

New Technologies and the Role of CHATGPT in Teaching History

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Abstract

A documentary review was carried out on the production and publication of research papers related to the study of the variables CHATGPT, ICT and TEACHING. The purpose of the bibliometric analysis proposed in this document was to know the main characteristics of the volume of publications registered in the Scopus database during the first half of 2023, achieving the identification of 152 publications. The information provided by this platform was organized through graphs and figures, categorizing the information by Country of Origin, Area of Knowledge and Type of Publication. Once these characteristics have been described, the position of different authors on the proposed topic is referenced through a qualitative analysis. Among the main findings made through this research, it is found that the United States with 33 publications with the highest scientific production registered in the name of authors affiliated with institutions in that nation. The Area of Knowledge that made the greatest contribution to the construction of bibliographic material related to the study of CHATGPT, ICT and LEARNING was Social Sciences with 93 published documents, and the most used Publication Type during the period indicated above were Journal Articles with 61% of the total scientific production.

Keywords: CHATGPT, TEACHING, ARTIFICIAL INTELLIGENCE, ICT.

1. Introduction

In a decade marked by the great advances of new technological advances, the way in which education and learning models have been delivered has continued to be characterized by profound transformations. Traditional paradigms are being renewed and new innovative tools are emerging with the purpose of improving the experience in education systems. One of those groundbreaking developments is the rise of artificial intelligence, which has given birth to intelligent conversational agents like ChatGPT. In this digital age, the intersection of new technologies and education has opened up unprecedented possibilities for the history of teaching, and ChatGPT has become a pivotal player in this educational revolution.

The advent of new technologies has significantly altered the dynamics of the modern classroom. Today's students are digital natives, raised in a world full of smartphones, tablets, and computers. As such, they are accustomed to accessing information instantly and interacting with digital platforms in ways that previous generations could only dream of. These technological changes have posed challenges and opportunities for educators,

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forcing them to adapt and leverage innovative tools to create more engaging and effective learning experiences.

One of the issues profoundly impacted by this technological change is the teaching of history. History education has traditionally relied on textbooks, lectures, and visual aids to convey the complex narratives of the past. However, these methods often struggle to captivate the attention of today's students, who are accustomed to dynamic, interactive, and multimedia-rich content. Consequently, educators have been looking for ways to bridge the gap between traditional methods of teaching history and the expectations of the digital age. This is where ChatGPT comes into the picture, powered by artificial intelligence and natural language processing. ChatGPT is an advanced language model developed by OpenAI, designed to understand and generate human-like text responses. You have the ability to engage in meaningful conversations, answer questions, and provide explanations on a wide range of topics, including history. What sets ChatGPT apart is its adaptability and accessibility, making it an invaluable tool for educators looking to improve historical education.

Additionally, ChatGPT has the potential to bridge gaps in historical knowledge by giving students instant access to vast databases of historical information. It can recommend relevant primary and secondary sources, suggest further reading, and help students develop their research skills. This democratization of historical resources allows students of all backgrounds to explore history in depth, fostering a deeper understanding of the past. For this reason, this article seeks to describe the main characteristics of the compendium of publications indexed in the Scopus database related to the variables CHATGPT, ICT and TEACHING, as well. Such as the description of the position of certain authors affiliated with institutions, during the period during the first half of 2023.

2. General Objective

To analyze, from a bibliometric and bibliographic perspective, the preparation and publication of research papers in high-impact journals indexed in the Scopus database on the variables CHATGPT, ICT and TEACHING during the first semester of 2023.

3. Methodology

This article is carried out through a research with a mixed orientation that combines the quantitative and qualitative method.

On the one hand, a quantitative analysis of the information selected in Scopus is carried out under a bibliometric approach of the scientific production corresponding to the CHATGPT, ICT and TEACHING study. On the other hand, examples of some research works published in the area of study mentioned above are analyzed from a qualitative perspective, based on a bibliographic approach that allows describing the position of different authors on the proposed topic. It is important to note that the entire search was carried out through Scopus, managing to establish the parameters referenced in Figure 1.

3.1. Methodological design

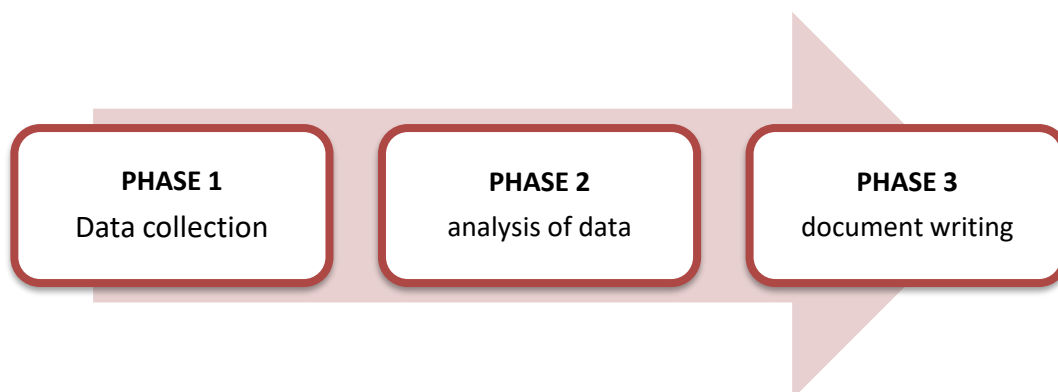


Figure 1. Methodological design
Source: Authors' own creation

3.1.1 Phase 1: Data collection

Data collection was carried out from the Search tool on the Scopus website, where 152 publications were obtained from the following filters:

TITLE-ABS-KEY (chatgpt, AND teaching)

- Published documents whose study variables are related to the study of the variables CHATGPT, ICT and TEACHING.
- Limited to the first half of 2023.
- Without distinction of country of origin.
- Without distinction of area of knowledge.
- No distinction of type of publication.

3.1.2 Phase 2: Construction of analytical material

The information collected in Scopus during the previous phase is organized and then classified by graphs, figures and tables as follows:

- Co-occurrence of words.
- Country of origin of the publication.
- Area of knowledge.
- Type of publication.

3.1.3 Phase 3: Drafting of conclusions and outcome document

In this phase, the results of the previous results are analysed, resulting in the determination of conclusions and, consequently, the obtaining of the final document.

4. Results

4.1 Co-occurrence of words

Figure 2 shows the co-occurrence of keywords found in the publications identified in the Scopus database.

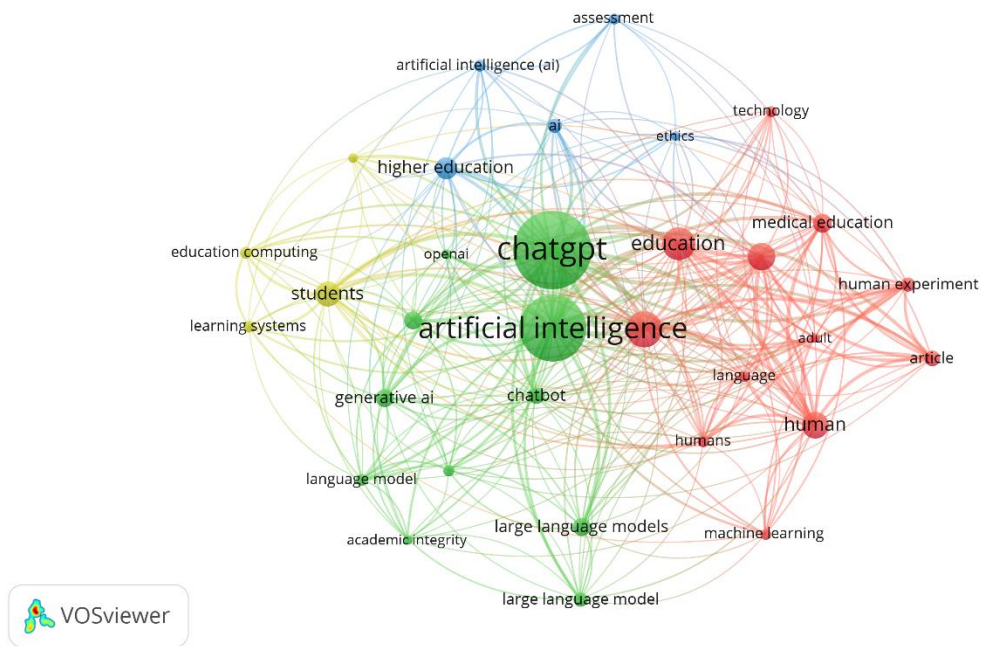


Figure 2. Co-occurrence of words

Source: Authors' own elaboration (2023); based on data exported from Scopus.

Artificial Intelligence was the most frequently used keyword within the studies identified through the execution of Phase 1 of the Methodological Design proposed for the development of this article. ChatGPT is among the most frequently used variables, associated with variables such as Education, Higher Education, Academic Intelligence, Computational Education, Chatbots, AI Generation. From the above, it is striking, the role of ChatGPT in teaching history is multifaceted. First and foremost, it serves as a versatile and interactive virtual history tutor. Students can engage in natural language conversations with AI. ChatGPT can provide concise explanations, offer supplemental information, and even contextualize historical events, making learning history a more engaging and personalized experience. As new technologies continue to reshape the educational landscape, ChatGPT is emerging as a transformative tool in the teaching of history. Its adaptability, accessibility, and ability to engage students in meaningful conversations make it an invaluable asset to educators striving to make history education more relevant, engaging, and interactive. As we delve deeper into the digital age, the partnership between ChatGPT and history education promises to enrich the learning experience, empowering students to explore the past with new enthusiasm and understanding.

4.2 Distribution of scientific production by country of origin

Figure 3 shows how scientific production is distributed according to the country of origin of the institutions to which the authors are affiliated.

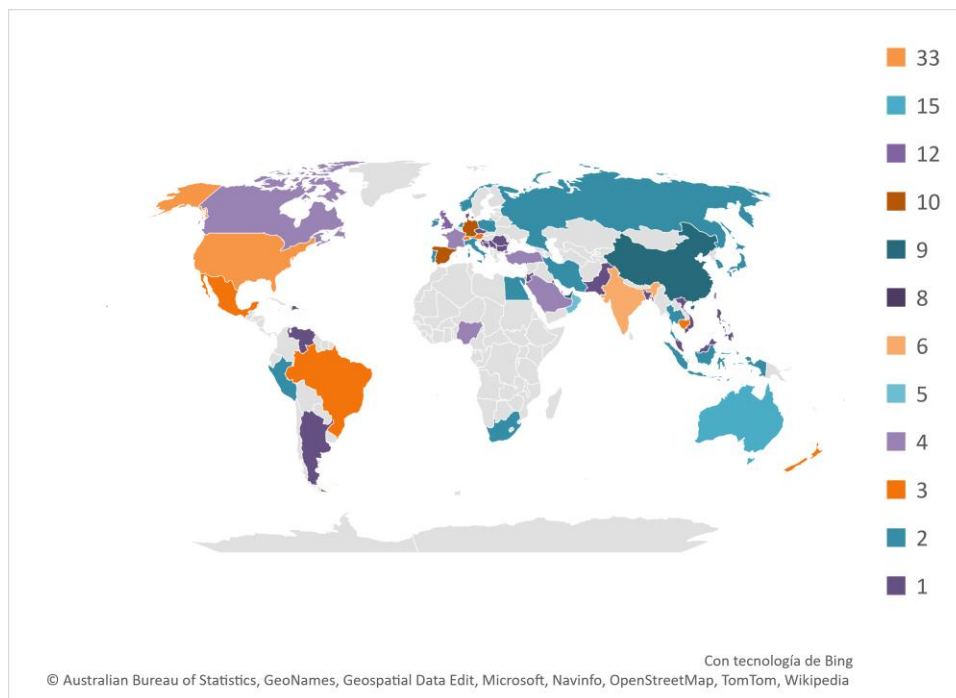


Figure 3. Distribution of scientific production by country of origin.

Source: Authors' own elaboration (2023); based on data provided by Scopus.

Within the distribution of scientific production by country of origin, the registrations from institutions were taken into account, establishing the United States as the country of that community, with the highest number of publications indexed in Scopus during the first half of 2023, with a total of 33 publications in total. In second place, Australia with 15 scientific papers, and the United Kingdom occupying third place presenting to the scientific community, with a total of 12 papers among which is the article entitled "Can linguists distinguish between ChatGPT/AI and human writing?: A study on research ethics and academic publications" The present study advances this discussion to examine issues related to human judgments, the accuracy and ethics of research. Specifically, we investigate: 1) the extent to which linguists/reviewers at leading journals can distinguish AI-generated writing from human-written writing, 2) what is the basis for reviewers' decisions, and 3) the extent to which editors at leading journals believe that AI tools are ethical for research purposes. In the study, reviewers (N = 72) completed a judgment task involving AI- and human-generated research summaries, and several reviewers participated in follow-up interviews to explain their rationale. Similarly, editors (N = 27) completed a survey and interviews to discuss their beliefs. The findings suggest that despite employing multiple fundamentals to judge texts, reviewers largely failed to identify AI writing versus human writing, with an overall positive identification rate of only 38.9%. In addition, many editors believed that there are ethical uses of AI tools to facilitate research processes, but some disagreed. Future research directions involving artificial intelligence tools and academic publications are discussed(Casal, 2023)

4.3 Distribution of scientific production by area of knowledge

Figure 4 shows the distribution of the elaboration of scientific publications based on the area of knowledge through which the different research methodologies are implemented.

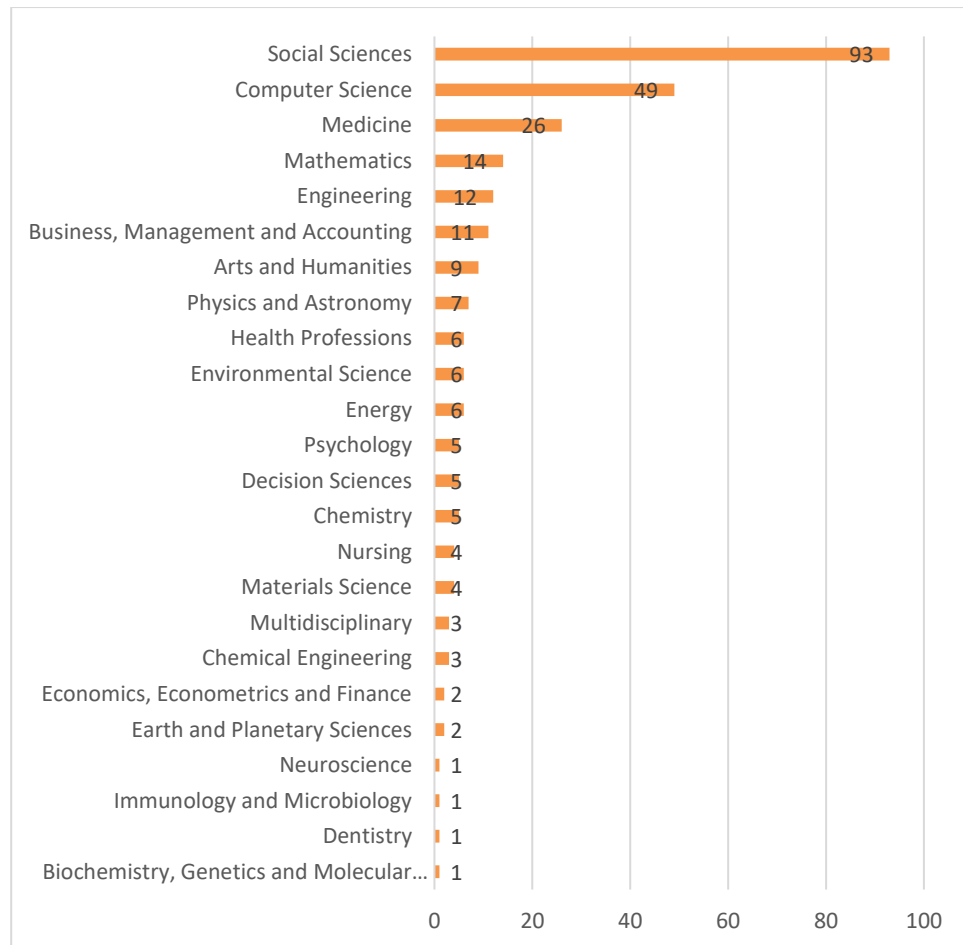


Figure 5. Distribution of scientific production by area of knowledge.

Source: Authors' own elaboration (2023); based on data provided by Scopus

Social Sciences was the area of knowledge with the highest number of publications registered in Scopus, with a total of 93 documents that have been based on their variable methodologies: Commercial Center and Social Sustainability. In second place, Computer Science with 49 articles and Medicine in third place with 26. The above can be explained thanks to the contribution and study of different branches, the article with the greatest impact was registered by the Social Sciences area entitled "Student voices on generative AI: perceptions, benefits and challenges in higher education" This study explores the perceptions of university students about generative AI (GenAI) technologies, such as ChatGPT, in higher education, focusing on familiarity, their willingness to participate, potential benefits and challenges, and effective integration. A survey of 399 undergraduate and graduate students from various disciplines in Hong Kong revealed a generally positive attitude towards GenAI in teaching and learning. Students recognized the potential for personalized learning support, writing and brainstorming assistance, and research and analysis capabilities. However, concerns were also expressed about accuracy, privacy, ethical issues, and the impact on personal development, career prospects, and social values. According to John Biggs' 3P model, student perceptions significantly influence learning approaches and outcomes. By understanding student perceptions, educators and policymakers can adapt GenAI technologies to address needs and concerns while promoting effective learning outcomes. The insights from this study can inform policy development around the integration of GenAI technologies in higher education. By understanding students' perceptions and addressing their concerns, policymakers can create well-informed guidelines and strategies for the responsible and effective implementation

of GenAI tools, ultimately improving teaching and learning experiences in higher education.(Chan, 2023)

4.4 Type of publication

In the following graph, you will see the distribution of the bibliographic finding according to the type of publication made by each of the authors found in Scopus.

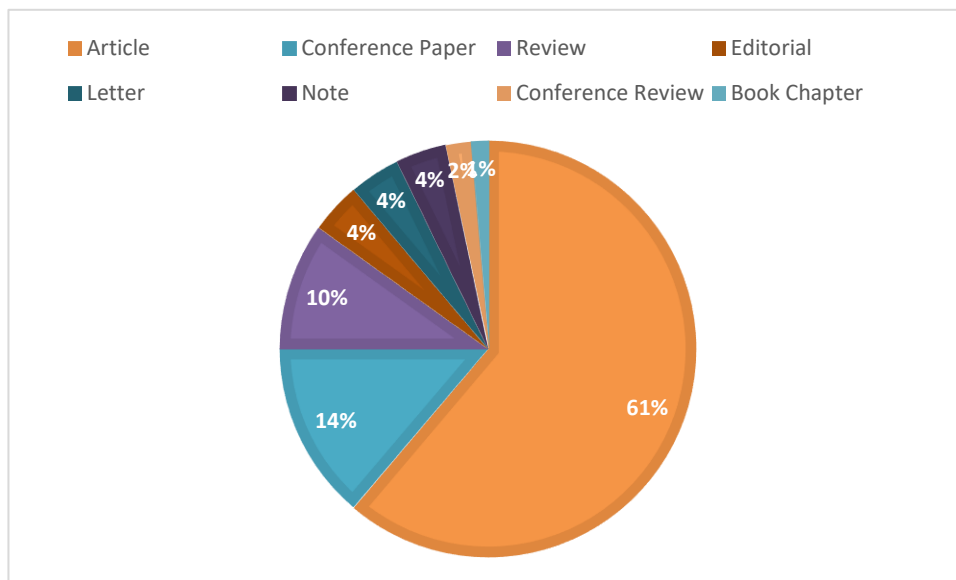


Figure 5. Type of publication.

Source: Authors' own elaboration (2023); based on data provided by Scopus.

The type of publication most frequently used by the researchers referenced in the body of this document was the one entitled Journal Articles with 61% of the total production identified for analysis, followed by Session Paper with 14%. Journals are part of this classification, representing 10% of the research papers published during the first half of 2023, in journals indexed in Scopus. In the latter category, the one entitled "A comprehensive educational framework of AI policies for university teaching and learning" stands out. This study aims to develop an AI education policy for higher education by examining the perceptions and implications of text-generating AI technologies. Data were collected from 457 students and 180 faculty and staff from various disciplines at universities in Hong Kong, using both quantitative and qualitative research methods. Based on the findings, the study proposes an AI green education policy framework to address the multifaceted implications of integrating AI into university teaching and learning. This framework is organized into three dimensions: pedagogical, governance and operational. The pedagogical dimension focuses on the use of AI to improve teaching and learning outcomes, while the governance dimension addresses issues related to privacy, security, and accountability. The operational dimension addresses issues related to infrastructure and training. The framework fosters a nuanced understanding of the implications of integrating AI into academic settings, ensuring that stakeholders are aware of their responsibilities and can take appropriate action accordingly.(Chan C. K., 2023)

5. Conclusions

Through the bibliometric analysis carried out in this research work, it was possible to establish that the United States was the country with the highest number of published records for the variables CHATGPT, ICT and TEACHING. with a total of 33 publications in the Scopus database. In the same way, it was established that the application of theories framed in the area of Social Sciences, ChatGPT can serve as a versatile and accessible

resource for students and educators. Their ability to immediately answer historical questions, explain complex concepts, and create engaging historical narratives enhances the learning experience. This accessibility can help bridge gaps in historical knowledge and make history more accessible to a wider range of students. Second, this artificial intelligence can facilitate a personalized learning experience. By tailoring responses and content to your students' individual needs and interests, you can accommodate different learning styles and speeds and make teaching history more engaging and effective. In addition, ChatGPT can help educators create interactive and dynamic history lessons. It generates quizzes, discussion topics, and historical scenarios that encourage students' active participation and critical thinking. It helps deepen understanding of historical events and encourages students to think critically about the past. However, while this AI offers many advantages, it should be used as a complementary tool, not as a replacement for traditional teaching methods. The human element of teaching, including mentoring and mentoring educators, remains essential to developing critical thinking skills, historical empathy, and a deep understanding of historical complexity.

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