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AI and Education: The Race for the Future

AI has taken the world by storm. In November of 2022, Chat GPT was released and globally criticized because of its capabilities aiding in "cheating" and easy essay writing. ChatGPT had one million users in just five days. By January, numerous schools across America began to ban this tool. This continues across the globe as ChatGPT rapidly grows in recognition and popularity *(ChatGPT Is Going to Change Education, Not Destroy It, 2023)*. ChatGPT stands for "Generative Pre-trained Transformer" and is a member of the natural language model family created by open Artificial Intelligence. GPT is also characterized as generative AI because of its capabilities when producing unique outcomes. These tools are trained on large data sets and trained to produce human-like responses and logical results *(ChatGPT and Artificial Intelligence in Higher Education: Quick Start Guide - UNESCO Digital Library, 2023)*. GPT-3.5 is the free and easily accessible version, but there are more advanced versions that have more capabilities and better success. Worries from educators stemmed from ChatGPT quickly creating organized and original content of various sizes as well as answer complex questions with wit and ease. Although the initial reaction to new technology and ideals can be scary and trigger fight or flight, it is important to understand how the world is changing around us. Change is inevitable. Many educators are beginning to see how AI language models like Chat GPT can actually improve education and student performance. AI is here now. AI is not going anywhere, and it is futile to prohibit. It is important to educate young people and students how to navigate the world and their education when AI and Chat GPT exist.

The popularity surrounding ChatGPT has a lot to do with how efficient and successful the tool is when test-taking. GPT-4 can pass the bar exam, score a 1410 on the SAT, score 5's on AP tests, receive a Wharton MBA, and GPT-4 even passes the Japanese Medical Licensing Examination *(Takagi et al., 2023)*. ChatGPT is a sign for innovation. AI is forcing education evolution and transformation, some would call it a complete education overhaul. There is an excessive focus on final results forcing students into robot roles. These changes can allow you teaching and learning to be more human. Many educators that support ChatGPT resonate

with throwing out an assignment instead of the chatbot, if an assignment is easy to cheat on with ChatGPT. If ChatGPT killed an assignment, it was already dead and it is time to reassess (Heaven). Change can be hard and full of fear. Most fear may stem from media and not the actual students and their choices. The Walton Family foundation surveyed 1,002 K-12 teachers and 1,000 students. Students were the ages of 12-17. Teachers tended to use it more that students. More than 1/2 teachers have used ChatGPT and 1/3 students use it. Almost everyone that used it claimed it had a positive impact *(ChatGPT Is Going to Change Education, Not Destroy It, 2023a)*. Obviously, cracking down on cheating is important, but if the main goal is to mitigate cheating and see students succeed and excel, banning ChatGPT is only limiting resources. There is research across disciplines and levels of education including: engineering, design, math, medicine, architecture, surgery, business, undergraduate, medical school, MBA program, and K-12 documenting the positive future and transformation of education because of Generative AI *(Ankara Yıldırım Beyazıt University, Faculty of Architecture and Fine Arts, Department of Architecture, Ankara, Turkey & Caliskan, 2023)*. Everything has its pros and cons, but AI is long-lasting and it is vital to learn how to use it. In this situation, teachers need to become facilitators and not gatekeepers. Teachers need to demonstrate to students how to properly find information, how to decipher that information, what information to trust and what not to use, and how to craft this information into their own work. Some teachers are doing this by hosting and organizing workshops for fellow teachers and their students to continue educating their community regarding AI and the future with it. In regards to assignments, some educators are fully embracing ChatGPT in the classroom and assignments. Some examples including students utilizing GPT for their first draft of a short paper, annotating and criticizing that draft, and then rewriting the next/final draft based off of their feedback and findings *(ChatGPT Is Going to Change Education, Not Destroy It, n.d.)*.

There are educators and researchers providing framework to interact with AI as well. One I came across in my research originates from The University of Hong Kong *(Su & Yang, 2023)*. The authors describe The IDEE Framework in four active steps:

1. Identify the Desired Outcomes
2. Determine the Appropriate Level of Automation
3. Ensure Ethical Considerations
4. Evaluate Effectiveness

This framework puts many of the important goals and implications in the open. It evaluates vital issues in regards to the use of AI, especially in the classroom. Many articles related to AI and education come back to these fundamental steps

of this framework, so this could be widely adopted and applied to help aid in the use of Generative AI.

Regardless of the framework or integration technique, all of the active participants within these different fields, disciplines, and levels claim that ChatGPT has positive impacts and can be utilized to improve student performance. Regardless of the level of academia, AI can assist with administrative tasks, creating plans and assignments, and relieve teachers from mundane tasks so they have more time with their students *(Mhlanga, 2023)*. With ChatGPT's quick and coherent capabilities and access to information all over the internet, it can help design personalized plans for students in addition to more engaged and interactive learning experiences for students. Game-Based learning is an example of this and is known to improve knowledge retention and active learning. ChatGPT can generate study material, facilitate projects and group discussions, provide real time feedback, and help students practice decision making and problem solving *(Terwiesch, n.d.)*. AI could also increase participation in shy and or introverted students who may need assurance, confirmation, or an unrelated 3rd party to check their work.

It can also serve in other types of learning such as language learning. Although, various levels of academia require different teaching approaches and techniques to be successful, AI is a constant in all of them. AI is our reality, so it is important to be prepared and take advantage of the practical real world applications available. In addition, it is important to understand AI so creating programs that teach AI literacy, AI Ethics, and Core AI Competencies and Skills can benefit anyone, especially students . Furthermore, training for staff, mentoring and support, and reevaluating educational system - assessments system specifically are future steps to mitigate the cons of AI while being efficient about it's capabilities. Care and Creativity will never be replaced by AI. Chat Bots can't replace human creativity and critical thinking. These qualities are what makes the difference regardless if we are for or against AI *(ChatGPT and Artificial Intelligence in Higher Education: Quick Start Guide - UNESCO Digital Library, 2023)*. AI is powerful and useful, but Academic Integrity is on the lower end of importance when considering the pressing issues surrounding AI.

AI has cognitive bias, because it is not human. AI is not trained on ethical principles. AI just collects information from the internet, and the internet is full of negative and harmful ideals. This can impact Gender, Diversity, and Marginalized Communities. In addition, there is a lack of diversity in AI research and development, continuing to reinforce gender stereotypes. Accessibility is also important to recognize, because there are many people who cannot access this tool and there is a question of equity. Many people do not have access to the internet. These resources are not equally available across the world. There are

also plenty of Privacy Concerns, especially with the Commercialization of OpenAI. ChatGPT was created by a private company and vowed to continue the accessibility to the free version , but they collect data from users and the way that it its applied and utilized is unknown *(ChatGPT and Artificial Intelligence in Higher Education: Quick Start Guide - UNESCO Digital Library, 2023)*.

AI is a work in progress, but it is not going anywhere. It will continue to evolve and advance. It is important to be equipped with the understanding to utilize these tools in this ever-changing world. Change can be scary and instill us with fear, but it is inevitable and we must evolve. As we continue to change as a society and advance technologically, we must figure out how to integrate it into our daily life effectively and fight for under-served communities that are often left behind. AI is already changing education and it will continue to do so. It has the potential to transform the educational landscape and improve student performance, but we must act with care, be creative, and employ critical thinking. Everything has its pros and cons, but with a proper approach and research backed initiatives, Chat GPT and AI can revolutionize education.

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