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Reflection Article/Essay

ChatGPT and its impact on competence training in occupational therapists: a reflection on academic integrity

ChatGPT e seu impacto na formação de competências para terapeutas ocupacionais: uma reflexão sobre a integridade acadêmica

ChatGPT y su impacto en la formación de competencias en terapeutas ocupacionales: una reflexión sobre la integridad académica

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Abstract

Public access to artificial intelligence, and specifically to ChatGPT, is presenting challenges in the professional training of occupational therapists. In this context, this essay aims to describe the impact of artificial intelligence, with an emphasis on ChatGPT, on the training of occupational therapists and proposes strategies to integrate these technologies into higher education from an integrative, ethical perspective, in line with the values and principles of academic integrity. While this tool can be used to provide theoretical knowledge and enhance content learning, it also poses a risk for dishonest behaviors in the academic realm. Therefore, it is essential that educators understand its use and promote experiential methodologies that encourage creativity, critical thinking, and reflection. The challenge lies in the implementation of policies and strategies that promote the development of professional skills and the ethical and effective use of these technologies in training future occupational therapists, such as declaring its use in written works, modeling by teachers, and integration into training methodologies.

Keywords: Artificial Intelligence, Professional Training, Occupational Therapy, Principle-Based Ethics, Professional Competence, Students.

Resumo

O acesso público à inteligência artificial e, especificamente, ao ChatGPT, está apresentando desafios na formação profissional dos terapeutas ocupacionais. Neste contexto, este ensaio procura descrever o impacto da inteligência artificial, com

ênfase no ChatGPT, na formação de terapeutas ocupacionais e propõe estratégias para integrar estas tecnologias no ensino superior a partir de uma perspectiva integradora, ética e de acordo com os valores e princípios da integridade acadêmica. Embora esta ferramenta possa ser usada para fornecer conhecimento teórico e favorecer a aprendizagem de conteúdos, também representa um risco para comportamentos desonestos no âmbito acadêmico. Portanto, é fundamental que os educadores compreendam seu uso e promovam metodologias experienciais que estimulem a criatividade, o pensamento crítico e a reflexão. O desafio reside na implementação de políticas e estratégias que promovam o desenvolvimento de competências profissionais e o uso ético e eficaz destas tecnologias na formação de futuros terapeutas ocupacionais, como declarar seu uso em trabalhos escritos, modelagem por parte dos professores e integração nas metodologias de formação.

Palavras-chave: Inteligência Artificial, Formação Profissional, Terapia Ocupacional, Ética Baseada em Princípios, Competência Profissional, Estudantes.

Resumen

El acceso público a la inteligencia artificial y específicamente el ChatGPT está presentando desafíos y retos en la formación profesional de los terapeutas ocupacionales. En este contexto, este ensayo busca describir el impacto de la inteligencia artificial, con énfasis en el ChatGPT, en la formación de terapeutas ocupacionales y proponer estrategias para integrar estas tecnologías en la educación superior desde una perspectiva integradora, ética y acorde a los valores y principios de la integridad académica. A pesar de que esta herramienta se puede utilizar para proporcionar conocimientos teóricos y favorecer el aprendizaje de contenidos, también representa un riesgo para las conductas deshonestas en el ámbito académico. Por tanto, es trascendental que los formadores puedan comprender su uso y fomentar metodologías experienciales que promuevan la creatividad, el pensamiento crítico y la reflexión. El desafío reside en la implementación de políticas y estrategias que promuevan el desarrollo de competencias profesionales y el uso ético y efectivo de estas tecnologías en la formación de futuros terapeutas ocupacionales, como declarar su uso en trabajos escritos, el modelaje por parte de los profesores y la integración en las metodologías de formación.

Palabras clave: Inteligencia Artificial, Formación Profesional, Terapia Ocupacional, Ética Basada en Principios, Competencia Profesional, Estudiantes.

Introduction

Advances in technology are increasingly impacting the daily activities carried out by human beings, and with the emergence of artificial intelligence, it seems that even something as intrinsic to humanity as intelligence can be replaced by machines.

Artificial intelligence has been developed so that devices and systems can autonomously perform functions that have traditionally required human intervention, such as driving vehicles, creating images, artwork, and supporting medical diagnostic processes, among others (Chatterjee, 2022; Nti et al., 2022). This technology is based

on mathematical models and algorithms, which allows it to learn from data and improve its performance over time (Chen, 2023; Crawford et al., 2023; Sallam, 2023).

Among the various applications of artificial intelligence, there is ChatGPT, which is a natural language processing model. This means that it can generate a chat-like dialogue based on instructions given by an interlocutor and respond in a similar way to how a human would respond, as seen in Figure 1 (OpenAI, 2023).
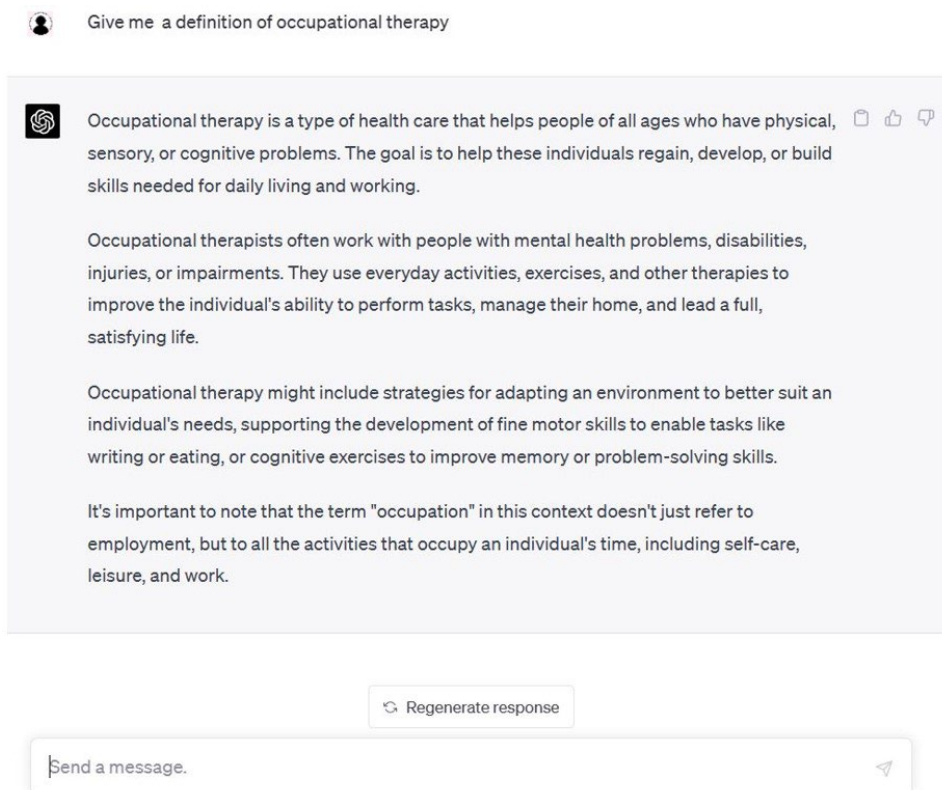

Figure 1. ChatGPT chat screen printout. [Screenshot]. (ChatGPT, 2023).

The ChatGPT has gained worldwide relevance in various areas of society, as it has been trained through access to large amounts of information sources, such as online articles and books, and it also learns as it interacts with users. It can be used for a variety of tasks such as translation, summarizing text, and answering queries (Choi et al., 2023; Cooper, 2023; Crawford et al., 2023; OpenAI, 2023; Sallam, 2023).

Regarding health sciences, artificial intelligence has been used to support image interpretation in radiology, skin cancer diagnoses in dermatology, pathology detection in ophthalmology, breast cancer metastasis diagnoses in pathological anatomy, and endoscopy images in gastroenterology, among others (Biggs et al., 2022). That allows generating diagnoses with greater precision, calculating patient risk factors, and making predictions of the probability of a disease, as well as advancing personalization of medicine and users' access to health literacy (Biggs et al., 2022; Cascella et al., 2023; Ramón Fernández, 2021; Sallam, 2023).

In health sciences education, ChatGPT has been used to support improving scientific writing, efficiency in data analysis, use of critical thinking, and problem-based learning. There are several studies that have also explored the use of ChatGPT in healthcare practices, supporting medical decisions and improving the administrative management of health devices (Cascella et al., 2023; Sallam, 2023).

For example, it has been used to generate high-quality and efficient summaries to reduce the documentation burden in healthcare. It has also been used to improve decision-making efficiency in radiology and to improve health literacy by providing easily accessible and understandable information to the public.

However, ethical and academic integrity concerns associated with the use of ChatGPT are also highlighted, such as the risk of plagiarism and lack of originality in scientific writing. In general, it is recommended to use ChatGPT responsibly and ethically, and take steps to avoid academic dishonesty and over-reliance on the tool (Cascella et al., 2023; Choi et al., 2023; Sallam, 2023).

Academic dishonesty represents a challenge in several areas of study (Badge et al., 2007; Bašić et al., 2019; Ercegovac & Richardson, 2004; Norman & Gipp, 2013; Yeo, 2007) and is of particular importance in the field of occupational therapy. If the unethical behaviors seen in universities are also seen in the workplace, it could have a negative impact on the quality of care provided to vulnerable individuals. These individuals rely on the expertise and ethical conduct of professionals in order to receive proper care (Aplin-Snider et al., 2021; Bloomfield et al., 2021; Johnstone, 2016; López Sotomayor et al., 2020; Palmer et al., 2016; Schell et al., 2016; World Federation of Occupational Therapists, 2012). Therefore, it is crucial to maintain high levels of academic integrity during student education.

Despite the increasing advances in evidence on artificial intelligence and its applications in the field of health and education, there is a gap in the literature regarding the ethical and academically comprehensive incorporation of ChatGPT in the training of occupational therapists. This essay, therefore, seeks to describe the impact of artificial intelligence with emphasis on ChatGPT and propose strategies to integrate these technologies in higher education from an ethical perspective and in accordance with the values and principles of academic integrity.

Occupational Therapy Training and ChatGPT

Open access to artificial intelligence through platforms such as ChatGPT allows any Internet user, including occupational therapy students and professors, to relate to this model, generating questions and requirements of various types and complexity. The user can request information, opinions, and technical answers and receive support for the development of reflections and academic activities. This revolutionizes the way we interact with technology, since it becomes more popular every day on social networks and within the university community.

This artificial intelligence can process a large amount of information and provide coherent and precise answers to any query that occupational therapy students may ask; academics can use it as a strategy to generate content, modify the language of a complex subject to a more understandable language or generate content automatically,

optimizing the time of academics, perceived as a precious and scarce asset (Cladellas i Pros & Badía Martín, 2010; García Berro & Sanz Gómez, 2011).

Interaction with artificial intelligence can allow students to obtain theoretical and practical information in a personalized and efficient way (Gordijn & Have, 2023). Additionally, ChatGPT can be used as a problem-solving tool, where students can pose hypothetical situations and receive personalized answers, promoting the use of critical thinking and problem-based learning, by using ChatGPT as a dialogue simulation with a patient and analyze the result, or finding technical information that they can adapt to the context of a previously delivered clinical case, thus becoming mediators of their own learning and developing learning skills throughout life.

Another advantage of using ChatGPT in the training of occupational therapists is the system's ability to provide immediate and consistent feedback, since students can receive feedback about their level of knowledge throughout the learning process in the form of a dialogue, allowing them to improve and correct theoretical errors in real time. In the training process, this could enhance the integration of knowledge in real or simulated contexts that favors the development of procedural and attitudinal skills, without the possibility of replacing the interaction with patients and other professionals in the health team (see Figure 2). Additionally, you can provide reading recommendations and other materials to strengthen students' knowledge.

Figure 2. Using GPT Chat to simulate a dialogue between an occupational therapist and a patient. [Screenshot]. (ChatGPT, 2023).

Despite these advantages, there are also warnings and cautions. ChatGPT can deliver precise answers to specific queries, but may be unable to contextualize the information to particular situations, or provide innovative and creative solutions as it creates answers based on the information available on the network and on the training data provided by its creators. Artificial intelligence cannot yet fully replace human expertise and an occupational therapist's ability to respond to a patient's needs in a therapeutic context. It is important that the use of ChatGPT does not replace clinical practice and human interaction in the training of occupational therapists. Furthermore, not all the information provided necessarily has scientific validity; in fact, the references generated are false, so all the content generated must be reviewed (Day, 2023).

Another aspect to consider is the role of GPT Chat in current trends in medical training. One of the most recurring criticisms when evaluating the training processes of health professionals is that the frameworks and methodologies are aimed at imparting theoretical knowledge; the answer to this is in competence-based training.

Theoretical knowledge can be defined as the explicit formulations of what the student must change during the training process, and which are related to the acquisition, relationship, and application of knowledge on a theoretical level. Current trends in health training point towards an integrated curriculum, where cognitive, procedural, and attitudinal knowledge is addressed early through experiential and reflective learning, early encounter with the patient and the community and the development of competencies and transversal skills (Barnett & Guzmán-Valenzuela, 2017; Dent et al., 2021; Harden, 2006).

To cultivate professional skills in medical training and health sciences, which refer to the habitual and prudent use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and self-reflection in the daily routine for the well-being of the individual and their community (Epstein & Hundert, 2002), a firm theoretical basis is required to support the practice of occupational therapy. This, since the development of competencies in medical training is understood as a progress that begins in the conceptual field ("knowing") and evolves to the procedural field ("knowing how to do"), and the attitudinal field ("knowing how to be" and "being "), in a process in which basic knowledge supports the skills, attitudes and values (Morales Castillo & Ruiz, 2015) that allow acting with efficiency, effectiveness and satisfaction in professional performance (Reyes, 2010). Properly targeted, the use of ChatGPT for professional development (and not for the approval of an assessment), can have a significant impact on the acquisition of occupational therapist competencies, for example, by creating more personalized and adaptive learning environments that fit to the individual needs of students (Crawford et al., 2023; Farrokhnia et al., 2023; Tlili et al., 2023).

It will be important, therefore, to consider this tool in light of the training guidelines of the World Federation of Occupational Therapists (WFOT), which established the minimum standards for the Education of Occupational Therapists in 2017, and then integrated them into the Guiding Principles of Occupational Therapy Competence, a competence framework that describes knowledge, attitudes and skills expected of occupational therapy graduates across six areas: the person-occupation-environment relationship; therapeutic and professional relationships; the occupational therapy process; professional reasoning and behavior; the context of professional practice; and

the application of evidence to guarantee best practice, projecting these areas towards continuing education (World Federation of Occupational Therapists, 2022).

The mere observation of these expected competencies at the end of a training process gives rise to arguing that an academic process focused on the achievement of cognitive objectives is insufficient. Therefore, is the widespread use of ChatGPT among occupational therapy students a risk for the achievement of the occupational therapists minimum competencies?

Current trends in the education of health professionals allow this new technology to be considered as a support for training and professional performance; it is expected that the achievement of transversal skills will be promoted from the beginning of the training of occupational therapists. Students in the health area have easy and quick access to reliable information with scientific validity (if they are well oriented to do so) thanks to information and communication technologies (ICT). This has been integrated into the training processes, in coherence with current trends in medical training, which seek the integration of knowledge in the curricular framework, integrated "spiral" curricula based on competencies and an early progressive approach to the needs of the community (Basauri & Assef, 2022).

The use of ChatGPT could be a support in the training process, and occupational therapy students could use it to access information, as well as to understand complex theories or concepts, as well as a tool to support critical reasoning. Despite this, it is important to note that it should not be considered a replacement for traditional training processes.

By integrating ChatGPT into training, its use can be enhanced from an academically comprehensive and ethical perspective, without it being considered a "trap" by viewing it as a complementary tool, to enrich the learning experience and inviting the student to take charge of their own training process. Furthermore, teachers are challenged to review their training and evaluation proposals, moving from an approach focused on demonstrating cognitive achievements such as carrying out multiple choice tests to a greater emphasis on procedural and attitudinal elements supported by knowledge, such as active participatory methodologies in the classroom or in groups, as well as debates, problem solving, preparation and/or execution of projects, presentations, group activities, as well as the completion of OSCE (Objective Structured Clinical Examination), among others.

Academic Integrity and ChatGPT

Another important element that must be considered is academic integrity, which is acting in accordance with values such as honesty, trust, responsibility and respect (Comas et al., 2011; McCabe & Pavela, 1997), therefore contrasting academic dishonesty, which is plagiarism, falsification or fraudulent fabrication to produce an academic product and which has the implicit purpose of obtaining a better grade (Guerrero Dib, 2020; López Sotomayor et al., 2020).

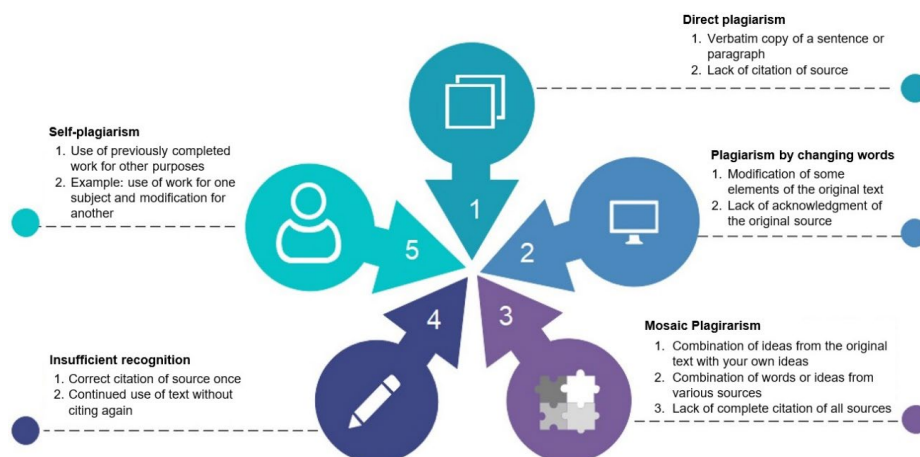There are different types of plagiarism as shown in Figure 3.

Figure 3: Types of plagiarism. Own elaboration based on the University of South Alabama (2022).

The nature of academic dishonesty can be accidental, in which there is a lack of knowledge that it should be referenced, incidental, in which there is confusion about what or how it should be properly referenced, and deliberative, in which there is an intention to plagiarize, being the second, the one that has the highest prevalence in the student population (Henning et al., 2019), so the training and example that academics can provide play a transcendental role (Lynch et al., 2021). Furthermore, evidence indicates that professors prefer to address breaches of academic integrity as an instance of learning, in a positive and meaningful way through discussion and reflection, over the role of supervisor and sanctioner of plagiarism (Bertram Gallant, 2017; Gottardello & Karabag, 2020; Lynch et al., 2021).

Likewise, the responsibility also falls on educational institutions, which must necessarily update their policies on the use of artificial intelligence in students, and requires a systemic and holistic approach, adopting, for example, honor codes, a strategic view, providing academic resources and techniques to foster a culture of academic integrity (Gallant & Drinan, 2008), in which norms, values and behaviors support integrity rather than cheating and, therefore, cheating is the exception and integrity is the standard (UC San Diego Academic Integrity Office, 2019).

To achieve this, the literature suggests advising academics on ways to motivate their students to develop their knowledge with an emphasis on critical thinking, generating a sense of autonomy, rather than a culture of terror around citation and referencing (Bloomfield et al., 2021; Curtis et al., 2021; Dawe et al., 2021), since the information generated by ChatGPT can lead to error, consider it to be public domain information (Carpenter et al., 2004; Holden et al., 2021). However, this tool, therefore, does not require referencing, or since the student is the one who generates the prompt or instruction (Example of prompt: Write an essay on the science of occupation and its contribution to pediatrics) there is a sense of appropriation of the generated text.

There are also other artificial intelligence platforms capable of creating complete texts with instructions or keywords, grammar checkers that improve writing, or even answering multiple choice tests, and applications are on an upward trend. However, it is important to remember that throughout history there have been different resources

available to commit academic fraud, from copying and pasting information without recognizing its source of origin to hiring a third party to do a job or homework for the student. Contrary to what we might think, the presence of these tools does not necessarily determine academic behavior. The decisions that students make about whether or not to ascribe to academic integrity are influenced by a combination of individual and contextual factors (McCabe & Trevino, 1997).

Among individual factors, age and grade point average appear to play an important role. Younger students, who are in their first years of college, tend to report higher levels of academic dishonesty. This may be because they are still developing academic and time management skills and may be under more pressure from academic demands. In contrast, older students tend to report less dishonesty, as they have developed more robust skills for managing academic demands and are more aware of the long-term consequences of dishonesty (McCabe & Trevino, 1997). Similarly, students with higher GPAs tend to report less tendency toward academic dishonesty than those with lower GPAs (McCabe & Trevino, 1997).

However, contextual factors may be even more influential. For example, a heavier academic load can increase stress and pressure on students, which in turn can increase the temptation to resort to dishonesty. However, the most determining factor seems to be the social environment. The attitudes and behaviors of classmates can greatly influence a student's decision to cheat. If a student perceives that his peers disapprove of dishonesty, he is likely to avoid cheating. But if the student is part of a group where cheating is common, or perceives that many of his or her classmates cheat, it is more likely that he or she will decide to do so as well (McCabe & Trevino, 1997). It has also been observed that they can be influenced by the social conception that the university degree constitutes the basis of working life, and to improve the chances of success, linked to status and economic income, plagiarism and deception become a reasonable strategy for obtaining good grades that will determine their future (Zwagerman, 2008).

Finally, it is interesting to note that the perception of fraud can decrease when the use of tools such as ChatGPT is validated. This suggests that the way students perceive and understand the various tools and resources available may influence their decisions about academic dishonesty.

It becomes transcendental to use artificial intelligence in a responsible and conscious manner, promoting its positive use and avoiding its negative applicability in education. Universities are already updating their integrity policies and redesigning exams to consider the risk of students using artificial intelligence to cheat. The importance of using ChatGPT in conjunction with one's own critical thinking, analysis and research is highlighted, and of being aware of the risks associated with dependence on this type of tool, since they can restrict creativity, critical thinking and problem solving (Crawford et al., 2023; Farrokhnia et al., 2023; Tlili et al., 2023).

Competencies and ChatGPT in Occupational Therapy

The emergence of ChatGPT and other artificial intelligence tools require an adjustment and review of the competencies that students are expected to develop, both disciplinary and generic. Competencies are the set of abilities, knowledge, attitudes, and skills that students must possess and master to carry out the professional activities of the

occupational therapist (Avello-Sáez et al., 2022; Charumbira et al., 2021; Miller et al., 2001). These include critical thinking and clinical reasoning, creativity, communication and ethics.

Although ChatGPT demonstrates its effectiveness in providing agile responses by constructing texts from general guidelines, it cannot supplant core competencies such as critical thinking and clinical reasoning. These skills allow the occupational therapist to adapt general theories to particular cases, thus promoting the patient's functional independence in their daily lives. The challenge is to interpret and contextualize the information provided by artificial intelligence, adjusting it to the specific needs of the patient and current clinical evidence (Romero-Ayuso et al., 2021).

While ChatGPT can offer insights based on the extensive database it was trained on, humans' innate capacity for creativity, innovation, and divergent thinking remains irreplaceable. Each occupational therapy care is unique; therefore, professionals must have the agility to respond to the various situations and requirements of their users, offering innovative solutions that are not in a pre-existing database (Chatterjee, 2022; Winstead, 2016). A vital competence in occupational therapy is the communication skill to establish relationships of trust with users and their families, as well as to transmit the values of the discipline with other professionals (American Occupational Therapy Association, 2022). Although ChatGPT can assist in reporting or finding information, it cannot replace the human contact and empathy that is essential in the therapeutic relationship. Students must be trained to maintain and strengthen these interpersonal skills, using tools like ChatGPT as a complement and not a substitute (Brown et al., 2011; Carstensen & Bonsaksen, 2017; Whitney et al., 2021).

With the ease of access to information and the ability to create documents that tools like ChatGPT offer, ethics and professional responsibility become even more crucial. Occupational therapists, when considering the implementation of AI, must act with integrity, ensuring that the information obtained and used in their practice is truthful, relevant, and applied ethically (American Occupational Therapy Association, 2020; Gadkari, 2023; Sallam, 2023).

Given the speed with which technology and artificial intelligence evolve, it is essential that occupational therapists adopt an attitude of continuous learning and training. This includes not only staying up to date with the latest research and advances in the field, but also understanding and evaluating the implications of new technological tools on your practice (Gadkari, 2023).

Conclusion

ChatGPT is a potential ally in the training of occupational therapists, as books, articles and educational materials have historically been. Artificial intelligence provides students with a basic structure for the development of texts; they no longer begin their academic creations and the process of developing skills from an empty canvas, inhabiting this tool from a constructivist perspective. Although there is a fear that artificial intelligence can replace attributes that many consider to be the identity of the occupational therapist (such as creativity), it is proposed that an adequate implementation of this resource in the professional training process could enhance the development of necessary competencies. for professional practice.

However, this proposal requires improvements. The exercise of verifying the validity of the information in the responses generated by ChatGPT should be promoted through the study of existing evidence and the incorporation of a humanizing perspective on the part of the student, so it is important to recognize the implications of the use of this tool and understand that technological and social development must guide the training of occupational therapists beyond the achievement of the acquisition of theoretical knowledge.

As trainers, we must commit to the early development of professional competencies typical of the occupational therapist and transversal skills expected in health professionals, through curricular designs and implementation of methodologies that promote experiential learning in early interaction with people and communities, the use of creativity and critical thinking, modeling in professional practice, integration of knowledge, and guided reflection in practice.

In this way, the GPT Chat can be an ally that provides theoretical guidance, structure in the development of content, guidance in the face of theoretical consultations, etc., but it cannot replace the process of training the occupational therapist profile in undergraduate students. . However, there are risks involved in misusing this tool, representing a potential for academic dishonesty. It is up to professors to incorporate this tool for its use in a responsible way, that is, transmitting principles and values that regulate the use of the GPT Chat through its incorporation into teaching processes, promoting academic integrity as part of the personal expectations of students, expressed in honest academic behavior.

Thus, although ChatGPT presents innovative and valuable opportunities in educational and professional contexts, it is essential that to implement it as a complementary resource, strengthening the fundamental competencies of occupational therapists instead of supplanting them (Gadkari, 2023). The synergy between human competencies and abilities and the capabilities of artificial intelligence can enrich occupational therapy practices, as has been evidenced in other fields (Cascella et al., 2023; Lee, 2023; Sallam, 2023), but it is crucial that its application is carried out from an ethical and responsible perspective.

To do this, occupational therapy academics must understand the challenges and opportunities of this technology, receiving training both in teaching methodologies and in the proper management of the GPT Chat, and thus take advantage of its potential for the training of occupational therapists. In a world that is technologically evolving at a rapid pace, professional training processes must obey this pace, responding quickly, as well as responsibly, to new paradigms, without losing the humanitarian identity of occupational therapy.

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