If we decide to integrate AI into the learning process—whether in formative assessment, homework, or projects—there are **two essential principles** we must keep in mind.

First, we need to be **very clear** about which **AI-related competencies** we intend to develop. This includes not only technical skills, such as prompt design or tool selection, but also critical thinking, ethical use, and the ability to evaluate AI-generated content.

Second, our **assessment framework** must reflect these goals. That means establishing **clear evaluation criteria** that explicitly include AI competencies as part of the grading system. Without this alignment, students will not understand the purpose or expectations behind using AI—and we may miss the opportunity to guide their development in a structured, intentional way.

Now let's take a look at the **AI-related competencies** that are essential to develop in students.

One of the most important skills is **prompting**. Students need to learn how to craft effective prompts when interacting with AI tools—and equally importantly, they need to understand how to adjust or revise a prompt if the response is inaccurate, irrelevant, or misleading. Prompting is not a one-time action, but a **dynamic process** of communication and refinement. In fact, we will dedicate an entire course to the topic of prompt engineering.

Another critical area is understanding the **capabilities and limitations** of AI. Students must develop a clear sense of **what an AI system can do—and what it cannot**. For example, as we have discussed before, large language models are **not designed for precise calculation or formal logical reasoning**. While they may appear coherent, they often generate flawed arguments or incorrect mathematical operations.

Students also need to recognize that **different AI tools have different strengths, data sources, and creative behaviors**. Each model has been trained on different types of data and may generate different answers to the same prompt. This opens up a powerful opportunity for comparative learning.

We can encourage students to **use multiple AI tools**, compare their outputs, and **analyze the differences**. This not only develops their critical thinking but also deepens their understanding of how AI systems work and where their boundaries lie. Being able to interpret variation across models is a valuable skill in a world where AI systems are increasingly integrated into research, communication, and decision-making.

It is common to see AI tools not only answer a question, but also suggest **new directions**, posing follow-up ideas or proposing where the conversation might go next. At first glance, this can seem helpful—AI is offering pathways, expanding our thinking, pointing us forward.

However, in my view, **this should be avoided whenever possible**.

Why? Because in doing so, we risk **losing control over our own thought process**. When AI begins to determine the direction of inquiry, there is a danger that we, as learners or thinkers, will simply follow its suggestions passively. We may end up on a **narrow track**, guided more by the algorithm's patterns than by our own curiosity, logic, or creativity.

This is especially problematic in education, where the goal is to develop **independent, critical thinkers**. If students let AI define what comes next in their learning journey, they may unconsciously begin to **outsource ideation** and become less confident in generating their own questions and directions.

That's why I strongly encourage students to **ignore the follow-up suggestions provided by AI**. Instead, they should be trained to **stay in control**, to direct the tool, not be directed by it.

We must make it clear that AI is just that: a tool. Not a guide. Not a substitute for curiosity. Not the source of creativity. Maintaining strict control over the AI's role in the learning process is essential if we want to preserve **autonomous, imaginative, and original thinking**.

One of the most essential 21st-century survival skills is **critical thinking**. This ability is crucial not only for effective learning, but also to ensure that we become **less susceptible to deception, manipulation, or exploitation** in an increasingly AI-driven world.

Students must be explicitly taught that **any output generated by AI must be critically evaluated**. No matter how confident, fluent, or polished an answer may seem, it should **never be copied, submitted, or accepted without proper verification**.

They must learn to **question the content**, **identify inconsistencies**, and **double-check information** before using it in their work. Blind trust in AI-generated responses leads to intellectual complacency—and potential academic or even real-world consequences.

Equally important is teaching students to **ask for references and citations**—and to understand that **these references also need to be verified**. AI tools, especially free or limited versions, are prone to **hallucination**—that is, generating false or non-existent sources that appear legitimate.

This means that **students should never assume a citation is valid just because it looks correct**. They need to go a step further, cross-check sources, and understand the difference between fabricated and credible information.

If we want to prepare learners for the realities of a complex, data-saturated future, **critical thinking is non-negotiable**. It is their best defense—and their most empowering tool.

Closely tied to critical thinking is another essential concept: **trust**.

Students need to be taught a **new kind of trust** when it comes to technology—especially artificial intelligence.

Until now, our relationship with most forms of technology has been built on **unquestioning trust**. For example, when we enter a calculation into a calculator, we rarely double-check the result. We simply **assume it's correct**. The same goes for everyday tools like cars—when we press the gas pedal, we expect the car to accelerate. We don't expect it to suddenly brake or stop unexpectedly.

This kind of **absolute, passive trust** has long defined how we relate to technology.

But with AI, this **must change**.

AI demands a new kind of trust—**not blind faith, but an actively monitored trust**. Students must learn to work with AI while **continually evaluating its output**, checking for errors, inconsistencies, or false information.

They must understand that while AI is powerful, it is also fallible—and that trust must be **earned and constantly re-evaluated**, not assumed.

This shift in mindset is critical for safe, responsible, and intelligent AI use. For this reason, we will dedicate an entire lesson to the topic of **AI and trust**—what it means, how it differs from traditional trust in technology, and how it can be developed responsibly.

Many students today suffer from **technophobia**—a fear of technology. But this fear often runs deeper than it appears.

Students may be afraid of **new knowledge**, **unfamiliar methods**, or **the risk of failure**. They may fear **leaving their comfort zone**, fear **judgment**, or feel overwhelmed by the **pace of innovation**. They may associate technology with pressure rather than possibility.

This is why it is essential for educators to recognize these fears—and to **address them intentionally**.

Whenever we assign a task that involves AI or digital tools, we must take care to **acknowledge these emotional barriers** and provide **supportive guidance**. Our role is not just to teach the tool, but to help students **build the courage and confidence** to engage with it.

Overcoming technophobia is not simply about mastering a device. It's about **empowering students to trust themselves** in unfamiliar situations, to **take risks**, and to believe that **they are capable of learning and adapting**, even when the landscape is new and uncertain.

As educators, we must create a safe space where technology becomes **an opportunity**, not a threat—and where students learn to move forward **not in fear, but in curiosity and agency**.

Ethical Awareness and Bias Detection

When working with AI, it is crucial that students develop strong ethical awareness. They need to understand that AI systems are not inherently objective — they operate based on the data they were trained on, which often contains biases. For example, an AI tool might show prejudice toward certain social groups if its dataset reflects historical or societal imbalances. Students must learn to question the origin, credibility, and intent behind AI-generated content and recognize signs of bias. They should be able to think critically about the outputs, understand potential ethical dilemmas, and avoid accepting AI results uncritically.