Threats and Opportunities of Chat GPT in Online Learning With Elementary/Primary Students

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Abstract

This paper introduces the recently popularised computer AI (Artificial Intelligence) program called Chat GPT (Generative Pre-Trained Transformer) in an educational context. The paper then goes on to discuss the potential threats and opportunities that have and may still emerge for elementary/primary education. This is specifically discussed in the context of online learning. These opportunities and threats are largely collated from teacher surveys and teacher interviews. These surveys and interviews revealed that over 90% of elementary/primary teachers felt Chat GPT is more of an opportunity than a threat. Some of the key threats which emerged related to: academic dishonesty; ethical issues; assessment; and this platform being used to draw conclusions for students and feed them answers. Some of the key opportunities which emerged related to: saving time; differentiating; information accessibility; and enhancing the learning experience. Practical applications for the use of this technology in online learning with elementary/primary aged students are provided. Limitations of this paper are discussed.

Keywords: Online Education, Elementary, Online Learning, Chat GPT, Artificial Intelligence

Introduction

Online learning has increased significantly over the last decade. This has been partly due to the Covid-19 epidemic, and partly due to technological improvements which improved this process. As this domain grows, the technologies which support this domain also grow, as such, teachers need to keep up to date with these developments in order to provide the best learning experience for students (Ko, & Rossen, 2017).

One of the biggest technological developments that has occurred recently, and that will have a significant impact on education both online and in class, is Chat GPT. This is an Artificial Intelligence program which allows a user to ask questions and then creates responses for them. It can create poetry, speeches and even essays and reports. With the introduction of Chat GPT, teachers globally have voiced concerns that students will no longer produce their own work, simply using Chat GPT to provide them with answers as opposed to thinking things through themselves (Yu, 2023; Maboloc, 2023). Equally, teachers have found this to be a key opportunity to develop their online teaching practice and integrate a new technology which has been found to be engaging for students. Technology and the engaging of students are two of four of the biggest problems that elementary teachers face when teaching online (Macur, 2022a), so the integration of this program may well tackle two of these key issues.

This paper seeks to produce some data on the online teachers' perspectives relating to this new technology, and to produce some professional practitioner suggestions on how to integrate it into online teaching practice.

Methodology

This paper collected data through a mixed methods approach. This was done to better inform data triangulation, as well as to validate the findings of the survey stage (Almalki, 2016). The first stage was a survey of 18 elementary teachers who teach predominantly in online settings. This data was collected through Microsoft Forms.

A total of four questions were asked, these were: Q1: "Is Chat GPT more of a threat or an opportunity in online education?"; Q2: "What Threats come to mind when you think Chat GPT and online learning?"; Q3: "What Opportunities come to mind when you think Chat GPT and online learning?"; Q4: "What practical methods of integrating Chat GPT in online teaching with Elementary students have you used or come across?" For Q1, the data was graphed in a pie chart to visually demonstrate the proportions of the teacher votes. For the other three questions, the most common responses were collected to formulate the key threats, key opportunities and practical application opportunities that teachers should be mindful of when incorporating this tool into their practice.

Once the data from the four questions was collated, the findings were reviewed with an experienced online teacher who works predominantly with elementary ages students. This stage added a final professional practitioner perspective in relation to how accurate the findings were when considered for classroom application.

Finally, the limitations of the study were discussed and a conclusion was created including some key takeaways for teachers who choose to incorporate this technology into their online practice.

Chat GPT in Education

Chat GPT can function as a lesson planner, activity generator, topic chooser, scheme of work creator and even an assessor of written work. Chat GPT cannot replace teachers, it must be integrated and teachers fully equipped to utilise it in an effective and efficient way (Ausat, et al. 2023). This is backed up by the concept that online teachers have a duty to keep up to date on latest technology which can support their teaching practice (Macur, 2022b).

There are a range of risks and concerns that are raised throughout the educational community around this new program. These concerns fundamentally have one thing in common, the acknowledgement that there is risk that students and educators become over reliant upon Chat GPT (Fuchs, 2023). Simultaneously, there are a range of positives, both predicted and already reported. It was found that Chat GPT can improve motivation and engagement in open education (Firat, 2023), two of the prime factors relating to educational success. Also, that two key opportunities for Chat GPT are improved learning efficiency and communication (Yu, 2023).

When thinking about the online context, it would be simple for students to have Chat GPT open during the lesson, funnelling any questions from the teacher into it, meaning they do not need to think or be challenged to create their own ideas and answers. As such, educators should be mindful of how lessons and courses are planned (Kasneci, et al, 2023).

The Findings

In this section, the responses to the questions were presented in the order of each question. Not every response is listed, rather, commonalities between answers were used to create categories of concern.

The first question: "Is Chat GPT more of a threat or an opportunity in online education?" was answered and found that 94% of teachers in this survey agreed that Chat GPT is more of an opportunity than a threat. The data is shown below in a pie chart.
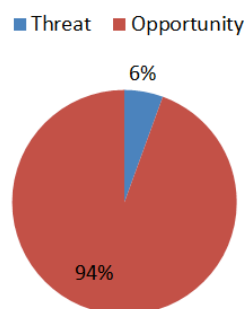

Figure 1: This is an image of a chart to show the percentage of teachers who felt Chat GPT is more of an opportunity than a threat

In response to the second question: "What Threats come to mind when you think Chat GPT and online learning?" the threats which emerged repeatedly were: Academic dishonesty, ethical issues, assessment and plagiarized conclusions. The general commentary from the

group of teachers centred around how students would use this platform to feed them the answers and complete any tasks as fast as possible.

In response to the third question: "What Opportunities come to mind when you think Chat GPT and online learning?" the opportunities which emerged repeatedly were: Saving time, differentiating, increased efficiency of information accessibility and enhancing of the learning experience. The general commentary from the group of teachers centred around how students would be able to access information rapidly, as well as teachers' planning and lesson creation workload reduced.

In response to the fourth question: "What practical methods of integrating Chat GPT in online teaching with Elementary students have you used or come across?" the four most common responses included: As a research tool, to support with lesson planning, for student self-assessment and to model tasks.

Reviewing of the Findings

The findings were then reviewed with an experienced online teacher who works predominantly with Elementary aged students. Where appropriate, the researcher questioned the teacher to dig deeper on their answer. Responses have been summarised and grouped into areas of agreement or disagreement.

The teacher agreed that: Chat GPT is an opportunity, much like the introduction of Google when that was developed; Chat GPT is an effective research support tool; Chat GPT can save time during planning. The teacher disagreed that; Chat GPT is an effective self-assessment tool. The teacher stated that self-assessment should be reflective of the student as opposed to provided by a platform; Chat GPT causes plagiarism issues, as teachers generally know their students well enough to tell if there has been use of an AI tool. Where unsure, teachers can use a plagiarism AI checker. When challenged by the researcher in relation to the self-assessment comment, to think if there were ways to use this platform for students to generate self-assessment tools, the teacher agreed this may be possible.

The interview with this experienced online teacher largely solidified the findings of the survey stage. This backs up the recommendations which can be pulled from these surveys.

Limitations

Some limitations of this study include: There was no practical in-class study incorporated into this paper; teacher perspectives can be very context specific; only 18 teachers were surveyed; only one teacher was used to review the findings.

Conclusion

This paper explored the threats, opportunities and practical application potential of Chat GPT with elementary students in an online learning context. This was firstly explored through a review of recent literature relating to Chat GPT in education. Following this, a survey of 18 educators who work predominantly in online contexts was complete. It was found that 94% of the teachers surveyed agreed that Chat GPT was more of an opportunity than a threat. This means that only 1 of the 18 teachers felt opposite. The four key threats which emerged from this survey were Academic dishonesty, ethical issues, assessment and plagiarized

conclusions. The four key opportunities were: Saving time, differentiating, increased efficiency of information accessibility and enhancing of the learning experience. The four practical applications which repeatedly came up were: As a research tool, to support with lesson planning, for student self-assessment and to model tasks. When reviewed with an experienced online teacher, these findings were largely agreed upon. It seems clear after reviewing the literature and gaining insight from this focus group of teaching professionals that Chat GPT is an opportunity for teachers to reduce workload and focus their efforts on working more directly with students. Beyond this, it is an opportunity for students to expand their research capability, streamlining their gathering of information. That said, it is important for educators to be mindful of how they create courses, this way, students have the best learning experience possible when integrating this new technology.

Further research on this topic is needed; practical in-class studies which explore the recommendations of this study and produce data around the implementation of Chat GPT when teaching online are the next steps the author of this paper recommends.

References

Almalki, S. (2016). Integrating Quantitative and Qualitative Data in Mixed Methods Research--Challenges and Benefits. Journal of education and learning, 5(3), 288-296.

Ausat, A. M. A., Massang, B., Efendi, M., Nofirman, N., & Riady, Y. (2023). Can chat GPT replace the role of the teacher in the classroom: A fundamental analysis. Journal on Education, 5(4), 16100-16106.

Firat, M. (2023). How chat GPT can transform autodidactic experiences and open education. Department of Distance Education, Open Education Faculty, Anadolu Unive.

Fuchs, K. (2023, May). Exploring the opportunities and challenges of NLP models in higher education: is Chat GPT a blessing or a curse?. In Frontiers in Education (Vol. 8, p. 1166682). Frontiers.

Kasneci, E., Seßler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., ... & Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. Learning and Individual Differences, 103, 102274.

Ko, S., & Rossen, S. (2017). Teaching online: A practical guide. Taylor & Francis.

Macur, G. M. A. (2022a). Issues in Online Teaching: Elementary Teachers' Perspectives. Journal of Education and Educational Development, 9(2), 211-228.

Macur, G. M. A. (2022b). Teaching Online for Kindergarten and Primary Teachers: Get Ready For Your Next Online Class. Taylor & Francis.

Maboloc, C. R. (2023). Chat GPT: the need for an ethical framework to regulate its use in education. Journal of Public Health, fdad125.

Yu, H. (2023). Reflection on whether Chat GPT should be banned by academia from the perspective of education and teaching. Frontiers in Psychology, 14, 1181712.

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