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Conflict over human learning and machine learning in media arts

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Abstract. This paper intends to investigate the new preliminary theory for the increased impact of AI in the educational system, deepening the participation of school and university students in the use of media arts works. The main goal is to theorize and analyze the self-learning field at all educational levels, depending on the future situation of the complementary subjects of art education and technological education. It presents a division between AI and ICT in the media arts for each level of the education system, depending on the students of human and non-human learning. It is possible to create a series of parameters of AI and ICT in the media arts for the educational system, both in schools and universities, depending on the capacity of ethical knowledge, desired learning, and educational technologies. By using these advantages and disadvantages, media arts address the positive and negative aspects of human learning. Currently, there not is limited research on the evolution of human learning ability in the upcoming generation, which hinders the formulation of comprehensive discussions regarding the impact of the growing usage of AI in media arts. In conclusion, future exists a greatest concern for the future of school and university students of media arts to favor AI use with generative art.

Keywords. art education, technology education, artificial intelligence, teaching and learning process.

1. Introduction

The increase in the use of artificial intelligence (AI) in the educational system by school and university students [1-2]. Thanks to the more controversial popularity of the educational system, curbing the low learning performance and the "drought" of human learning. Some problems with research on AI within the education system. However, there is an educational learning bias. Of course, implementation of educational malpractice, i.e., there is no good policy to compromise on the ethical basis and human learning in different models [3-6]. Undoubtedly, one of the most serious challenges after the health crisis caused by the coronavirus pandemic (COVID-19) has faced a series of debates on educative technology and digital education through state-of-the-art (or documentary research) [7-9]. Different changes are needed to discuss the three areas of learning (what, how, and where) in educational institutions [10]. It is very debatable about the roles of teachers in AI-based education [11] to generate the development of generative teaching. Thus, professional quality (or trust) does not contribute to the model pedagogically, of course, information and communication technologies (ICT).

Beyond the time of AI ethics on machine learning [12] through the educational program (or curriculum) in the subject of media arts [13]. The great increase in the social impact and new technologies to examine and discuss the creative and exploratory potentials in the artistic context, as well as the AI analysis of digital art, is used to generate novel works [14].

The main goal is to theorize and analyze the self-learning field at all educational levels, depending on the future situation of the complementary subjects of art education and technological education. This approach, while potentially useful in contexts where teachers are few and far between, clearly undervalues teachers' unique skills and experiences, as well as learners' needs for social learning and guidance [15, p. 622]. It is impossible to work with the study of machine art (with AI) and digital art (with ICT) for school and university students in the digital-art field. The issue lies not solely in preliminary considerations of capacity building or underachievement but rather in the insufficient development of human learning.

2. Development

New evidence from generative art, computational creativity and imagination techniques, especially using the most controversial platforms from Midjourney, Stability AI, DeviantArt, Leonardo AI, DALL-E, ArtStation and many more [16-20]. It is difficult to fully coincide with this generation for the future of the educational system and the students who use new technologies in different projects and fans of digital art and video creation. However, some data facilitates the impediment of teaching the use of AI and machine learning for school and university students [21-22].

Next, it presents a division between AI and ICT in the media arts for each level of the education system, depending on the students of human and non-human learning (Table 1).

It is important to highlight that AI and ICT are not mutually exclusive. It is very difficult to analyze the incorporation of media arts learning. Both areas do not offer the necessary tools to promote creativity and artistic expression at different educational levels.

It is possible to create a series of parameters of AI and ICT in the media arts for the educational system, both in schools and universities, depending on the capacity of ethical knowledge, desired learning, and educational technologies. Here is an example (Table 2) of a benchmark for AI and ICT in media arts for school and university students, along with a table showing different aspects (knowledge categories) and related objectives (parameter description).

Table 1. Comparison of AI and ICT in media arts

Aspects	AI	ICT
Definition	It refers to the algorithms and techniques used to equip artworks with intelligence, allowing interaction and generative response to external stimuli.	It refers to the use of educational apps and software for creating, producing, and distributing artworks, including the manipulation of images, sounds, and videos.
Main focus	By emphasizing the capacity of generative artworks to learn, adapt and make decisions through the use of algorithms, and different models of AI.	It focuses on the use of creative tools and artistic technologies to improve the production and presentation of digital artworks, as well as access to the distribution of free software programs and apps.
Common techniques and tools	Machine learning, neural networks, image and sound processing, and autonomous content generation.	Graphic design software, audio and video editing, virtual reality, and interactive apps.
Impact on art creation	It allows the creation of generative artworks with the greatest autonomy, and AI-based interactive art, adapting to different contexts and audiences.	It facilitates the human creation and the production of artwork in a more efficient and accessible way, expanding creative experimentation.
Ethical aspects	By raising questions about the authorship and the originality of the generative artworks by algorithms, as well as the responsibility of artists and programmers in their development.	By implying privacy, the manipulation of information, and the responsible use of digital technologies in the artistic field.
Required skill levels	They require advanced knowledge in programming, algorithms, and data analysis.	They can experience different skills, from basic management of graphic design and media editing tools (video-animation-sound) to the most advanced knowledge of technology.
Featured projects	Generative art, interactive installations, and virtual, augmented reality in art, etc.	Digital animation, interface design, audiovisual production, multimedia installations, etc.

Source: self-made

Table 2. Parameters of AI and ICT in the media arts

Education level	Knowledge categories	Parameter description
School	Basic concepts	Introduction to the fundamental main of AI and ICT in media arts. Including the key terms and simple examples of creative tools in different fields.
	Tools	By the exploration of basic tools and software used in the creation of media artworks with AI and ICT. Includes practical exercises to familiarize yourself.
	Ethics and responsibility	To create a debate on the ethical aspects and responsibilities associated with the use of AI and ICT in the media arts, it is focusing on the importance of privacy, consent, and fairness in education.
Academic	Advanced applications	Deepening in more advanced applications of AI and ICT in media arts, such as content generation, emotion analysis and virtual reality. It includes more complex hands-on projects.
	Criticism and analysis	Different development of critical skills in the analysis and evaluation of media artworks that use AI and ICT, depending on the aesthetic, conceptual, and social aspects.
	Research	(It is possible) To promote research in the field of media arts with AI and ICT and include the realization of research projects and the presentation of (some) results in an academic format.

Source: self-made

This table presents a division between school and university students and suggests different areas of study and parameters of AI and ICT in the media arts for each level. School students can focus on getting into digital art, while university students can explore more advanced applications of AI in media design. This parameter does not always provide the use of ICT and media arts, but it is to improve according to the needs of specific educational program proposals.

It is important to highlight a comparison between human and machine learning in the media arts contexts for school and university students. Next, a table that shows some key differences between the two approaches (Table 3).

It is important to note that this table provides a simplified overview of the differences between human learning and machine learning in the media arts. Both approaches can complement each other, and machine learning can be used, such as a tool, to enhance and extend human learning in this field.

Finally, a brief sample outlining some advantages and disadvantages of human learning in the context of media arts is relevant to future school and university students (Table 4).

By using these advantages and disadvantages, approaches to the positive and negative aspects of human learning in the media arts, i.e., by analyzing the advantages, it can highlight the main points of benefits that each student brings to creative development. On the other hand, by exploring the disadvantages, it can identify the various complex situations at the level of development and failure of human learning.

Table 3. Comparison of human learning and machine learning in media arts

Aspects	Human learning	Machine learning
Process	Learning is based on experience and direct interaction with the learning environment and the materials.	Algorithm-based learning and data analysis.
Student Participation	Active in exploration, interpretation and artistic expression.	Mostly passive, the learner interacts with machine learning tools and platforms.
Creativity	Based on imagination and personal interpretation.	Focused on generating results based on patterns and pre-existing data.
Feedback	Provided primarily by teachers, peers, and art critics.	Provided by the machine learning system, based on data analysis and pre-existing models.
Flexibility	It is possible to adapt to different styles and artistic approaches.	Limited by the characteristics and capabilities of the algorithms and models used.
Learning capacity	Progressive and continuous, with the possibility of developing skills and knowledge over time.	It depends on the training data and the limits of the machine learning models.
Intuition	Based on intuition and personal appreciation of art.	Based on logic and objective data analysis.

Source: self-made

Table 4. Some advantages and disadvantages of human learning in the media arts

Aspects	Characteristics
Advantages	- Creativity and personal expression - Individualized and personalized feedback - Ability to adapt to the evolution of art
Disadvantages	- Limitation of the knowledge and experience of the teacher or tutor - Possible subjective bias in art evaluation - Time and effort required for feedback - Limitations in the ability to analyze large data sets

3. Discussion

Currently, there not is limited research on the evolution of human learning ability in the upcoming generation, which hinders the formulation of comprehensive discussions regarding the impact of the growing usage of AI in media arts. There is no evidence for anti-AI ethics about the division of human and non-human (artificial or machine) learning through the significant differences in different approaches to the curriculum of media arts, ICT, and education. Not all human learning is based on the ability of individuals to acquire knowledge through experiences, observation, interaction, and information processing, but the greater flexibility in human learning allows them to adapt to different contexts and, of course, to apply knowledge in complex situations of all students.

By considering, it is important that the human being has the capacity for creative and abstract thought processes, generating new novel ideas, and resolving the challenges related to creativity and personal artistic appreciation. This naturally extends the artistic-digital concepts as well, encompassing a wide space for creative expressions in the digital field. However, these fundamental characteristics give an advantage in terms of contextual understanding and the ability to learn, i.e., some suggested proposals —through the tables— to make the right decisions within the educational learning system.

4. Conclusion

In conclusion, future exists a greatest concern for the future of school and university students of media arts to favor AI use with generative art. A great threat of machine learning outperforming works of generative art without having personalized creativity made by humans. It is important to find a balance between human and non-human learning to trigger the combination of generative creativity made by AI. There is no educational regulation for the future of the artistic project, avoiding human learning reduction, and of course, the motivation reduction to develop new experiences and innovative perspectives in media arts.

Human learning is important to generate a greater capacity for adaptation and alternative thinking, depending on the more flexible and contextual subjective experiences, which allow specific tasks through mental creativity made by human beings. Also, AI has proved to be useful in many applications. However, it is impossible to understand the human creativity that does not activate the mind through the works of the ICT workforce in different programs for media art projects.

Finally, we need the contributors of anti-AI experts on regularizing machine learning within the art education field. The human behavior of students does not exist the commitment of the desired learning, as well as the greater responsibility and the quality of the educational system.

Conflict of Interest Statement

There is no conflict of interest.

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