UNIVERSITÀ
DEGLI STUDI
DI MILANO

Guidelines

AI EDUCATION

Guidelines for Beneficial Use of AI in Educational Settings

The University of Milan promotes and supports the adoption of Artificial intelligence (AI) and generative AI tools in educational activities, while maintaining certain principles that remain firm:

- *AI tools should always be understood as an integration of the student-teacher relationship and do not replace it in any way in its central role in educational activities;*
- *the person, their critical thinking, and their overall competencies must be the central core both as a training objective and as a method for any technology-assisted educational activity;*
- *AI should be considered as an opportunity to improve educational activities and not as an obstacle;*
- *active and participatory research should be promoted regarding new educational methods and the effects that the use of AI tools can have on the quality and effectiveness of educational action.*

1. Areas of Use

1.1. Educational Support Activities

Learning personalization.
AI enables the creation of personalized learning paths, adapting content and methodologies to the specific needs of each student. Machine learning algorithms can analyze results obtained by students in ongoing (self-)assessment activities and identify areas where each student needs to deepen their knowledge, suggesting ad hoc exercises and resources.

This type of personalization can increase student engagement and improve academic results, mitigating dropout. An equally important element of personalization is the ability to generate educational content in forms that are more accessible to specific types of students, such as content translated into multiple languages using AI tools.

Virtual tutors and continuous student assistance.
Using tools such as chatbots and AI-based virtual assistants, it is possible to provide students with immediate support available at any time. These tools can answer frequently asked questions, facilitating learning and reducing students' sense of isolation. Such tools can be systematically integrated into the teaching platforms used by the University, starting with *myAriel*.

Dynamic educational materials.
AI can contribute to generating dynamic and interactive educational content, such as simulations, educational games, and augmented reality experiences. Similarly, it is also possible to generate self-assessment quizzes based on educational content, create summaries and concept maps, and video modules, even in multiple languages and through personalized avatars in appearance and voice tone. These tools make learning more engaging and stimulating, promoting deeper understanding of the concepts covered and offering teachers greater expressive flexibility and more modes of content transmission.

1.2. Administrative Activities

Automation of repetitive tasks.
AI can automate many administrative and educational activities, such as group formation, attendance management, or the creation and correction of exercises and tests (exclusively for self-assessment tools and not for exam tests). These tools allow teachers to focus more on lesson planning and direct interaction with students. Additionally, automation can help reduce human errors.

Data collection and analysis.
AI enables the collection and analysis of large amounts of data on interaction with students in the educational context even beyond individual courses and therefore in the more comprehensive planning of activities within a degree program. This data can be used to monitor individual progress and identify general trends, allowing teachers to intervene promptly and further personalize learning paths. In terms of more general planning, predictive analyses can also help identify students at risk of failure or dropout, enabling targeted interventions to support them.

1.3. Types of Tools

Among AI-based tools that can be useful in educational settings, the primary ones indicated are:

- **RAG systems** (retrieval-augmented generation) - systems that, starting from a set of content selected for scientific quality, allow querying the content itself, remodulating its use, and feeding the creation of new content;
- **virtual tutors** - software that uses AI to provide personalized support to students, answer frequently asked questions, and explain complex concepts;
- **learning management systems (LMS)** - platforms that integrate AI to monitor student progress, assign personalized tasks, and provide real-time feedback and **tools for generating audiovisual educational modules** based on content indicated by the teacher;
- **virtual assistants** - chatbots and voice assistants that can help students with daily activities, such as study planning and time management;
- **data analysis tools** - software that analyzes student data to identify areas for improvement and further personalize the learning path;
- **bibliographic research assistants** - software solutions based on generative AI to enhance semantic, multilingual, and natural language search within academic digital library environments.

2. Guidelines

2.1.

For the teacher-student relationship on which education is based to be fruitful, and to best integrate the use of AI tools, it is necessary that teachers and students share common principles and boundaries regarding AI.

For teachers:

- any use of AI tools in educational activities must be made explicit and declared, both regarding the specific tool used and the methods of use (an example of a usage declaration is provided at the end of this paragraph);
- the use of AI for preparing educational content is permitted only after careful review of the content by the teacher;
- from an active teaching perspective, the use of AI in the classroom with students is encouraged, in a participatory and interactive way, provided there is adequate introduction to the specific characteristics of the tool;
- the use of AI for editorial purposes in preparing educational material is permitted provided there is careful verification of any alteration of content;
- it is never permitted to delegate any learning assessment activity to AI tools when such activity involves an assessment that contributes to the final exam grade. Self-assessment aimed at improving learning is instead permitted and promoted provided it is made explicit in the tools and methods of use.

For students:

- any use of AI tools in producing work subject to assessment must be made explicit and declared, specifying the methods of use and purposes (an example of a usage declaration is provided at the end of this paragraph);
- the use of AI by students is encouraged in carrying out exercises, study, and exam projects, provided a conscious and critical approach is verifiable;
- the use of AI in preparing written reports and final theses for bachelor's and master's degrees is permitted to the extent that it is used as a support tool, after careful verification of content and in no case for creating content inserted into papers without adequate review and rewriting activity being carried out and documented. In all cases, the use of AI tools must be declared both regarding the type of tool and the method of use.

Example of usage declaration

During the preparation of this work, the authors used GPT-4 and NotebookLM to: draft content, paraphrase and reformulate, improve writing style, draft abstracts, check grammar and spelling. After using these tools, the authors reviewed and modified the content as necessary and take full responsibility for the content of their work.

3. Best Practices

Training and awareness.
The effective use of AI in educational settings requires that both teachers and students have received adequate training. Both need training that introduces and informs about the operating principles of AI and more generally machine learning, about the role of information sources and the skills necessary to select and use them, about the ethical and legal risks connected to AI use, and finally, training in the use of these tools. For teachers, specific training on how to integrate these technologies into their teaching methods is also necessary. For students, training must include the information necessary to enable critical use that allows them to make the best use of available resources without compromising their privacy or security or the success of their academic path.

Continuous evaluation.
It is important to constantly monitor and evaluate the effectiveness of AI tools used in educational settings. This can be done through:

- teacher and student feedback - collecting opinions and suggestions on how to improve the use of AI tools;
- performance data analysis - monitoring student performance to evaluate the impact of AI on learning;
- updating and maintenance - ensuring that AI tools are always updated with the latest technologies and best practices.

4. Improper Uses and Risks

To ensure the integrity of the educational process, both from the perspective of students who learn and teachers who teach and conduct research, all uses of AI that improperly substitute the very idea of personal learning, compromise assessment transparency, violate data protection regulations, or damage teaching quality are prohibited or strongly discouraged. Every use must be traceable, conscious, transparent, and supervised. In particular, regarding the student learning process, the following improper uses and risks are highlighted:

Complete and uncritical delegation.
It can be risky for a student and their growth path to completely delegate the drafting of papers, research, theses, or essays to generative AI tools. This is an improper use that not only can compromise the development of the student's critical, argumentative, and writing skills but is also in violation of the principles of correctness, originality, and authenticity that must be the basis of any work related to the academic field.

Tests and exams.
Improper behavior also includes using AI to generate answers during exams, tests, or assessments of any kind. This is an approach that can compromise the validity of the teacher's assessment.

Translations.
It is also risky to rely completely on AI for automatic translation of texts into another language without performing critical review: in addition to preventing proper language learning, it can lead to conceptual and lexical errors not understood by the student.

Circumventing anti-plagiarism systems.
Except for the revision of textual content, including that of other authors, through AI tools previously agreed upon with the teacher and properly declared as indicated in these guidelines, all other situations where reformulation or manipulation of others' texts through AI tools occurs solely to evade the anti-plagiarism systems used by the University are considered improper uses.

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TRANSLATION NOTICE
This document has been translated from its original Italian version using artificial intelligence (Claude Sonnet 4). The translation has been reviewed and verified by qualified human staff to ensure accuracy and adherence to the original text. The University assumes full responsibility for the fidelity of this English translation to the original Italian document.