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MINISTERIO DE EDUCACIÓN, FORMACIÓN PROFESIONAL Y DEPORTES

INSTITUTO NACIONAL DE TECNOLOGÍAS EDUCATIVAS Y DE FORMACIÓN DEL PROFESORADO

Guide on the Use of

# ARTIFICIAL INTELLIGENCE IN EDUCATION

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# 1. INTRODUCTION

Artificial intelligence (AI) has emerged as one of the most transformative technologies of our time, and its influence extends to virtually every area of society. From healthcare and agriculture to transport and entertainment, AI is present in many different forms.

Education is no exception to this transformation. AI-based tools offer new possibilities for supporting teaching and learning processes, facilitating certain teaching tasks and enabling more personalised educational experiences. At the same time, their introduction raises significant challenges relating to issues such as privacy, security, equity, transparency and the responsible use of technology.

In this context, it is essential that schools and teachers have access to clear criteria to guide decision-making on the use of AI in education. This guide aims to support that goal by providing a reference framework to help understand the opportunities and limitations of these technologies and promote sound pedagogical integration. It is also based on the conviction that AI does not replace the role of the teacher, whose intervention remains essential to contextualise its use, assess its outputs and ensure that it contributes meaningfully to learning and students' holistic development.

## 1.1 WHAT IS AI?

Given the diversity of existing definitions and criteria, this document adopts the definition established in the European Union Artificial Intelligence Act (AI Act), as it is the regulatory framework of reference in our educational context. According to the Act, an AI system is "*a machine-based system that is designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments*" (Regulation (EU) 2024/1689, 2024, Art. 3(1)).

Within this framework, generative AI is particularly relevant because of its growing impact on education. As noted in the European Commission's Guidelines on the ethical use of artificial intelligence and data in teaching and learning for educators (2026a), it is a specific category of AI systems designed not only to analyse data, but also to adapt and generate content such as text, images, code or music.

## 1.2 AI IN EDUCATION

AI is transforming the social and cultural context in which our students live. Talking about AI in education therefore means going beyond its technological dimension and addressing its educational, social and ethical implications: understanding what this technology is, how it influences everyday life, and what opportunities and challenges it presents for learning, teaching and participation in society.

In education, AI can open up new possibilities for personalising learning, supporting teachers, facilitating the creation of learning materials and enriching teaching and learning processes. For these possibilities to provide real value, its use must be framed by sound pedagogical decisions and principles of inclusion, equity, safety and responsibility. In this way, the integration of AI in education should contribute to students' well-being, the protection of their rights and the development of critical and autonomous digital citizenship.

Since the first version of this guide was published in 2024, the context of AI in education has evolved rapidly. In a very short time, AI has gone from being perceived mainly as a technological novelty to becoming an established feature of everyday life.

The adoption of the AI Act marked a milestone by establishing the first general regulatory framework for AI systems. Its purpose is to ensure that AI is developed and used safely and with due regard for fundamental rights. To this end, it classifies uses of AI according to the level of risk they pose and establishes different requirements and obligations for each category.

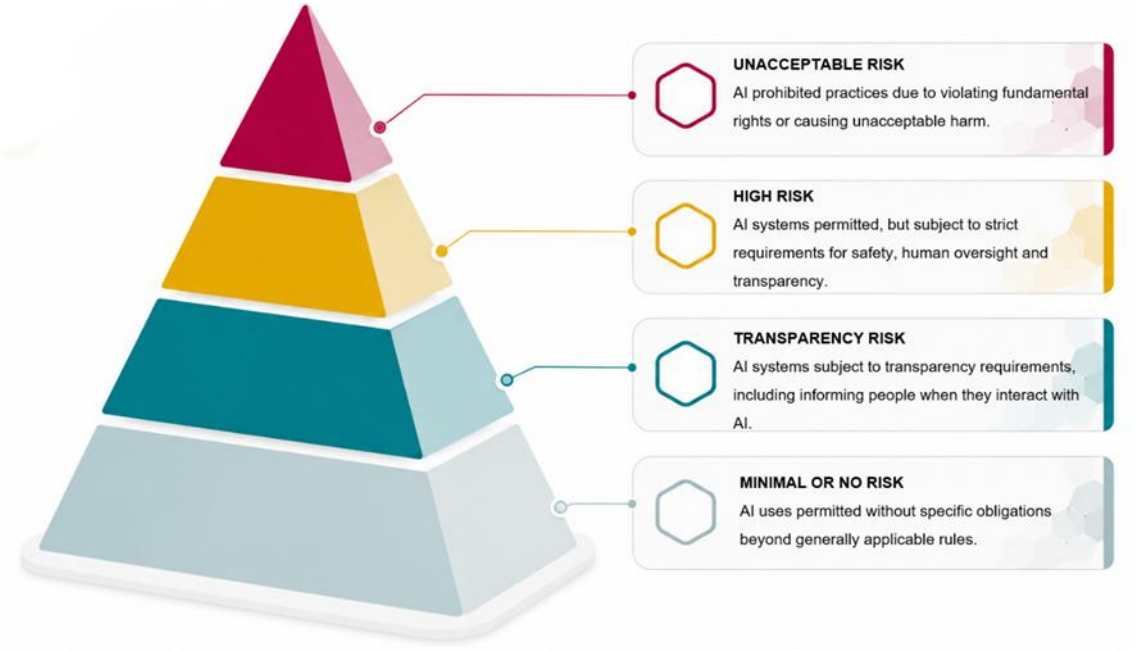


*Figure 1: Classification of AI systems according to the risk levels established by the AI Act. Co-created by INTEF with ChatGPT (OpenAI, 2026). CC BY-SA licence*

This evolution is also reflected in European reference frameworks. The updated European Digital Competence Framework for Citizens (DigComp 3.0, 2025) integrates AI across the full range of digital competences.

At the same time, the widespread use of digital tools incorporating AI has become even more evident. Students routinely use environments, applications and services in which this technology is already embedded, often without explicitly recognising it as AI, and the same is true of many tasks associated with teaching practice. For this reason, a strategic approach to integrating AI in education cannot be merely reactive to technology. It must evolve towards a model that prioritises understanding of the digital environment and fosters a culture of responsibility and ethics in the use of AI. In this way, this approach ensures that technological integration strengthens individuals' capacity to make decisions in the face of the risks associated with technological dependence.

### 1.2.1 AI IN THE DEVELOPMENT OF KEY COMPETENCES

Integrating AI into teaching and learning processes offers an opportunity to strengthen the acquisition of key competences when its use is based on clear, responsible and context-sensitive pedagogical criteria. The central question,

therefore, should not be whether AI is used, but how, for what purpose and under what conditions.

DigComp 3.0 places AI within the broader framework of digital competence and emphasises that AI-related competences are interconnected with other essential capabilities for life. In turn, the Organisation for Economic Co-operation and Development (OECD) and the European Commission, in Empowering Learners for the Age of AI: An AI Literacy Framework for Primary and Secondary Education (OECD and European Union, 2026), define AI literacy as “the technical knowledge, durable skills and future-ready attitudes required to thrive in a world influenced by AI”. The framework further explains that AI literacy enables learners to engage with AI, create with it, manage it and shape it, while critically evaluating its benefits, risks and ethical implications. This includes not only interacting with AI systems, but also understanding what they are and are not, critically assessing their benefits and risks, and using them ethically, safely and for the common good.

The available evidence also suggests that the educational contribution of AI depends on its integration into learning-oriented teaching approaches. The OECD notes that these tools do not improve educational outcomes by themselves, but they can add value when used with teacher guidance, clearly defined learning purposes and as support for processes such as understanding, guided practice, argumentation, revision or feedback (OECD, 2026).

From this perspective, AI is not separate from competence development; it can be integrated directly into learning situations in which key competences are acquired and put into practice. The guidance in this document aims to facilitate the integration of AI in education in a way that is consistent with the development of key competences, students' participation in teaching and learning processes, and the pedagogical principles that guide teaching practice.

### 1.2.2 AI LITERACY

AI literacy is now a necessary dimension of students' holistic education. In a digital society such as ours, the education system must help children and young people understand how these technologies work and how they can engage with them

safely, critically and responsibly. Developing AI literacy does not mean introducing content that is alien to the curriculum, but rather responding, through the aims of the education system itself, to a social, cultural and technological reality that is already part of students' everyday lives.

This approach is reinforced by the most recent European and international frameworks, which emphasise that AI literacy should be addressed progressively across all educational stages and subjects, in ways adapted to students' age, development and learning contexts (OECD and European Commission, 2026).

From this perspective, learning about AI is not simply a matter of becoming familiar with specific digital tools. It also involves analysing their ethical implications and strengthening distinctly human capabilities such as metacognition, critical judgement, communication, question formulation and perspective-taking.

In addition, data literacy is essential to understanding that AI does not operate magically or neutrally, but through data, probabilities and inferences. Helping students understand where data come from, how they are collected, how they are used and what biases or limitations may be transferred to AI systems is a basic condition for the informed and safe use of these technologies. This literacy is particularly important for protecting privacy, avoiding uncritical trust in generated outputs and fostering responsible digital citizenship.

All of this is consistent with Organic Law 3/2020 of 29 December, amending Organic Law 2/2006 of 3 May on Education (LOMLOE), and with the current curriculum regulations, which place the competence-based approach at the heart of learning. AI literacy can be understood as a necessary expression of this approach, as it contributes to the development of autonomy, critical thinking and informed participation in digital society.

Families also play an important role in developing AI literacy. As the OECD and European Commission (2026) point out, they can help “by attending to how AI and digital technologies shape children’s well-being, relationships and decision

making". Although this guide focuses on the use of AI in education, skills and knowledge acquired at school can be reinforced at home through meaningful conversations about the use of AI and about issues that may not be suitable for discussion in the school environment. In this way, families can act as trusted adults who support and guide students in developing a critical, safe and responsible relationship with AI.

This collective approach would ensure that AI literacy is developed across all learning environments. It would reinforce AI literacy not merely as a body of knowledge to be acquired, but as an essential practice for navigating modern life (OECD and European Commission, 2026).

**REMEMBER**

- AI in education opens up new possibilities to enrich teaching and learning processes.
- AI literacy offers an opportunity to strengthen key competences. Its gradual, pedagogically grounded integration contributes to the development of critical and autonomous digital citizenship.
- To ensure a trustworthy deployment, the integration of AI into classrooms must be underpinned by the relevant regulatory frameworks.

*Figure 2: Remember: Introduction. Co-created by INTEF with ChatGPT (OpenAI, 2026). CC BY-SA licence*

# 2. POSSIBILITIES AND APPLICATIONS OF AI IN EDUCATION

This section explores different possibilities and applications of AI in education in order to guide students, teachers and schools through the process of integrating AI ethically and responsibly.

Recognising that there is no single path, the European Digital Education Hub's AI Report (EDEH AI Squad, 2023) has been used as a reference. It sets out three distinct but interconnected approaches to teaching and learning about AI systems:

- **Teaching or learning *for* AI** means preparing students to interact safely, critically and responsibly in AI-mediated environments.
- **Teaching or learning *about* AI** focuses on its technical foundations, from data management to the components that underpin its internal logic.
- **Teaching or learning *with* AI** focuses on making pedagogical use of AI tools to enhance and extend teaching and learning processes.

To maximise the benefits of AI in education, it is essential not only to identify the areas in which AI can be beneficial, but also to ensure that students, teachers and schools adopt these approaches ethically and responsibly. All of them have a crucial role in shaping an educational future in which AI is not only a technological tool, but also a driver of holistic development and lifelong learning. By harnessing AI's distinctive capabilities, we can improve the educational experience and better prepare future generations for the challenges of the digital world.

This approach aligns with the European Commission's Guidelines on the ethical use of artificial intelligence and data in teaching and learning for educators (European Commission, 2026a), which distinguishes three categories according to who is using the AI: teachers, students and schools. This guide adopts these categories to illustrate the use cases presented in the following sections.

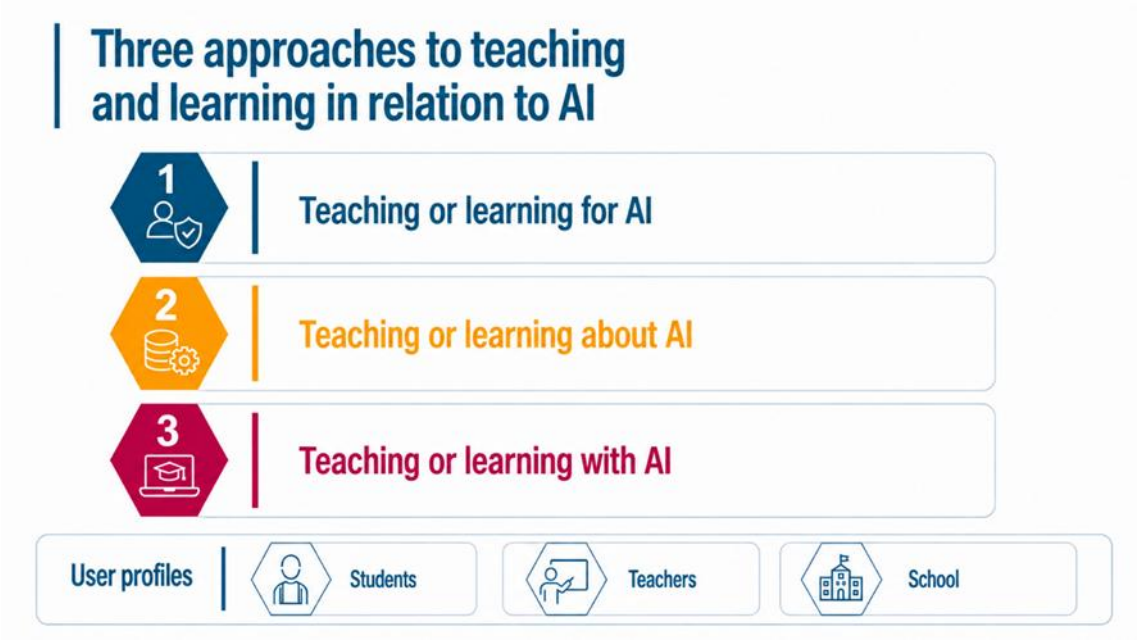


*Figure 3: Approaches and profiles for AI in education. Co-created by INTEF with ChatGPT (OpenAI, 2026) CC BY-SA licence*

Acknowledging that this integration is not without risks, the specific challenges and limitations associated with each profile will also be examined. The aim is to equip the school community with preventive strategies and clear oversight guidelines to mitigate risks, ensuring that this technology enhances learning rather than replacing cognitive effort or people's decision-making capacity.

## 2.1 STUDENT PROFILE

Adopting these approaches places students in a new context in which their role is not that of passive consumers, but of active agents capable of navigating today's digital reality consciously.

Developing students' autonomy in the appropriate use of AI requires progression in line with their level of maturity. To this end, when interacting in an AI-mediated environment, it is essential to strengthen the four fundamental pillars of contemporary learning, the so-called “4 Cs” (Partnership for 21st Century Skills, 2009): critical thinking to interpret and verify reality, communication to formulate and express ideas clearly, collaboration to build knowledge together, and creativity to produce work based on one's own judgement.

The rapid arrival of AI in classrooms has undoubtedly created uncertainty and debate, and there is not yet a fully agreed position on the use of AI in education. Education authorities and international organisations have responded from different perspectives. For example, UNESCO (Miao & Holmes, 2024) stresses the need to calibrate and support the use of AI according to students' stage of development and sets out specific precautions for generative AI systems, particularly in relation to the age of access.

With regard to data protection in the context of AI, it should not be overlooked that, because these systems learn from each interaction, any detail shared may be stored, processed or reused in accordance with the terms of the service; personal or sensitive data should therefore not be entered. It should also be borne in mind that, when registering for online applications and tools, including AI systems, Spanish Organic Law 3/2018 of 5 December on the Protection of Personal Data and Guarantee of Digital Rights (LOPDGDD) establishes that the processing of personal data may be based on the individual's own consent only from the age of 14. This age is the threshold at which a person has the legal capacity to authorise the disclosure of information independently during this process. Below this age, any registration requires the explicit consent of parents or legal guardians.

To foster the progressive development of these competences, this guide proposes a gradual approach adapted to the educational context, students' level of competence and the diversity of needs present in each classroom. This progression should be tailored to the characteristics of the different educational stages, ensuring that the introduction of AI always responds to pedagogical purposes appropriate to students' maturity. To this end, Annex 1 includes illustrative examples of learning situations showing possible ways of integrating AI at different educational stages. These proposals are not fixed models, but flexible references that can be adapted to the specific needs of each school, classroom or group of students.

The sections that follow develop the approaches to learning for, with and about AI, within which four essential domains of AI literacy are integrated: Engage with AI,

Create with AI, Manage AI and Shape AI. This approach is aligned with the literacy framework jointly developed by the OECD and European Commission (2026), Empowering Learners for the Age of AI: An AI Literacy Framework for Primary and Secondary Education.

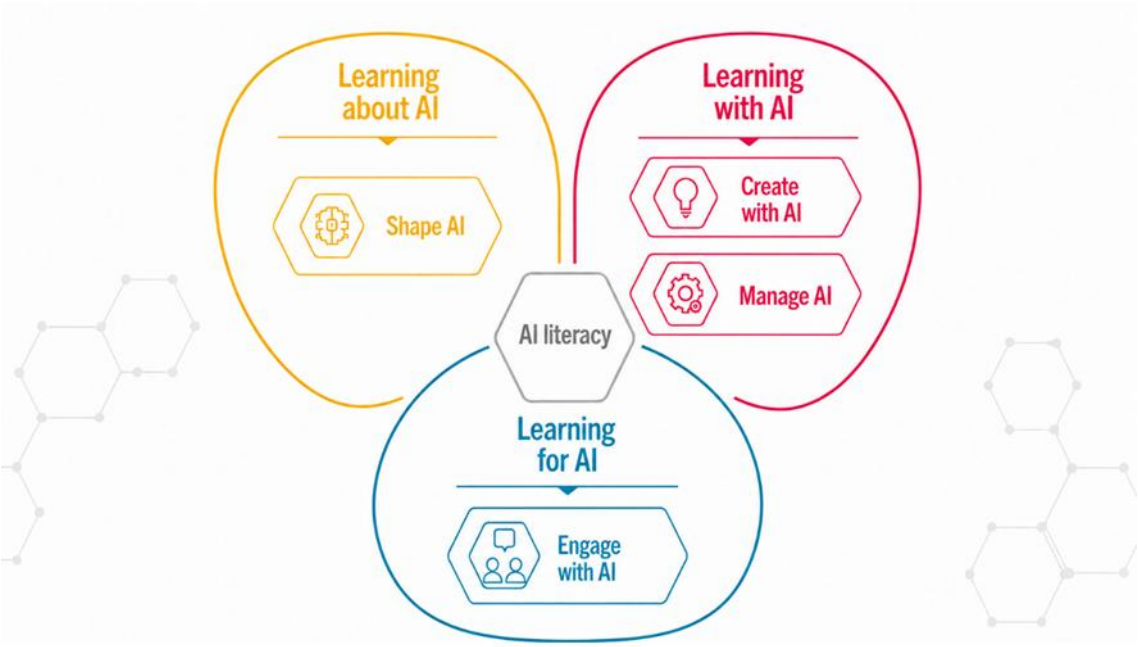


*Figure 4: Approaches and domains of AI literacy. Co-created by INTEF with ChatGPT (OpenAI, 2026) CC BY-SA licence*

The ultimate aim of this proposal is to foster the progressive development of students' human agency, enabling them to understand, use and critically analyse AI systems and to make informed and responsible decisions in a society increasingly influenced by this technology.

## CHALLENGES AND LIMITATIONS FOR STUDENTS

Identifying the specific challenges posed by the educational use of AI is essential to ensure students' competence development and holistic growth. The real danger lies not in the technology itself, but in “blind delegation” that may erode fundamental capabilities such as reflective reading, problem-solving or logical thinking.

AI integration should therefore be conceived as a supported process that ensures the algorithm is always a driver of holistic development and never a substitute for

students' own capacity to reason. Table 1 sets out some of the main challenges this technology presents for students, together with proposed strategies for addressing them in the classroom.

*Table 1: Challenges and limitations for students*

| CHALLENGE | WHAT DOES THIS MEAN FOR STUDENTS? | MITIGATION STRATEGIES |
|---|---|---|
| Cognitive offloading | AI replaces key cognitive functions (review, critical judgement, verification). | Establish clear criteria for when and how AI may be used, preventing it from replacing key cognitive processes such as review, cross-checking information, independent reasoning or decision-making. |
| Illusion of competence | Students may perceive that they understand content because AI provides correct, clear and well-formulated answers, without having gone through the cognitive process required to construct that knowledge. | Include tasks that make the process followed visible, as well as oral defences, short interviews or transfer activities that make it possible to verify genuine understanding. |

| CHALLENGE | WHAT DOES THIS MEAN FOR STUDENTS? | MITIGATION STRATEGIES |
|---|---|---|
| Cognitive laziness | The ease, fluency and apparent solidity of AI-generated responses may reduce students' tendency to monitor, review and regulate their own learning process, fostering a more passive relationship with knowledge.<br><br>Continued use of AI as a substitute for cognitive effort may progressively weaken skills such as memory, comprehension, writing or reasoning by reducing the opportunities for practice needed to consolidate and develop them. | Design tasks that require students to verify, justify and review responses, incorporating metacognitive routines that help them identify what AI contributed, what the student did and how the information was validated.<br><br>Set activities centred on explicit reasoning in which students must explain processes, justify decisions and compare alternatives.<br><br>Require evidence of the process followed, not only of the final result.<br><br>Ensure deliberate and frequent practice without AI assistance in key tasks, especially during the initial stages of learning. |
| Vulnerability of personal data | The use of certain AI platforms may increase students' exposure of personal data, especially when it is unclear how those data are collected, stored, used or shared. | Use tools that are endorsed by educational institutions. |

| CHALLENGE | WHAT DOES THIS MEAN FOR STUDENTS? | MITIGATION STRATEGIES |
|---|---|---|
| Equity gap in learning | The use of AI may widen gaps between students depending on their level of competence development.<br><br>Students who have developed AI literacy are able to use AI with judgement and achieve high levels of performance. Students who lack these competences will use AI superficially, without understanding or adequately directing its outputs, which limits the quality of their learning. | Make the use of AI conditional on students' level of competence, ensuring that it is introduced only once they have demonstrated sufficient mastery of the learning involved.<br><br>Establish progressive sequences in which skills are first consolidated without technological support and AI is introduced subsequently as a tool for improvement and deeper learning. |
| Convenience trap | The ease, speed and accessibility of AI tools may lead students to adopt them as their main source of information, displacing independent information searches, reducing consultation of diverse sources and limiting the analysis, cross-checking and verification processes needed to build robust knowledge. | Design activities in which the value lies not only in the final answer, but in the process followed to reach it.<br><br>Design tasks that incorporate productive friction, requiring students to argue their case, cross-check sources and justify their decisions. |

| CHALLENGE | WHAT DOES THIS MEAN FOR STUDENTS? | MITIGATION STRATEGIES |
|---|---|---|
| Limitation of heterogeneous and diverse approaches | AI-generated responses may reflect biases or present certain perspectives as predominant, reducing students' exposure to a diversity of approaches, experiences, cultural contexts and linguistic realities, including those associated with Spain's co-official languages. | Design activities that incorporate comparison of perspectives, consultation of diverse sources and critical analysis of AI-generated content, promoting plural representation of the different social, cultural and linguistic realities present in our context. |
| Risk of isolation | If interaction with AI tools replaces human interaction to an excessive extent, educational relationships may be weakened and opportunities for shared learning may be reduced. This can limit both direct contact with teachers and interaction with peers, both of which are essential for support, collaboration and the joint construction of knowledge. | Promote classroom dynamics that strengthen direct interaction with the teacher and other students, incorporating opportunities for support, dialogue and pedagogical guidance.<br><br>Design activities that require teacher mediation and peer interaction, positioning AI as a support resource within a guided learning process rather than as a substitute for the educational relationship. |

| CHALLENGE | WHAT DOES THIS MEAN FOR STUDENTS? | MITIGATION STRATEGIES |
|---|---|---|
| AI access gap | The integration of AI tools may amplify pre-existing inequalities when access to devices, connectivity, subscription models, suitable working spaces or family support outside school is uneven. | Develop strategies that ensure equitable participation in AI-supported learning experiences, guaranteeing access to the necessary technological resources and providing support, guidance and training measures adapted to students' needs, especially those in vulnerable situations. |

Identifying these challenges should not be understood as a limit on the educational use of AI, but as a necessary condition for guiding its integration with sound pedagogical judgement. These challenges can become opportunities to strengthen students' active role in their own learning, promote the development of key competences, especially those related to critical thinking, self-regulation and responsible use of technology, and reinforce autonomy in the construction of knowledge. From this perspective, the use of AI in education is not conceived as a substitute for cognitive effort, but as a resource which, when appropriately integrated, can enrich teaching and learning processes and contribute to students' holistic development.

### 2.1.1 LEARNING *FOR* AI

Learning for AI involves equipping students with the capabilities they need to navigate autonomously, critically and responsibly in contexts where these systems are present. It is not simply a matter of using them, but of developing the judgement needed to decide when, how and for what purpose to use them, while always maintaining human control over processes and outcomes. Prioritising this

approach in the early stages through guided curiosity and safe simulations prepares students for later access to this technology with the necessary judgement and maturity.

Within this approach, the domain “Engage with AI” forms the foundation of AI literacy, establishing the basis for what students should know and be able to do when interacting with these systems. It is therefore an essential pillar and necessary starting point (OECD and European Commission, 2026).

### ENGAGE WITH AI

Engaging with AI in everyday life means living alongside systems that mediate access to information, organise content, make recommendations or participate in decision-making. In this context, students need not only to know how to use them, but also to recognise when they are interacting with AI and understand their role and how they may influence their perceptions, decisions and learning.

In the classroom, this means supporting students in analysing the information they receive, assessing its relevance and questioning how far it can be trusted. To do so, they need to develop a basic understanding of how these systems work so that they can interpret their outputs and recognise both their possibilities and their limitations.

Work in this domain is essential to ensure that students do not simply accept AI-generated or AI-mediated information uncritically, but instead develop a conscious, critical and reflective attitude towards its presence in society.

For students to engage critically with AI, they need to develop a set of skills that enable them to analyse the information they receive, assess its reliability and make informed decisions about its use. These capabilities are essential for interpreting AI-generated outputs, recognising their limitations and acting with critical judgement in different personal, academic and social contexts.

*Figure 5: Skills needed to perform in the Engage with AI domain. Co-created by INTEF with ChatGPT (OpenAI, 2026). CC BY-SA licence*

### 2.1.2 LEARNING *WITH* AI

Learning with AI involves using these systems as tools that support and enrich teaching and learning processes. Here, the focus is not on understanding how AI works or deciding when to use it, but on how it can contribute effectively to students' learning in the different situations they may encounter.

This approach makes it possible to integrate AI as a resource that facilitates the exploration of ideas, content generation, guided practice and feedback, always

from a pedagogical perspective. The aim is for students to use AI to advance their learning, not by replacing essential cognitive processes, but by supporting and extending them.

### CREATE WITH AI

Creating with AI involves collaborating with these systems to create content, ideas or solutions. In this context, students do not simply use AI to generate outputs; they actively participate in their development, guiding the process, reviewing what is produced and making decisions about the result.

In the classroom, this means understanding that AI-generated content is not neutral but shaped by the data on which the AI has been trained and by system design decisions. Students should therefore be aware that outputs may incorporate existing ideas, styles or information whose origin cannot always be clearly identified.

Working on this domain also involves addressing key issues of authorship and responsibility, that is, academic integrity. Students must understand that using AI does not remove responsibility for the output, that intellectual property must be respected and that its use must be transparent (see Annex 2). They should therefore avoid presenting content generated, wholly or partly, by these tools as their own work.

For students to create with AI responsibly, they need to develop skills that enable them to participate actively in the creative process, steer the outputs and take responsibility for what they produce.

*Figure 6: Skills needed to perform in the Create with AI domain. Co-created by INTEF with ChatGPT (OpenAI, 2026). CC BY-SA licence*

## MANAGE AI

For students, managing AI is not simply a matter of knowing how to use it, but of integrating it effectively into their learning process, taking advantage of its possibilities without losing sight of the educational objectives they are pursuing. They need to develop the judgement required to draw on AI for certain tasks, such as organising information or generating initial ideas, while ensuring that they themselves carry out the parts of the work that require reflection, creativity or their own judgement.

In the classroom, this means teaching students to give clear instructions to AI, review what it produces and ask themselves whether it is genuinely helping them or whether they are delegating too much. It also means understanding that AI can adopt different roles (for example, helping students to analyse, debate or explore different options) but that its use must always be guided by their own objectives and values.

Working on this domain is essential if students are to move beyond using AI automatically and learn instead to incorporate it consciously into their learning process, maintaining control over the process and using these tools responsibly.

For students to manage AI appropriately, they need to develop a set of skills that enable them to use these tools effectively, critically and responsibly.

*Figure 7: Skills needed to perform in the Manage AI domain. Co-created by INTEF with ChatGPT (OpenAI, 2026). CC BY-SA licence*

### 2.1.3 LEARNING *ABOUT* AI

Learning about AI involves students understanding what AI is, how it works and what implications its development and use have. The aim is not to train specialised technical profiles, but to enable students to understand the elements involved in these systems and how they influence the outputs generated.

This approach enables students to go beyond simply using AI and develop an understanding that helps them interpret it, question it and assess its impact in different contexts.

## SHAPE AI

Shaping AI in an educational context does not mean developing complex technological products, but helping students understand how these systems are built and which decisions influence how they work. Through practical experiences, students explore how data, models and design choices shape AI behaviour, usefulness and impact.

In this process, it is particularly important to understand that not all AI works in the same way. In addition to using AI tools, students should understand how these systems learn from data and how the information used to train them influences the outputs they generate. This will enable them to recognise limitations, identify possible biases and understand that human decisions are present throughout all stages of their development and operation.

Working on this domain helps students develop a deeper understanding of AI, seeing it as a system designed by people and therefore open to analysis, questioning and improvement. This understanding helps students assess how design decisions affect people, identify opportunities to make systems more inclusive, safe and useful, and understand that AI development should be oriented towards human well-being and the benefit of society.

From this perspective, students stop viewing AI as immutable technology and come to understand that it can be designed, evaluated and improved responsibly to respond to real needs and reflect human values.

*Figure 8: Skills needed to perform in the Shape AI domain. Co-created by INTEF with ChatGPT (OpenAI, 2026). CC BY-SA licence*

## 2.2 TEACHER PROFILE

The incorporation of AI into educational practice places teachers in a context of pedagogical, organisational and ethical transformation that goes beyond the merely instrumental use of new digital tools.

In this context, teachers play a key role in ensuring the safe, critical and responsible use of AI in the classroom. Their work is essential to ensure that these tools are used with respect for students' digital rights, privacy and data protection,

and to prevent risks associated with algorithmic bias, automated decision-making or technological dependence.

Good teaching practice is likewise fundamental to promoting a culture of transparency and academic integrity, helping students understand the limits, possibilities and impact of these technologies in contemporary society. Far from replacing the teaching role, AI reinforces the need for teachers who can contextualise, interpret and guide teaching and learning processes from a critical, inclusive perspective centred on students' holistic development.

This transformation also involves addressing new professional challenges associated with the educational use of AI. The rapid evolution of these technologies, the constant emergence of new tools and the ethical and regulatory complexity associated with their integration can generate uncertainty, overload or inequality in adoption processes. In this context, it is essential to support teachers through training and strategies that foster pedagogical reflection, exchange of good practice and the progressive development of competences that enable AI to be integrated with professional judgement and educational purpose.

## CHALLENGES AND LIMITATIONS FOR TEACHERS

The integration of artificial intelligence in schools places teachers in a key position to ensure that its use genuinely contributes to learning. Beyond technical knowledge of the tools, their role is essential in giving them pedagogical meaning, guiding their integration into the classroom and ensuring that they are used safely, critically and responsibly. This new context presents challenges and opportunities that are part of the natural evolution of the teaching profession. To facilitate their identification and management, Table 2 presents some of the main challenges associated with the educational use of AI, together with possible mitigation strategies for addressing them.

*Table 2: Challenges and limitations for teachers*

| CHALLENGE | WHAT DOES THIS MEAN FOR TEACHERS? | MITIGATION STRATEGIES |
|---|---|---|
| Insufficient training and ongoing professional development | The rapid evolution of AI can create a sense of being overwhelmed, especially among teachers who are less accustomed to technology.<br><br>The need to understand tools, pedagogical uses, limitations and ethical aspects require a continuous process of professional learning. | Ensure continuing professional development plans focused on the pedagogical and ethical application of AI.<br><br>Provide opportunities for guided experimentation and peer learning.<br><br>Prioritise the progressive development of competences, avoiding approaches driven solely by technological pressure.<br><br>Provide institutional time and resources for professional development. |

| CHALLENGE | WHAT DOES THIS MEAN FOR TEACHERS? | MITIGATION STRATEGIES |
|---|---|---|
| Negative impact on perceptions of the teacher's role | The growing integration of AI tools into educational processes may create the perception that some functions traditionally performed by teachers can be taken over by these systems.<br><br>This perception may obscure the value of teachers' professional judgement and their essential role in support, guidance and students' holistic development. | Reinforce the role of the teacher as mediator, designer and the person responsible for ensuring the quality of teaching and learning processes.<br><br>Highlight the added value of pedagogical judgement, professional experience gained in the classroom, the contextualisation of educational decisions and human support.<br><br>Promote clear communication about the complementary role of AI, emphasising that these tools can support certain tasks but cannot replace teachers' ability to interpret needs, adapt strategies and build meaningful educational relationships. |

| CHALLENGE | WHAT DOES THIS MEAN FOR TEACHERS? | MITIGATION STRATEGIES |
|---|---|---|
| Transformation of teachers' professional identity | The introduction of AI tools may create uncertainty about how to integrate these technologies into educational practice, as well as questions about how responsibilities should be distributed between automated systems and teachers' professional judgement. | Provide spaces for reflection and debate on the educational use of AI.<br><br>Facilitate the integration of these technologies through training, resources and institutional support.<br><br>Strengthen teacher professional autonomy and teachers' role in pedagogical, ethical and organisational decision-making related to the use of AI. |
| Excessive delegation and loss of pedagogical judgement | Intensive use of AI tools may lead to over-reliance on automated recommendations for planning, assessment or teaching decisions, reducing critical capacity and professional judgement. | Maintain human oversight in planning, assessment and decision-making.<br><br>Always compare AI-generated proposals against pedagogical criteria and knowledge of the context and subject matter.<br><br>Use AI as support, not as a substitute for professional judgement. |

| CHALLENGE | WHAT DOES THIS MEAN FOR TEACHERS? | MITIGATION STRATEGIES |
|---|---|---|
| Emergence of gaps among teachers | Uneven adoption of AI may increase differences among teachers depending on the time available to them, their training, technological confidence or institutional support, creating internal inequalities. | Promote teacher support and mentoring programmes.<br><br>Provide accessible, differentiated training according to levels of digital competence.<br><br>Avoid making innovation dependent solely on individual initiatives. |
| Privacy, security and data interpretation | The use of certain AI tools may involve the management of students' personal data, which requires knowledge of and compliance with current data protection legislation, as well as the application of criteria for security and responsible use of information.<br><br>Teachers must also interpret information generated by these systems critically and in context, avoiding attributing to their outputs a level of objectivity or accuracy that is not always guaranteed. | Prioritise tools authorised or validated by education authorities.<br><br>Train teachers in data protection, responsible use of AI and criteria for interpreting information generated by these systems.<br><br>Avoid automated decisions that may affect students without the corresponding human oversight and professional validation.<br><br>Ensure critical, contextualised and pedagogically sound interpretation of the data and outputs provided by AI tools. |

| CHALLENGE | WHAT DOES THIS MEAN FOR TEACHERS? | MITIGATION STRATEGIES |
|---|---|---|
| Managing the tension between efficiency and pedagogy | AI tools can save time and automate tasks, but they do not always foster deep learning processes.<br><br>Teachers must balance productivity and pedagogical quality. | Assess when automation adds value and when it may reduce opportunities for learning.<br><br>Design activities that maintain appropriate levels of challenge and reflection.<br><br>Avoid replacing important formative processes with immediate or automated responses. |
| Designing learning situations in an AI context | Teachers need to rethink tasks, methodologies and assessment systems in an environment where AI is already part of learning.<br><br>Traditional tasks no longer guarantee authentic evidence of student performance. | Design activities centred on reasoning, argumentation and transfer.<br><br>Prioritise assessment of the process, not only the final product.<br><br>Incorporate evidence of learning such as oral defences, portfolios, draft review or explanations of decisions.<br><br>Create tasks in which AI can be used explicitly and under clearly defined conditions. |

| CHALLENGE | WHAT DOES THIS MEAN FOR TEACHERS? | MITIGATION STRATEGIES |
|---|---|---|
| Bias, poor quality and homogenisation of generated content | AI-generated materials may contain errors, biases or limited perspectives.<br><br>Repeated use of automated proposals may reduce methodological diversity and produce standardised teaching. | Critically review all AI-generated materials before using them.<br><br>Cross-check content against reliable and diverse sources.<br><br>Combine AI-generated proposals with teachers' own resources and context-specific materials.<br><br>Avoid relying exclusively on AI to create teaching materials. |
| Making decisions in a constantly evolving regulatory and technological context | The rapid evolution of AI tools, together with the progressive development of regulatory frameworks, guidance and implementation criteria, may create uncertainty about how to integrate these technologies safely, ethically and in a pedagogically appropriate way in schools. | Develop clear institutional guidance on the use of AI.<br><br>Promote the development of school strategies for integrating AI into teaching and learning processes.<br><br>Base decisions on pedagogical and ethical criteria and the protection of rights.<br><br>Periodically review and update protocols and practices as legislation, available evidence and the technologies themselves evolve. |

| CHALLENGE | WHAT DOES THIS MEAN FOR TEACHERS? | MITIGATION STRATEGIES |
|---|---|---|
| Protection of intellectual property | The use of AI tools may create risks both for the protection of materials produced by teachers and for respect for third parties' intellectual property rights.<br><br>Providing certain AI tools with teachers' own materials entails passively consenting to their storage, reuse or subsequent processing. Likewise, the use or adaptation of AI-generated content may result in inappropriate use of copyright-protected works. | Avoid entering sensitive, unpublished or protected materials into platforms that do not provide clear safeguards regarding their processing and subsequent use.<br><br>Review the terms of use, licensing terms and privacy policies of the tools used.<br><br>Promote awareness of the legislation on intellectual property, copyright and licences applicable to learning materials.<br><br>Verify the provenance and conditions of use of content generated or reused with AI before disseminating it or incorporating it into teaching materials.<br><br>Prioritise institutional tools or environments that provide appropriate safeguards for intellectual property and data protection. |

### 2.2.1 TEACHING WITH AI

Teaching with AI involves integrating these tools into teaching practice with a clear pedagogical purpose. It is not simply a matter of using them to gain efficiency, but of incorporating them where they add value to teaching and learning processes, improving the quality of teaching proposals and enabling a broader educational response that is better adapted to students' needs.

The use of AI does not replace the teacher's role, but it can transform the way teachers carry out their professional practice. Far from replacing this essential role, these tools extend teachers' capacity to design, make decisions and support learning.

#### AI AS A TOOL FOR DESIGNING PEDAGOGICAL PROPOSALS

When teachers use AI to design pedagogical proposals, they are using a tool that extends their capacity to design, structure and enrich learning materials with greater pedagogical depth.

In practice, this means drawing on AI to design proposals that are consistent with the curriculum and aligned with the specific competences, assessment criteria and basic knowledge for each subject. Likewise, appropriate use of AI can facilitate the design of learning situations that help consolidate knowledge in meaningful contexts connected with students' everyday lives and with situations close to their personal, social and cultural environment.

*Table 3: Processes and benefits: AI as a tool for designing pedagogical proposals*

| PROCESS | BENEFITS FOR STUDENTS | BENEFITS FOR TEACHERS |
|---|---|---|
| Lesson and curriculum plan | Receives coherent, structured proposals connected to learning objectives. | Supports the teacher's planning work, allowing more time to be devoted to pedagogical decision-making and supporting students. |

| PROCESS | BENEFITS FOR STUDENTS | BENEFITS FOR TEACHERS |
|---|---|---|
| Curriculum alignment | Ensures that the activities undertaken are linked to specific competences and assessment criteria. | Makes it possible to check and adjust curriculum coherence while keeping teachers' professional judgement at the centre of planning. |
| Design of learning materials | Accesses materials adapted to different levels, interests and ways of learning, fostering inclusion and participation. | Extends the teacher's capacity to design materials adapted to students' needs and the characteristics of their educational context. |
| Integration of creative proposals | Takes part in creative and motivating activities that foster personal expression, critical thinking and the application of learning in meaningful contexts. | Broadens the methodological repertoire with creative ideas aligned with the objectives. |
| Design of interdisciplinary projects | Develops a better understanding of the connections between different subject areas and applies learning in real-world contexts. | Facilitates the creation of integrated and meaningful learning situations. |

## AI AS A TOOL FOR PERSONALISING LEARNING

When teachers use AI to personalise learning, they are using a tool that extends their capacity to respond to classroom diversity by adjusting teaching and learning processes to ensure access and participation for all students in the development of specific competences.

In practice, this means that teachers can use AI to diversify how information is presented, how tasks are set and how students can demonstrate what they have learned, creating different pathways for access to and participation in learning. In this respect, its integration is aligned with the principles of Universal Design for Learning (UDL) (CAST, 2024), by providing support and alternatives that enable access to complex learning according to students' individual characteristics and needs.

Within this framework, AI becomes a support tool that enables teachers to adjust their intervention and focus on accompanying students through the learning process, fostering deeper, more inclusive and higher-quality competence development.

*Table 4: Processes and benefits: AI as a tool for personalising learning*

| PROCESS | BENEFITS FOR STUDENTS | BENEFITS FOR TEACHERS |
|---|---|---|
| Diversifying access to learning | Can access information in multiple formats according to individual characteristics. | Makes it more efficient to create inclusive environments and accessible materials that respond to classroom diversity. |
| Adapting tasks to different learning paces | Progresses at their own pace without losing access to meaningful learning. | Makes it possible to adapt proposals without having to design multiple versions from scratch. |

| PROCESS | BENEFITS FOR STUDENTS | BENEFITS FOR TEACHERS |
|---|---|---|
| Supporting students with specific educational support needs | Receives support that is better tailored to their needs. | Facilitates support for diversity and neurodivergence. |
| Supporting students with language-related barriers to accessing the curriculum | Can understand content, participate in activities and progress in competence development from their own starting point. | Makes it possible to adapt explanations, materials and activities more quickly, responding to linguistic diversity in the classroom without lowering the level of curriculum expectations. |
| Collaborative learning | Participates in well-organised groups and balanced group dynamics. | Helps manage group work and make decisions about grouping students. |

## AI AS A TOOL FOR ASSESSMENT

The integration of AI into assessment processes represents one of the most significant and sensitive changes in education.

When an AI system is used to carry out assessments intended to evaluate students' learning and these lead to a grade, assessment decision or certification, the process directly affects students' academic pathways and professional futures. The AI Act therefore classifies this use as high risk (Regulation (EU) 2024/1689, 2024, Annex III):

> *"AI systems intended to be used to evaluate learning outcomes, including when those outcomes are used to steer the learning process of natural persons in educational and vocational training institutions at all levels"*

The European AI Act does not prohibit assessment using AI, but because this is a high-risk use it entails specific obligations for the system's deployer (Regulation (EU) 2024/1689, 2024).

When these legal requirements are met, AI opens up new possibilities by acting as a technical assistant in assessment processes. Its use can help improve the wording of written-test questions, adapt assessment instruments to individual needs and speed up the creation of quizzes and rubrics, among other applications.

AI can also be used throughout the teaching and learning process to obtain information about students' progress and provide guidance that helps them improve before taking a test. In these cases, the purpose is not to assign a grade or award certification, but to provide continuous feedback that helps identify difficulties, guide learning and support progressive improvement.

Teachers can also use AI to generate personalised draft feedback for each student at a frequency that would be difficult to achieve for an entire class without technological support. This process can assist with preliminary marking or initial analysis, enabling more immediate continuous assessment (Ba et al., 2025).

When students have greater autonomy and competence in using AI, this approach can evolve into guided self-assessment. In this scenario, students use AI to analyse and reflect on their own work before final submission, using teacher-designed rubrics to identify areas for improvement and foster autonomy.

*Table 5: Processes and benefits. AI as an assessment tool*

| PROCESS | BENEFITS FOR STUDENTS | BENEFITS FOR TEACHERS |
|---|---|---|
| Flexible assessment design | Completes activities and questions adapted to their progress and specific needs. | Automatically generates varied test versions and rubrics that respond to the actual diversity of the classroom. |

| PROCESS | BENEFITS FOR STUDENTS | BENEFITS FOR TEACHERS |
|---|---|---|
| Detailed feedback on complex tasks | Receives detailed, personalised feedback that can help identify areas for improvement and develop awareness of their own learning process. | Assesses efficiently by supervising and completing preliminary marking drafts generated with AI support, facilitating high-quality assessment in less time. |
| Immediate feedback on routine tasks | Receives immediate feedback on objective tests, making it easier to review their own performance during the learning process. | Automates the marking of objective tests and identifies common error patterns to reinforce the consolidation of knowledge across the group. |
| Promoting self-reflection | Assesses their own progress using the teacher's rubrics as a guide and drawing on AI to formulate questions that foster critical thinking. | Can support teacher monitoring by providing additional information on student participation and progress. |
| Analysis of student performance | Benefits from early, personalised pedagogical interventions before learning difficulties become entrenched. | Can help identify attainment trends, recurring difficulties and warning signs of attainment gaps, supporting data-informed decision-making. |

Regarding the assessment of students' final products, the competence-based approach of the LOMLOE provides an appropriate framework for the current technological context. By prioritising assessment focused on learning processes

and the collection of evidence, attention shifts from the mere final submission towards evaluating genuine competence development. In the age of AI, the focus is no longer on verifying a result that may have been generated automatically, but on students' performance and on evidence of the acquisition of key competences.

### AI AS A TOOL FOR TEACHING PLANNING AND TASK AUTOMATION

The teaching role entails a range of organisational and administrative responsibilities which, alongside direct teaching and learning processes, consume a significant proportion of teachers' time. Integrating AI into these support tasks can simplify management processes and ensure that information is handled more efficiently and in a more structured way.

*Table 6: Teaching planning and task-automation processes: contributions of AI*

| PROCESS | WHAT DOES AI CONTRIBUTE TO THE PROCESS? |
|---|---|
| Planning teaching practice | Helps contextualise learning situations and specify criteria, knowledge and timing in an agile, coherent way aligned with the official curriculum. |
| Administrative optimisation | Generates meeting minutes and official documents from brief notes, reducing the time spent on mechanical tasks. |
| Communication with the school community | Drafts notices, reminders and personalised messages for families and staff, adapting tone, language and format to each audience. |
| Classroom logistics and organisation | Designs spatial arrangements and structures balanced group dynamics based on real student data. |
| Analysis for pedagogical improvement | Processes group performance indicators to identify patterns and areas for improvement, enabling informed and proactive decisions and adjustments to methodology based on the group's actual performance. |

It is important to emphasise that, in all these management tasks, AI must be used within a strict personal-data protection framework, ensuring that sensitive student information is never compromised and that human judgement always validates the final content of any communication or report.

### 2.2.2 TEACHING FOR AI

Students' development of digital citizenship is strengthened when teachers act as guides in the transition from a merely instrumental use of technology towards conscious and critical control over it. In this sense, teaching for an AI-mediated reality invites teachers to integrate the 4 Cs (critical thinking, communication, collaboration and creativity) as essential capabilities so that students learn to analyse machine-generated responses and make their own decisions while preserving their autonomy. The aim is for interaction with AI to strengthen students' maturity and capacity for independent reasoning, ensuring that uncritical cognitive delegation does not replace their intellectual development.

Teachers' work in this area is organised around three fundamental areas of responsibility, which are examined below: their role in ensuring the safe deployment of technology in classrooms, their role as strategic guides for teaching and learning processes, and, finally, their authority to define conditions and limits of use. The aim is to strengthen human agency, ensuring that the algorithm always acts as a driver of holistic development and never as a substitute for people's own capacity to think.

#### THE TEACHER'S ROLE IN ENSURING THE SAFE DEPLOYMENT OF AI IN THE CLASSROOM

When teachers incorporate AI tools into their practice, they assume responsibility for ensuring that their use is safe, appropriate and compliant with applicable legislation. In this context, teachers ensure the safe use of AI in the classroom by setting limits, applying pedagogical criteria and maintaining continuous oversight.

When teachers use AI to develop their teaching proposals, they must be aware that AI systems are not neutral. These systems are trained on large volumes of data that may contain biases, omissions or partial perspectives. To ensure safe classroom use, it is therefore essential to review, validate and contextualise generated materials, ensuring their quality, alignment with the curriculum and respect for diversity.

Transparency is another key element. When teachers inform students about the use of AI and integrate it transparently into the classroom, they model good practice and help students develop a critical, conscious and responsible relationship with these technologies.

*Table 7: Proposed actions for classroom AI-use situations and legal considerations*

| CLASSROOM SITUATION | WHAT SHOULD THE TEACHER CONSIDER? | WHAT TO DO |
|---|---|---|
| Use of AI tools that interact with students *(chatbots,* etc.) | Transparency principle: students must know that they are interacting with AI.<br><br>Privacy and data protection: the school acts as the legal controller for the processing of the data. | Use only tools validated by the education authority or authorised by school leadership and providing appropriate privacy safeguards.<br><br>Explicitly inform students that AI is being used and explain its purpose. |
| Creation of materials with AI (texts, images, videos, activities) | Risk of bias, errors, homogenisation or lack of rigour in the content. | Always review, cross-check and adapt materials before using them in the classroom.<br><br>Declare the use of AI explicitly. |

| CLASSROOM SITUATION | WHAT SHOULD THE TEACHER CONSIDER? | WHAT TO DO |
|---|---|---|
| Entering data into AI tools | Data protection (LOPDGDD): there is a risk if personal or sensitive data are entered. | Do not enter identifiable student data or sensitive information unless authorised by the education authorities. |
| Use of AI to assess or monitor students | High-risk system (AI Act): it may affect students' rights and entails specific obligations. | Avoid automated decision-making; always maintain human oversight and teacher judgement. Use tools validated by the education authority or by school leadership. |
| Use of tools that analyse behaviour or emotions | Prohibited AI practice (AI Act): emotion recognition in education. | Do not use tools that infer students' emotions or affective states. |

## THE TEACHER AS A GUIDE FOR THE USE OF AI IN TEACHING AND LEARNING PROCESSES

The use of AI in teaching and learning processes has value when it responds to a clear pedagogical purpose. The key issue is not so much what the tool makes possible, but how its use contributes to competence acquisition and to the purpose of the proposed activities. There are situations in which its use can enrich learning, but many others in which it may not add meaningful value.

From this perspective, teachers should guide its use according to the role the tool plays within the process. In some cases, AI can support the exploration of ideas, organisation of information or comparison of viewpoints; in others, it may be more appropriate not to use it in order to foster processes that require students' own work, creativity, reflection or cognitive effort.

*Figure 9: Technology with a pedagogical purpose. Co-created by INTEF with ChatGPT (OpenAI, 2026). CC BY-SA license*

Supporting students in this process therefore means helping them develop their own judgement so that they can distinguish situations in which technology enriches learning from those in which it is preferable not to use it, in order to protect essential processes such as deep reflection, genuine creativity and cognitive effort. To put this approach into practice, it is very useful to understand students' starting point. Resources such as the example in Annex 3, “Student Reflection Questionnaire Template”, can be used for this purpose.

Analysing and reflecting on these results together with the whole group creates an essential space for dialogue before working guidelines are established. From there, and in order to ensure transparency in classroom AI use, it is advisable to establish visual systems for managing its use, such as the AI traffic-light model (Perkins et al., 2024). This tool makes it possible to indicate precisely the degree of AI involvement permitted in each task, reducing uncertainty and promoting responsibility in line with the learning objectives at each stage:

- Red. No AI. The activity must be completed entirely without AI assistance, ensuring that students rely exclusively on their own knowledge and competences.

- Light amber. Ideas and structure. AI may be used for brainstorming, exploring approaches or creating outlines, but the final product must be entirely the student's own work.
- Amber. Editing and refinement. AI may be used to improve an original piece of work in areas such as clarity, writing or grammatical accuracy, without adding substantively new content.
- Light green. Specific task execution. Students may use AI to carry out tasks, but they must critically review the outputs obtained and transparently acknowledge how AI was used.
- Green. AI as co-pilot. AI is incorporated throughout the work process as a tool for creative collaboration, facilitating the development of more complex products and stimulating creativity.

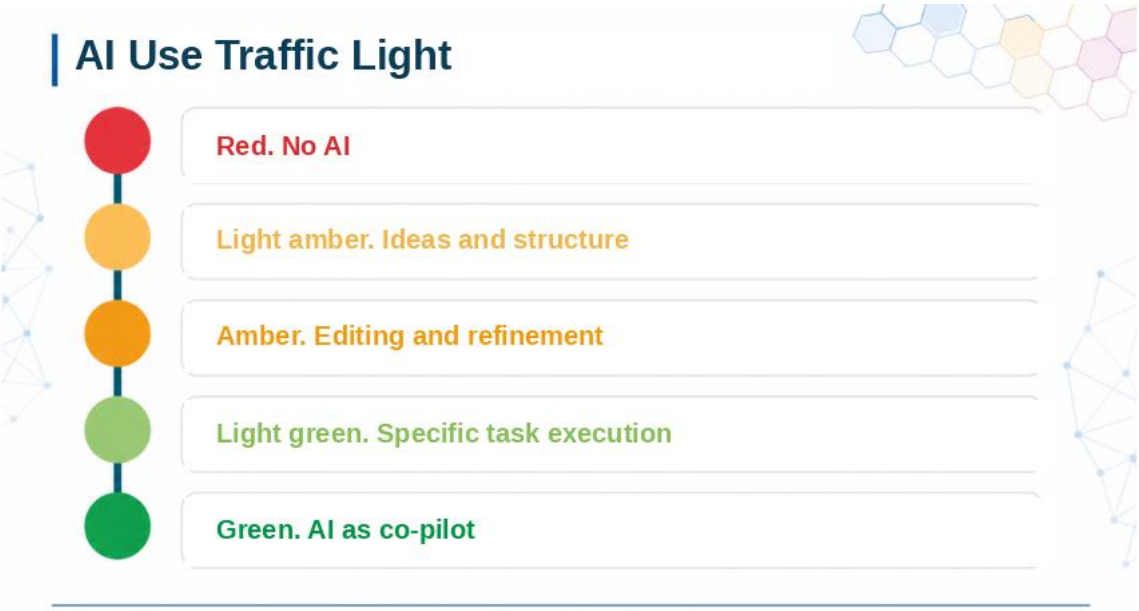


*Figure 10: AI Use Traffic Light. Co-created by INTEF with ChatGPT (OpenAI, 2026). CC BY-SA licence*

In conclusion, clearly defining expectations for use and always requesting a declaration of how the technology has been used (see the example in Annex 2, “AI Use Declaration Template”) establishes a framework of mutual trust. On the basis of this transparency, a genuine culture of academic integrity can be built, reducing inappropriate uses of AI. The ultimate aim must always be to ensure that

technology strengthens, rather than replaces, critical thinking and students' own effort.

### 2.2.3 TEACHING ABOUT AI

Teaching about AI involves creating spaces in the classroom for analysis and reflection that enable students to understand what AI is, how it works at a basic level and the ethical, social and educational implications of its use. For this literacy to be possible, however, teachers themselves must lead the process through their own learning and continuous professional development.

The rapid evolution of this technology opens up new possibilities for teaching, while also inviting teachers to continue exploring and adjusting their practice. Adopting a lifelong-learning mindset is therefore particularly important, not as an additional demand but as an opportunity for professional growth. This commitment to continuous learning involves keeping up to date with new tools, reflecting on their impact and advancing their integration with pedagogical purpose.

This development of professional competence is consistent with the Spanish Framework for the Digital Competence of Teachers (Spanish Ministry of Education and Vocational Training & Educational Administrations of the Autonomous Communities of Spain, 2022), which places professional engagement at the heart of teaching practice.

From this perspective, digital literacy and knowledge of AI form part of responsible professional practice. This knowledge is intended not only to enrich teaching and learning processes, but also to ensure that teachers can support the protection of students' well-being and respect for their rights in the digital environment.

Accordingly, integrating AI means paying attention to how these tools are used, what impact they have on students and under what conditions they are incorporated into educational practice. This idea lies at the heart of the framework and connects with models such as TPACK (Mishra & Koehler, 2006),

which emphasise the relationship between pedagogical knowledge, content and technology. Ultimately, AI has educational meaning when it helps enrich teaching proposals and improve students' learning experience.

Following the approach of UNESCO's *AI Competency Framework for Teachers* (Miao & Cukurova, 2024), the development of professional competence in AI is not conceived as a fixed pathway, but as a reference that guides teachers' professional growth through three levels of development:

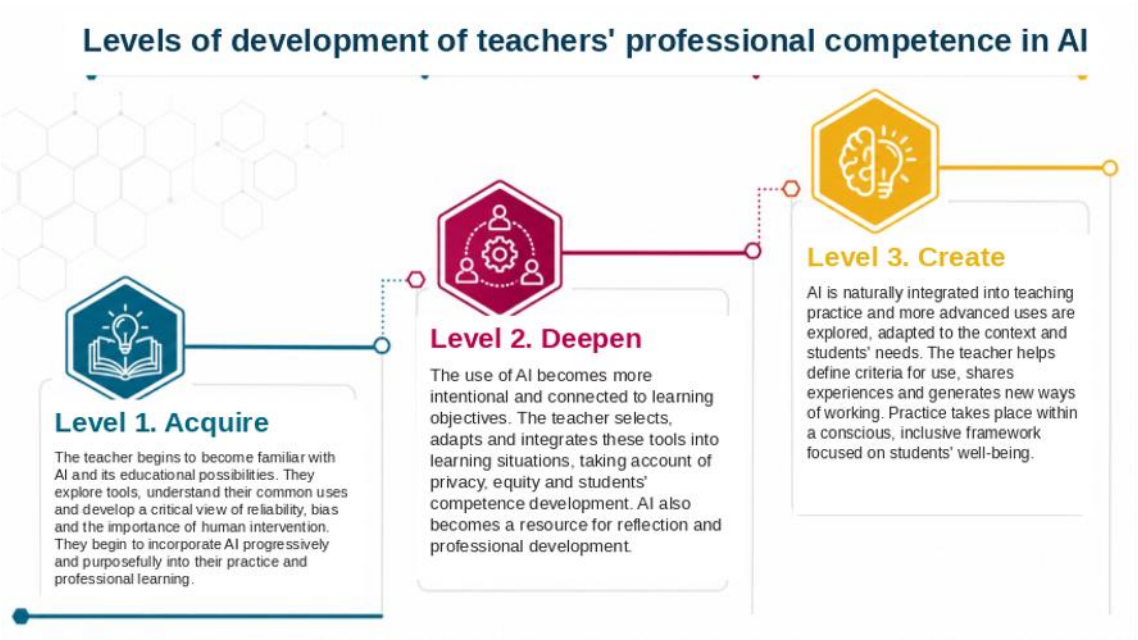


*Figure 11: Levels of development of teachers' professional competence in AI. Co-created by INTEF with ChatGPT (OpenAI, 2026). CC BY-SA licence*

## 2.3 SCHOOL PROFILE

The integration of AI in education not only transforms teaching and learning processes but also opens up opportunities to improve and optimise school management. However, its introduction raises complex questions about preserving teachers' professional judgement, equity of access and data privacy, among other issues. To address these dilemmas and channel these opportunities safely, educational institutions need to organise AI use within the regulatory framework established by the AI Act. This framework distinguishes between the

provider, the entity responsible for developing the system, and the deployer, any natural or legal person, including any public authority, body or agency, using an AI system under its authority, assigning specific legal obligations and safeguards to each role.

When these safeguards and obligations are met, the deployment of AI systems in education can contribute to a safe and responsible adoption aligned with the protection of fundamental rights.

Under the AI Act, high-risk AI systems in education include those used to determine access or admission; assign people to educational or vocational training institutions or programmes at all levels; evaluate learning outcomes; assess the appropriate level of education for an individual and materially influence the level of education and training that the person will receive or be able to access; or monitor and detect prohibited behaviour by students during tests. These systems may determine a person's educational and professional pathway and, consequently, affect their ability to secure a livelihood.

For systems classified as high risk, it is essential that schools help ensure that the obligations and considerations laid down in the AI Act are met when they are deployed.

Alongside compliance with legal obligations and any safeguards or requirements applicable in each case, it is good practice for AI use in schools to be guided by principles of transparency, human oversight, data protection and equal opportunities, and to be accompanied by appropriate information and training for users.

Likewise, as discussed above, involving families in students' AI literacy is highly recommended. Although some of this learning takes place at school, many of the challenges associated with AI use extend beyond education and arise in students' everyday lives. Families should therefore understand the pedagogical purpose guiding the use of this technology at school and the capabilities, knowledge and attitudes that are intended to be developed. This transparency from the school will also enable students to receive support in situations that are difficult to address

exclusively in school, such as responsible personal use of AI, management of AI-generated or AI-manipulated content, and prevention of risks that may affect privacy, relationships or digital well-being.

For all these reasons, schools play an essential role in ensuring that AI is introduced safely, responsibly and in accordance with the applicable regulatory framework. This involves establishing criteria for its deployment, ensuring compliance with the obligations and safeguards laid down in legislation, assessing the suitability of the tools used and promoting a culture of responsible use shared by the whole school community. In this context, it is particularly advisable to prioritise solutions provided or authorised by the competent education authorities.

## CHALLENGES AND LIMITATIONS FOR SCHOOLS

Having highlighted the key role of schools in relation to AI, it is essential to analyse the challenges and limitations they face in their day-to-day work. Table 8 examines some of these challenges together with a set of strategies and mitigation strategies designed to ensure that AI integration is, above all, safe, ethical and effective.

*Table 8: Challenges and limitations for schools*

| CHALLENGE | WHAT DOES THIS MEAN FOR SCHOOLS? | MITIGATION STRATEGIES |
|---|---|---|
| Lack of a common organisational and pedagogical framework | Introducing AI tools without shared criteria may result in uneven use across classrooms, legal uncertainty, methodological inconsistencies and a lack of clear pedagogical objectives. | Define institutional criteria for the educational use of AI aligned with the school's educational project.<br><br>Establish protocols for use, oversight and evaluation.<br><br>Incorporate AI into the school's organisational documents and digital plans. |

| CHALLENGE | WHAT DOES THIS MEAN FOR SCHOOLS? | MITIGATION STRATEGIES |
|---|---|---|
| Risks relating to data protection and privacy | The use of AI tools may involve processing students' and teachers' personal data, international transfers of personal data or a lack of transparency about how platforms operate. | Prioritise tools that ensure compliance with data protection legislation.<br><br>Assess terms of use and privacy policies in advance.<br><br>Avoid entering unnecessary personal data into AI systems.<br><br>Ensure human oversight in significant decisions. |
| Increasing inequalities and access gaps | Unequal availability of devices, connectivity, subscription models, family support or digital competences may create differences in access to and educational benefit from AI. | Ensure equitable conditions of access.<br><br>Design inclusive strategies that do not depend exclusively on individual access to external tools.<br><br>Support vulnerable students and promote critical digital literacy across the school community. |
| Dependence on commercial platforms and loss of digital sovereignty | Intensive use of specific technological environments may create technological dependence, interoperability difficulties and loss of decision-making capacity over data, methodologies and learning materials. | Prioritise interoperable, transparent tools aligned with the principles of digital sovereignty.<br><br>Consider solutions developed for educational purposes.<br><br>Select technology based on pedagogical and ethical criteria, not solely commercial considerations. |

| CHALLENGE | WHAT DOES THIS MEAN FOR SCHOOLS? | MITIGATION STRATEGIES |
|---|---|---|
| Weakening of human oversight in educational processes | Excessive automation may lead to delegating decisions concerning student assessment, guidance or monitoring to AI systems without sufficient human intervention. | Ensure that significant pedagogical decisions always depend on teachers' professional judgement.<br><br>Establish mechanisms for meaningful human review and oversight.<br><br>Use AI as complementary support, not as a substitute for educational responsibility. |

### 2.3.1 SCENARIOS AND USE CASES

Schools can play an active role in designing, adapting or integrating AI-based systems to address specific needs in their educational context, provided that strict requirements for safety, human oversight and compliance with legislation are met.

To this end, it is particularly important to foster collaborative working models involving a range of professional profiles, including school leadership, teachers, educational guidance specialists, therapeutic pedagogy specialists, speech and language specialists, and staff with digital competence or ICT expertise. The participation of professionals who have first-hand knowledge of students' needs and the school's organisational reality helps ensure that the solutions developed genuinely respond to meaningful and context-specific educational purposes.

Teacher participation in these processes requires schools to promote training and support strategies that develop the competences needed to design, use, interpret and critically oversee these tools, while ensuring that pedagogical decision-making continues to depend on teachers' professional judgement. Strengthening these capabilities within schools can also help foster models that are better

aligned with the principles of technological sovereignty, transparency and data protection.

### GUIDING AND SUPPORTING STUDENTS WITH AI

AI can help strengthen educational guidance and support processes through the development or integration of systems capable of helping to detect support needs, identify possible risk situations or facilitate more personalised student monitoring. For example, a school could implement solutions to help analyse patterns relating to participation, absenteeism or academic progress in order to support tutoring and guidance interventions, provided that appropriate human oversight is in place.

Some AI-based solutions could also help students (once they have developed critical AI literacy) explore educational and career pathways by providing contextualised information about different educational options or professional fields.

However, since certain uses of AI related to student monitoring, profiling or educational decision-making may be considered high risk under the AI Act, it is particularly important to ensure compliance with the obligations laid down in the applicable legislation (Regulation (EU) 2024/1689, 2024).

### ANALYSING EVIDENCE AND COMPETENCE PROFILES TO SUPPORT SCHOOL IMPROVEMENT

AI can facilitate aggregated analysis of evidence of learning in order to support schools' self-evaluation and educational improvement processes. For example, a school could use AI-based systems to identify trends in the development of specific competences and their associated operational descriptors, detect possible imbalances between subject areas or identify common support needs at particular educational levels.

This type of analysis can help underpin pedagogical and organisational decisions concerning the review of teaching programmes, annual general plans or school-wide methodological strategies, particularly within a competence-based assessment framework aimed at students' holistic development.

Nevertheless, interpretations derived from these systems must always be contextualised through teachers' professional judgement, avoiding simplified or exclusively quantitative readings of learning processes. Likewise, when such analyses involve the processing of personal data or profiling, schools must ensure that the solutions used comply with current legislation and provide sufficient safeguards for security, proportionality and human oversight.

### STREAMLINING THE SCHOOL'S ORGANISATIONAL AND ADMINISTRATIVE MANAGEMENT

AI can also help optimise certain organisational and administrative processes in schools by reducing repetitive tasks and facilitating more efficient management of available resources. Among other possible uses, some tools can assist with document organisation, drafting communications, managing technical incidents or monitoring the use of school devices and resources.

For example, a school could use AI to provide teachers with basic assistance in using technological equipment, help detect faults and support preventive equipment maintenance through conversational agents integrated into institutional environments.

These applications can help free up organisational and administrative time. However, it remains essential to ensure that the tools used and the intended uses comply with applicable legislation, avoiding the entry of sensitive information into unauthorised platforms and ensuring that the systems used to develop the tools comply with current legislation and the criteria established by the competent education authorities.

### STRENGTHENING COMMUNICATION AND PARTICIPATION ACROSS THE SCHOOL COMMUNITY

AI can facilitate certain communication and participation processes within the school community through solutions that support the drafting of clear communications, summarise relevant information or facilitate interaction with families and students in different languages or accessible formats.

For example, a school could develop or integrate conversational assistants in institutional environments to help answer frequently asked questions about how the school operates, facilitate access to organisational information or generate communications adapted to the needs of different members of the school community.

These possibilities can improve information accessibility and support more agile and comprehensible communication for families, students and teachers. However, it is important always to ensure human oversight of generated communications and to make sure that the solutions used provide sufficient safeguards for privacy, security and transparency.

### 2.3.2 STRATEGY FOR INTRODUCING AI: THE SCHOOL DIGITAL PLAN

The LOMLOE includes the school's digital strategy among the contents of the School Educational Project. From this perspective, the introduction of AI in education should not be approached as an independent initiative or one limited to the adoption of particular tools, but as a line of action integrated into the school's own digital strategy and fully aligned with its educational objectives, other institutional documents and the applicable regulatory framework.

In this respect, AI integration should be directly linked to digital planning and aligned with the school's pedagogical objectives. Its adoption should therefore not be understood as the isolated introduction of tools, but as a coordinated and cross-cutting process naturally incorporated into the School Digital Plan, which gives concrete form to the digital strategy.

In alignment with these institutional documents, it is advisable to design a roadmap for deploying this technology that establishes common principles, responsibilities, limits of use, training activities, monitoring measures and evaluation indicators. Taking the regulation and safeguards analysed in previous sections as a mandatory basis, this planning should begin with an accurate initial

assessment of the school context so that the proposed actions are feasible, progressive and open to review.

This strategy should be accessible and known to the entire school community so that families understand the objectives, criteria and conditions guiding the introduction of AI at the school. It should not be conceived as a static document, but as an instrument subject to review and continuous improvement, with periodic updates incorporating accumulated experience, changes in the regulatory framework, technological advances and emerging evidence about its impact on teaching and learning processes.

### PROCESS GUIDANCE

As a reference, this process can be structured in a number of successive phases coordinated by the responsible group or committee.

1. Establishment of the working group or coordination committee. The school creates the team responsible for driving, coordinating and overseeing the process.
2. Analysis of the baseline situation. Review needs, existing uses, opportunities and risks, ensuring consistency with other projects already under way and with the School Digital Plan.
3. Review of current legislation and regulation. Before introducing AI, it is necessary to consider the legislation in force and any guidance frameworks that should inform the design of actions.
4. Setting objectives. Define the educational and organisational purposes that will guide the plan.
5. Design of lines of action. Develop specific measures relating to training, tool selection, protocols, user guidance, administrative applications and information for families.
6. Phased implementation. Gradually implement prioritised actions in line with the school's possibilities and needs.

7. Monitoring, evaluation and review. Assess the impact of the decisions adopted and update the plan in light of experience and regulatory or technological changes.

In this way, AI integration ceases to be understood as a collection of individual, isolated teacher initiatives and becomes a shared, agreed strategy with a clear pedagogical purpose.

### 2.3.3 EVALUATING THE USE OF AI IN SCHOOLS

Once AI has been incorporated into educational practice safely, ethically and in compliance with applicable legislation, schools can go a step further by moving towards models for evaluating and continuously improving how they use this technology. As with any other pedagogical, organisational or technological measure, simply implementing tools or promoting certain AI-related practices is not enough: it is equally important to analyse systematically what they are used for, what they genuinely contribute to teaching and learning processes and what unintended effects they may have.

This approach can help schools better ground their pedagogical decisions, readjust implemented practices and ensure that AI use provides meaningful educational value aligned with students' needs and the school's objectives.

First, it is particularly appropriate for educational uses of AI to be explicitly linked to specific curriculum elements. Schools can then analyse, on the basis of the evidence collected and students' competence profiles, whether the use of this technology has genuinely contributed to consolidating the intended learning.

On this basis, schools can also promote piloting, monitoring and periodic review processes to assess the real impact of AI use on different pedagogical and organisational aspects. Relevant areas for analysis may include:

- the degree of student participation, autonomy and engagement in learning situations involving the use of AI
- the methodological suitability of learning situations designed around the use of AI
- the possible emergence of dependence, automatic habits or cognitive offloading
- the impact of AI use on inclusion, equity and digital well-being
- the organisational and pedagogical workload associated with implementing these tools
- the reduction of administrative workload in school management or in teachers' own work

Finally, for these analysis processes to be genuinely useful and sustainable over time, schools can define evaluation indicators and instruments adapted to their own educational context, incorporating both quantitative and qualitative evidence and encouraging the participation of teachers, students and guidance teams in processes of reflection and improvement.

**REMEMBER**

- Preparing students for a society increasingly mediated by AI involves strengthening competences that also contribute to their holistic development, such as critical thinking, creativity, communication and self-regulation.
- AI provides teachers with new tools, but their professional judgement determines when and how these can contribute to the consolidation of meaningful learning. AI should be integrated safely and responsibly, in accordance with the applicable regulatory framework and legal safeguards, with preference given to solutions authorised by the school or education authorities.
- Introducing AI in schools requires regulatory, monitoring and evaluation mechanisms to ensure that it contributes effectively to teaching and learning processes without compromising the rights, privacy or well-being of the school community.

*Figure 12: Remember: Possibilities and applications of AI in education. Created by INTEF. CC BY-SA licence*

# 3. THE ETHICAL DIMENSION OF AI IN EDUCATION

This section explores different As AI becomes integrated into society, concerns arise about its ethical impact and the need for appropriate regulation. This is inevitable, as AI algorithms can influence decisions and behaviour in subtle yet powerful ways, raising questions about individual autonomy and responsibility delegated to machines.

In education, these issues are particularly important because the incorporation of AI into teaching and learning directly influences how students learn, make decisions and relate to knowledge and to others. Beyond debates about appropriate or inappropriate uses of these technologies, a set of principles is needed to guide both their direct use in classrooms and their pedagogical treatment, ensuring that students and teachers understand their scope and limitations and are able to use them critically, consciously and on a sound basis.

The rapid advance of technology and its abrupt arrival in education have created new use scenarios and increasingly complex ethical dilemmas. This context makes it necessary to review and update continually the principles guiding its integration, incorporating not only existing recommendations but also new demands arising from evidence gathered through real-world use in schools.

Drawing on the ethical considerations set out in the European Commission's updated 2026 Guidelines on the ethical use of artificial intelligence and data in teaching and learning for educators, the following proposal translates those considerations into principles applicable to everyday educational practice. Its purpose is to guide decision-making by teachers, schools and education authorities from a pedagogical, responsible and human-centred perspective. To facilitate interpretation, each principle is accompanied by illustrative classroom examples showing uses that are aligned with, or may conflict with, the corresponding principle. These examples should not be interpreted as fixed rules, but as references intended to foster reflection and the development of professional judgement according to the educational context.

*Table 9: Ethical principles for the use of AI in education*

| **01. Human-centred approach** | **Human dignity** |
|---|---|
| AI must not replace the work students need to do themselves or their capacity to think, decide and learn. Nor should it replace the teacher's role; it should complement teachers' work. | |
| **Good practice** | **Practice requiring review** |
| Students use an AI tool to review or improve work they have previously produced independently. | Students use an AI tool to directly generate the final product that constitutes the learning objective. |
| **02. Academic integrity and a culture of effort** | **Academic integrity** |
| The use of AI must be honest and transparent, preserving the value of effort and ensuring that genuine learning takes place. | |
| **Good practice** | **Practice requiring review** |
| Teachers explicitly establish the conditions for using AI in a task, and students include as evidence a declaration explaining how they used AI. | Teachers assess a task without knowing what part of its content was generated using AI or how the student contributed to producing it. |
| **03. Equal opportunities** | **Fairness** |
| AI must not widen digital, social or cultural gaps. Equitable access must be ensured, together with uses that respond appropriately to student diversity. | |
| **Good practice** | **Practice requiring review** |
| Under its digital strategy, the school permits only AI tools that are institutionally endorsed and made available to all students under equivalent conditions. | Teachers design an assessed activity using AI without considering the impact that differences in access to different tools may have on the results obtained. |

## 04. Human oversight and responsibility

Human dignity

Trust/Trustworthiness

Teachers must retain control over the use of AI; educational decisions cannot depend on automated systems.

| Good practice | Practice requiring review |
|---|---|
| Teachers compare recommendations generated by an AI system with other evidence of learning before making decisions on assessment, support or monitoring. | The school automatically assigns support measures to students on the basis of a system's predictions, without teacher review or contextual analysis. |

## 05. Educational purpose

Justified choice

The introduction of AI must respond to defined pedagogical objectives. AI should not be used in classrooms as a superficial or merely motivational element.

| Good practice | Practice requiring review |
|---|---|
| Teachers authorise the use of AI in a specific activity because its use is linked to a previously defined learning objective. | Teachers authorise AI use in an assessed activity to improve the visual quality or attractiveness of final products even though this does not correspond to an assessment criterion. |

## 06. Transparency and understanding

Justified choice

Trust/Trustworthiness

AI use must be understandable and transparent, enabling students and teachers to know when it is being used, how it works, what its limitations are and how its use can be traced.

| Good practice | Practice requiring review |
|---|---|
| Teachers present a learning situation and inform students which materials or resources were produced wholly or partly with the help of AI. | The school uses an AI system to identify students at risk of school failure in order to apply support measures, without informing families or explaining the algorithm's criteria. |

## 07. Privacy and data protection

Human dignity

Trust/Trustworthiness

AI use must be understandable and transparent, enabling students and teachers to know when it is being used, how it works, what its limitations are and how its use can be traced.

| Good practice | Practice requiring review |
|---|---|
| Teachers present a learning situation and inform students which materials were produced wholly or partly with the help of AI. | The school uses an AI system to identify students at risk of school failure in order to apply support measures, without informing families or explaining the algorithm's criteria. |

## 08. Responsible and context-appropriate use

Justified choice

In educational contexts, any use of AI must be governed by human judgement, and every effort should be made to ensure that its use contributes to learning rather than replacing processes that students still need to develop.

| Good practice | Practice requiring review |
|---|---|
| Teachers completely restrict the use of AI in an activity because they need to assess students' own reasoning and strategies rigorously. | Students systematically turn to AI to solve tasks before they have developed the competences needed to address them independently. |

## 09. Well-being and sustainability

Human dignity

The use of AI should support students' well-being, avoiding technological dependence and promoting balanced, conscious and environmentally responsible use.

| Good practice | Practice requiring review |
|---|---|
| In a learning situation, teachers include as assessable evidence an analysis and quantification by students of the environmental impact arising from the AI used to create the final product. | The school does not include in its School Coexistence Plan strategies to prevent the creation or dissemination of AI-generated images of students that violate their privacy or emotional well-being. |

| 10. Reflection and anticipation | Justified choice |
|---|---|
| The impact of AI in the classroom needs to be evaluated continuously, anticipating risks and adapting its use to educational needs. | |
| **Good practice** | **Practice requiring review** |
| The school periodically carries out a qualitative analysis of the contribution of AI use to the development of key competences and adjusts its digital strategy on the basis of the results obtained. | Teachers continue with the same AI-use practices without reviewing new institutional guidance, scientific evidence or the effects observed on student learning. |

## 3.1 ENVIRONMENTAL DIMENSION OF AI

As discussed above, the introduction of AI in the classroom should always respond to a clear pedagogical purpose, ensuring that its use does not replace fundamental skills and provides genuine added value for learning.

From this perspective, it is worth considering whether each interaction with AI is justified in relation to the resources it consumes and the limits of our planet, as reflected in the ninth ethical principle on well-being and sustainability outlined above. This approach is aligned with the LOMLOE Student Exit Profile, which establishes that students should be able to recognise the challenges of sustainability and climate change and act with commitment to preserving the environment, taking responsibility for the role of responsible consumption in caring for the planet. This perspective helps students see that AI is not an immaterial entity located in “the cloud”, but depends on a physical infrastructure of data centres with a tangible environmental impact that can be grouped into three key areas:

- Energy consumption: A distinction must be made between model training and everyday use or inference. While training is an intensive process, large-scale use may account for up to 90% of the total ecological footprint. Everyday examples are particularly illustrative for students: a single query to a

generative AI system consumes ten times more electricity than a traditional search, and generating a single image requires as much energy as fully charging a mobile phone (Luccioni et al., 2024; International Energy Agency, 2024).

- Water consumption: Cooling servers requires millions of litres of fresh water. It is estimated that an interaction involving between ten and fifty questions is equivalent to consuming half a litre of drinking water, a key point for classroom reflection on the value of water, especially in a country such as Spain, which is highly vulnerable to drought (Li et al., 2025).
- Hardware and materials: The physical infrastructure supporting AI requires the constant renewal of graphics processing units (GPUs), among other hardware components, whose manufacture depends on the extraction of critical materials. This process is concentrated largely in the most disadvantaged countries, where depletion of finite resources and biodiversity degradation exacerbate the precarious conditions in these regions. Addressing this issue in the classroom brings to light the hidden side of digitalisation: the accelerated obsolescence of these components, which often have a useful life of between three and five years in high-performance environments, increasing the volume of electronic waste that is difficult to manage (Luccioni et al., 2024; Valdivia, 2024).

Promoting this environmental awareness across the school community is not intended to slow innovation, but to equip all its members with sound judgement. By understanding these implications, teachers, families and students can decide ethically when delegating a task to AI is genuinely necessary, prioritising efficient, justified and purposeful use of technological resources.

## 3.2 THE IMPACT OF AI ON DIGITAL WELL-BEING

The incorporation of AI into education raises not only technical, pedagogical and legal challenges, but also profound implications for cognitive development, emotional balance and interpersonal relationships. In the case of AI, this

dimension of students' holistic development is especially significant because these tools intervene directly in processes traditionally associated with human thinking: writing, explaining, solving problems, synthesising ideas, making decisions and holding conversations. This change raises a major ethical question: it is not enough to ask what AI can do; we must also ask what effects it has when it begins to mediate teaching and learning processes in a significant way. This reflection is particularly important when continued use of these tools may displace spaces for human interaction that play an essential role in students' social and emotional development (OECD and European Commission, 2026).

This perspective is not merely an emerging concern in education, but a priority already recognised by international organisations in broader contexts. The updated European Digital Competence Framework for Citizens (DigComp 3.0, 2025) incorporates digital well-being as a cross-cutting dimension, expanding the traditional safety-focused approach towards a more holistic view that includes responsible use, digital balance and the impact of technologies on physical, mental and social health. Likewise, the European Commission's work on digital education, reflected in the Digital Education Action Plan 2021–2027 and in initiatives such as the 2026 AI literacy framework, Empowering Learners for the Age of AI: An AI Literacy Framework for Primary and Secondary Education (OECD and European Commission, 2026), points to the need to explicitly address the effects of AI on students' digital well-being, as well as on how they learn, make decisions, exercise critical judgement and interact with others in digital environments.

In this context, teachers, in collaboration with other members of the school community, play a decisive role in ensuring that these considerations are translated into educational practice. Beyond the instrumental use of AI, teachers are key to building a balanced relationship between students and this technology. When teaching practice actively promotes healthy digital habits, critical judgement of AI-generated outputs, emotional resilience and early identification of potential risks, it contributes to students' holistic development. This means explicitly integrating reflection on the effects of AI on cognitive processes,

decision-making and the way students construct knowledge, preventing its use from being reduced to a mere tool for obtaining immediate solutions to tasks. It is likewise advisable to create opportunities for students to reflect on their own habits of use, assess when AI genuinely contributes to their learning and develop a critical and empathetic attitude towards the impact their decisions may have on both their own well-being and that of others.

The guidance set out in this document can be translated into educational proposals that encourage reflection on one's own use of AI, critical analysis of its responses, dialogue about its ethical implications and the acquisition of balanced and responsible habits of use, always adapted to the educational stage and the school's context. Some examples of these strategies are included in the annexes to this document.

**REMEMBER**

- Integrating AI into education requires clear ethical principles to guide its pedagogical application and promote critical, conscious and human-centred use.
- Educating students about the environmental impact of AI involves making visible the energy, water and material costs of its infrastructure, giving students sound judgement to decide when its use is justified and efficient.
- The incorporation of AI must not compromise students' digital well-being, so it is necessary to foster balanced, conscious and critical use of these tools in teaching and learning processes.

*Figure 13: Remember: The ethical dimension of AI in education. Created by INTEF. CC BY-SA licence*

# 4. CONCLUSIONS

The incorporation of AI into the education system represents an opportunity to improve teaching and learning processes, while also creating a need to guide its use through shared pedagogical, ethical and regulatory criteria. This guide has analysed the key elements of this transformation, from which five fundamental conclusions can be drawn:

### AI is already part of the educational context and requires an educational response, not merely a technological one

The growing presence of AI in society means that education systems need to prepare students to navigate this new context critically, responsibly and autonomously.

### AI literacy is an educational responsibility

Education should enable students not only to use AI tools, but also to understand how they work, critically interpret their outputs, recognise their possibilities and limitations, and exercise their rights and responsibilities in a society increasingly mediated by these technologies.

AI literacy should be addressed progressively and across the curriculum, adapting to students' maturity, learning contexts and specific needs.

It is advisable to promote uses of AI that preserve students' autonomy, capacity for reflection and cognitive effort, avoiding both uncritical delegation and excessive dependence on these tools.

### The incorporation of AI must take place within a framework of safeguards

Educational innovation is sustainable only when it is grounded in ethical principles, the protection of fundamental rights and compliance with the regulatory framework. Human oversight, transparency, equity, data protection and student well-being should guide every process of AI integration in schools. This means assessing not only its pedagogical contribution, but also its ethical, social and environmental effects.

### The incorporation of AI requires institutional planning

AI integration cannot depend solely on individual initiatives. It should form part of schools' digital strategies, be aligned with their educational projects and be supported by training, monitoring and continuous-improvement processes that enable practices to adapt to technological developments and the needs of each context.

This strategy should be conceived from a shared perspective involving the whole school community. Its objectives, criteria and main lines of action should be known to families in order to encourage their collaboration and ensure coherent, critical and responsible support for students in their relationship with AI.

### AI does not replace the educational role of teachers

The incorporation of AI into teaching and learning processes can reach its full potential only when accompanied by teachers' knowledge, experience and professional judgement. Far from replacing teaching, AI increases the value of teachers' role as mediators, trusted reference points and those responsible for ensuring a human-centred education.

# 5. GLOSSARY

*Table 10: Glossary*

| TERM | DEFINITION | SOURCE |
|---|---|---|
| Academic integrity | It is about using AI in an honest and ethical manner such as not misrepresenting contributions, giving proper attribution to the ideas and work of others and designing assessments that remain valid in the era of generative AI. | European Commission (2026a) |
| Agent | An AI agent is a system that can act on its own to carry out tasks, usually based on a goal or set of prompts from a user.<br><br>Unlike basic AI tools that respond to single inputs, agents can make decisions, sequence actions, and carry out workflows on behalf of a user or another system. | European Commission (2026a) |
| AI literacy | The technical knowledge, durable skills and future-ready attitudes required to thrive in a world influenced by AI. It enables learners to engage, create with, manage and shape AI, while critically evaluating its benefits, risks and ethical implications. | OECD and European Commission (2026) |

| TERM | DEFINITION | SOURCE |
|---|---|---|
| AI system | A machine-based system that is designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments. | AI Act (2024) |
| AI tool | Applications of artificial intelligence and Generative AI in educational settings, including platforms, applications, services, and technologies. | European Commission (2026a) |
| Algorithm | A process or set of instructions to be followed in calculations or other problem-solving operations, especially by a computer. | European Commission (2026a) |
| Automation | Automation refers to the use of computer systems to carry out tasks that would typically require human input. A system capable of operating without continuous human supervision is considered autonomous. | European Commission (2026a) |

| TERM | DEFINITION | SOURCE |
|---|---|---|
| Bias | An inclination or prejudice for or against a person, group, or perspective, which can affect fairness and accuracy.<br><br>In AI tools, bias can emerge from how data are collected, how models are trained, or how rules are designed. | European Commission (2026a) |
| Chatbot | An AI-powered software program that interacts with users through text or voice in a way that simulates human conversation. | European Commission (2026a) |
| Data | Any digital representation of acts, facts or information and any compilation of such acts, facts or information, including in the form of sound, visual or audiovisual recording. | DigComp 3.0 (2025) |
| Data literacy | Interacting with data (e.g. collecting, analysing, visualising, interpreting) with criticality, uncertainty and intrigue. It includes components such as context, aggregation, variability, visualisation and inference. | OECD and European Commission (2026) |

| TERM | DEFINITION | SOURCE |
|---|---|---|
| Data privacy | In the context of legislation such as the General Data Protection Regulation (GDPR, 2018), data privacy refers to the empowerment of users to make their own decisions about who can process their data, and for what purpose. | DigComp 3.0 (2025) |
| Deepfake | Generated or manipulated image, audio or video content that resembles existing persons, objects, places, entities or events and would falsely appear to a person to be authentic or truthful. | DigComp 3.0 (2025) |
| Digital citizenship | The capacity to participate actively, continuously and responsibly in communities online and offline, through competent and positive engagement with digital technologies. | DigComp 3.0 (2025) |
| Digital competence | Digital competence involves the safe, healthy, sustainable, critical and responsible use of digital technologies for learning, work and participation in society, as well as interaction with these technologies. | Own translation.<br>Royal Decree 217/2022, 2022 |

| TERM | DEFINITION | SOURCE |
|---|---|---|
| Digital literacy | The ability to access, manage, understand, integrate, communicate, evaluate, create and disseminate information safely and appropriately through digital technologies. It encompasses competences described in different ways, including information literacy, media literacy, computer literacy and ICT literacy. | European Commission (2026b) |
| Digital sovereignty | The capacity of an institution, community or education system to make autonomous decisions about the use of technologies, data, infrastructure and digital services, retaining control over them, reducing external dependencies and ensuring alignment with security, privacy, interoperability and democratic values. | Adapted from<br>European Commission (2026c) |

| TERM | DEFINITION | SOURCE |
|---|---|---|
| Digital well-being | A feeling of physical, cognitive, social and emotional contentment that enables all individuals to engage positively in all digital learning environments including through digital education and training tools and methods, maximise their potential and self-realisation and helps them to act safely online and supports their empowerment in online environments. | Centeno et al. (2025) |
| Disinformation | Verifiably false or misleading information that is created, presented and disseminated for economic gain or to intentionally deceive the public. It may cause public harm. | European Commission (2026b) |
| Fairness | Fairness relates to everyone being treated fairly in the social organisation. Clear processes are required so that all users have equal access to opportunity. These include equity, inclusion, non-discrimination, and fair distribution of rights and responsibilities. | European Commission (2026a) |

| TERM | DEFINITION | SOURCE |
|---|---|---|
| Filter bubble | An echo chamber (a bounded, enclosed media space that has the potential to both magnify the messages delivered within it and insulate them from rebuttal) primarily produced by ranking algorithms on digital platforms such as search engines and social media which personalises information without any active choice on the part of an individual. | DigComp 3.0 (2025) |
| Generative AI | AI systems that can generate content from general instructions (e.g. text, images, audio, video, code), process existing content (e.g. translate, correct), or analyse data (e.g. sort, summarise) based on patterns learned from existing data. | European Commission (2026a) |
| High-risk AI system | An AI system whose use may significantly affect students' rights, pathways or significant decisions, for example in admission, assessment of learning outcomes, educational guidance or monitoring during tests. | Adapted from AI Act (2024) |

| TERM | DEFINITION | SOURCE |
|---|---|---|
| Human agency | The principle that AI systems should empower human beings, allowing them to make informed decisions and fostering their fundamental rights. | High-Level Expert Group on Artificial Intelligence (2019) |
| Human dignity | An ethical principle encompassing the right to privacy, human autonomy, and human agency, and relates to the right of a person to be respected and treated in an ethical manner regardless of race, gender, religion, culture, or linguistic background. | European Commission (2026a) |
| Human oversight | The need for people to retain control over the use of AI, review its outputs, detect errors or unintended effects, and be able to intervene in or override automated decisions. | Adapted from European Commission (2026a) |

| TERM | DEFINITION | SOURCE |
|---|---|---|
| Justified choice | Justified choices relates to the use of knowledge, facts, and data to justify necessary or appropriate collective choices by multiple stakeholders in the school environment. It requires transparency and is based on participatory, collaborative models of decision-making, as well as explainability. | European Commission (2026a) |
| Metacognition | Metacognition comprises both the ability to be aware of one's cognitive processes (metacognitive knowledge) and the ability to regulate them (metacognitive control). Metacognitive knowledge encompasses knowledge of oneself as a learner (such as strengths, weaknesses, preferred time of day for study, preferred study location) and how the human brain stores, organises, and retrieves information as well as effective strategies to complete the task. Students with more metacognitive knowledge learn better than those with less metacognitive knowledge. | European Commission (2026b) |

| TERM | DEFINITION | SOURCE |
|---|---|---|
| Personal data | Any information relating to an identified or identifiable natural person ('data subject'); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person. | Regulation (EU) 2016/679, 2016 |
| Productive friction | The introduction of activities that interrupt automated thinking and passive consumption of information. By creating intentional intellectual resistance, it requires students to activate critical thinking, test hypotheses and justify their own decisions rather than delegating mental effort to technological shortcuts. | Adapted from WestEd (2025) |
| Prompt | The input given to an AI tool (such as a question, instruction, or command) to generate a specific output | European Commission (2026a) |

| TERM | DEFINITION | SOURCE |
|---|---|---|
| Transparency | A principle requiring AI use to be understandable, users to be informed when an AI system is involved, and its recommendations, decisions or outputs to be understandable as far as possible. | Adapted from<br>European Commission (2026a) |
| Trust/Trustworthiness | An AI tool is trustworthy when it is consistently reliable, transparent about how it works, respects privacy, avoids bias, and supports learning in ways that align with the values of the school community. | European Commission (2026a) |
| Universal Design for Learning (UDL) | A conceptual and operational framework for guiding the design of learning environments that are accessible and challenging for all. It is based on research in the learning sciences and neuroscience and is structured around three core principles corresponding to specific brain networks: providing multiple means of engagement, multiple means of representation, and multiple means of action and expression. | Adapted from<br>CAST (n.d.) |

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# ANNEX I: SUGGESTED LEARNING SITUATIONS

| KEY COMPETENCE | | ENGAGE WITH AI | CREATE WITH AI | MANAGE AI | SHAPE AI |
|---|---|---|---|---|---|
| LINGUISTIC COMMUNICATION | EARLY CHILDHOOD AND PRIMARY EDUCATION | The teacher presents two answers to a question previously discussed in class: one correct answer and one AI-generated answer containing errors or fabricated information. In pairs, students use colours to mark information as correct, doubtful or false, explaining orally which answer they consider more reliable and why. | After collectively creating the beginning of a story through oral storytelling, drawings or role play, the teacher presents three AI-generated continuations. Students identify which one best maintains the characters and narrative coherence, then create their own ending using only the ideas they consider useful. | The class creates a story together and distinguishes between what AI can contribute (suggesting words, titles or characters) and what students decide (what they want to tell, what they like and how the story continues). Afterwards, they discuss why not every AI-generated suggestion needs to be accepted. | In “The Word Machine”, one student takes the role of an AI system and is given an ambiguous word or phrase to interpret using only the information available. The class then adds new clues and observes how the interpretation changes. The activity explores how context shapes the meaning of language. |
| | LOWER AND UPPER SECONDARY EDUCATION | Students analyse an AI-generated response about a literary work, a news item or a current-affairs topic. They must compare it with two reliable sources and complete a table with three categories: “accept”, “review”, “reject”. The final product is a corrected and referenced version of the initial text. | Students write an argumentative text on a social issue addressed in class. They then compare their draft with AI-generated suggestions for improvement (linking words, counterarguments, reformulations, title). | Students prepare an oral presentation and design an AI-use protocol beforehand. They then explain orally the decisions they made and justify how AI contributed to the process without replacing their responsibility for the final outcome. | Students formulate three different prompts on the same topic: an ambiguous one, a biased one and a precise one requesting sources. They then analyse how the generated response changes and produce a brief summary of what they have learned. |

| KEY COMPETENCE | | ENGAGE WITH AI | CREATE WITH AI | MANAGE AI | SHAPE AI |
|---|---|---|---|---|---|
| MULTILINGUALISM | EARLY CHILDHOOD AND PRIMARY EDUCATION | The teacher shows several automatic translations of common classroom expressions in the foreign language being studied. Some are overly literal or culturally inappropriate. Students compare them with expressions learned in class and decide which they would use in a real situation and which they would not. | The class prepares a short dialogue to welcome a student or family who speaks another language. The teacher uses AI to generate different versions of greetings or questions. Students select the expressions most appropriate to the situation (formal/informal, familiar/respectful) and create the final version to perform orally. | During a foreign-language writing activity, the class establishes what a translation tool may do and what students themselves must resolve. For example: AI - suggest vocabulary, students - choose appropriate expressions. The group then reflects on why word-for-word translation does not always work. | One student acts as an automatic translator and may translate only by following literal rules established by the class. When expressions with double meanings, sayings or culturally specific formulas appear, the “robot” fails. The activity helps students understand that machines recognise linguistic patterns but do not understand context as a person does. |
| | LOWER AND UPPER SECONDARY EDUCATION | Students review automatically generated subtitles for a short scene from a series or video in the original language. They must identify errors of register, double meanings, irony or poorly translated cultural references and propose alternatives that are more appropriate to the communicative context. | Students create a multilingual infographic about a cultural celebration, social custom or global issue. They use AI to generate draft translations and then review vocabulary, tone and cultural references to adapt the message to specific audiences in different languages. | Students design a protocol for the responsible use of automatic translators in a plurilingual task. It must include: when to use AI, how to verify translations, how to detect cultural or register-related errors, and which parts require mandatory human review. The final product is a short guide for other students. | Students compare how an AI system translates the same expression into different languages and analyse why results vary according to the amount of available data, the language varieties represented on the Internet or cultural differences. They then draw conclusions about bias, loss of nuance and the limitations of automatic translation. |

| KEY COMPETENCE | | ENGAGE WITH AI | CREATE WITH AI | MANAGE AI | SHAPE AI |
|---|---|---|---|---|---|
| MATHEMATICS AND SCIENCE, TECHNOLOGY AND ENGINEERING | EARLY CHILDHOOD AND PRIMARY EDUCATION | The teacher presents several numerical or geometric sequences or visual patterns and asks students to predict the next element, justifying the rule used. The teacher then shows how AI also identifies patterns to make recommendations or predictions and compares situations in which both human and automated predictions can be wrong. | The teacher shows several AI-generated proposals for constructing a figure, mosaic, structure or model subject to certain conditions (symmetry, stability, saving material, etc.). Students select one proposal, modify it according to their own ideas and physically build the model, explaining what changes they made and why. | Faced with a contextualised problem (e.g. what generates the most waste in the classroom? or what snack is healthier?), the class decides which tasks an automated tool can help carry out (organising data, counting frequencies, creating tables) and which require human reasoning (interpreting results, deciding criteria or drawing conclusions). | Activity: “Train the Machine”. Students classify blocks, leaves, fruit or other daily objects. Incomplete, contradictory or insufficiently varied examples are then introduced and the class observes how classification worsens. The activity ends with reflection on why the quality and diversity of data influence how AI works. |
| | LOWER AND UPPER SECONDARY EDUCATION | The teacher provides an AI-generated solution to a numerical problem containing one or more plausible errors (calculation, reasoning or interpretation). Students must verify each step, detect the error, explain why the answer appears convincing and write a corrected solution based on mathematical or scientific evidence. | In a school scientific investigation, students use AI (always mediated by the teacher) to generate possible hypotheses, variables or experimental designs relating to a problem studied in class. They must then select which are testable, design the actual experiment, collect data and compare the results obtained with the initial predictions. | During an experiment, students use AI or automated tools to organise measurements, generate graphs or detect initial trends. They must subsequently interpret the results, identify possible anomalies, assess the reliability of the data and write evidence-based conclusions without delegating scientific reasoning to the tool. | Students consider how an “intelligent machine” capable of classifying items related to a real problem might work (e.g. recyclable/non-recyclable waste, healthy/unhealthy foods, etc.). Finally, students reflect on why machines can make mistakes when they have few examples or incomplete information. |

| KEY COMPETENCE | | ENGAGE WITH AI | CREATE WITH AI | MANAGE AI | SHAPE AI |
|---|---|---|---|---|---|
| DIGITAL | EARLY CHILDHOOD AND PRIMARY EDUCATION | The teacher presents familiar examples such as video or story recommendations, photo filters and voice assistants. The class identifies which tools may use AI and discusses how they may influence what we see or choose. To conclude, students classify each situation using a simple table with three categories: “it helps me”, “it makes me unsure” and “I have to check”. | The class designs a digital poster on digital safety and well-being (think before sharing, check whether it is real, ask permission before using images). The teacher provides several AI-generated images, some appropriate and others confusing or manipulated. Students select which ones to use and justify their decisions in terms of clarity, respect and reliability. | After analysing examples of real and manipulated images, videos or messages, the class develops a simple protocol to follow when encountering content that may have been generated or modified with AI: Who created it? Does it appear manipulated? Have I checked it? Could it cause harm? The final product is a visual guide for the classroom. | Game: “The Machine Follows Instructions”. One student acts as a robot and may only follow exact instructions from classmates to sort images, recognise objects or follow a route. When instructions are ambiguous or incomplete, the robot fails. The activity helps students understand how the way instructions are given affects the output of a system. |
| | LOWER AND UPPER SECONDARY EDUCATION | Students analyse a simulated social media feed containing recommendations, personalised advertising and news selected by algorithms. They identify which content may be prioritised by AI, which interests or biases it may reinforce, and what risks of disinformation or filter bubbles may arise. | Students create a digital campaign against disinformation or deepfakes. They may use AI to generate drafts or images, but verify the information, review possible biases, cite sources and distinguish their own contributions from those generated by AI. | Students design a decision matrix for the academic use of AI, considering when to use it, for which tasks, what risks exist, what checks are required and how to declare its use. They then apply the matrix to several practical cases. | Students compare two AI tools for the same purpose (e.g. a translator and a conversational assistant), analysing how they work, their advantages and limitations, privacy, reliability and bias risks, their environmental impact, and the situations in which each is most appropriate. |

| KEY COMPETENCE | | ENGAGE WITH AI | CREATE WITH AI | MANAGE AI | SHAPE AI |
|---|---|---|---|---|---|
| PERSONAL, SOCIAL AND LEARNING TO LEARN | EARLY CHILDHOOD AND PRIMARY EDUCATION | The teacher shows a convincing AI-generated response containing errors or fabricated information about content studied in class. Students identify doubtful parts, check them against classroom materials and explain why "sounding convincing" does not necessarily mean "being correct" | While reviewing a story, mural or written piece, the teacher shows several AI-generated suggestions for "improving" it. Students choose which ones to incorporate and explain why they improve their work and which parts they want to keep as their own, reinforcing decision-making and awareness of authorship. | Faced with a complex task, the class distinguishes between "AI can help me to..." and "I need to think, decide or check...". They reflect on what can be delegated to AI and what requires their own judgement and responsibility, understanding that learning involves effort and not just obtaining answers. | Through role play, one student represents an AI system that responds only by following given examples and instructions, even when incorrect or incomplete. The class reflects on why AI does not "understand", "feel" or "want" like a person, and on the importance of human judgement and empathy in social relationships. |
| | LOWER AND UPPER SECONDARY EDUCATION | Students analyse an AI-generated study plan for preparing a test or project, critically assessing whether it is realistic, includes breaks and allows reasonable amounts of time, among other considerations. They then adapt the plan, explaining what they keep, modify or remove based on their own judgement. | Students use AI to generate a quiz on a topic studied in class. They classify the questions by difficulty and usefulness, correct errors and add their own questions requiring deeper reasoning or connections between concepts. Finally, they identify which questions support learning and which encourage superficial study. | Students design a "Personal AI Use Contract for Learning", defining which uses they find helpful, which may create dependency, how they will check that they understand without help, and what limits they will set to protect their attention, autonomy and digital well-being. They review it after several weeks of use. | Students analyse how the design of certain digital tools or AI systems may encourage distraction, dependency, social pressure or excessive use (constant notifications, endless recommendations, instant rewards). They then propose improvements aimed at digital well-being, personal autonomy and balanced use of technology. |

| KEY COMPETENCE | | ENGAGE WITH AI | CREATE WITH AI | MANAGE AI | SHAPE AI |
|---|---|---|---|---|---|
| CITIZENSHIP | EARLY CHILDHOOD AND PRIMARY EDUCATION | The teacher presents fictional images, messages or headlines relating to school coexistence or care for the environment (e.g. “playing in the playground has been banned”, “a brand is giving away free toys”). Students analyse whether the information appears reliable, who might benefit from it being shared and what should be done before forwarding it. | Students design a poster or audiovisual message promoting responsible use of images and personal data in the classroom (“we ask permission before recording”, “we do not share photos without authorisation”). The teacher may provide AI-generated images and the class decides which ones represent respectful situations and justifies their choices. | Using everyday situations (“uploading a class photo”, “using someone else’s voice”, “sharing a funny video”), the class decides whether an AI tool should use certain images, voices or personal data. Students reflect on the consequences of making such material available to AI, even if the tool is accessible to everyone. | Through a classification game, the class uses unfair rules or incomplete information to decide who may take part in a fictional activity (“only students wearing blue can play”, “only the fastest may enter”). They then reflect on how automated decisions based on insufficient rules or data may unfairly disadvantage some people. |
| | LOWER AND UPPER SECONDARY EDUCATION | Students analyse an AI-generated news item (clearly identified as an educational simulation) about a social or environmental issue. In groups, they act as a verification team: they detect signs of manipulation, check sources and identify emotions or biases used to influence people. Finally, they propose recommendations to prevent the spread of disinformation. | Students create a digital awareness campaign on deepfakes, disinformation or hate speech on social media. They may use AI to generate drafts, but must verify the information, review possible biases, adapt the message to different audiences and avoid reusing manipulated content irresponsibly. | Students compare the environmental impact of everyday AI use with alternative methods for performing different tasks. Based on the results, they debate when AI use is justified and propose criteria for technologically responsible and environmentally sustainable use. | Students analyse a potentially biased AI system, investigating what data it uses, which groups may be disadvantaged, which rights may be affected, and how transparency and human oversight could be improved. Finally, they develop criteria for responsible use that respects human rights. |

| KEY COMPETENCE | | ENGAGE WITH AI | CREATE WITH AI | MANAGE AI | SHAPE AI |
|---|---|---|---|---|---|
| ENTREPENEURSHIP | EARLY CHILDHOOD AND PRIMARY EDUCATION | Students identify real problems in the classroom or school (e.g. paper waste, noise, disorganised materials or coexistence) and analyse simple examples of technologies or AI systems that might help solve them. They consider which solutions would be useful, which might create problems and which decisions should remain with people. | In groups, students design on paper a "helper machine" to solve a problem in the classroom or school, defining the need it addresses, what information it requires, what it proposes automatically and which decisions are left to people. Finally, they present and improve their proposal based on the group's contributions. | During a cooperative project, the class distinguishes which tasks AI can facilitate and which require group decisions. AI may suggest ideas or organise information, but students negotiate, set priorities, organise resources and justify their decisions. | The class creates an unplugged prototype of a "Recommendation Machine" using cards showing preferences or needs. They then analyse whether its recommendations are useful, limited or unfair and propose how to improve the information and criteria used. |
| | LOWER AND UPPER SECONDARY EDUCATION | Students analyse real or simulated cases of AI use in companies, public administrations or social projects, identifying what need they address, what value they provide, what ethical or social risks they create, and what measures would be required for responsible and sustainable use. The analysis is linked to social impact and responsible decision-making. | Students develop an AI-supported project or service proposal to address a real need in their environment. The proposal must include the problem identified, target users, tasks carried out by AI and by people, sustainability, social impact, and ethical risks and protection measures. | Students break a project into different phases and decide strategically where AI could add value and where human intervention is essential. For example, AI may support brainstorming, information classification or the generation of alternatives. They then assess whether using AI genuinely improves the project or creates unnecessary dependence. | In groups, students design a "responsible AI" proposal for a technological solution, defining its purpose, users, required data, environmental impact and human oversight mechanisms. Finally, they propose improvements to make the technology fairer, more inclusive and sustainable. |

| KEY COMPETENCE | | ENGAGE WITH AI | CREATE WITH AI | MANAGE AI | SHAPE AI |
|---|---|---|---|---|---|
| CULTURAL AWARENESS AND EXPRESSION | EARLY CHILDHOOD AND PRIMARY EDUCATION | The teacher shows original and AI-generated images on the same cultural theme (e.g. local festivals, landscapes or traditions). The class compares the emotions they convey, whether elements appear real or unusual, and how well they represent the culture. Finally, they reflect on how images influence perceptions of cultures and traditions. | The class creates a collective mural about a local tradition, celebration or heritage element. They may use AI-generated images as inspiration, but students decide which genuinely represent their cultural environment, which are stereotyped, and which personal contributions to add from their own experiences, emotions or memories. | Before creating a collective artwork, the class distinguishes what a digital tool may suggest from what should come from students' own experience, imagination and personal expression. AI may propose initial ideas, but meanings, emotions and stories are constructed and explained by the group. | In the game "Train the Style Machine", students group images by colours, shapes, characters or themes. They then observe that the "machine" can classify similar visual elements without genuinely understanding their cultural, emotional or historical meaning. |
| | LOWER AND UPPER SECONDARY EDUCATION | Students analyse AI-generated cultural representations (images, videos, texts, etc.) identifying possible stereotypes, simplifications, lack of diversity or cultural appropriation. They then compare these representations with real works, testimonies or authentic cultural sources and discuss how AI may influence social perceptions of different cultures and identities. | Students develop an AI-assisted artistic creation (poster, video, visual narrative, sound composition, etc.) and explain which proposals were generated by AI, which creative decisions they made themselves, which cultural references they used and how they avoided reproducing stereotypes or cultural appropriation. | Students plan the use of AI in a cultural project, defining what they will use it for, which creative decisions will remain under human control, how they will verify cultural references, and what limits they will set regarding the use of other people's styles or cultural heritage. | Students investigate how generative models are trained and analyse the origin of cultural data, the generation of works "in the style of" real artists, and the risks of cultural homogenisation or the underrepresentation of minorities. Finally, they propose AI design criteria that promote cultural diversity and respect for intellectual property. |

# ANNEX 2: AI USE DECLARATION TEMPLATE

**Objective for teachers:** This declaration is intended to promote transparency, ethical use and academic integrity before assignments and tasks are submitted. It also provides teachers with a clear reference point for understanding how AI has been used and, where necessary, for requesting subsequent clarification or an oral defence of the process followed.

**Objective for students:** To report honestly and transparently how AI was used while completing a task, critically reflecting on their own working process, the personal effort involved and the decisions made.

## AI Use Declaration

Name: _____

Year/Class: _____ Date: _____

Task title: _____

☐ I have not used Artificial Intelligence at any point during this task.
*(If you tick this option, go directly to question 4)*

**1. Tools used**

Indicate which AI tool or model you used: _____

**2. What did you use AI for?**

Tick with an X the options that reflect how you worked:

- ☐ To look for ideas, get inspiration or brainstorm at the start.
- ☐ To organise the contents, outline or structure of the document.
- ☐ To check spelling, correct grammar or improve the style of my own writing.
- ☐ To explain difficult concepts that I did not understand.
- ☐ To generate text, visual resources, images or lines of code with assistance, reviewing the result and declaring its use.
- ☐ To self-assess my draft by asking AI to review it against the rubric before submission.
- ☐ Other uses (briefly explain): _____

**3. Instructions and review**

Write the most important instruction (prompt) you gave the AI:

"_____"

What data or AI responses did you have to correct or verify because they were not completely accurate? Give an example of what you changed or where you checked it:

_____

_____

_____

**Note:** Save the history or link to your AI conversation in case your teacher asks to review the full chat.

**4. Final declaration**

I confirm that I am the author of this work. I have reviewed and understand all the content, ensuring that, where AI has been used, it has been used honestly, transparently and in accordance with classroom rules.

**Student signature:** _____

*Figure 14: AI Use Declaration. Co-created by INTEF with ChatGPT (OpenAI, 2026). CC BY-SA licence*

# ANNEX 3: STUDENT REFLECTION QUESTIONNAIRE TEMPLATE

**Objective for teachers:** To identify students' starting point in relation to AI use, their perception of the associated risks and the degree of responsibility with which they incorporate it into schoolwork. This information will make it possible to adjust methodology, guide pedagogical approaches and support students in using these tools more critically, safely and consciously.

**Objective for students:** To reflect critically on how AI influences the way they learn, their personal effort, their autonomy and their digital safety

REFLECTION QUESTIONNAIRE TEMPLATE

**1. How often do you use AI tools for your schoolwork?**

☐ Never. If you select this option, go directly to question 4.
☐ Rarely, once or twice a month.
☐ Sometimes, every week.
☐ Often, almost every day in my studies.

**2. What do you usually use AI for when doing school assignments? You may select more than one option.**

☐ To look for ideas or get started when I do not know how to approach the task.
☐ To organise the work, create the contents page, make outlines or plan the steps.
☐ To ask it to generate the text, summary or answers and copy them into what I submit.
☐ To correct spelling mistakes or improve the style of texts I have already written.
☐ To review my work before submitting it and check how I could improve it.
☐ To create images, music, audio or videos.
☐ To explain a difficult topic to me in simple terms, as if it were a tutor.
☐ To debate: I ask it to challenge my views so that I can practise defending my ideas in an exam or presentation.
☐ To explain step by step how to solve a Mathematics, Physics or other subject problem that I cannot work out.
☐ To translate texts or practise languages, such as English or French.
☐ Other uses. Briefly explain: _____

**3. Think about the last assignment you submitted using AI. How did you use it?**

☐ I copied and pasted what the AI generated without changing almost anything.
☐ I reviewed what the AI produced, corrected errors and adapted it in my own words.
☐ I only used it to look for ideas, but I thought through and wrote the entire assignment myself.

**4. Does getting immediate answers from AI help you learn better, or do you notice that it sometimes reduces your effort?**

☐ It helps me learn better because it explains things step by step.
☐ It holds me back because I sometimes stop thinking for myself and let AI do too much for me.
☐ It depends: sometimes it helps me move forward, and at other times it makes me put in less effort.

**5. When AI gives you a fact or some information...**

☐ I trust the result because it is usually well written.
☐ I do not usually check whether it is correct, because I do not have time or because it is more convenient.
☐ I look for the same information in reliable sources, such as verified websites, books or class materials, to check that the AI has not made it up.

**6. Some digital tools set age limits or require parental or guardian authorisation to register. With this in mind, what measures do you take to protect your personal data?**

☐ I never enter my own real data or other people's data, such as names, photographs or school information, because I know that this information may be recorded or processed by the tool.
☐ I do not read the terms of use and register using my data without thinking much about privacy.
☐ I did not know that some tools may store or process my data or that minors receive special protection.

**7. Did you know that each AI query or AI-generated image can consume more energy and resources than a conventional internet search?**

☐ Yes, I know, so I try to use AI in moderation to reduce its environmental impact.
☐ I did not know that AI had a real impact on the planet.
☐ I know, but I think my individual consumption makes no difference.

**8. At school, do you feel it is clear when you are allowed to use AI and when you are not?**

☐ Yes, in class we have been clearly told when we can use it and when we cannot.
☐ It is not very clear; each teacher tells us something different.
☐ No one has set clear rules, but I use it without saying so because I do not want people to think I am cheating.

**9. If AI tools were banned or stopped working tomorrow, how would this affect the way you study and do assignments?**

☐ It would hardly affect me; I can do my assignments just as well without it.
☐ It would be harder for me to get started or it would take me longer, but I could still complete the tasks.
☐ I would find it very difficult because at the moment I depend on it to understand or make progress on many tasks.

**10. Finally, what would you like teachers to help you with when using AI?**

For example: learning to ask better questions, detecting false information, using it to study for exams, reviewing assignments without copying, protecting your data, or knowing when it is useful to use AI and when it is better not to.

## Note:

Some of the graphic elements in this document were co-created using ChatGPT (OpenAI, 2026).

This document was developed by INTEF with assistance from ChatGPT (OpenAI, 2026) and Gemini (Google, 2026) to support language-related tasks and text improvement. The selection, validation and final approval of all content are the sole responsibility