ChatGPT and Disability: Benefits, Concerns, and Future Potential

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Note: The following report uses person-first language. The authors understand that while some individuals and disability groups prefer identity-first language, person-first language is used in this report to refer to the larger disability community.

Background

In November of 2022, OpenAI created a highly capable artificial intelligence (AI) program that generates dialogue in various forms. It uses machine learning algorithms to process significant amounts of data to generate answers to various questions or requests in real time[1]. While previous versions of this program were incredibly effective, the most recent release ChatGPT-4 (Chat Generative Pre-Trained Transformer) far surpasses its predecessors with improvements such as the ability to accept images and text input and produce text output[1]. For purposes of this report, the authors will refer to the tool as 'ChatGPT', rather than the specific version of the tool.

ChatGPT understands human language in both written and spoken formats and can produce answers to math problems, write essays, and provide translations[2]. OpenAI also highlights ChatGPT's ability to follow complex instructions, generate and edit creative and technical writing, caption and analyze images, and produce over 25,000 words of text at one time[3].

Similar to tools used by Google and Meta, ChatGPT is a chatbot that is highly unique due to its ability to generate relevant, nearly human-like speech responses in a conversational manner[4]. The personal tone of conversations with this chatbot seems somewhat like chatting online with another person. The subscription service of ChatGPT offers even more features including a web browsing tool that can access more current information than the original ChatGPT program[4]. The introduction of such a powerful artificial intelligence tool presents tremendous opportunity for countless individuals. This report will highlight beneficial aspects of ChatGPT for individuals with disabilities, along with concerns related to this increasingly popular artificial intelligence tool.

Benefits of ChatGPT for People with Disabilities

While the uses and benefits of artificial intelligence programs like ChatGPT are expansive, the positive impacts on people with disabilities may just be starting to evolve. With attention to communication, ChatGPT can not only be used as a speech to text or text to speech software program for individuals with communication disabilities, but it can also provide assistance in communicating effectively by offering clarity and additional guidance that may aid in efficient communication[5]. Individuals with various communication disabilities who have tested and used

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ChatGPT indicate the tool can be used in various ways, including expanding on short sentences, drafting and improving email text, rehearsing of social communication, correcting errors in text, and assisting with specific types of written communication such as cover letters, complaint letters, etc[6]. It can also greatly enhance the rate of communication for individuals using its speech software[6]. ChatGPT's speech components can also provide reading and writing assistance for individuals with visual disabilities[5].

Recently, ChatGPT has partnered with an existing visual assistant mobile app, Be My Eyes. Be My Eyes connects individuals with visual disabilities with a community of volunteers ready to provide video-chat assistance to support daily tasks (e.g., matching clothes, troubleshooting technology, etc.)[7]. With the addition of ChatGPT and its human-like language capabilities, users of Be My Eyes can receive instant support virtually. Pictures of questions can be uploaded to the app, and ChatGPT can be used to provide answers in real time[7]. Users report the updated app can assist with reading restaurant menus, finding recipes on the internet, and even serving as a personal fitness trainer, and many suggest that using ChatGPT in this capacity increases independence and decreases concerns about talking with strangers, which is how the traditional Be My Eyes app was administered. While the ability to access a human volunteer has not been removed from the app, users have reported overall positive feedback and very few problems with the new artificial intelligence component of the app[7].

In addition to assistance for people with communication and/or visual disabilities, individuals with cognitive disabilities may benefit from different components of ChatGPT. The software can provide assistance with organization and remembering essential tasks. It can also help establish daily, weekly, or monthly routines and assist in modifying habits to hit deadlines. ChatGPT's well known use as a writing tool may also be used for providing alternate explanations for complex topics, developing ideas for writing, proofreading, spelling, etc[5]. This type of assistance may soon prove to be a useful tool for providing employment accommodation.

ChatGPT provides additional opportunities to assist with employment for people with disabilities. Initially, identifying job opportunities that match individual interests and skills is a task that can be provided by ChatGPT[8]. The tool can analyze employment experience and education and link that information with current openings in a specified geographic area[8]. ChatGPT can also assist with completing job applications and reviewing and editing cover letters and resumes[8]. Lastly, ChatGPT can serve as a practice tool for interview preparation by reviewing potential interview questions and rehearsing effective communication strategies[8]. ChatGPT allows individuals with disabilities to receive assistance in the employment search in a safe and non-judgmental environment, which may be a barrier for some individuals seeking this type of assistance.

Recent research also points to the use of AI tools, such as ChatGPT, to assist individuals with epilepsy. ChatGPT is able to quickly analyze free-text electronic medical records and can then learn to identify and summarize important patterns. This information could then be used to develop personalized treatment plans, avoid treatment delays, and improve outcomes[9]. The tool can assist with treatment guidelines and protocols, along with providing alerts to health

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care providers regarding possible treatment errors or risks for a wide variety of health conditions[9].

ChatGPT and Students with Disabilities

Much of the recent attention related to ChatGPT has come from the field of higher education. While various concerns exist with the use of ChatGPT in this environment, which will be summarized in the next section, it can offer various forms of assistance to students with disabilities. Disability resource offices on college campuses can use ChatGPT to provide information and resources to students on topics related to disability rights, assistive technology, accessibility, among many others, and this information can be provided by offices 24/7 when using this tool, along with other forms of support[10]. ChatGPT can also assist in identifying options regarding academic accommodations that may be necessary and in locating student support services on-campus[10]. It can also support students in accessing educational resources from a wide range of subjects, along with various study materials[11]. Other experts point out that ChatGPT can be used for social scripting, which may assist individuals with autism spectrum disorder in navigating conversations in the classroom and other academic environments[12]. Social tasks like this in higher education are often presented without instruction or explanation, and ChatGPT may provide an avenue to clarify and practice these types of social interactions.

In academic courses, students with disabilities may also benefit from the use of ChatGPT. As previously indicated, the tool can assist with organizational strategies for students[10], and it can answer questions, provide explanations, and offer alternative learning strategies for students with disabilities. ChatGPT does all of these things without judgement, which may be present when other people provide these types of services, thus creating a barrier to students with disabilities[5]. ChatGPT can also assist students with learning disabilities by developing writing topics, creating outlines, assisting with grammar and sentence structure, and it may also enrich a student's understanding of the topic by assisting in the information-gathering process[13]. Experts indicate ChatGPT can be used to increase reading comprehension and improve vocabulary[2]. Learning can be reinforced with ChatGPT through 'productive repetition' which allows students to use the tool to reinforce key concepts through examples or additional explanation[12]. Some experts argue that gaining assistance with tasks like grammar will reduce stress and open minds providing more opportunity to experience enhanced learning[13].

Students with disabilities in Australia point to the accessibility improvements provided by tools like ChatGPT, including the conversion of on-screen text to speech, its ability to be integrated with other technologies such as voice recognition software, and the potential for additional accessibility improvements in the future[14]. Experts agree that while ChatGPT cannot substitute basic skills, it may prove especially useful to students with disabilities when its use is honest, ethical, and facilitated by educators who are willing to embrace this new technology[13]. Tools like ChatGPT may help 'level the playing field' for individuals with disabilities, as they help promote full and equitable participation in life[8].

Concerns related to ChatGPT

The increased use of tools like ChatGPT has led to significant questions regarding the role of artificial intelligence in a human world. Will it lead to additional misinformation? Are we replacing human skills[7]? In educational realms, concerns are very much centered around controlling the opportunity for students to cheat on course assignments by using ChatGPT. This concern has led to a large number of colleges

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and universities prohibiting any use of the tool and insisting course assessments be redesigned in order to 'get ahead of AI developments[14].' Many educators argue that tools like ChatGPT may be used to circumvent student's need to learn and acquire reading comprehension and writing skills[13]. From a contrary perspective, disability experts point out that while these academic skills are important, individuals with disabilities may require additional support in order to achieve academic success, and ChatGPT may be that necessary support[8]. A one-size fits all approach to AI tools such as ChatGPT may fail to create inclusive and supportive academic environments[8].

There is also concern that information generated by AI tools may be incorrect or biased, and it may not be able to access the most current, available evidence[13]. Experts emphasize that ChatGPT does not check facts and is quite good at sounding convincing, so the potential for receiving and disseminating misinformation may be significant[15]. ChatGPT is also built using vast amounts of data, which includes online forums and news articles that may contain harmful and biased language[1]. This allows ChatGPT to reproduce harmful language in its output, which could easily perpetuate the harm and bias in larger communities[1]. Difficulties ensuring academic integrity, weakening students' abilities to think critically and/or create individualized content, and reducing students' abilities to handle complex scenarios since the foundation of ChatGPT's knowledge is based in pre-existing knowledge are additional challenges and concerns among educators[11]. Since very limited peer-reviewed research has been conducted on the use of ChatGPT in academic environments, a systematic review was recently conducted investigating mainstream news articles on the use of ChatGPT in higher education[16]. Results indicate that most of the information available on ChatGPT is related to these types of academic integrity concerns, while limited attention has been paid to the opportunities available through ChatGPT, including enhanced participation in academic, employment, and community settings for people with a wide variety of disabilities[16].

Despite the concerns and significant media attention highlighting these concerns, the potential benefits of tools like ChatGPT for individuals with disabilities cannot be overlooked. Challenges faced in receiving classroom accommodations or acquiring tools to improve communication or otherwise modify the environment have the potential to be significantly reduced with AI tools such as ChatGPT[12]. Harsh reactions of educational institutions prompted by limited information and fear of AI tools like ChatGPT could rob people with disabilities of the opportunity to greatly improve communication, organization, and understanding. What may seem like an unnecessary addition to an already technologically complex world, may provide new experiences in learning, independence, and communication for people with disabilities.

Summary

Open AI's highly capable artificial intelligence program, ChatGPT, uses machine learning algorithms to process significant amounts of data to generate answers to various questions or requests in real time[1]. When compared to similar AI tools, ChatGPT stands out due to its ability to generate relevant, nearly human-like speech responses in a conversational manner[4]. The benefits of this tool for individuals with disabilities are expansive including its use as a speech to text or text to speech software program that can significantly enhance the rate of communication and the ability to aid effective communication by offering clarity and additional guidance to individuals with communication disabilities[5]. ChatGPT can provide assistance with organization and remembering essential tasks, create environments to practice social skills, and

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assist with reading, writing, and other daily activities for individuals with visual disabilities by collaborating with apps such as Be My Eyes[5, 7].

In academic environments, students with disabilities can gain information and resources on topics related to disability rights, assistive technology, accessibility, and classroom accommodations[10, 11]. ChatGPT can assist with organizational strategies, answer questions, provide explanations, and offer alternative learning strategies for students with disabilities without judgement that is often conveyed by other people[5, 10]. Some experts point out that assistance with tasks like grammar, sentence structure, and idea development will reduce stress and open minds providing more opportunity to experience enhanced learning[13].

Despite the obvious benefits, much of the current attention around ChatGPT centers around concerns related to this type of AI tool. The potential for students to cheat on assignments is the most prevalent concern, along with the possibility of receiving incorrect or biased information from ChatGPT[13, 14]. As a result, certain educational institutions have completely banned use of the tool[14]. While the risks cause concern, such extreme responses will hinder the development of increasingly inclusive and supportive environments in schools, employment settings, and the community at large.

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