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EDLI 7620

24 September 2023

Adams, Catherine, Patti Pente, Gillian Lemermeyer, and Geoffrey Rockwell. "Ethical Principles for Artificial Intelligence in K-12 Education." *Computers and Education. Artificial Intelligence* 4 (2023): 100131.
<https://www-sciencedirect-com.ezproxy.uvm.edu/science/article/pii/S2666920X23000103>

In this peer reviewed article, the authors looked at general principles of AI ethics and researched if there were any unique principles for AI development that specifically related to K-12 education. There were eleven general principles named such as transparency and non-maleficence. There were four unique principles that were identified in relation to education: pedagogical appropriateness, children's rights, AI literacy, and teacher well-being. These principles were mentioned in international recommendations created by groups such as the United Nations Children's Fund.

Bauld, A. (2023). Mission critical: Artificial intelligence is here. Librarians can play A crucial role in making sure schools get it right. *School Library Journal*, 69(9), 24.
Retrieved from
http://primo.uvm.edu/permalink/f/12s06dh/TN_cdi_proquest_reports_2858964727)

This article describes the ever increasing presence of AI in educational settings. Bauld also emphasizes the critical role that librarians play in integrating AI responsibly in schools. Librarians can support students, educators, & admin effective use of AI and consider the drawbacks or challenges that come with AI in schools. Bauld outlines ways for educators to rethink their instruction with more emphasis on the reflection and the process of learning, in light of all the AI tools available. Bauld also brings up the issue of equity as not all AI tools are free. This article supports our group's view on AI as a helpful tool and one that librarians play an integral role helping their school communities navigate, especially in our digital age.

Brittain, Blake. "AI-generated art cannot receive copyrights, US court says." *Reuters*, 21 August 2023,
<https://www.reuters.com/legal/ai-generated-art-cannot-receive-copyrights-us-court-says-2023-08-21/>. Accessed 23 September 2023.

An artist tried to copyright a work of art he created using AI. The copyright office refused to grant the copyright, stating that "creative works must have human authors to be copyrightable." The artist went to a federal judge to appeal the decision but the judge agreed with the copyright office.

Common Sense Education. "Lessons and Tools for Teaching About Artificial Intelligence | Common Sense Education." Common Sense Media,
<https://www.commonsense.org/education/lists/lessons-and-tools-for-teaching-about-artificial-intelligence>. Accessed 24 September 2023.

This trusted site lists 10 Lessons and tools for teaching about AI. Common sense links: Code.org, Hello Ruby, Teachable Machine, Technovtion Families, The AI Education Project, Machine Learning for Kids, Most Likely Machine, AI4All open Learning, While True: Learn, and Ctrl F on this resource. A review, age range and cost are listed for each. 9 of the 10 are free with High school level, self directed learner AI tools, While True is the only paid site. These supports are resources for educators to use as they teach AI.

Foltynek, T., Bjelobaba, S., Glendinning, I. *et al.* ENAI Recommendations on the ethical use of Artificial Intelligence in Education. *Int J Educ Integr* 19, 12 (2023).

<https://doi.org/10.1007/s40979-023-00133-4>

AI presents both opportunities and challenges for both educators and learners. As the technology is still emerging, tracking it is cumbersome. So to have guidelines for its ethical use seems to be the path forward. Policies need to be developed to guide both educators and learners. Stating that one has used authorized AI to generate material is usually enough. The problem is the unauthorized use can be grounds for misconduct if unauthorized AI was used to generate an assignment or dissertation, for example. The line seems to be if using unauthorized AI has given the student an unfair advantage. Current rules and guidelines may not have been revised to include AI generated work. This paper proposes an umbrella definition of all kinds of unauthorized content generation, including the use of undeclared human or technological assistance in the form of AI. AIED (Artificial Intelligence in Education) is not automatically unethical, but

there needs to be an agreed upon set of standards for determining what is acceptable use and what constitutes unethical use. It seems too simple to state that, “All persons, sources, and tools that influence the ideas or generate content should be properly acknowledged.” However, AI cannot be listed as a co-author on a paper. Both teachers and students should receive training on the ethical uses of AI. But there needs to be an accepted National Guidance on the policies and best practices that will guide users on how to correctly cite the use of AI in assignments, the Arts, and publications.

Groft, L. D. (2023). AI Literacy: The road ahead. *School Library Journal*, 69(9), 26.

Retrieved from

http://primo.uvm.edu/permalink/f/12s06dh/TN_cdi_proquest_reports_2858963890

In this article Groft describes the ever changing role of librarians to educate students about AI and AI literacy. Also, the need for librarians to include AI literacy in their educational framework and standards. Groft discusses AI literacy being integrated into the library framework specifically by input, vocabulary & appropriateness. Instead of students inputting search terms, they can ask questions and communicate with AI closer to natural human communication. Teaching students AI vocabulary helps them to understand how AI “learns” plus what AI is strong and weak at performing. Lastly, librarians can educate students on when it is appropriate to use AI and when it would be less effective. This article supports our topic and our vital role in preparing students for a world that becomes more AI orientated.

Jiahong Su, Davy Tsz Kit Ng, Samuel Kai Wah Chu, Artificial Intelligence (AI) Literacy in Early Childhood Education: The Challenges and Opportunities, Computers and Education: Artificial Intelligence, Volume 4, (2023): 100124. Web
https://www.researchgate.net/publication/367064159_Artificial_intelligence_AI_literacy_in_early_childhood_education_The_challenges_and_opportunities

This article focused on AI literacy in Early Childhood Education(ECE). Children are growing up with AI applications, but more needs to be learned and taught surrounding the new term, “AI literacy”. AI literacy is becoming an essential literacy skill in our fast growing digital world. AI literacy has both challenges and opportunities in terms of ECE. In Early Childhood Education, PopBots and Quickdraw are toys being used to provide a playful environment and teach coding skills. The article supports the strengths that align with our groups research that AI literacy helps children with certain aspects of child development, such as theory of mind, creative and emotional inquiry, and collaborative inquiry. The opportunities to introduce AI literacy at a young age can familiarize children with technology, fostering digital literacy and preparing them for a tech-driven future. However, current research on AI literacy in ECE classrooms lacks empirical research. In addition to the lack of research, other challenges include, lack of teacher preparedness, lack of curriculum design, and lack of teaching guidelines. If we are going to start introducing AI into classrooms, early childhood educators will need to be trained to teach AI concepts effectively. AI literacy is not limited to technical knowledge. It also includes the ability to engage with AI in a meaningful manner.

Su, J., & Yang, W. (2023). Unlocking the Power of ChatGPT: A Framework for Applying Generative AI in Education. *ECNU Review of Education*, 6(3), 355–366.

<https://journals.sagepub.com/doi/10.1177/20965311231168423>

This article explored the benefits and challenges of artificial intelligence (AI) through ChatGPT and GPT-4 in education. If you are new to ChatGPT, it provided a simple introduction and then had ChatGPT explain itself.

The article explained potential benefits of ChatGPT which include; a more personalized learning experience, generated answers to students questions, more engaging learning experience, and it can also provide useful suggestions for teachers. The article stated challenges such as, AI lacks common sense, has a limited understanding of context, biased data, can not perform physical tasks, and lacks emotional intelligence, all of which align with our group's research on the topic. One important challenge that stood out is the ethical and safety issues surrounding AI. If AI is not monitored, it could lead students in the wrong direction. Secondly, this technology can be used to invade students' privacy without them giving any prior consent. If AI is not trained to represent all students, a discrimination against a certain group of students can occur. This can easily happen because of the potential cost of implementing ChatGPT in education and how it will not be accessible to all students.

The use of ChatGPT and other AI can make teachers and students' lives easier and highly personalized. However, as schools begin to embrace this new technology, we

must ensure the safety of our students because AI uses personal information, learning preferences, and other academic performances when it is being used. It will be up to educators to become informed on the new advances of AI and how this technology can be ethically placed into our current framework.

Vincent-Lancrin, S. and R. van der Vlies (2020), "Trustworthy artificial intelligence (AI) in education: Promises and challenges", *OECD Education Working Papers*, No. 218, OECD Publishing, Paris, <https://doi.org/10.1787/a6c90fa9-en>.

This article was written in 2020 to support the use of AI in education as it had already been implemented in the medical field and the public center as well as how the principles presented by the G20 can be implemented to create a beneficial opportunity for AI. It discusses that the main benefits are personalized learning through development of skills for more automated environments; such as digitalization, and improving the educational process.

According to Stéphan Vincent-Lancrini and Reyer van der Vliesi, the purpose of the conference was to make AI seem more human centered, transparent, fair and trustworthy. While their focus was on showing the benefits of AI they developed principles because there is the potential for societal challenges in regards to privacy, ethics and security.

Yang, Weipeng. "Artificial Intelligence Education for Young Children: Why, What, and How in Curriculum Design and Implementation." *Computers and Education. Artificial Intelligence 3* (2022): 100061. Web.

“This article informs the broader field of how young children learn about and with digital technologies.” (Yang, 2021). The article was written in 2022 in support of the idea that AI instruction in early childhood education is necessary because it moves society towards digital equity for all. AI is already in use in many homes (Siri, Alexa, Google Assistant.)The idea is that knowing and understanding the basic functions of AI in digital literacy gives children from less advantaged backgrounds an opportunity to develop those skills earlier. Research has shown that there are three concrete reasons why children should be taught about AI and how to use it. First, if used in an age-appropriate manner, understanding the basic functions of AI and its applications is an important part of digital literacy. Second, young learners cannot acquire that knowledge without direct instruction. Without this instruction they cannot apply AI across subjects and experiences. Children from less-advantaged backgrounds will be left without a solid grasp of how to use AI without these experiences. Third, if given the right instruction children of this age can achieve AI literacy through play in an age appropriate manner. “AI literacy can be defined as knowing and understanding the basic functions of AI and how to use AI applications in everyday life ethically.”(Drurga et al., 2019;Rodriguez-Garcia et al.,2020) So, for AI instruction to make a difference in closing the gap between advantaged and disadvantaged ECE students it has to be meaningful, appropriate and connect to the social and cultural background of the learner. A culturally responsive approach includes establishing inclusion - children feel welcomed and connected to each other, developing a positive attitude - the activity needs to connect to the child’s prior experiences, knowledge, or skills, the activity should enhance real life meaning and follow an inquiry model where a problem is identified and solutions are

sought using critical thinking skills. Their mastery of learning should be assessed in terms of their problem solving methods and real-life context.

Z. Kilhoffer *et al.*, "'How technical do you get? I'm an English teacher': Teaching and Learning Cybersecurity and AI Ethics in High School," *2023 IEEE Symposium on Security and Privacy (SP)*, San Francisco, CA, USA, 2023, pp. 2032-2032, doi: 10.1109/SP46215.2023.10179333.

“Although not currently required in highschools; cybersecurity and AI ethics education is vitally necessary in preparing today's students for the future. Additionally, it is critical that cybersecurity and AI ethics be taught explicitly across the curricula as well as implicitly so students understand both the technical and social implications. The majority of students focus solely on the technical aspects of cybersecurity. We can improve by using the same open ended UDL instruction strategies for show don't tell, variety of assignment choices and working within the students attention spans.

