

# GENERATIVE AI ADOPTION IN TEACHING PROCESSES: ANALYZING INSIGHTS FROM CHATGPT

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**Abstract:** *The current reality shapes the landscape of modern society, where human activities are increasingly integrated with AI technologies. A relatively recent branch of artificial intelligence, generative AI, has shifted paradigms across various spheres of actions, particularly in recent years, with the emergence and development of tools such as ChatGPT. The educational field has not been immune to the influence of these technologies, which have been adopted almost naturally and seamlessly by the key stakeholders involved in teaching and learning processes. However, to harness the potential of generative AI effectively, maximizing its benefits while minimizing challenges or potential negative effects, a detailed exploration of this phenomenon becomes essential.*

*Through a less conventional approach in existing research, the present study focuses on the adoption of generative AI by teachers in the teaching processes, employing the so-called thing ethnography method to interact with ChatGPT. The research findings emphasize potential strengths, weaknesses, opportunities, and threats associated with the adoption of ChatGPT as part of teachers' practices, with the tool itself serving as both the central subject of the research and the interviewed subject. Moreover, through a detailed examination of interactions with the subject under study - namely, the chatbot being examined - certain limitations of the tool were observed. The insights gained from this analysis could help guide strategies and future directions for integrating generative AI into teaching activities and, more broadly, into educational processes as a whole.*

**Keywords:** *Artificial Intelligence, Education, Generative AI, Teaching*

**JEL classification:** *D8, I2, O3*

## 1. Introduction

The technological advance of the last decades has undoubtedly influenced and continues to affect the processes in all fields of human activity. Among the most recent developments, artificial intelligence (AI) stood out as a digital transformation key instrument, currently representing a real pillar of evolution. Broadly defined as the set of theories, methods and techniques that allow machines (especially computers) to examine, imitate, harness and investigate human thought process and behavior (Lu, 2019), AI has evolved over time, taking on various forms, with different specificity in terms of use.

A relatively new branch of artificial intelligence is represented by generative AI, which, through the existing tools on the market, benefits from increased popularity among users. Generative AI includes technologies that produce seemingly original content, such as texts, images or sounds, and strongly influence how the individuals communicate and work, as demonstrated by the examples of Dall-E 2, GPT-4 and Copilot (Feuerriegel, Hartmann, Janiesch, & Zschech, 2024).

Considering the ease of use of certain generative AI tools and their ability to make human tasks more efficient, their integration into daily activities becomes a natural consideration. However, the process of adopting a new technology can be a long one, the actual implementation of which can only be achieved after a detailed analysis of its implications.

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On the other hand, educational processes have been subjected to frequent challenges during the last years, among the most recent being, in fact, represented by the generative AI tools usage. These technologies have brought significant changes in the way information is accessed and processed, the phenomenon being almost impossible to control.

At the present time, an important point of interest in the context of the previously mentioned changes consists in exploring the particularities regarding the use of generative AI in teaching processes. Teachers, as main actors of the educational processes, play a crucial role in the effective integration of technology. This approach can not only highlight the potential benefits and challenges of using generative AI but can also contribute to the development of innovative and well-founded teaching strategies.

Referring to one of the most popular generative AI technologies today, the public version of ChatGPT, released by OpenAI in late 2022, has captured global attention for its ability to accurately respond to any human requirement expressed in natural language (Wu, et al., 2023). The popularity of the ChatGPT platform is explained in the UBS report, cited by Wu, et al. (Wu, et al., 2023), according to which it exceeded 100 million monthly active users just two months after its launch. Since the initial phase of the tool's launch, the literature has recognized that ChatGPT's changes in information access can benefit various industries, including education, research, journalism and IT, by providing compelling writing and fast, adaptive code based on received feedback (Haleem, Javaid, & Singh, 2022).

The statistics regarding the use of ChatGPT continue to amaze. According to Demandsage (Singh, 2024), in September 2024, the weekly number of ChatGPT active users was over 200 million, and since the platform launched GPT-4o mini and SearchGPT, the platform has reached a historical maximum of users.

Given that ChatGPT is increasingly integrated into various aspects of daily and professional life, it is essential to carefully evaluate the tool in question in order to maximize its benefits and minimize the associated risks. Therefore, the main objective of the present research consists in exploring key perspectives on the generative AI adoption in teaching processes, focusing on ChatGPT usage and based on the insights provided by the tool under analysis. Thus, both related strengths and weaknesses will be outlined, as well as opportunities and threats worthy of consideration.

## 2. Methodology

From a methodological point of view, although not so frequently used as an analysis method in existing scientific publications, the current research has, as a starting point, the model proposed by Michel-Villarreal et al. (Michel-Villarreal, Vilalta-Perdomo, Salinas-Navarro, Thierry-Aguilera, & Gerardou, 2023). The author's approach involves the application of the so-called *thing ethnography* to interact with ChatGPT, the AI tool being also considered within the present research. Thus, the proposal of the authors that the interaction with the "subject" should be carried out through a written conversation, taking into account the unique abilities of chatbots in text generation, will be followed.

With the aim of further sketching the well-known SWOT diagram, the present study begins by carrying out an interview, in which the interviewed subject is represented, as previously mentioned, by the ChatGPT chatbot, free version. To validate the obtained answers, the SWOT analysis will be based on the review of the existing specialized literature.

## 3. ChatGPT Interview Raw Results

Establishing the questions for the interview followed two stages. In order to obtain more accurate results, it was considered appropriate that the analysis of the interview with the ChatGPT chatbot should begin with the evaluation of the quality of the answers received from it. In the preliminary phase, reference was made only to the teaching activities, without the teacher being brought into the discussion. Specifically, the questions were formulated as follows: *Which are the strengths / weaknesses / opportunities / threats of adopting ChatGPT in the teaching activity?*. As can be observed, the question/s referred to the *teaching activity* as a general concept, which, in different interpretations, has different meanings. In our case, it was noticed that the ChatGPT answers were much more focused on the

educational processes when referring to the *teaching activity* in the addressed question, the focus being on the students.

Thus, the second stage involved refining the questions, referring to the adoption of ChatGPT by teachers in their professional activity, these being used in the final interview. In order to obtain answers that determine the possibility of sketching the SWOT diagram, the addressed questions were very specific, according to Appendix 1.

The answers received were organized by default into several sections, each addressing a specific aspect of the subject (e.g. a strength, an opportunity etc.). Thus, 10 strengths, 10 weaknesses, 10 opportunities and 8 threats were discussed, Figure 1 summarizing the results and sketching the SWOT diagram.

**Figure 1: The SWOT Diagram**



Source: Own elaboration based on ChatGPT answers

Based on the interview, the answers regarding strengths and opportunities are similar, as are weaknesses and challenges (or threats). This can be due to the fact that both categories refer to different aspects of the same phenomenon - in this case, teachers' adoption of ChatGPT.

When discussing strengths, actual advantages and concrete benefits of using ChatGPT are highlighted, such as the ability to provide personalized support to students or create educational resources. On the other hand, opportunities refer to the potential for development and the chances for improvement that ChatGPT can bring in the future in the field of education, such as improving lesson planning or providing support outside of class time. This overlap occurs because both strengths and opportunities look at positives, but from slightly different perspectives.

Likewise, weaknesses and threats are seen as similar because they both focus on the potential disadvantages and risks associated with using ChatGPT. This approach is common as both categories explore negative aspects, but weaknesses are focused on the present, while challenges are oriented toward potential future impact.

Basically, ChatGPT provided similar answers since each of the addressed questions examines the same topic from a different angle, being it current or future. This similarity is not uncommon when analyzing a tool or technology, as strengths can create opportunities and weaknesses can become challenges or threats, depending on the context and how it is used.

Even though, the SWOT diagram (Figure 1) highlights that generative AI has the potential to enhance and personalize learning by providing meaningful resources and assistance. Nevertheless, there are legitimate concerns about accuracy, ethics, and over-reliance on technology, as well as preserving the human element in education. As suggested, effective implementation of AI in education will require balanced approaches that maximize benefits while minimizing risks and threats.

#### 4. Discussions

Since within the current research a less usual approach was chosen, namely the interview with a chatbot, the interpretation of the received answers assumes their alignment with the existing evidence in the specialized literature. Certainly, suggested additional perspectives, for which scientific studies do not yet provide full validation, should be considered. Therefore, in the context of using the SWOT analysis, aiming to offer a better understanding on the subject, exploring the detailed answers provided by ChatGPT (Appendix 1), becomes necessary.

Given the fact that it was observed the possible close connection between the directions given by ChatGPT as, in turn, strengths, weaknesses, opportunities and threats, the following discussions will consider each argument individually, but without keeping the order in which the responses were recorded. Thus, the transition from one aspect to another will be made, when potential cause-effect relationships are observed or when the specialized literature analyzed creates a bridge in this respect.

Moreover, since the similarity between strengths and opportunities, respectively between weaknesses and threats, was observed, at least at the textual level of the recorded responses, the analysis will focus on the identified strengths and weaknesses, subsequently treating only the differences identified for opportunities and threats.

##### 4.1 Strengths

Regarding the strengths of the adoption of ChatGPT by teachers in their professional activity, the first two perspectives offered by the chatbot in question focused on students, arguing that the generative AI instrument *can provide tailored assistance to students based on their individual needs, helping with explanations, answering questions, and offering practice problems*, while also, *unlike traditional office hours, ChatGPT can be available anytime, giving students the opportunity to get help outside of regular class times*.

Returning to the adoption of ChatGPT by teachers in the activity, it has been stated that the AI tool provides them with innovative resources to improve instruction and personalize learning (Carr, 2023). In addition, recent research validates the two aspects mentioned above (Božić & Poola, 2023; Rahman & Watanobe, 2023; Rasul, et al., 2023), also referring to natural language processing (NLP) models in general, which have the ability to support personalized learning by examining linguistic patterns, evaluating feedback and student performance (Fuchs, 2023). In the same perspective, ChatGPT also claimed that *it can assist in providing instant feedback on assignments and practice exercises, allowing for quicker assessment and improvement*, thus proving a strong point for both students and teachers.

The 24/7 availability of the AI tool has been described in the specialized literature as an important possibility for educational services to become available at an unprecedented rate, beyond the classroom (Opara, Mfon-Ette Theresa, & Aduke, 2023). By focusing on the subject under analysis, this aspect could be linked to the ChatGPT explanation according to which *it can provide additional explanations and resources on topics covered in class, reinforcing and expanding students' understanding*.

Among others, the results of Shah et al. research (Shah, Mathur, & Vishnoi, 2024), validate the idea that ChatGPT *can offer engaging ways to present information and encourage interactive learning through conversations and simulations*. Discussed from the teacher's perspective, this aspect also confirms that ChatGPT can provide them with valuable tools to present information in an engaging way and to stimulate interactive learning through conversations and simulations. Closely related to the aspects mentioned above, this could allow teachers to create a more dynamic learning environment

adapted to the individual needs of students, thus facilitating the understanding and retention of knowledge.

The fact that *teachers can use ChatGPT to generate educational materials such as quizzes, lesson plans, and interactive activities, saving time and diversifying their teaching tools* it is also closely linked to the administrative support recognized as a strong point of the platform, meant to *help with organizing lesson plans, managing classroom activities, and even generating reports or summaries of student progress*. The correlated visions presented by the chatbot can be found in the specialized literature in various forms, by particularizing the analyzed phenomenon. For example, Rahman & Watanobe brought up the fact that ChatGPT can be used to develop lesson plans for various subjects, including mathematics, chemistry, physics, computer science, civil engineering, and language and literature (Rahman & Watanobe, 2023). Other studies highlighted teachers' perceived benefits of using ChatGPT in lesson planning, teaching and learning, but less so in assessment and feedback (EISayary, 2023).

As outlined by the chatbot, *for multilingual classrooms, ChatGPT can assist with translations and explanations in different languages, supporting students who are non-native speakers*. The fact that ChatGPT has the ability to understand and generate content in various languages is recognized as an opportunity and advantage in education (Adeshola & Adepoju, 2023). For teachers, the multilingual capability of the AI tool in question can enable the adaptation of educational resources for students who speak different languages, thus facilitating more effective and inclusive learning in a diverse educational environment.

Moreover, it was mentioned that, *by engaging in dialogue with ChatGPT, students can practice critical thinking and problem-solving skills in a low-pressure environment*. As per van den Berg & du Plessis (van den Berg & du Plessis, 2023), generative AI tools like ChatGPT can provide examples, analogies and hypothetical scenarios that stimulate discussion and critical thinking in the classroom, which validates the the strength in question.

The last aspect mentioned as a strong point, namely the fact that *teachers can use ChatGPT as a resource for professional growth, accessing educational theories, teaching strategies, and current trends in education*, shift the discussion beyond the teaching activity. On this matter, considering the education management, strategies for developing the professionalism of teachers with the help of ChatGPT have led to the recognition that the use of artificial intelligence can be a very useful tool in promoting the quality of education (Lisnawati & Muharam, 2023).

We thus observe that, although some of the ChatGPT answers have the student as their central point, the perspectives presented may represent effects of the adoption of generative AI by teachers. Hence, the possibility that the use of ChatGPT in teaching influences the teaching methods and pedagogical approaches of the teachers, can positively affect the educational activity of the students.

## 4.2 Weaknesses

The use of ChatGPT by teachers also has weak points that must be taken into account. The accuracy of the information is, perhaps, the most frequently discussed disadvantage of using ChatGPT, in any activity, not only in terms of education, being the first mentioned in the interview carried out in this research, as *ChatGPT may not always provide accurate or up-to-date information. Teachers need to verify the content generated by the AI to ensure it's correct*. ChatGPT, as an AI model, has a vast amount of information at its disposal, but it is not infallible. As is well known, depending on the plan used, there is a possibility that ChatGPT may base its answers on information available only up to a certain year, not the real time. Also, the scientific literature recognizes the fact that the information generated using ChatGPT may be less accurate or even incorrect (Megahed, Chen, Ferris, Knoth, & Jones-Farmer, 2023). Moreover, based on the conducted interview, the fact *that AI models like ChatGPT can inadvertently perpetuate biases present in their training data* was mentioned, arguing that *teachers need to be aware of this and critically assess the content provided*.

Thus, given the previously two weaknesses discussed, it can be affirmed that, while ChatGPT can be a valuable tool in the teaching process, the ultimate responsibility for the accuracy of the information remains in the hands of teachers. Although the specialized literature admits the existence of

the two mentioned weak points, it considers that through training and adequate support, teachers can effectively integrate ChatGPT into their teaching practices (Božić & Poola, 2023).

The difficulties of ChatGPT in understanding the long-term context are both identified through the chatbot response as per *while ChatGPT can handle general queries well, it might struggle with understanding the specific context of a classroom or the nuances of individual student needs*, as well as in the specialist literature (Ray, 2023), with similar challenges often encountered in the case of conversational AI models (Pathak, 2023).

At the same time, the so-called dependence on the technology in question, already representing, although maybe not extensively analyzed and accepted, a mass phenomenon, may also appear among teachers, while, as ChatGPT suggests *relying heavily on AI tools might reduce teachers' engagement with traditional methods of teaching and problem-solving, potentially impacting their pedagogical skills*. In general, excessive reliance on artificial intelligence systems without properly vetting or validating them, may result in erroneous or inappropriate decisions, which may cause harm to users or have other negative effects (Zhou, Müller, Holzinger, & Chen, 2024). In this situation, teachers should find a balance between using AI-based tools and traditional teaching methods. They should integrate technology selectively to enhance the learning process without neglecting their own pedagogical skills and classical problem-solving methods.

Similar effects related to GPT addiction have already been identified among students, the use of which, for those who depend on the tool in question, has the possibility of negatively affect the development of critical thinking, influencing the main goals of education (Farhi, et al., 2023). Exposing the same perspective, ChatGPT chatbot stated as a weak point of its adoption by teachers in their professional activity the fact that, *there's a risk that students might become over-reliant on AI for answers rather than developing their own problem-solving skills and critical thinking*. In fact, it depends on how teachers choose to adopt this technology in their activities, as a tool used only by them and/or as a tool also used by students.

Ethical worries were also a perceived weakness in the use of ChatGPT by teachers, given that *there are concerns about data privacy and security, as well as the ethical implications of using AI in education. Ensuring that students' data is handled responsibly is crucial*. To address the challenges related to data security and privacy in the use of artificial intelligence in education, discussed in recent publications, it is essential to improve research, technical development and management standards, thus ensuring safe and reliable application in this field (Yu, 2023).

The importance of human contact, interaction and connections in educational processes is beyond doubt, being a disadvantage of using ChatGPT in certain circumstances. According to the answer received in this regard, *AI lacks the empathy and understanding that human teachers bring to the classroom. The personal connection between teachers and students is important for effective education*. In a broader context, this can be understood as the lack of compassion, empathy and personal attention in human relationships or in interaction with technology, emphasizing the value that the human element brings in an increasingly digitalized world. In the same vein, Chatare's recent study reveals that ChatGPT has the ability to understand requests and provide appropriate responses, but lacks empathy and the ability to assess the context in which the request was made, which can result in responses that do not always align with the sender's requirements and may contain ambiguities (Chatare, 2024).

The fact that *not all educators may be comfortable with or adept at using such technology*, has also been depicted as weakness of ChatGPT adoption by teachers. Studies carried out in relation to this approve the fact that ChatGPT can lead to the improvement of the educational experience, but reveal the premise according to which its successful implementation depends on teachers familiarization regarding its operation (Montenegro-Rueda, Fernández-Cerero, Fernández-Batanero, & López-Meneses, 2023). In other words, as per ChatGPT response, *teachers need adequate training to effectively integrate AI into their teaching practices*.

Often, aspects related to the costs involved and the accessibility offered by ChatGPT are highlighted in the specialized literature as advantages of adopting this technology (Mhlanga, 2023).

However, another weak point resulting from the interview refers to the fact that *access to AI tools might be limited by budget constraints or technological infrastructure, potentially widening the gap between different educational institutions*. Undoubtedly, at the macro level, budgetary and infrastructural constraints can contribute to amplifying large-scale inequalities in education, the digital divide already being widely spread. Teachers who intend to integrate ChatGPT extensively may encounter significant licensing, maintenance, and ongoing upgrade costs. These costs can be prohibitive for individuals or organizations with limited budgets, such as schools from disadvantaged backgrounds. In addition, as mentioned, accessibility to ChatGPT may be limited by the technological infrastructure necessary for its effective use. To benefit from the full capabilities of an advanced AI model, users need appropriate hardware and internet connections.

As the specialized literature suggested from the initial phases of exploring the phenomenon in question (Sharma & Yadav, 2022), chatbots using artificial intelligence, such as ChatGPT, can be used by students to cheat. This aspect was clearly identified in the interview related to this research, ChatGPT mentioned as the last weak point that *there's a risk that students might misuse AI tools for cheating or other forms of academic dishonesty, requiring teachers to develop strategies to mitigate this*. Thus, as also argued within the academia, the importance of awareness of this aspect by teachers becomes a necessity, followed by the implementation of specific measures to prevent or stop it (Sharma & Yadav, 2022).

The previous discussions on the weaknesses reinforce the idea that, although ChatGPT can bring significant benefits in education, its success depends on how it is integrated and used by teachers, balancing the technology with traditional methods and being aware of potential disadvantages in order to counter them.

### 4.3 Opportunities and Threats

While analyzing the adoption of ChatGPT by teachers, it is essential to differentiate between the opportunities and threats associated with the use of this technology, against the strengths and weaknesses already identified. Following the analysis of the responses received (Appendix 1), it was observed that, between the identified strengths and opportunities, the main variances are at the level of formulation and the emphasis placed on certain activities or additional benefits. Even though certain elements within one of the two categories (strengths or opportunities) do not have a direct correspondent in the list related to the second one, they appear in the form of similar concepts.

In terms of weaknesses versus threats, similarly, the key differences appear either at the contextual level or in terms of wording. However, in this situation, it was observed that “Ethical Concerns”, mentioned as a weakness by ChatGPT include ethical concerns related to the use of AI and data privacy, while the indirect correspondent, namely “Privacy Concerns”, highlighted as a threat, is more focused on data privacy and regulatory compliance. Privacy concerns are classified as threats, not weaknesses, because threats in SWOT analysis refer to external factors that can affect and cannot be directly controlled, but only managed. In contrast, weaknesses are internal aspects that can be improved or fixed. Data privacy and compliance with data protection regulations are heavily influenced by external factors such as legislation (e.g. GDPR), regulatory requirements and public expectations, which may evolve and impose new requirements. Although an AI system can take steps to comply with these regulations, external factors such as legislative changes or risks associated with cyber-attacks are considered threats because they can significantly affect the user if not properly managed. Thus, privacy concerns are seen as threats because they represent external risks, while weaknesses are internal factors that can be directly amended.

It is interesting to note that the “Training and Familiarity” issue is only discussed as a weak point, not as a threat. Actually, this reflects a limitation that can be remedied by training. Consequently, teachers who do not have adequate training in the use of AI could have difficulties in effectively integrating this technology into their professional activities. Nevertheless, this represents a skills gap, not necessarily a threat in itself, but a challenge that can be overcome by offering educational resources and training. However, in certain contexts, if the lack of training is serious and systemic, it could become

a threat to the effectiveness of the educational process, but, according to ChatGPT, it can only be seen as a weakness that needs to be addressed.

In addition, “Misuse of Technology” is depicted as a weak point in the adoption of ChatGPT by teachers, as it refers to how AI technology can be misused by learners, the examples discussed above being related to cheating or to avoid real effort in the educational process. This is an internal aspect of technology and how it is implemented in education, reflecting vulnerabilities in the control and proper use of technological resources by users. On the other hand, “Ethical and Philosophical Issues” was classified as a threat (*there are broader ethical questions about the role of AI in education, including concerns about how it might change traditional teaching methods and what it means for the future of education*), as it raises more general and external questions about the impact of AI technology on education. These issues are not only about the concrete use of the technology, but also about its broader implications: how AI will affect the development of critical thinking among students, what influence it will have on the role of teachers, or how it will change the relationship between learning and technology. As external factors, they are considered threats because they cannot be directly controlled, but they can have a significant effect on how AI is integrated and accepted in education in the long term.

Individually analyzing each element from the list of strengths and weaknesses, compared to the opportunities and threats, it was found that the main differences consist in the way of expression and the considered nuances, according to the answers recorded after the interview with ChatGPT. Therefore, the common elements can be either strengths or opportunities, respectively weaknesses or threats, depending on the point of view of the one who analyzes a given context.

## 5. Conclusions, Limitations and Prospects for Future Research

Nowadays, the ability to adopt and use modern technological tools represents both a target to reach and an advantage, once the process in question has been implemented. The vast clusters of domains specific to the modern society have been subject to changes in evolution due to technological progress over time. As is well known, the educational sphere has benefited and continues to benefit from technological innovations, their necessity being proven both in current actions and in crisis contexts, such as the COVID-19 pandemic (Bogoslov & Lungu, 2020; Velica Cărciumărescu, Belascu, & Horobet, 2022).

Teachers, along with educational institutions and students, can be considered the main actors of educational processes. However, focusing on the adoption of generative AI technologies by teachers becomes essential as they are directly responsible for the delivery and personalization of the educational experience.

Therefore, the present research was focused on the analysis of perspectives regarding the adoption of generative AI by teachers. The study implied the application of a less popular analysis method in the body of existing specialized literature, the so-called *thing ethnography*, according to the model proposed and applied by Michel-Villarreal et al. (Michel-Villarreal, Vilalta-Perdomo, Salinas-Navarro, Thierry-Aguilera, & Gerardou, 2023). By considering one among the most used generative AI tools, an interview-based analysis was firstly carried out. In the context of thing ethnography, the interviewed subject was represented by the ChatGPT chatbot and virtual assistant. The answers collected led to the SWOT diagram creation, a step followed by their validation through the views existing in the specialized literature.

Overall, the conclusions of the current research can be presented from two perspectives, namely from the point of view of the interaction with the chatbot subject of the interview, as well as regarding the adoption of ChatGPT by teachers. Thus, the main conclusions obtained can be summarized as follows:

- The interaction with ChatGPT in the context of thing ethnography: After conducting the interview, it was found that, depending on the questions asked, the answers provided are more accurate in relation to the interviewer's intentions. ChatGPT offers structured answers, organized in a manner that is easy to understand and plausible through validation from the



existing scientific literature. However, the similarities between strengths and opportunities, respectively between weaknesses and threats, can be considered, in certain circumstances, limiting, as the specialized literature expands the horizons of the analyzed phenomenon by exploring additional opportunities and threats. Nevertheless, as previously mentioned, the common considerations of the chatbot are not necessarily wrong, but it depends on which perspective they are considered.

- The adoption of ChatGPT by teachers in their professional activity: The strengths and opportunities discussed represent, without a doubt, aspects worthy of consideration when the adoption of generative AI tools such as ChatGPT by teachers is targeted. The identified benefits can lead to the efficiency of the teaching activity, positively affecting the educational experience as a whole, with advantages demonstrated among the students. Despite these aspects, the disadvantages and threats exist, being already widely recognized. Thus, it can be affirmed that the adoption of generative AI by teachers must be achieved through awareness of the less favorable aspects, in order to implement the necessary measures to reduce risks.

The results of the current research can serve as a starting point for more detailed analyses regarding the adoption of artificial intelligence in educational processes. Besides, the findings can be useful to teachers and other actors interested in the adoption of generative AI in educational processes.

Regarding the limitations of the research, the possibility of limiting the results because of the specificity of the questions asked could be mentioned. At the same time, considering only one chatbot as the subject of the interview can narrow the results of the research.

Also, a noteworthy aspect that can represent a limitation both of the chatbot under analysis and of the current research, is the observation of similarities in the responses that the ChatGPT chatbot can provide to different users. After performing an anti-plagiarism scan of the responses recorded during the interview (see Appendix 1), it was noted that a significant proportion of the responses were similar to those found in other published scientific studies. The fact that the responses provided by ChatGPT resemble excerpts from other published scientific papers may raise concerns about potential plagiarism. It is important to admit that the model does not intentionally copy, but generates text based on patterns learned from the training data. Thus, if researchers directly use the chatbot's responses in academic research, this could lead to ethical or legal issues if sources are not acknowledged or if the generated texts are not subjected to critical analysis.

Following the current research and the identified limitations, the prospects for future research include conducting studies that explore the applicability of generative artificial intelligence in different educational contexts, with the aim of obtaining more comprehensive results. The use of additional research methods is also targeted.

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**Appendix 1: Interview Transcripts****Question 1 (Q1):**

*Which are the strengths of adopting ChatGPT by teachers in their professional activity?*

**ChatGPT response to Q1:**

Adopting ChatGPT in educational settings can offer several strengths for teachers:

1. **Personalized Learning Support:** ChatGPT can provide tailored assistance to students based on their individual needs, helping with explanations, answering questions, and offering practice problems.
2. **24/7 Availability:** Unlike traditional office hours, ChatGPT can be available anytime, giving students the opportunity to get help outside of regular class times.
3. **Resource Creation:** Teachers can use ChatGPT to generate educational materials such as quizzes, lesson plans, and interactive activities, saving time and diversifying their teaching tools.
4. **Feedback and Assessment:** ChatGPT can assist in providing instant feedback on assignments and practice exercises, allowing for quicker assessment and improvement.
5. **Engagement and Interaction:** It can offer engaging ways to present information and encourage interactive learning through conversations and simulations.
6. **Administrative Support:** ChatGPT can help with organizing lesson plans, managing classroom activities, and even generating reports or summaries of student progress.
7. **Professional Development:** Teachers can use ChatGPT as a resource for professional growth, accessing educational theories, teaching strategies, and current trends in education.
8. **Language Support:** For multilingual classrooms, ChatGPT can assist with translations and explanations in different languages, supporting students who are non-native speakers.
9. **Encouraging Critical Thinking:** By engaging in dialogue with ChatGPT, students can practice critical thinking and problem-solving skills in a low-pressure environment.
10. **Supplementary Learning:** It can provide additional explanations and resources on topics covered in class, reinforcing and expanding students' understanding.

Integrating ChatGPT into the classroom can enhance the learning experience, but it's important to use it as a supplementary tool rather than a replacement for traditional teaching methods.

**Question 2 (Q2):**

*Which are the weaknesses of adopting ChatGPT by teachers in their professional activity?*

**ChatGPT response to Q2:**

Adopting ChatGPT in teaching can bring many benefits, but it also comes with potential weaknesses or challenges. Here are some of the key concerns:

1. **Accuracy of Information:** ChatGPT may not always provide accurate or up-to-date information. Teachers need to verify the content generated by the AI to ensure its correct.
2. **Lack of Contextual Understanding:** While ChatGPT can handle general queries well, it might struggle with understanding the specific context of a classroom or the nuances of individual student needs.
3. **Dependence on Technology:** Relying heavily on AI tools might reduce teachers' engagement with traditional methods of teaching and problem-solving, potentially impacting their pedagogical skills.
4. **Ethical Concerns:** There are concerns about data privacy and security, as well as the ethical implications of using AI in education. Ensuring that students' data is handled responsibly is crucial.

5. Bias and Fairness: AI models like ChatGPT can inadvertently perpetuate biases present in their training data. Teachers need to be aware of this and critically assess the content provided.
6. Over-reliance: There's a risk that students might become over-reliant on AI for answers rather than developing their own problem-solving skills and critical thinking.
7. Lack of Human Touch: AI lacks the empathy and understanding that human teachers bring to the classroom. The personal connection between teachers and students is important for effective education.
8. Training and Familiarity: Teachers need adequate training to effectively integrate AI into their teaching practices. Not all educators may be comfortable with or adept at using such technology.
9. Cost and Accessibility: Access to AI tools might be limited by budget constraints or technological infrastructure, potentially widening the gap between different educational institutions.
10. Misuse of Technology: There's a risk that students might misuse AI tools for cheating or other forms of academic dishonesty, requiring teachers to develop strategies to mitigate this.

Addressing these weaknesses involves a balanced approach, ensuring that AI is used as a supplementary tool rather than a replacement for effective teaching practices.

**Question 3 (Q3):**

*Which are the opportunities of adopting ChatGPT by teachers in their professional activity?*

**ChatGPT response to Q3:**

Adopting ChatGPT in teaching can offer several valuable opportunities:

1. Enhanced Lesson Planning: Teachers can use ChatGPT to generate ideas for lesson plans, activities, and assignments, making planning more efficient and creative.
2. Personalized Learning: ChatGPT can help create customized learning materials and support differentiated instruction by catering to individual student needs and learning styles.
3. 24/7 Support: Students can access ChatGPT outside of school hours for homework help, clarifications, and additional practice, providing them with support beyond classroom time.
4. Administrative Assistance: ChatGPT can assist with administrative tasks such as grading, creating quizzes, and managing communication with students and parents.
5. Professional Development: Teachers can use ChatGPT to stay updated with the latest educational trends, research, and teaching strategies, facilitating ongoing professional growth.
6. Interactive Learning: By integrating ChatGPT into classroom activities, teachers can create interactive and engaging learning experiences, such as simulations, role-playing scenarios, or discussions on various topics.
7. Language Support: For multilingual classrooms, ChatGPT can assist with translating materials, providing explanations in different languages, and supporting language learners.
8. Feedback and Reflection: Teachers can use ChatGPT to get feedback on their teaching methods, reflect on their practices, and explore new approaches to improve their effectiveness.
9. Creative Writing and Brainstorming: ChatGPT can assist students in brainstorming ideas for writing assignments, creative projects, and collaborative work, fostering creativity and innovation.
10. Resource Creation: Teachers can leverage ChatGPT to develop educational resources such as worksheets, flashcards, and study guides tailored to specific topics or skills.

Integrating ChatGPT thoughtfully can enhance teaching practices and create more dynamic, responsive learning environments.

**Question 4 (Q4):**

*Which are the threats of adopting ChatGPT by teachers in their professional activity?*

**ChatGPT response to Q4:**

Adopting ChatGPT in teaching can bring many benefits, but there are also some potential threats and challenges to consider:

1. **Accuracy of Information:** ChatGPT may sometimes provide incorrect or outdated information. Teachers need to verify and supplement the responses with reliable sources to ensure students receive accurate content.
2. **Dependence on Technology:** Over-reliance on AI tools might lead to a decrease in critical thinking and problem-solving skills among students if they rely too much on automated answers.
3. **Bias and Fairness:** AI systems can inadvertently reflect biases present in their training data. Teachers must be aware of these potential biases and address them when using AI tools in their teaching.
4. **Privacy Concerns:** The use of AI tools involves handling data, which raises concerns about student privacy and data security. Ensuring compliance with data protection regulations is crucial.
5. **Misinterpretation of AI Responses:** Students might misinterpret the responses generated by ChatGPT, leading to misunderstandings. Teachers need to guide students on how to critically evaluate and interpret AI-generated content.
6. **Loss of Human Touch:** Teaching involves more than just delivering content; it includes emotional support and interpersonal interactions. Relying too much on AI could reduce the human element that is vital in education.
7. **Technological Inequality:** Not all students or schools have equal access to technology. Over-reliance on AI tools might exacerbate educational inequalities.
8. **Ethical and Philosophical Issues:** There are broader ethical questions about the role of AI in education, including concerns about how it might change traditional teaching methods and what it means for the future of education.

Balancing these challenges with the potential benefits requires careful consideration and integration of AI tools in a way that complements and enhances traditional teaching methods.