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Empowering Students with High-Order Thinking Skills in the Age of Artificial Intelligence

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"The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn."

— *Alvin Toffler*, American Futurist and Author

This world we live in is increasingly prone to rapid technological change, where artificial intelligence (AI) is sculpting what we learn and what we perceive about learning itself. Even though AI is paving the way for individuals to access, analyze, and interpret information, it's essential for us to remember the root qualities that help students thrive in thinking critically, analytically, and creatively. These high-order thinking skills are uniquely human and are shaping students in a world full of challenges and similar-looking choices.

Critical thinking is the need of the hour for Gen Z students. Even though AI aids in processing data and presenting information, students must have the will to question, interpret, and evaluate information for accuracy and relevance. The *World Economic Forum's Future of Jobs Report 2023* identifies critical thinking as one of the top ten skills that will be needed by individuals for the future workplace (World Economic Forum, 2023). To shape such needed skills in students, they must be encouraged to engage in debates, write critical essays, and examine the world's current events through various lenses. Learners who are encouraged to review AI-generated content thoughtfully can detect biases and inaccuracies, becoming not only consumers of information but also avid thinkers who can discern and side with the truth.

Analytical thinking in this era is indispensable. AI often supplies raw data without context, allowing the students to simplify many complex issues and produce meaningful conclusions. *McKinsey & Company's 2021 report on "The Future of Work" is of the view that* analytical thinking, problem-solving, and decision-making are skills that are expected to grow in demand by more than 20% by the year 2030 (McKinsey & Company, 2021). Practical activities, such as project-based learning and case studies, help learners apply their analytical thinking skills in real-world contexts, building the capacity in them to make informed decisions. For example, analyzing environmental data in science or evaluating historical trends in social studies encourages learners to draw connections and make valid conclusions.

Creative thinking is often overlooked in today's age of AI, even though it is equally valuable and truly essential. AI, excelling at processing information, lacks the human ability to innovate, imagine, and create

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from new perspectives. A 2020 *IBM Education Report* was able to prove that creativity and innovation would become the defining features of successful education systems in an AI-integrated world (IBM, 2020). Schools play a major role in cultivating creativity through discipline and encouraging students to experiment. Projects that blend engineering with art or science with literature stimulate innovation. Similarly, brainstorming sessions give students space for free expression. Through this, students build resilience and flexibility, qualities that are truly essential to tackle the unforeseen challenges of tomorrow.

AI should be viewed as a partner in learning rather than a foe ready to replace human thought. AI is highly beneficial for students as they can use it as a medium to deepen their understanding while challenging its limitations. *Education and Skills Directorate, a distinguished study by OECD was able to detect that students* who actively interacted with various digital tools are able to show stronger metacognitive skills, including the abilities to reason and reflect (OECD, 2021). Through the integration of AI outputs, questioning assumptions, and adding their new perspectives, students remain active in their education journey.

Similarly, learning with others through group settings, peer feedback, and teamwork makes a ginormous contribution to building high-order thinking skills. Collaboration leads the way to empathy, communication, and diverse perspectives from students to students. Project Zero by Harvard University is of the view that a collaborative environment that supports taking perspectives and problem-solving is able to greatly enhance learners' cognitive and emotional development (Project Zero, Harvard University. (n.d.)). Through such collaborative interactions, students acquire the much-valued and needed skills of cooperation and adaptability that are the need of the hour in an AI-driven world.

Ethical consideration is another critical aspect of developing high-order thinking skills. As AI emerges more into the world, students must have the heart to question privacy, data security, and fairness. The UNESCO 2021 AI and Education Guidance stresses this very aspect of weaving ethics into AI education (UNESCO, 2021). Schools in this AI-driven era should introduce discussions and projects in order to guide the learners to reflect on the capabilities and responsibilities that come along with the digital tools.

Students equipped with such essential skills will be ready to adapt to an ever-changing and technology-driven society and will have the power to carve it thoughtfully. By nurturing these analytical skills in Generation Alpha, Beta, and beyond, schools are building a generation of responsible citizens who are equipped to use AI as a powerful tool, amplifying their voices, expanding their curiosity, and strengthening their judgment.

These high-order thinking skills are preparing students for a tomorrow where they embrace digital growth while shaping it with wisdom and empathy. With skills such as these, Gen Z learners aren't just ready for what lies ahead; they're ready to improve it!

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