entire value chain, from design to recycling, to overcome the technical and economic challenges that hinder the recycling of plastic into secondary raw materials. Currently, only a small percentage of plastic is successfully reintroduced into the production cycle. To address this issue, the German Federal Ministry for Education and Research has launched the funding measure "AI Application Hub on Plastic Packaging - Sustainable Circular Economy through Artificial Intelligence." This initiative aims to improve the sustainability of plastic packaging by utilizing AI methods at every stage of the value chain, fostering a more sustainable circular economy.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: The project has the aim to reduce the amount of plastic waste.
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://ki-hub-kunststoffverpackungen.de/en/ai-hub/about

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AI-LSICF

- Description: AI-LSICF framework for library services in universities with artificial intelligence for alternative educational services
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Transforming library service using AI to further develop digital transformation
- Website: https://www.emerald.com/insight/content/doi/10.1108/lht-07-2021-0242/full/html

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Artificial Intelligence and Education

- Description: Assessment and critical reflection on the use of artificial intelligence in teaching, with a special focus on human rights, democracy and legislation, as well as the consequences of the use of AI in teaching.

- Accessibility: Not relevant
- Inclusivity: This AIED, which by definition is designed to influence child development, also impacts on critical issues such as privacy, agency and human dignity – all of which are yet to be fully explored and addressed
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://www.coe.int/en/web/education/-/new-isbn-publication-artificial-intelligence-and-education

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Artificial Intelligence in Higher Education: Challenges and Opportunities

- Description: Opportunities and challenges of using AI in education were analyzed and the impact of new technologies on students' learning and institutions' teaching methods were discussed. How can AI be used to improve learning outcomes, make education systems more equitable and ensure quality education for all?
- Accessibility: Not relevant
- Inclusivity: The paper analyses how AI can be used to improve learning outcomes, presenting examples of how AI technology can help education systems use data to improve equity and quality in Higher Education
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://www.researchgate.net/publication/359080609_Artificial_Intelligence_in_Higher_Education_Challenges_and_Opportunities

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Automatische Erkennung von Pflanzenkrankheiten

- Description: Software that supports the assessment of mildew infestation on cereal leaves. This data can now also be used to train AI models that can fully automate the task.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Ai Algorithm used to recognize mildew infestations
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://ai-engineer.de/wp/hochschule-anhalt-digitale-technologien-in-der-pflanzenproduktion/

ELLIS

- Description: The network is at the forefront of using artificial intelligence (AI) to tackle global environmental crises, like climate change and biodiversity loss. By using AI and machine learning, ELLIS researchers gain a deeper understanding of the interdependencies of Earth and climate. They are able to simulate scenarios for mitigating and adapting to the impacts of climate change.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Ai supported research hub to find connections between earth and climate. Next steps are tackling global environmental crises
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://www.uni-jena.de/en/159643/environmental-ai-and-machine-learning

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HASKI

- Description: Development of a learning management system in which learning paths are created individually. The AI-supported software adapts the learning paths based on the activities of the learners and provides feedback. Teachers gain insight into learning activities and support in planning learning spaces.
- Accessibility: Not relevant
- Inclusivity: Das HASKI-Projekt beinhaltet drei zentrale Komponenten: das Domänenmodell, das Lernenden-Modell und das tutorielle Modell. Das Domänenmodell beschreibt den Lerninhalt und die Ziele des Projekts, während das Lernenden-Modell die individuellen Voraussetzungen, Lernstile und -strategien der Studierenden berücksichtigt. Das tutorielle Modell wiederum generiert personalisierte Lernpfade und Lernempfehlungen auf Basis der Daten aus dem Lernenden-Modell und dem Domänenmodell.
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://haski-learning.de/

KITE II

- Description: The AI-supported application to be developed in the KITE II project is intended to support female founders in becoming more resilient in dealing with discriminatory experiences. The female founders are particularly sensitized to discriminatory structures. The application will use gamified elements to help strengthen resilience and impart knowledge, and the project will be supported and advised by an advisory board.
- Accessibility: Not relevant

- Inclusivity: Ai supported gamification to help women starting businesses how to handle discrimination
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://www.hs-heilbronn.de/de/kite-II

One small part of many – AI for environmental protection

- Description: Review of different projects using AI to protect the environment.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Closer look at several projects all about different areas of AI usage in environmental understanding and development.
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://doi.org/10.5281/zenodo.13221001

Opportunities and Challenges in Using AI Chatbots in Higher Education

- Description: Opportunities and challenges in using AI-driven chatbots in higher education 1) to support the implementation of a simulation game in a master's program; 2) to support the training and use of a newly launched educational application; 3) to improve the handling of helpdesk requests within a university department
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Ai-driven chatbots to support new educational applications, the handling of helpdesk requests and using simulations in the master's program
- Website: https://dl.acm.org/doi/abs/10.1145/3371647.3371659

USOS

- Description: USOS. Provision of a chatbot assistant for the study service of the TU Berlin.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: AI chatbot support for any administrative or service related questions or problems

- Website: https://www.tu.berlin/qu/forschung/laufende-vergangene-projekte/laufende-projekte/usos-chatbot-basierte-unterstuetzung-der-selbstorganisation-im-studium

Greece

AI for Inclusive Education – University of Thessaly

- Description: The University of Thessaly explores AI tools like automated captioning and personalized learning platforms to support students with hearing impairments or learning disabilities in Greek schools.
- Accessibility: Accessible for individuals with hearing problems
- Inclusivity: Targets individuals with hearing problems
- Environmental Considerations: Not relevant
- SDGs Alignment: Quality education (SDG 4), Reduced inequalities (SDG 10)
- Higher Education Relevance: Not relevant
- Website: https://www.uth.gr/en/research

AI for Refugee Integration – METAdrasi

- Description: Greek NGO METAdrasi, in collaboration with tech partners, uses AI-driven translation tools to break language barriers for refugees and migrants. Projects include real-time multilingual chatbots and language-learning apps to support integration.
- Accessibility: Not relevant
- Inclusivity: Refugee support
- Environmental Considerations: Not relevant
- SDGs Alignment: Quality education (SDG 4), Reduced inequalities (SDG 10)
- Higher Education Relevance: Not relevant
- Website: https://metadrasi.org/en/

AI-Powered Assistive Robotics – National Technical University of Athens (NTUA)

- Description: NTUA's Control Systems Lab researches AI-driven assistive robots for mobility and daily task support, targeting elderly individuals and people with motor disabilities. Projects include smart wheelchairs and robotic arms.
- Accessibility: Accessibility for individuals with physical impairment
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Good health and well-being (SDG 3), Quality education (SDG 4), Reduced inequalities (SDG 10), Sustainable cities and communities (SDG 11)

- Higher Education Relevance: Not relevant
- Website: https://www.csl.ece.ntua.gr/en

Accessible Tourism Initiatives – GNTO Collaboration

- Description: The Greek National Tourism Organization (GNTO) promotes AI-driven platforms like "Accessible Greece," which uses machine learning to map wheelchair-friendly routes, recommend accessible accommodations, and provide real-time info for tourists with disabilities.
- Accessibility: Accessibility for individuals with physical impairment
- Inclusivity: Disabled tourists
- Environmental Considerations: Not relevant
- SDGs Alignment: Quality education (SDG 4), Reduced inequalities (SDG 10)
- Higher Education Relevance: Not relevant
- Website: https://www.accessiblegreece.com/

Easy Reading – Inclusive Digital Environments

- Description: Greece participated in this EU project to create AI-powered tools for people with cognitive disabilities. The project included text simplification, symbol-based communication, and adaptive interfaces, with contributions from Greek NGOs and universities.
- Accessibility: People with cognitive disabilities
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Quality education (SDG 4), Reduced inequalities (SDG 10)
- Higher Education Relevance: Not relevant
- Website: https://www.easyreading.eu/

Greek Sign Language Synthesis – University of Patras

- Description: Researchers at the University of Patras developed an AI-based system to synthesize Greek Sign Language (GSL) animations from written Greek text. This tool aids communication for the deaf community by converting text into animated avatars performing GSL.
- Accessibility: Accessible for individuals with hearing problems
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Quality education (SDG 4), Reduced inequalities (SDG 10)
- Higher Education Relevance: Not relevant
- Website: https://link.springer.com/chapter/10.1007/978-3-030-49108-6_18

Prosperity4All – EU Horizon 2020 Project

- Description: University of the Aegean: This EU-funded Horizon 2020 project aimed to create a global ecosystem for accessibility solutions.
- Accessibility: Not relevant
- Inclusivity: The project emphasized inclusive design in ICT
- Environmental Considerations: Not relevant
- SDGs Alignment: Quality education (SDG 4), Reduced inequalities (SDG 10)
- Higher Education Relevance: The University of the Aegean contributed to developing AI-driven tools for personalized accessibility, such as adaptive interfaces for people with disabilities.
- Website: https://cordis.europa.eu/project/id/610510

SignON – EU Horizon 2020 Project

- Description: While primarily focused on Irish, Dutch, and Spanish sign languages, Greek institutions like the Institute for Language and Speech Processing (ILSP) at the Athena Research Center contributed expertise in natural language processing (NLP) and machine translation.
- Accessibility: Accessible for individuals with hearing problems
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Quality education (SDG 4), Reduced inequalities (SDG 10)
- Higher Education Relevance: The project's framework could inspire similar tools for Greek Sign Language (GSL).
- Website: https://signon-project.eu/

India

Case Studies on AI for Sustainable Education

- Description: A collection of case studies examining AI implementation in education, focusing on AI-driven personalized learning, intelligent tutoring systems, adaptive assessments, and educational data analytics.
- Accessibility: The study highlights AI-supported accessibility, indicating AI's role in creating inclusive educational environments.
- Inclusivity: By focusing on personalized learning and intelligent tutoring systems, the research promotes inclusivity, catering to diverse learning needs.
- Environmental Considerations: Not relevant
- SDGs Alignment: Aligns with SDG 4 (Quality Education) by exploring AI's potential to enhance educational quality and inclusivity.

- Higher Education Relevance: The research discusses AI-driven personalized learning and adaptive assessments, contributing to efficient educational practices in higher education.
- Website: https://www.researchgate.net/publication/378683480_Case_Studies_on_Artificial_Intelligence_for_Sustainable_Education_in_21_st_Century

Italy

AI and ChatGPT Training for Educators in Bologna

- Description: A course offered in Bologna equips educators with practical skills to harness AI and ChatGPT technologies. Participants learn to integrate these tools into their teaching practices, promoting innovative and inclusive learning environments.
- Accessibility: The course provides educators with AI tools that can enhance accessibility in classrooms by supporting diverse learning needs.
- Inclusivity: Focuses on inclusive education by training teachers to implement AI-driven teaching methods that cater to students with different learning styles.
- Environmental Considerations: Not relevant
- SDGs Alignment: Aligns with SDG 4 (Quality Education) by equipping teachers with AI skills to improve digital education and foster innovative learning environments.
- Higher Education Relevance: Enhances efficiency in higher education by enabling teachers to integrate AI and ChatGPT in pedagogy, streamlining lesson planning and student engagement.
- Website: https://school-education.ec.europa.eu/en/learn/courses/artificial-intelligence-and-chatgpt-teachers-ai-schools-and-education-bologna

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AI-Driven Web Redesign in Italian Universities

- Description: This study explores the challenges of web redesign in Italian public universities. By employing AI-driven solutions, the project addresses fragmented online presences and diverse communication needs, aiming to enhance accessibility and usability for all users.
- Accessibility: The project enhances the accessibility of university websites by using AI to improve usability, ensuring better navigation for students with disabilities.
- Inclusivity: Addresses inclusivity by creating standardized and user-friendly digital platforms that accommodate diverse student populations.
- Environmental Considerations: Not relevant
- SDGs Alignment: Aligns with SDG 4 (Quality Education) by improving digital access to educational resources through AI-driven web enhancements.

- Higher Education Relevance: AI-driven redesign optimizes online communication and information dissemination in higher education institutions, improving user experience and efficiency.
- Website: https://ceur-ws.org/Vol-3762/496.pdf

ARTIS Project: Trustworthy AI in Inclusive Education

- Description: The ARTIS project exemplifies a systemic approach to integrating trustworthy AI in inclusive education and speech therapy. By promoting user-centered design and continuous monitoring, the project ensures ethical AI deployment, enhancing learning experiences for students with disabilities.
- Accessibility: The project promotes AI-driven tools to support students with disabilities, ensuring accessible learning experiences through personalized assistance and adaptive learning technologies.
- Inclusivity: Focuses on user-centered AI solutions that cater to diverse learning needs, enhancing inclusivity in speech therapy and general education.
- Environmental Considerations: Not relevant
- SDGs Alignment: Aligns with SDG 4 (Quality Education) by ensuring AI is ethically designed to support equitable learning opportunities for students with disabilities.
- Higher Education Relevance: AI-driven tools enhance educational efficiency by providing targeted interventions, monitoring student progress, and reducing barriers to learning.
- Website: https://ital-ia2024.it/submission/594/paper

Data Analysis - Predicting University Dropout (University of Turin)

- Description: The Turin Law Department has developed innovative solutions to support out-of-school students by integrating online education and artificial intelligence. Since 2017, the project has aimed to improve academic success and predict student careers by fostering a data-driven approach in higher education.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: The project aims to improve academic success and predict student careers using a data-driven approach. By analyzing data and employing a machine learning algorithm, the department can make informed teaching policy decisions based on real student performance, optimizing resources and anticipating future needs
- Higher Education Relevance: Not relevant
- Website: https://www.agendadigitale.eu/scuola-digitale/ia-alleata-dei-fuoricorso-il-progetto-delluniversita-di-torino/

ELIAS (European Lighthouse of AI for Sustainability)

- Description: A consortium coordinated by the University of Trento aiming to establish Europe as a leader in sustainable AI research, promoting innovation and sustainable economic development.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: The initiative promotes AI for sustainability, including environmental monitoring and optimizing resource efficiency in education and research.
- SDGs Alignment: Aligns with SDG 9 (Industry, Innovation, and Infrastructure) and SDG 13 (Climate Action) by fostering AI-driven sustainability research and innovation.
- Higher Education Relevance: Supports AI applications in research and development, focusing on sustainable economic growth and AI's role in higher education institutions.
- Website: https://elias-ai.eu/

FoReLab (Department of Information Engineering of the University of Pisa)

- Description: (Future-Oriented REsearch LABoratory) develops technologies and methodologies for paving the way to a new generation of industry, autonomous, sustainable, resilient and person-centered. FoReLab is a project of the Department of Information Engineering of the University of Pisa.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: The lab is creating a team of AI-guided robots for environmental monitoring and protection. There is the quadruped robot ANYmal for terrestrial monitoring, underwater drones Zeno and Kudos, and a team of aerial drones. These robots collect data from various ecosystems on land, in the air, and in both fresh and salt water.
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://forelab.unipi.it/news-events/robots-environmental-protection

Inclusively project (Politecnico of Turin, University of Tor Vergata, University of Bologna)

- Description: The Polytechnic University of Turin, the University of Bologna, and the University of Tor Vergata developed Inclusively within the E-MIMIC project. This AI-driven algorithm analyzes linguistic stereotypes and generates inclusive texts. Integrated into advanced software, it automatically corrects inappropriate expressions and will first be tested by Public Administration employees.
- Accessibility: Not relevant

- Inclusivity: It is a writing assistant for inclusive Italian language, utilizing a deep learning model to detect and correct non-inclusive language. If an expression is identified as non-inclusive, the model rewrites it to be inclusive.
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://www.polito.it/ateneo/comunicazione-e-ufficio-stampa/poliflash/un-linguaggio-piu-inclusivo-grazie-all-intelligenza

Italy's AI-Assisted Teaching Pilot

- Description: In 2024, Italy launched a pilot program introducing AI-assisted software in 15 schools across four regions. The initiative aims to enhance learning through virtual assistants, helping teachers create personalized education methods and addressing the country's digital skills gap.
- Accessibility: The project introduces AI tools to monitor student progress and provide personalized learning support, potentially improving accessibility for students with learning difficulties.
- Inclusivity: AI-assisted teaching aims to enhance learning for diverse student populations, including those from disadvantaged backgrounds, by adapting teaching methods to individual needs.
- Environmental Considerations: Not relevant
- SDGs Alignment: Aligns with SDG 4 (Quality Education) by leveraging AI to personalize learning, reduce dropout rates, and improve digital competencies.
- Higher Education Relevance: The pilot evaluates AI's role in optimizing teaching methods and tracking student performance, contributing to efficient educational strategies in schools.
- Website: https://www.reuters.com/technology/italy-tests-ai-assisted-teaching-schools-boost-it-skills-2024-09-13/

Lab S.Polin (University of Turin)

- Description: The SpeechMatE project (Speech-Driven Mathematical Editor), developed by the Polin Laboratory, aims to create a web application that enables dictation, editing, and navigation of mathematical formulas through voice interaction. The system provides both visual and vocal feedback on dictated content, making it particularly useful for individuals with motor or visual disabilities, as well as those with learning disorders (LD).
- Accessibility: The Lab has developed a prototype software, SpeechMatE v. 1.0, for the dictation of mathematical formulas. They plan to enhance this software with AI and new functionalities to better support individuals with disabilities (physical and/or visual).
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant

- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://www.speechmate.unito.it

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aiLearning Platform

- Description: aiLearning is an AI-based platform designed to simplify and enhance exam preparation, execution, and evaluation. Developed as part of Italy's AI strategy, it aims to improve educational outcomes by providing personalized learning experiences.
- Accessibility: Provides AI-based personalized learning experiences, improving accessibility for students with different learning paces and needs.
- Inclusivity: Supports inclusivity by offering adaptive exam preparation and evaluation tools that accommodate diverse student backgrounds and abilities.
- Environmental Considerations: Not relevant
- SDGs Alignment: Aligns with SDG 4 (Quality Education) by enhancing digital learning through AI-driven personalization and assessment.
- Higher Education Relevance: Optimizes exam preparation, execution, and evaluation in higher education, making learning processes more efficient.
- Website: https://ai-watch.ec.europa.eu/countries/italy/italy-ai-strategy-report_en

A didactic in Law between online and artificial intelligence (Una didattica a Giurisprudenza tra online e intelligenza artificiale). University of Turin

- Description: Since 2017, this pioneering project not only facilitates the completion of studies, but also uses machine learning algorithms to analyse and predict academic careers, offering a customised and data-driven educational model. This volume recounts the teaching experiments that have characterised the department in recent years. The aim is to think about a didactic offer that is able to take into account all the different categories of students attending the university and to allow a programming oriented to guarantee a differentiated and therefore equal didactic.
- Accessibility: Not relevant
- Inclusivity: it is a project to help out-of-school students obtain a degree by offering them online law courses. The intention is also to analyse the data, study its characteristics and use a machine learning algorithm to predict the career progression of students who have not yet graduated. In this way, the department is able to make teaching policy choices related to real data on the performance of students.
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: From the experience born with the Department of Law, the service has been extended to other study courses: today it analyses the data of more than

200,000 careers, distributed over 62 study courses, involving 22 Departments within the 6 Schools into which the University of Turin is divided.

- Website: https://www.collane.unito.it/oa/files/original/a34a6316919bec52add861c46da394fa.pdf

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EKEEL - Empowering Knowledge Extraction to Empower Learners

- Description: The aim of EKEEL is to improve the extraction of prerequisite relations from learning videos by proposing a Knowledge Graph model of prerequisite relations aimed at exploiting this quantity of digital resources to produce new value through the transformation and reuse of knowledge. In more detail, the project focuses on extracting knowledge from instructional videos in terms of the concepts explained and the dependency relationships between them, in particular prerequisite relationships, which express the knowledge needed to understand another concept.
- Accessibility: The aim of the project is to improve the current state of the art in autonomous understanding of the content of video lectures and to exploit the extracted knowledge to provide advanced learning support services, so that the service provision is sustainable and the knowledge is shareable and reusable.
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Video lectures have seen exponential growth in recent years for a variety of educational, formal/informal, academic/professional purposes. The scientific contribution in terms of knowledge extraction is an innovative audio-visual approach for the extraction of prerequisite relations that takes into account the analysis of concept dynamics during video streaming, the results of which will also provide new features for the training of deep learning models.
- Website: https://www.ilc.cnr.it/progetti/ekeel/

Japan

Toyokawa, Y., Horikoshi, I., Majumdar, R., & Ogata, H. (2023). Challenges and opportunities of AI in inclusive education: a case study of data-enhanced active reading in Japan. Smart Learning Environments, 10(1), 67.

- Description: The case study aimed to investigate the current needs, challenges, and opportunities of implementing AI-driven services for active reading of learners with special needs in inclusive education (2 participants). The study is designed as a case study involving two twelve-year-old boys with special needs, who performed active reading tasks at home under the supervision of their guardians. Using the LEAF system, which includes the BookRoll e-reading platform and LogPalette analytics dashboard, the research tracks and analyzes the students' interaction data to identify learning behaviors and difficulties. The study tasks

included: Pre-reading phase: Students made predictions and formulated questions about the text. While-reading phase: Students answered comprehension questions and highlighted text directly in BookRoll. Post-reading phase: Students reflected on their reading by summarizing the story in their own words. Issues identified on the task: difficulty adapting to the technology, Features of the learning platform (e.g. timer, add and erase annotations) can be distracting and, skeptical parents reflecting concerns or misunderstandings about the purpose and benefits of data-driven learning tools. These issues showed the need to tailor learning designs to individual student needs and preferences was evident, especially for those with shorter attention spans or specific learning difficulties.

- Accessibility: students with mild disorders (1 receive communication training and the other is on the autism spectrum)
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://link.springer.com/article/10.1186/s40561-023-00286-2

Romania

Chatbot, the Future of Learning?

- Description: The limits of the conventional learning process and mental health are major issues in many education systems. Chatbots are centered on assisting humans in performing their tasks efficiently and require a low amount of digital literacy to interact with. Chatbots have been shown to be effective in the fields of education and well-being.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Application of AI driven Chatbots to help students learn without ever losing their patience and adjusting to the students needed level of support
- Website: https://doi.org/10.1007/978-981-15-7383-5_23

Education 4.0 - Artificial Intelligence Assisted Higher Education: Early recognition System with Machine Learning to support Students' Success

- Description: This Paper introduce an early recognition system and its use for detecting risk-students to support their performance
- Accessibility: Not relevant

- Inclusivity: AI supported didactic methods to predict students results on exams and adjust their support and learning accordingly
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://ieeexplore.ieee.org/document/8599203

Machine Learning and Robotic Process Automation Take Higher Education One Step Further

- Description: The paper proposes three ways of using artificial intelligence in higher education, namely physical robot at the entrance of the campus to guide the visitors, robotic process automation to assist admission and registration process, and robotic process automation to aid professors in student's evaluation process and improve the academic study plan.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Suggestions of implementing physical robots to support students, visitors and professors in different tasks
- Website: https://romjist.ro/full-texts/paper709.pdf

Romanian AI Days

- Description: Romanian AI Days, dedicated to the Artificial Intelligence community in Romania, aims to provide a venue for learning and networking for all those interested in AI and related fields (from beginners to experts, academic and industry practitioners, freelancers, students of any level, etc), and to better connect the AI community in Romania to the international community.
- Accessibility: Not relevant
- Inclusivity: Event geared towards making AI accessible for everyone, especially beginners.
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://days.airomania.eu/home

Saudi Arabia

Exploring the Impact of AI on Higher Education

- Description: A study investigating the impact of AI on learning experiences, administrative processes, and stakeholders' perceptions of AI integration in higher education.
- Accessibility: The study explores how AI can be leveraged to create more accessible learning environments, potentially accommodating diverse learning needs and overcoming traditional educational barriers.
- Inclusivity: By analyzing stakeholders' perceptions, the research addresses the inclusivity of AI in education, ensuring that AI tools are designed and implemented to serve a broad spectrum of learners.
- Environmental Considerations: Not relevant
- SDGs Alignment: Aligns with SDG 4 (Quality Education) by exploring how AI can improve educational quality and accessibility, contributing to inclusive and equitable education.
- Higher Education Relevance: The research highlights AI's potential to streamline administrative tasks and personalize learning experiences, thereby enhancing efficiency in higher education institutions.
- Website: https://www.nature.com/articles/s41599-024-03432-4

Spain

Adaptive learning as an alternative to tests

- Description: With the Montessori Scholengemeenschap Amsterdam, we are creating an adaptive learning tool to replace fact-based knowledge tests. This requires the further development of a cognitive AI model. The model analyses during learning whether a student has sufficiently mastered certain facts and offers the student appropriate exercises at the right time. Partnered with Slimstampen and scientists from Utrecht University.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Reducing reliance on traditional assessments by creating an adaptive learning tool, promoting lifelong learning and innovation.
- Higher Education Relevance: Not relevant
- Website: https://www.ru.nl/en/nolai/projecten

Analysis of the roles generative AI can assume within the educational framework of project based learning for sustainable development goals

- Description: Conference paper A paper analysing 21 use cases derived from the literature and proposed by expert educators of utilising generative AI in the classroom to support the development of sustainability goal competencies.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: This paper analyses genAI use cases within the framework of sustainable development goals.
- Higher Education Relevance: Not relevant
- Website: Submitted for consideration in the CSCL 2025 conference

Generative AI Chatbot in PyramidApp: Students' Behaviors and Design Principles

- Description: Conference paper. A paper evaluating the mediation of a masked GenAI chatbot in the setting of the CSCL web application PyramidApp. .
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: This work follows the implementation of generative AI tool to guide students in discussion and explores design principles following students behaviours
- Website: https://link.springer.com/chapter/10.1007/978-3-031-67998-8_19

Greening smart learning environments with Artificial Intelligence of Things

- Description: Journal paper: This article investigates the functionality and applications of an Artificial Intelligence of Things (AIoT) system specifically designed for learning purposes. It presents three compelling case studies that pilot the AIoT system in various educational contexts. The first case study focuses on primary education and the use of a smart dashboard to monitor the state of plants in environmental awareness activities. In the second case study, conducted in higher education, variables such as levels, light intensity, and temperature are monitored to generate personalised recommendations for creating an optimal learning environment through tailored adjustments. The third case study explores the potential of plants to identify human presence and activity patterns in learning environments. By utilising the AIoT system's capabilities, plant data is analysed to infer human presence and interactions.
- Accessibility: Not relevant
- Inclusivity: Not relevant

- Environmental Considerations: These case studies show how plants can be used as behaviour indicators in classrooms.
- SDGs Alignment: This work could also be connected to the SDG competencies
- Higher Education Relevance: Not relevant
- Website: https://www.sciencedirect.com/science/article/pii/S2542660523003748

Increasing vocabulary through rich context

- Description: With schools in Flores, we are investigating whether virtual reality helps increase the vocabulary of preschoolers with educational disadvantages. VR allows preschoolers to actively experience new contexts at school, such as mountains or dunes, for example. What does this require from pupils and how does it contribute to vocabulary development? Partnered with scientists from iXperium and Radboud University
- Accessibility: Using VR to enable preschoolers with educational disadvantages to experience new contexts and improve vocabulary.
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://www.ru.nl/en/nolai/projecten

Learning to read technically with speech technology

- Description: Can Automatic Speech Recognition (ASR) support technical reading learning in primary school? We are creating an adaptive application to practise technical reading with the Klasse Foundation. An accompanying dashboard gives teachers insight into the development of technical reading skills at sound and word level. This gives teaching colleagues dynamic insight into their students' reading development. Partnered with schools Novolanguage and scientists from Radboud University.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Improving literacy skills with an adaptive app and dashboard, which contributes to quality education (SDG 4).
- Higher Education Relevance: Not relevant
- Website: https://www.ru.nl/en/nolai/projecten

More efficient queuing through better questioning

- Description: How can AI help detect and interpret questions students ask and provide appropriate answers? With Het Stedelijk in Enschede, we are developing a prototype for the

Computer Science subject. The AI receives questions from students, invites students to sharpen the question and reflect on their approach. Where possible, the AI provides answers. The teacher has an overview via a dashboard and sees where extra support is needed, and in what way. Partnered with TA-help.me and scientists from TU Eindhoven and Utrecht University.

- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Using AI to streamline student inquiries, provide dynamic feedback, and optimize teacher workloads. Secondary Education
- Website: https://www.ru.nl/en/nolai/projecten

Promising Determination

- Description: How can AI support teachers in giving an appropriate provisional and definitive school recommendation during the extended two-year bridge class? With Raayland College, we are developing an AI-supported dashboard that helps teachers combine, structure and analyse various relevant data sources. Together with Maastricht University and Radboud Teachers Academy
- Accessibility: Not relevant
- Inclusivity: Developing a dashboard to support fair and tailored school recommendations, which addresses potential biases and inequities in decision-making.
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://www.ru.nl/en/nolai/projecten

Promoting self-regulation in essay writing

- Description: At Quadraam schools, we make the FLORA algorithm applicable for secondary education. The algorithm supports and encourages self-regulation skills during writing and is being used in several subjects. How does it affect students' self-regulation skills and reading and writing skills? And how can teachers properly support this learning process? Partnered with scientists from Radboud University and Monash University (Melbourne).
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Supporting students' self-regulation during writing tasks using the FLORA algorithm, improving learning efficiency. Secondary Education

- Website: https://www.ru.nl/en/nolai/projecten

Smart recommendations for a personal learning path

- Description: How can AI contribute to personally support students in their learning? With the Gemeentelijk Gymnasium Hilversum, we design support for students to help them learn the subject of Computer Science and also create guidelines for teachers and guest teachers. Partnered with Co-Teach Informatics and scientists from Utrecht University.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: AI support for students and guidelines for teachers to address the teacher shortage and enhance efficiency in education. Secondary Education
- Website: https://www.ru.nl/en/nolai/projecten

Social Innovation on Educational AI Developments. A Case Study on Social Participation on Designing AI Generative Models for Diversity

- Description: Journal paper: This is a multidisciplinary project that requires consideration of ethical and legal consequences and that can be addressed by a social engagement development model.
- Accessibility: Not relevant
- Inclusivity: The model aims to establish participation and validation criteria to prevent legal, social, and equity biases in the design of generative AI tools for social purposes, improving the design of validation and explainability processes guided by human experts.
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://link.springer.com/chapter/10.1007/978-981-97-4243-1_2

TRAILS: Toward the responsible and constructive use of generative AI in language learning at school

- Description: Project. The objective of this project is to help teachers produce learning activities that enable students to experience using generative AI (such as ChatGPT) in a transparent, responsible, and constructive manner.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant

- Higher Education Relevance: Not relevant
- Website: https://trails.upf.edu/

Video Interaction Analysis Tool (VIAT)

- Description: How can AI support secondary school teachers in raising awareness and gaining insight when reflecting on their teaching situations so that they can improve their actions in a focused way and in small steps? Together with secondary schools from Lucas Education (Lucas Onderwijs) and The Hague Education School (De Haagse Onderwijsschool), we are developing a video interaction analysis tool in which AI can extract relevant metadata from video recordings of teaching situations. We are also investigating how these points can be presented meaningfully and clearly to the teacher or teacher-in-training. Together with HOS and scientists from Radboud University.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Enabling teachers to reflect on and improve their teaching practices with AI-supported video analysis. Secondary Education.
- Website: https://www.ru.nl/en/nolai/projecten

mAIchart for teachers in primary education

- Description: A lot of data is collected on pupils' development. We created one central teacher dashboard with Stichting Lucas, Viertaal and Scala schools, which provides insight into pupil development. Different data sources are combined and analysed by AI. At the same time, we investigate how a dashboard supports and/or improves teacher action. Partnered with scientists from Utrecht University and Hogeschool van Arnhem en Nijmegen.
- Accessibility: Creating a dashboard that centralizes insights from multiple data sources, potentially supporting differentiated instruction for students with varying needs.
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://www.ru.nl/en/nolai/projecten

UK

Digital Environment Research Institute (DERI) collaborates with Sierra Leone to combat climate change

- Description: The project between Queen Mary University of London's Digital Environment Research Institute (DERI) and Sierra Leone's Directorate of Science, Technology, and Innovation (DSTI) aims to use data science and machine learning to analyze and predict rainfall patterns. This initiative is designed to train the researchers in Sierra Leone and help mitigate the effects of climate change by providing accurate climate models that can predict extreme weather events, such as floods and droughts, improving disaster preparedness and agricultural planning.
- Accessibility: Not relevant
- Inclusivity: It promote equitable AI applications, as seen in the climate research collaboration in Indonesia, where researchers are being trained to apply AI to local environmental challenges. Also, the project democratize AI by ensuring that developing countries gain access to AI-powered climate solutions, rather than being left behind. (Example of an AI application in driving sustainable development while ensuring that its benefits reach vulnerable communities because DERI outlines plans to expand this collaboration to other West African countries)
- Environmental Considerations: Climate Change Mitigation (help preparing for extreme weather events), contributes in Disaster Prevention & Management and Sustainable Agriculture (with climate predictions, helps farmers adapt their agricultural practices)
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: Project : https://www.qmul.ac.uk/media/news/2024/se/deri-collaborates-with-sierra-leone-to-combat-climate-change.html
  Broader interview: https://www.qmul.ac.uk/media/news/2025/science-and-engineering/se/can-ai-and-sustainability-co-exist.html?utm_medium=email_qm&utm_source=qmconnect&utm_campaign=qmrb_2025&utm_content=feb_2025

Using AI to Promote Education for Sustainable Development (ESD)

- Description: A collaborative project using AI in education to promote sustainability, focusing on AI applications in water resource preservation and sustainable farming practices.
- Accessibility: The project emphasizes broadening access to digital skills for disadvantaged students, ensuring equitable opportunities to benefit from technological advancements.
- Inclusivity: By integrating AI into educational practices, the project fosters an inclusive learning environment that caters to diverse student populations, including those from underrepresented backgrounds.
- Environmental Considerations: The case studies focus on sustainable practices, such as utilizing AI to promote water conservation in agriculture, directly addressing environmental sustainability.

- SDGs Alignment: The project aligns with SDG 4 (Quality Education) by enhancing digital skills and SDG 6 (Clean Water and Sanitation) through promoting sustainable water management practices.
- Higher Education Relevance: The integration of AI in higher education curricula exemplifies efficient application, enhancing both teaching methodologies and practical skill development.
- Website: https://www.qaa.ac.uk/docs/qaa/members/list-of-case-studies-using-ai-to-promote-education-for-sustainable-development-esd-and-widen-access-to-digital-skills.pdf

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Porayska-Pomsta, K., Alcorn, A. M., Avramides, K., Beale, S., Bernardini, S., Foster, M. E., ... & Smith, T. J. (2018). Blending human and artificial intelligence to support autistic children's social communication skills. ACM Transactions on Computer-Human Interaction (TOCHI), 25(6), 1-35.

- Description: The study investigates the efficacy of a technology-enhanced learning environment called ECHOES, designed to support social communication skills in children diagnosed with Autism Spectrum Conditions (ASC). The main focus was to improve social responses and initiations. The AI agent, Andy, provided consistent, predictable interactions, helping children practice joint attention, turn-taking, and initiating social interactions. The system used a large multi-touch display with simple gestures, allowing children to explore and engage at their own pace. By integrating structured learning activities with real-time feedback, ECHOES encouraged spontaneous communication and increased social engagement. Intervention Phase (Using ECHOES): Children interacted with the AI agent ("Andy") and a human practitioner in structured learning activities. (for 6 weeks) 15 ASC children - 4-14 years (but also 6 typically developing (TD) children as a reference group). However, generalizing the improved social interaction within the system to real-world settings remained inconsistent.
- Accessibility: ECHOES was designed for non-verbal and minimally verbal children, using gestures, visual cues, and simplified touch-based interactions instead of complex verbal instructions. It also provided a low-stress, adaptive learning environment, making social communication more approachable and less overwhelming for children with learning difficulties.
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://dl.acm.org/doi/10.1145/3271484

The impact of artificial intelligence in higher education (How can AI-enabled data collection address issues in attainment gaps) at King's Business School

- Description: Authors used AI software (proprietary software) as a research tool for collecting and analysing data in order to o address issues of the attainment gap in King's Business School to understand student perceptions of diversity, inclusion, and well-being. Using AI-enabled data collection allowed students to join the discussion without fear of judgement or repercussions, leading to the discovery of previously unexplored issues. Advantageous to use AI software; Overcoming social acceptance barriers by providing an anonymous platform for students to express their opinions. Eliminating power dynamics that can arise in staff- ed investigations, fostering trust and openness Points they found leading to an attainment gap in HE: Students' loneliness. Fear of fitting in due to financial restrictions. Fear of disclosing their true selves. Students may have felt more comfortable discussing these sensitive topics through a machine interface due to anonymity, a non-judgemental environment, lack of social pressure, enhanced privacy, and reduced vulnerability.
- Accessibility: Not relevant
- Inclusivity: The study's focus is on understanding diverse student perceptions of inclusion and well-being. The research prioritized recognizing and respecting user diversity, avoiding bias perpetuation, and ultimately, fostering a more equitable and inclusive learning environment
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://www.kcl.ac.uk/news/impact-ai-artificial-intelligence-higher-education

Using AI to promote Education for Sustainable Development (ESD) and widen access to digital skills: List of Case Studies September 2024

- Description: A list of 15 case studies illustrates how AI is used to promote Education for Sustainable Development (ESD) and widen access to digital skills.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Case Study 9 focuses on how AI, IoT (Internet of Things), and data visualization were integrated into a smart campus system initiative to enhance sustainability and safety in higher education environments. (image-based people counting, optimizing space management, air quality, and temperature conditions, data security and privacy compliance)
- Website: https://www.qaa.ac.uk/docs/qaa/members/list-of-case-studies-using-ai-to-promote-education-for-sustainable-development-esd-and-widen-access-to-digital-skills.pdf?sfvrsn=74f7bc81_6

USA

An AI generated research paper about plagiarism in HE.

- Description: Published in "Cellular and Molecular Bioengineering", including prompts. It is self-referencing on a meta and direct level: there is no explicit given conclusion, as the reader can draw this himself.
- Accessibility: Changing assignments to avoid usage of AI generators will have high impact on education.
- Inclusivity: Changing assignments to avoid usage of AI generators will have high impact on education.
- Environmental Considerations: Not relevant
- SDGs Alignment: Changing assignments to avoid usage of AI generators will have high impact on education.
- Higher Education Relevance: Changing assignments to avoid usage of AI generators will have high impact on education.
- Website: https://link.springer.com/article/10.1007/s12195-022-00754-8

Arizona Online-Only Charter School

- Description: A company named Unbound Academy has received permission to operate an online-only charter school in Arizona, that provides just two hours per day of personalized learning programs in academics from companies like IXL and Khan Academy. No teachers will be involved, as an AI that tracks progress and assignments individually. The intended grades are four to eight. Additional courses will be held by so called "guides" for "life-skill workshops". Charter schools are private but funded by government. Many charter schools are operated to remove or add specific topics from the curriculum, mostly for religious reasons. Critics state that Unbound is simply "AI washing" their concept to grab a bigger market share by exploiting regulations loopholes.
- Accessibility: There is a small chance that the concept allows the general public to access a charter school.
- Inclusivity: The online-only mode with an personalized AI could adapt to people with special needs.
- Environmental Considerations: If the approach really does work the amount of travelling could be reduced.
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant

- Website: https://danmeyer.substack.com/p/the-truth-about-2-hour-learning-and https://techcrunch.com/2024/12/20/arizonas-getting-an-online-charter-school-taught-entirely-by-ai/

CMU LearnSphere

- Description: LearnSphere is a project that delivers the Tigris software to manage the educational workflow within an university.
- Accessibility: Not relevant
- Inclusivity: Data driven course development has the potential to improve the course quality.
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: http://learnsphere.org/

Ecoach University of Michigan

- Description: Ecoach is a AI enhanced software that assists students within their learning and exam process. It provides content similar to moodle, but with AI support.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://ecoach.ai.umich.edu/Welcome/

Educause Research Paper: The Future of AI in Higher Education

- Description: Educause is a nonprofit association of educational organisations. They provide a widespread oversight about various topics. This specific resource delivers an outlook over the US higher educational approach to AI through a survey in 2024.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://www.educause.edu/ecar/research-publications/2024/2024-educause-ai-landscape-study/introduction-and-key-findings

FSA Aidan

- Description: Aidan is a specific customised chatbot for federal student aid by the US government that helps to acquire and manage the personal federal student loan.
- Accessibility: Through simple speech it helps to understand the proceedings.
- Inclusivity: Through simple speech it helps to understand the proceedings.
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Aidan streamlines the loan application and increases efficiency.
- Website: https://studentaid.gov/aidan

Jill Watson by Georgia Tech

- Description: Jill Watson is a AI enhanced software that assists students within their learning and exam process. It provides content similar to moodle, but with AI support.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://dilab.gatech.edu/jill-watson/

National Technical Institute for the Deaf / Rochester Institute of Technology: AI technology helps students who are deaf learn

- Description: The Rochester Institute of Technology (RIT) is piloting Microsoft's AI-powered speech and language technology, specifically the Translator for Education, to support its 1,500 deaf and hard of hearing students—the largest mainstream program in the U.S. This technology enables real-time subtitled presentations in PowerPoint, allowing presenters to speak in one of ten languages while generating subtitles in 60 different text languages. Up to 100 audience members can view these subtitles on mobile devices, enhancing accessibility, especially in academic settings where specialized vocabulary is common.
- Accessibility: allows deaf or hard-of-hearing students to access „normal" lectures in an easier way
- Inclusivity: allows deaf or hard-of-hearing students to access „normal" lectures in an easier way
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant

- Website: https://campustechnology.com/articles/2018/04/05/microsoft-ai-gives-deaf-rit-students-auto-captioning-boost-in-lecture-presentations.aspx https://blogs.microsoft.com/ai/ai-powered-captioning/

Only in America: Gun Detection System

- Description: Omnilert, a software to detect concealed weapons with help of an AI by monitoring surveillance camera footage, failed to do so.
- Accessibility: Not relevant
- Inclusivity: Not relevant
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://futurism.com/the-byte/school-shooting-ai-gun-detection-failure

Only in America: redefining inclusivity

- Description: The U.S. government starts a "partnership" with 8 of the biggest tech companies under a for-global-inclusivity-on-ai label. The companies receive additional funding from the government as subsidies.
- Accessibility: Subsidies are directed to few big companies, so accessibility is reduced for the mainstream.
- Inclusivity: The term inclusivity is redefined to cloak the negative impact - subsidies are exclusive.
- Environmental Considerations: Not relevant
- SDGs Alignment: A concentration on few actors can be expected to be unsustainable.
- Higher Education Relevance: Not relevant
- Website: state.gov/united-states-and-eight-companies-launch-the-partnership-for-global-inclusivity-on-ai/

RAISE Initiative - Responsible AI for Social Empowerment and Education

- Description: The MIT started this initiative to promote inclusive AI literacy and learning. A basic concept is the idea of "natives", which assumes that people which grow up with a technology have a better average understanding of this technology as people who had to learn these later in life. The second basic concept is personalised education, so an AI adjusts the content of the course to individual needs. The project delivers a curriculum to teach about AI and helps to create "AI natives".
- Accessibility: The learning experiences should offer multiple modes of engagement and expression to be accessible to students of diverse cognitive and physical abilities
- Inclusivity: Inclusion should be archived through accessibility, equity and adaptability.

- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Creating "AI natives" should improve overall performance of applicants.
- Website: https://raise.mit.edu/research-projects/inclusive-ai-literacy-learning/

Salesforce Agentforce

- Description: Salesforce Agentforce is the AI component for automating customer support and tracking student experience. Salesforce is a commercial platform for CRM and offers a special platform for educational institutions. This platform documents every contact and tracks the entire education and graduation process, maintains a tight connection to teachers and students and tries to ensure student success. Agentforce ist mostly a chatbot with AI extensions, which is capable to automate typical task like assignments, scheduling and answer student questions. Salesforce is popular for commercial institutions and expensive.
- Accessibility: A competent chatbot can lower the hurdle for students to contact the university. As each interaction might be documented the support quality could be improved.
- Inclusivity: By default AI-driven chatbots deliver a neutral, non-discriminating environment and will adjust to serve special needs, without sparking a feeling of guilt for the recipient.
- Environmental Considerations: Not relevant
- SDGs Alignment: More documented contacts allow for adjustment in the curriculum, to resolve the most popular support requests and improve the tracks in general.
- Higher Education Relevance: For commercial institutions the improved contact and feedback handling can improve the service, so reviews will improve. Marketing sees this is as a big win.
- Website: https://www.salesforce.com/agentforce/

Stanford University's AI4ALL

- Description: AI4ALL is an 2 week commercial online course program for 9th to 10th grade.
- Accessibility: Not relevant
- Inclusivity: The program is directed to low income families with financial aid available.
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: Not relevant
- Website: https://hai.stanford.edu/stanford-ai4all

Texas AI based redesign of the STAAR test

- Description: The STAAR test, which measures students' understanding of state-mandated core curriculum, was redesigned in 2023 to include more open-ended questions. These so-called constructed response items take way more time than multiple choice questions when scoring

the responses, so a new system has been put into action. An AI will score the results first, giving an confidence interval, and humans will re-score if this interval is low or students complain. If a human rescoring is demanded by students, these will have to pay a fee of 50$, which is canceled only when the scoring improves by this process.

- Accessibility: This test is a baseline scoring test for all pupils and is easy accessible.
- Inclusivity: AI automated scoring can improve equality of the scores.
- Environmental Considerations: Not relevant
- SDGs Alignment: Not relevant
- Higher Education Relevance: The test is decisive for the applicant selection process, so any improvement is relevant.
- Website: https://tea.texas.gov/student-assessment/staar https://www.texastribune.org/2024/04/09/staar-artificial-intelligence-computer-grading-texas/

Worldwide

AI and Ethical Frameworks in Higher Education

- Description: The study examines AI ethics, digital accessibility, algorithmic bias, environmental impact, and sustainable education practices, emphasizing AI's role in enhancing efficiency and inclusivity in higher education.
- Accessibility: The study examines AI ethics and digital accessibility, ensuring fair access to AI technologies in higher education.
- Inclusivity: It addresses algorithmic bias and the digital divide, promoting inclusive AI practices in education.
- Environmental Considerations: Not relevant
- SDGs Alignment: Highlights AI's role in sustainable and inclusive academic environments, aligning with global sustainability targets.
- Higher Education Relevance: AI enhances educational outcomes and resource management, contributing to long-term sustainability in higher education.
- Website: https://link.springer.com/article/10.1007/s43621-025-00809-6



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