Journal on Education
Volume 05, No. 04, Mei-Agustus 2023, pp. 14886-14891
E-ISSN: 2654-5497, P-ISSN: 2655-1365
Website: http://jonedu.org/index.php/joe

Analysing the Role of ChatGPT in Improving Student Productivity in Higher Education

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Abstract

Student productivity in higher education is still a problem. In the digital era, technology is increasingly developing and provides convenience for doing various things, including in terms of learning. The purpose of this study will be an analysis of the role of ChatGPT in helping to improve the quality of student productivity. This research is qualitative in nature. Data collection techniques include listening and recording important information to conduct data analysis through data reduction, data display, and conclusion drawing. This study concludes that ChatGPT can make a significant contribution in improving the quality of student productivity. This language model can help students in various ways, such as providing useful information and resources, helping to improve language skills, facilitating collaboration, increasing time efficiency and effectiveness, and providing support and motivation.
Keywords: ChatGPT, Productivity, Students, Higher Education

Abstrak

Produktivitas mahasiswa di perguruan tinggi masih menjadi permasalahan. Dalam era digital, teknologi semakin berkembang dan memberikan kemudahan untuk melakukan berbagai hal, termasuk dalam hal pembelajaran. Tujuan penelitian ini akan dilakukan suatu analisis terhadap peran ChatGPT dalam membantu meningkatkan kualitas produktivitas mahasiswa. Penelitian ini bersifat kualitatif. Teknik pengumpulan data meliputi menyimak dan mencatat informasi penting untuk melakukan analisis data melalui reduksi data, display data, dan penarikan kesimpulan. Studi ini menyimpulkan bahwa ChatGPT dapat memberikan kontribusi yang signifikan dalam meningkatkan kualitas produktivitas mahasiswa. Model bahasa ini dapat membantu mahasiswa dalam berbagai cara, seperti menyediakan informasi dan sumber daya yang berguna, membantu meningkatkan kemampuan bahasa, memfasilitasi kolaborasi, meningkatkan efisiensi dan efektivitas waktu, dan memberikan dukungan dan motivasi.
Kata Kunci: ChatGPT, Produktivitas, Mahasiswa, Perguruan Tinggi

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Received 31 March 2023, Accepted 6 April 2023, Published 6 April 2023

INTRODUCTION

The background of this research is the problem of low student productivity in higher education. Low productivity can be caused by several factors, such as difficulty in understanding the material, lack of motivation, and lack of support from the surrounding environment.

In the digital era, technology is increasingly developing and provides convenience for doing various things, including in terms of learning (Ausat, 2022); (Cahyono et al., 2023) and (Manafe et al., 2023). One technology that can be utilised to help improve student productivity is chatbot. Chatbot can be used as a virtual assistant that can help students in completing assignments, providing

information related to lectures, and so on (Essel et al., 2022) and (Mendoza et al., 2022). One of the latest types of chatbot is ChatGPT (Generative Pre-trained Transformer 3.5) (Taecharungroj, 2023) and (Adetayo, 2023). ChatGPT is an artificial intelligence-based natural language model that has been trained using very large data (Hassani & Silva, 2023) and (Ge & Lai, 2023). This model can be used for various purposes, including as a virtual assistant to help students increase productivity (Dwivedi et al., 2023).

In this research, the role of ChatGPT in helping to improve the quality of student productivity is analysed. It is expected that the results of this study can provide an overview of the effectiveness of using ChatGPT as a virtual assistant in improving student productivity in higher education.

METHOD

This investigation utilised a desk research approach, where the researcher relied on secondary sources of information to facilitate data collection, rather than conducting primary research in the field. Various reference materials were consulted to ensure the smooth running of the research. Literature was sourced from online media and databases available through journal portals that matched the keywords relevant to this discourse, specifically ChatGPT and student productivity. The authors utilised a flexible approach in identifying relevant reference sources, without limiting themselves to specific journal portals or online media. We did not limit ourselves to referring only to Emerald Insight, Research Gate, and Elsevier journal portals. This article centres on an analysis of ChatGPT for students in higher education, with emphasis on certain keywords to avoid obscuring the main discourse. The search for scientific journals, articles, and publications mainly included articles that have been published from 2022 to the present. During the source collection process, we used keywords to conduct searches on various publication platforms. However, not all downloaded papers, journals, and publications will be used, but only those most relevant to the role of ChatGPT and its relation to student productivity in higher education. This article incorporates a total of 18 references.

This research is classified as a form of qualitative research. The data collection process involved the use of techniques such as careful listening and careful recording of relevant information. This data was then analysed through the methods of data reduction, data presentation, and conclusion drawing, with the aim of gaining a comprehensive understanding of the literature study that is the focus of this research. In the data reduction stage, the process undertaken is to simplify, classify, and discard irrelevant data in a way that makes it easier to gain significant insights and increase the ease of drawing conclusions. The need to analyse data through the reduction stage arises from the considerable volume and complexity of the data. The reduction stage was conducted to determine the relevance of the data to the end goal. Initially, a total of 22 references were obtained. However, after going through this initial process it became 18 references. Next, the data will be presented through display. This stage is the next step of the data reduction stage, which involves organising the data systematically to facilitate understanding and enable conclusion drawing. The mode of data

representation used in this context is in the form of written discourse (in the form of field notes). Presentation of this data facilitates the organisation and arrangement of data in a pattern of relationships. The final phase is drawing conclusions from the data. This phase marks the conclusion of the qualitative data analysis methodology we used, where we examine the results of data reduction and data display, ensuring that they remain aligned with the intended purpose of the analysis. The purpose of this stage is to derive meaning from the data collected by identifying correlations, similarities, or differences to formulate resolutions to the issues at hand. The sources used were deemed reliable to derive conclusions. This endeavour aims to obtain reliable and valid conclusions, thus facilitating understanding.

RESULTS AND DISCUSSION

As a language model trained by OpenAI, ChatGPT can play a role in helping to improve the quality of student productivity in various ways. The following are some explanations of ChatGPT's role in helping to improve the quality of student productivity:

Providing useful information and resources

`ChatGPT can provide useful information and resources for students in acquiring the knowledge needed to complete their assignments and projects (Kasneci et al., 2023). For example, students can ask ChatGPT questions about a particular topic and the language model will provide answers based on information found on the internet. ChatGPT can also provide suggestions on books and articles that are relevant to the topic being discussed by the student (AlAfnan et al., 2023) and (Cooper, 2023).

Help improve language skills

As a language model, ChatGPT can help students improve their language skills. Students can use ChatGPT as a tool to improve their grammar, expand their vocabulary, and improve their writing style. Students can also utilise ChatGPT to improve their assignments before submitting them to lecturers (Cotton & Shipway, 2023).

Facilitate collaboration between students

ChatGPT can also be used as a tool to facilitate collaboration between students. Students can use ChatGPT to communicate with each other, share ideas and projects, and provide feedback and support. ChatGPT can also be used to facilitate discussions between students and lecturers, thus helping students in understanding the subject matter better (Tlili et al., 2023).

Improving time efficiency and effectiveness

In the context of productivity, ChatGPT can help improve the efficiency and effectiveness of students' time (Sallam, 2023) and (George et al., 2023). For example, students can use ChatGPT to save their class schedules, assignment deadlines, and to-do lists. This way, students can better manage their time and ensure that they don't miss any important assignments or deadlines.

Provide support and motivation

In addition, ChatGPT can also act as a source of support and motivation for students. Students can use ChatGPT to talk about their stress and worries, or to ask for advice on how to better manage their time and tasks (Haleem et al., 2022). In this way, ChatGPT can help students overcome difficulties and better achieve their academic goals.

In essence, ChatGPT can act as a useful tool to help students improve the quality of their productivity. By providing useful information and resources, helping to improve language skills, facilitating collaboration, increasing time efficiency and effectiveness, and providing support and motivation, ChatGPT can help students achieve their academic goals and improve their overall quality of productivity.

However, it should be noted that although ChatGPT can help students in various ways, this language model cannot completely replace human interaction. Students still need to interact with lecturers, fellow students, and other resources to have a complete learning experience. In addition, ChatGPT can only provide information that is available on the internet and cannot replace careful research and a deep understanding of the topic at hand.

Therefore, the role of ChatGPT in improving the quality of student productivity should be seen as an adjunct and not a substitute for human interaction and students' hard work in achieving their academic goals. Students need to take their personal initiative and responsibility in learning and use tools like ChatGPT wisely to help them achieve their academic goals more effectively and efficiently.

Overall, ChatGPT can make a significant contribution in improving the quality of student productivity. By providing useful information and resources, helping to improve language skills, facilitating collaboration, improving time efficiency and effectiveness, and providing support and motivation, ChatGPT can help students better achieve their academic goals and improve the overall quality of their productivity. However, the role of ChatGPT should be viewed as an adjunct and not a substitute for human interaction and students' hard work in learning and achieving their academic goals.

CONCLUSION

In today's digital age, ChatGPT can make a significant contribution in improving the quality of student productivity. It can help students in many ways, such as providing useful information and resources, helping to improve language skills, facilitating collaboration, improving time efficiency and effectiveness, and providing support and motivation. However, the role of ChatGPT should be viewed as an adjunct and not a substitute for human interaction and students' hard work in learning and achieving their academic goals.

Suggestions that can be made in conclusion of this study include: Firstly, students should use ChatGPT wisely and pay attention to the credibility of information sources provided by this language model. Second, lecturers and educational institutions can consider the use of ChatGPT in facilitating

learning and improving the quality of student productivity, but it must be balanced with human interaction and students' hard work in learning and achieving their academic goals. Finally, technology companies can continue to develop and improve the quality of language models such as ChatGPT in order to make a greater contribution in improving the quality of student productivity and online learning.

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