

ARTIFICIAL INTELLIGENCE IMPACT ON CHILD EDUCATION

Dr. Vanita Khanna

(Asst. Prof. of laws, department of laws, GNDU, RC, Jalandhar)

Navjot Kaur

(Research Scholar, GNDU, RC, Jalandhar)

*“The goal of early child education should be to activate the child’s own natural desire to learn”
-Maria Montessori*

ABSTRACT:

A civilized society is group of educated people who know how to make this life a better living place. Education not only change the mind set of people but can also change the social status of person. Today the new dimension of technology brings the interesting ideas of learning through AI. AI is the new norm of the society whether we accept it or not. From health care to online shopping promotions every ruling technology use AI system to get the work done. as research into AI and its application to the education sector expands, we need to consider the readiness of current teachers, and prepare future teachers, for this new reality¹. As AI technology is still a new concept and an emerging technology people hesitate to rely on the capabilities of this technology. This paper is effort by the researcher to understand how AI technologies are helpful for child education and what are the limitation of it.

INTRODUCTION

A civilized society is group of educated people who know how to make this life a better living place. Education not only change the mind set of people but can also change the social status of person. Any nation’s strength lies in the children of that region. Early childhood education is important for the growth and development of the children. Today the new dimension of technology brings the interesting ideas of learning through AI. AI is the new norm of the society whether we accept it or not. From health care to online shopping promotions every ruling technology use AI system to get the work done. In the recent past, AI in education may have seemed like a daunting, albeit distant, possibility, but turbulent times have catapulted us into the future². Artificial intelligence (AI) tools are increasingly being used in the field of early childhood education (ECE) to enhance learning and development among young children.³ Alan Turing is considered among the researchers that laid the foundations of Artificial Intelligence (AI). He was the one who proposed the Turing test as the means of defining the intelligence of a machine⁴.

Artificial Intelligence methods have been applied in various domains. An interesting field for Artificial Intelligence is educational technology. In fact, Artificial Intelligence methods have been applied in educational technology for some decades. Educational technology is a broad term. It involves technological resources and methodologies employed in an educational context in order to satisfy specific educational needs⁵.

Attempts to design artificially intelligent curriculums for early childhood already exist, such as the MIT-developed “PopBots,” meant to help preschool children interact with social robots to learn AI concepts⁶. For instance, Chen et al. (2022) found that there are several major AI applications in education, such as intelligent tutoring systems for special education, natural language processing for language education, educational robots for AI education, educational data mining for performance prediction, discourse analysis in computer-supported collaborative learning, neural networks for teaching evaluation, affective computing for learner emotion

¹ Available at, <https://www.sciencedirect.com/science/article/pii/>, retrieved on July 3, 2022.

² Ibid.

³ Available at, <https://www.sciencedirect.com/science/article/pii/S2666920X22000042>, retrieved on July 13, 2022.

⁴ J. Prentzas, Artificial Intelligence Methods in Early Childhood Education, in X.-S. Yang (Ed.): Artificial Intelligence, Evolutionary Computation and Metaheuristics (AIECM) – In the Footsteps of Alan Turing, Studies in Computational Intelligence, vol. 427, pp. 169–199, Springer-Verlag, 2013.

⁵ Roblyer MD, Doering AH (2009) Integrating educational technology into teaching (with MyEducationLab), 5th Edition. Allyn & Bacon, Boston.

⁶ Available at, <https://www.sciencedirect.com/science/article/pii/>, retrieved on July 3, 2022.

detection, and recommender systems for personalization⁷. However, as research into AI and its application to the education sector expands, we need to consider the readiness of current teachers, and prepare future teachers, for this new reality⁸. Digital technologies are increasingly being used for teaching and learning in the early years. Several review studies were conducted to study the relationship between digital technology and ECE from the perspectives of technology-enhanced environment, learning achievement, and other aspects (Herodotou, 2018; Liu & Hwang, 2020; Mantilla & Edwards, 2019)⁹. The AI tools or platforms such as Zhorai (Lin et al., 2020), WeChat remote control (Nan, 2020), Teachable Machine (Vartiainen et al., 2020), and PopBots (Williams, Park, & Breazeal, 2019) were found to be effective for learning AI concepts. Meanwhile, we found that robots were widely used in ECE. Researchers reported that AI tools including smart robots can enhance social interactions among children, making children more participated in learning activities¹⁰.

AI technology is growing at a very fast pace. One of the aspects of AI is emotional AI. Emotional AI's use in early childhood care is demanded as a right, as it can help the children to understand and grasp the concepts more efficiently and practically. Emotional AI is most commonly understood as the "use of affective computing and AI techniques to sense and 'feel-into' human emotional life" (McStay & Miyashita, 2020). These advanced learning technologies use biometric sensing to read and react to children's emotional reactions, collecting audio and visual data in the process (McStay & Miyashita, 2020). The trend to monitor, and react to, child behavior mirrors other developments across adult technological devices. While these toys are not yet widespread, there is historical precedent to suggest that they will soon become the norm¹¹. These technologies are still under shadow of confusion. In certain countries these toys are created widely for the betterment of the future learning of the young mind. The National Association for the Education of Young Children (NAEYC)'s position statement on DAP states that "every child, from birth to 8, has the right to equitable learning opportunities—in centers, family child care homes, or schools—that fully support their optimal development and learning across all domains and content areas¹²."

Despite the positive applications of AI, there is still a lot of hesitation towards the technology in certain regions. A 2019 survey conducted by IEEE revealed that 43% of US and 33% of UK millennial parents respectively would be comfortable with leaving their children in the care of an AI-powered nurse during hospitalization. In contrast, millennial parents in China, India and Brazil are more receptive to artificial intelligence where 88%, 83% and 63% respectively would be comfortable with a virtual nurse caring for their child in hospital. Similar findings were found for the use of AI-powered robots in pediatric surgery¹³. A new technology is always welcomed but with a bundle of doubts. As AI technology is still a new concept and an emerging technology people hesitate to rely on the capabilities of this technology. They want to adapt themselves with the changing scenario still they rely on the contemporary method of learning.

UNICEF OBSERVATIONS:

UNICEF and The World Economic Forum want to work together as a partner so that they can lead the global society on AI and children. They want results in this field by keeping in mind the opportunities and progress of child along with the rights and protection of children.

AI And Its Good Impact:

The better the AI, the better it is at adapting to a person's needs, context, preferences, and priorities. Adaptable AI has far-reaching implications—unlocking opportunities ranging from: Personalized learning tools that can expand access to and improve educational outcomes for children and adults alike. Facilitating more advanced and efficient supply demand matching to improve access to work opportunities, resource sharing, long-term employment and other forms of networking that allow us to reduce waste (both in terms of time and resources) and maximize opportunity¹⁴. Researches done in this field shows that AI is a helping tool for child education. If used properly it can change working of education for the betterment of the leaning and growth.

RISKS TO CHILDREN:

⁷ Available at, <https://www.sciencedirect.com/science/article/pii/S2666920X22000042>, retrieved on July 13, 2022.

⁸ Available at, <https://www.sciencedirect.com/science/article/pii/>, retrieved on July 3, 2022.

⁹ [1-s2.0-S2666920X22000042-main.pdf](https://www.sciencedirect.com/science/article/pii/S2666920X22000042-main.pdf)

¹⁰ Available at, <https://www.sciencedirect.com/science/article/pii/S2666920X22000042>, retrieved on July 13, 2022.

¹¹ Available at, <https://www.humanium.org/en/the-influence-of-emotional-artificial-intelligence-and-digital-toys-on-child-development/>, retrieved on June 3, 2022.

¹² Available at, <https://ceinternational1892.org/wp-content/uploads/2021/03/Kazi.pdf>, retrieved on June 13, 2022.

¹³ Available at, <https://www.weforum.org/agenda/2022/01/artificial-intelligence-children-technology/>, retrieved on June 6, 2022.

¹⁴ Available at, <https://www.unicef.org/innovation/sites/unicef.org/innovation/files/2018-11>, retrieved on July 7, 2022.

AI comes with certain limitations and risky impacts. First it impacts the Privacy, Safety and Security. The implications AI has for children's privacy, safety, and security fall across a wide spectrum, from benefits related to the ability to understand threats facing children with greater specificity and accuracy than ever before (and respond accordingly), to risks around unintended privacy infringements¹⁵.

Access to this technology need awareness in the field what to include and exclude in the context of leaning. AI provide a widest exposure to learning capabilities but it can make learning a task as well. Another concerning impact is its impact on the Cognitive power and psychological impact on the child. The new ways that children and young people interact with technology has implications to our core physiology and psychology¹⁶.

SUGGESTIONS:

In any field, research is the most valuable tool to understand the complexities of a problem, disapprove of lies, uphold truth and build on to create knowledge that is reliable and authentic. Conducting research develops a better understanding and enhances decision-making capabilities. Researchers analyse the details of a project and help take the right and well-informed decisions¹⁷. AI is an emerging concept and research is this filed is required for the better understanding and implications of this in practical life. Besides that, regulatory frame work is also required. Without regulations AI is such a powerful tool in the hands of the companies that many fundamental structures and rights can be in question. Government needs to frame proper regulation for the AI and its working, as without rules situation can be handy.

Whether AI should be part of any Education system is debatable issue. If certain people favour it others raise certain concern with regard to it. there are many advantages to AI in education. AI can grade papers and essays much faster than a human can. This will give teachers more time to work with students on critical thinking skills and critical analysis skills. This would also allow teachers to focus on individual students who would benefit from their guidance¹⁸. Lastly, in early child education the most important role is played by the parents and guardians. They are the first teachers and protectors of their child. They must have certain knowledge of AI and its impact on the brain and upbringing of their child. We learn what is taught to us. Keeping in mind this phrase parents must have a rain check on their child's interaction with AI technology.

CONCLUSION

Learning must never be confined under the boundaries but new technologies must always be used with precaution. Children are regarded as the base of any society, if they grow in right direction then our nation can grow as well. AI and early child learning is a new dimension which require research and legislations. Amongst these technologies, AI educational robots can integrate different disciplines of knowledge and multiple technologies simultaneously to greatly enrich children's learning experiences in our rapidly changing digital society¹⁹. In order to create a change in it we need slow steps and they can only be attained by proceeding slowly but steadily.

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ Available at, <https://www.indiastudychannel.com/resources/179836-reasons-why-research-is-important#>, retrieve on July 6, 2022

¹⁸ Available at <https://timesofindia.indiatimes.com/readersblog/newtech/artificial-intelligence-in-education-39512>, retrieved on July 18, 2022

¹⁹ Available at, <https://www.sciencedirect.com/science/article/pii/>, retrieved on July 9, 2022