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Contemporary trends as drivers of modern education

Svitlana Samoylenko
https://orcid.org/0009-0001-7952-7870
Anna Maria Rostomyan
https://orcid.org/0000-0001-5300-3756

Abstract. *The contemporary education is undergoing transformative changes driven by main trends of the VUCA world. The concept of a VUCA world — an environment characterized by Volatility, Uncertainty, Complexity, and Ambiguity — was originally developed at the U.S. Army War College in the late 1980s to describe the shifting geopolitical conditions following the Cold War. Since then, the VUCA framework has been widely adopted in management, leadership, and organizational studies to explain the challenges modern leaders face in unpredictable and rapidly changing contexts. As global markets and technological disruption accelerate, VUCA thinking remains a useful lens for understanding strategic risk and adaptive leadership in digitalization, globalization, sustainability, and the increasing complexity of socio-technical systems and socio-economic challenges. This article analyzes how contemporary global trends act as key drivers of transformation in modern education, highlighting opportunities and challenges for sustainable educational development.*
Keywords: *education, artificial intelligence, metaverse, VUCA world, problem solving.*

Almost every scientific conference and meeting of educators starts with the discussion about integration of artificial intelligence, big data, metaverse, and digital platforms is reshaping educational paradigms and methodologies. Digital ecosystems enable personalized learning, open science, and interdisciplinary collaboration on an unprecedented scale, where all the parties involved thrive in their endeavors.

We observe a growing shift from narrowly focused disciplinary research to interdisciplinary (even pluridisciplinary), decision making, and problem-solving approaches, where the currently vastly expanding artificial intelligence tools of the emerging technologies are being applied executed. Complex global challenges such as climate change, public health, geopolitical challenges, and sustainable development require systemic thinking and the convergence of knowledge.

Globalisation has reached a lot of remote destinations and enabled the rise of open science and free education accessibly to many parties. Open access, citizen science, and open educational resources are democratizing and revolutionizing knowledge production and dissemination. This trend actually enhances diversity and inclusivity in terms of educational institutions more and more following DEIB procedures (Diversity, Equity, Inclusion, and Belonging), but also requires robust quality assurance and data governance frameworks.

Thence, we see the future of science and education lie in their co-evolution as reflexive, adaptive sustainable systems. Therefore, we strongly believe that we should stop talking about teaching or lecturing in an old tutoring manner, instead we should focus every interaction of educators with their students on knowledge co-creation, be it a lecture, a seminar, a webinar, and/or a case study. This indeed requires a renewed focus on epistemological pluralism, methodological integration, and alignment with societal needs and values.

Today in various educational institutions, the Metaverse is being applied for various educational purposes. In fact, it truly holds significant potential to revolutionize the educational settings by providing immersive, interactive, and personalized learning experiences by means of offering a virtual environment, where the involved parties (the professors and students) can immerse in the Metaverse and engage with educational content in a more dynamic and engaging way, potentially enhancing interaction and integration, as well as enhancing students' understanding and knowledge retention processes in a playful way. Yet, it brings with it challenges too in forms of students being disengaged in the process by means of seeming present by their chosen avatars, while themselves being plunged into other entertaining activities.

As a matter of fact, most of the new things that appear in the market today look much simpler than their ancestors, however they are much more complicated inside, no matter if we speak about a high-tech gadget or an educational product. A system-based perspective reveals that the development of science and education is not linear but emergent, shaped by feedback loops, innovation cycles, and global interdependencies. Strategic foresight, interdisciplinary dialogue, and ethical governance are crucial to shaping a resilient and inclusive knowledge society.

Thus, educators at all levels should consider the current trends and demands of the contemporary labour markets to prepare competitive, flexible, innovative and creative, emotionally intelligent and curious people that will develop the world further, which the next generations will surely greatly benefit from. Therefore, if we look at the professions of the future (Frey & Osborne, 2017), most of them are related to medicine or art. In both fields creativity is a background; thence, we should develop critical thinking, analytical thinking, efficient decision making and problem solving skills and most importantly associative thinking in students of all ages so that they implement their knowledge of some decision-making theories like TRIZ (The Theory of Inventive Problem Solving), the theory of inventive problem solving (Ladewig, 2008), to find better solutions for any complex task in any industry they work for in the future.

At our contemporary times, universities and research institutions are transforming into agile, networked entities, sometimes fully and/or partially digitalized, that co-create value with various industries and generate society impact and value. We are

strongly inclined to believe that this is the only possible development strategy to be implemented into policy frameworks to support lifelong learning, academic entrepreneurship, student excellence, and cross-sectoral partnerships in shaping the future generations of leaders.

If modern education prepares learners for navigating uncertainty, adaptive learning, and strategic decision-making, if it focuses on meta-competencies such as critical thinking, systems literacy, and ethical reasoning, we can prepare not only one, but several future generations adaptive to all the changes and challenges happening in the world reinforced by empathy and psychological stability that is based on associative methodology that is the core of creativity, where artificial intelligence skills are of paramount importance in terms of the modern society.

Nowadays, artificial intelligence (AI) is increasingly impacting students, offering both opportunities and challenges, benefits and risks. As a matter of fact, AI can personalize learning experiences, provide instant feedback, and streamline administrative tasks, be compassionate and respond to students' emotional concerns, demands, and needs, but it also raises concerns about subsequent over-reliance, potential for academic dishonesty, and data privacy. Moreover, it raises also educational challenges in the way that the educators, without the right tools, find it difficult to detect an AI-generated content, for which many educational institutions have integrated artificial intelligence tools in their similarity checking platforms that the educators can use to establish, enhance, stimulate, and promote academic integrity and decency.

Nonetheless, according to our survey, today in 2025 more and more educators and students across the Globe are engaging with artificial intelligence, while asking for feedback or helping in preparing their various tasks and/or assignments, as compared with the results of 2023, the results are shown below:

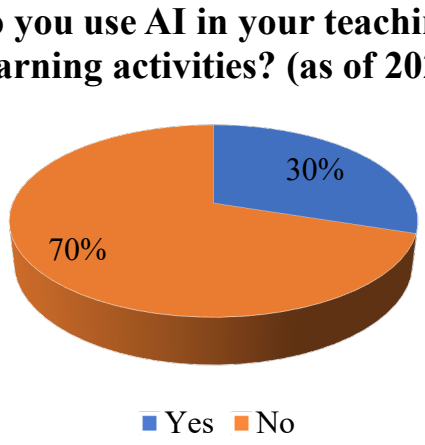

Chart 1. AI usage by educators/students

Source: creation of the authors.

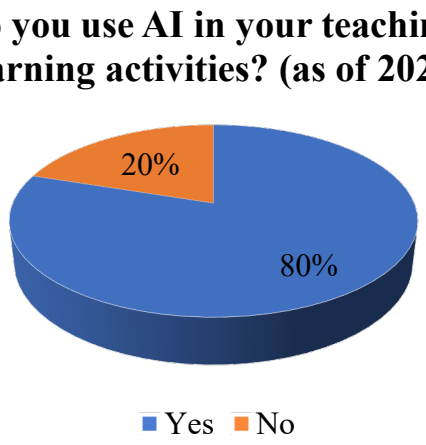

Chart 2. AI usage by educators/students

Source: creation of the authors.

As we can see from the adduced infographics above, educators across the Globe should be aware of the vast possibilities of AI to be able to educate their students accordingly and to also be aware that the assignments therein might be AI generated and since, as we all know, if we interact with AI a lot, apart from its extensive possibilities and advantages, it can make us less creative and think less. Therefore, the authors of the present article highly suggest a co-creation with AI in educational settings to be able to make the best of it, while also keeping our higher cognitive abilities working, fit, flexible, and agile in making decision and solving problems.

To sum up with, we can conclude that the educational sector currently undergoes immense drastic changes, especially through digitalization and globalization, also with the vast spread of artificial intelligence. Therefore, if we want to be able to educate, advise, train, and lead the next generation of market-suitable individuals and contemporary proficient leaders, we should first and foremost be able to walk along the development of the educational sphere ourselves, being flexible in adapting to novelties, while leveraging the best potential of our students. Thus, we strongly believe that our present discussion and findings can serve as a ground basis for future explorations and analysis of the given field of study at hand.

References

1. Bennett, N., Lemoine, G.J. (2014). What a difference a word makes: Understanding threats to performance in a VUCA world. Business Horizons 57(3), 311–317.

2. Frey, C. & Osborne, M. (2017), The Future of Employment: How Susceptible are Jobs to Computerisation? Technological Forecasting and Social Change, Volume 114, 254-280, ISSN 0040-1625, DOI: https://doi.org/10.1016/j.techfore.2016.08.019.

3. Ladewig, G. (2008). TRIZ: The theory of inventive problem solving. In book: The PDMA ToolBook 3 for New Product Development, 3 - 40, DOI: 0.1002/9780470209943.ch1.