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A Bibliometric Analysis of Artificial Intelligence Plagiarism in Education

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Abstract:

This study aims to map the development of research on plagiarism related to the use of Artificial Intelligence (AI) in education using a bibliometric approach. A total of 250 scientific articles with the keyword AI Plagiarism in education published between 2015 and 2025 were analyzed. Data extraction was conducted using Publish or Perish 8 software, sorting data by author keywords and abstract using Mendeley software, and bibliometric visualization using VOSviewer software. The findings reveal that plagiarism in educational contexts significantly affects academic integrity. The issue has become increasingly complex with the widespread use of generative AI platforms such as ChatGPT. The analysis also shows a strong correlation between plagiarism cases and academic integrity, ethics, and policy. Most studies in this field originate in Europe, North America, and certain parts of Asia, indicating a high level of academic concern about digital ethics. This research is expected to provide a comprehensive mapping of research trends, collaboration networks, and emerging themes, offering valuable insights for the formulation of academic policies responsive to technological advancements.
Keywords*:* Bibliometric; AI Plagiarism; Education

Abstrak:

Penelitian ini bertujuan memetakan perkembangan studi tentang plagiarisme yang berkaitan dengan penggunaan Kecerdasan Buatan (AI) dalam pendidikan melalui pendekatan bibliometrik. Sebanyak 250 artikel ilmiah dengan kata kunci "AI Plagiarisme dalam Pendidikan" yang diterbitkan antara tahun 2015–2025 dianalisis menggunakan tiga tahap: ekstraksi data dengan perangkat lunak Publish or Perish 8, pengelompokan data berdasarkan kata kunci dan abstrak dengan Mendeley, serta visualisasi bibliometrik dengan VOSviewer. Hasil penelitian menunjukkan bahwa plagiarisme dalam konteks pendidikan berdampak signifikan terhadap integritas akademik. Permasalahan ini semakin kompleks seiring maraknya penggunaan platform AI generatif seperti ChatGPT. Analisis mengungkapkan korelasi kuat antara kasus plagiarisme dengan isu integritas akademik, etika, dan kebijakan institusi. Mayoritas penelitian di bidang ini berasal dari Eropa, Amerika Utara, dan sebagian wilayah Asia, yang mencerminkan tingginya kepedulian akademik terhadap etika digital di kawasan tersebut. Penelitian ini diharapkan memberikan peta komprehensif tentang tren penelitian, jaringan kolaborasi antarpeneliti, dan tema-tema yang berkembang. Temuan ini dapat menjadi landasan berharga dalam merumuskan kebijakan akademik yang responsif terhadap kemajuan teknologi AI.
Kata kunci: Bibliometrik; Plagiarisme AI; Pendidikan

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INTRODUCTION

The integration of advanced technologies such as Artificial Intelligence (AI) is already part of the concept of Society 5.0 (Yamtinah et al. 2023). AI is one of the main pillars that differentiates this civilization from earlier eras (Subandowo 2022). This technology plays several roles that support human tasks across many fields, including education, healthcare, design, and manufacturing (Alier, García-Peñalvo, and Camba 2024; Gmeiner et al. 2023; Nagi et al. 2023).

Several types of AI have been developed recently, and one of the most widely used in education is the chatbot website. A chatbot is a type of AI technology that utilizes natural language processing and machine learning (Alfharezi and Kuntardi 2023). The integration of AI into education, particularly through generative chatbots, has the potential to revolutionize teaching and learning for educators, enhancing both administrative and instructional aspects (Williams 2023). The emergence of generative platforms like ChatGPT makes accessing information easier, but it also introduces new challenges and opportunities related to plagiarism.

Traditionally, plagiarism refers to copying another person's work without proper credit, whereas ChatGPT and other AI tools can reference and cite existing sources (Flaherty and Yurch 2024). The existence of AI such as ChatGPT can assist users in improving language structure, generating ideas, and accessing information quickly (Laily Fitria et al. 2024). However, one challenge associated with this technology is its use in students' academic writing, which can be seen as a form of plagiarism (Sysoyev 2024). This practice not only damages the authenticity and originality of academic work but also raises ethical concerns related to academic integrity. Additionally, overreliance on AI-generated content can impede the development of critical thinking and writing skills among students (Zhai, Wibowo, and Li 2024).

Therefore, the issue of AI plagiarism in education has become increasingly significant to examine. AI provides high efficiency and easy access, but it can also generate text that is technically original without reflecting the student's true thinking, making it harder for traditional methods to detect plagiarism (Mhlanga 2023; Mpolomoka et al. 2025). This creates a dilemma for educational institutions trying to use AI productively while preserving academic integrity.

Several studies highlight that the rise of AI plagiarism presents both challenges and opportunities in education. While AI can enhance learning by improving writing skills, generating ideas, and supporting students' academic work, it also raises serious ethical concerns, especially regarding academic integrity and originality (Mhlanga 2023; Suarda et al. 2024). Therefore, reviewing the amount of research and publications on AI plagiarism in education is essential to gain a deeper understanding of this issue's development. This study aims to provide a bibliometric literature review to analyze the trends, challenges, and opportunities related to AI plagiarism in educational settings. Additionally, it is expected that this research can serve as a reference for further insights and future investigations into maintaining academic integrity in the era of AI.

METHOD

This study conducts a bibliometric literature review to examine the topic of AI plagiarism in education. The research process was conducted in five stages to ensure data validity (Kartimi et al. 2022). The stages are illustrated in Figure 1.

Figure 1. Stages of Bibliometric Literature Review

The following describes the stages of processing literature data.

1. Defining the Keyword

In this study, the general keyword "AI Plagiarism in Education" was used. This keyword was then employed to collect literature data from the Google Scholar database using the Publish or Perish 8 (PoP 8) software. This software can be downloaded for free at the following link (harzing.com/resources/publish-or-perish/windows).

2. Preliminary Literature Data Retrieval

   Preliminary literature data retrieval was conducted using Publish or Perish 8 software, Windows version. The process employed the keyword above for the period 2015-2025, sourced from Google Scholar. A total of 250 articles related to these keywords were obtained. Further analysis showed that these articles had a total of 41,979 citations, indicating their high relevance recently. More detailed data are presented in Table 1. The data were then saved in .ris format for further selection in the next stage.

No	Preliminary Literature Data Retrieval	Results
1	Publication years	2015-2025
2	Papers	250
3	Citations	41979
4	Cites/author	23534.37
5	Authors/paper	2.54
6	H-index	84

Table 1. Preliminary Literature Data Retrieval Metrics

3. Filtering Literature Data

   Data in .ris format was imported into Mendeley Software for literature data selection. This free software can be downloaded at the following link (www.mendeley.com/download-reference-manager/windows). Data filtering involved reviewing article titles and manually selecting Author Keywords. The titles and keywords chosen were relevant to the research topic. A total of 66 data entries were collected at this stage. The data were then saved in .ris format for analysis in the final step.

4. Comprehensive Data Retrieval

   A total of 66 article titles retrieved using Mendeley software were then downloaded from Google Scholar for further analysis. Each article, including those related to AI Plagiarism in Education, was thoroughly examined. This

review was deemed essential for identifying and mapping potential research opportunities.

5. Literature Data Extraction and Analysis

   The data consisted of 66 articles stored in a .ris file format, which were then extracted and analyzed using *VOSviewer* software. *VOSviewer* is a software application designed to create and display bibliometric networks. This free software can be downloaded at the following link (www.vosviewer.com/download). The analysis in this study focuses on network, overlay, and density visualization.

RESULTS AND DISCUSSION

Visualization Topic Area of AI Plagiarism in Education

Processing the literature dataset with *VOSviewer* identified five clusters (red, purple, blue, yellow, and green). The bibliometric mapping from this analysis is shown through three visualization types: network visualization (Figure 2), overlay visualization (Figure 3), and density visualization (Figure 5). These visual representations emphasize the relationships among the most frequently occurring keywords across 66 articles.

The results of the network visualization are shown in Figure 2, featuring five color-coded clusters. The first cluster in red is the *artificial intelligence and plagiarism* cluster, including 9 keywords. This cluster reflects research related to using AI in plagiarism detection, cheating, and natural language processing. The second cluster in blue is the *academic integrity* cluster with 7 keywords, focusing on honesty, ethics, fairness, and assessment in education. The third cluster in green, with 7 keywords, represents the *AI policy and education* cluster, highlighting the role of chatbots, large language models, and ethics in teaching and learning. The fourth cluster in yellow includes 4 keywords and is categorized as the *higher education and assessment* cluster, emphasizing academic writing, ethics, and AI-related plagiarism. The fifth cluster in purple contains 4 keywords and represents the *generative AI* cluster, which is strongly connected to ChatGPT and OpenAI as emerging topics in the field.

Figure 2 displays the bibliometric network visualization divided into five clusters. The red cluster connects artificial intelligence with plagiarism, including terms like plagiarism detection, NLP, machine learning, and cheating, highlighting AI's dual role as both an innovation and a threat to academic honesty. The blue cluster focuses on academic dishonesty, equity, inclusion, and language assessment, showing how integrity issues relate to fairness and inclusivity. The green cluster emphasizes AI policy and education, featuring keywords such as chatbots, large language models, and AI ethics, underscoring the integration of generative technologies and their ethical considerations. The yellow cluster links higher education to academic writing, assessment, and AI plagiarism, illustrating AI's influence on evaluation, originality, and authorship. Finally, the purple cluster (4 keywords) represents the forefront of generative AI research, where strong connections between ChatGPT, OpenAI, and generative AI position them as central themes in scholarly discussions, bridging issues of policy, integrity, and assessment.

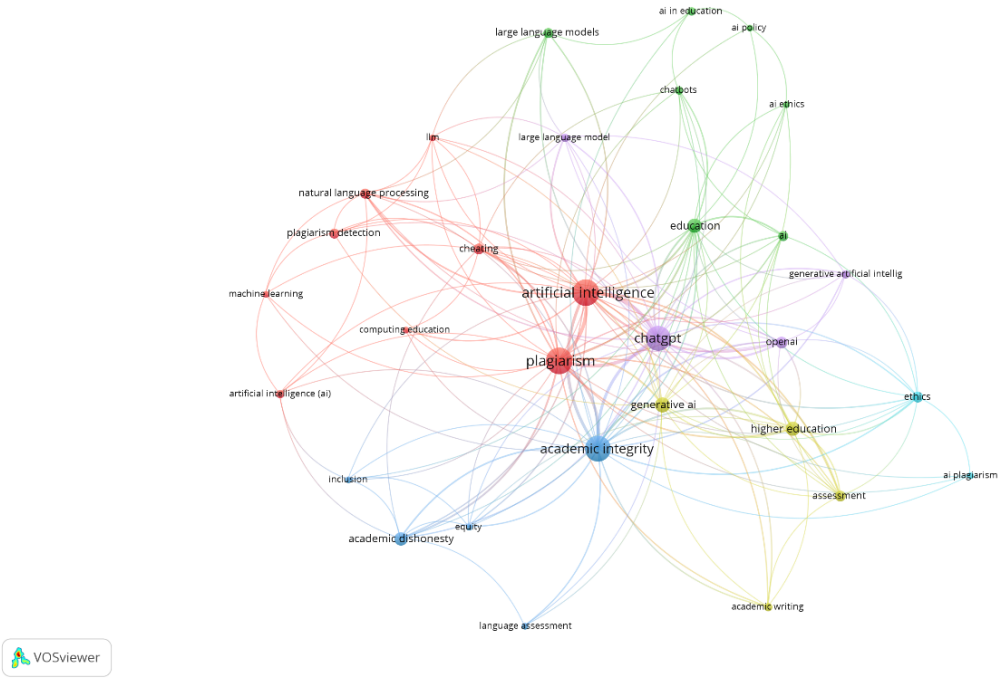

Figure 2. Network Visualization

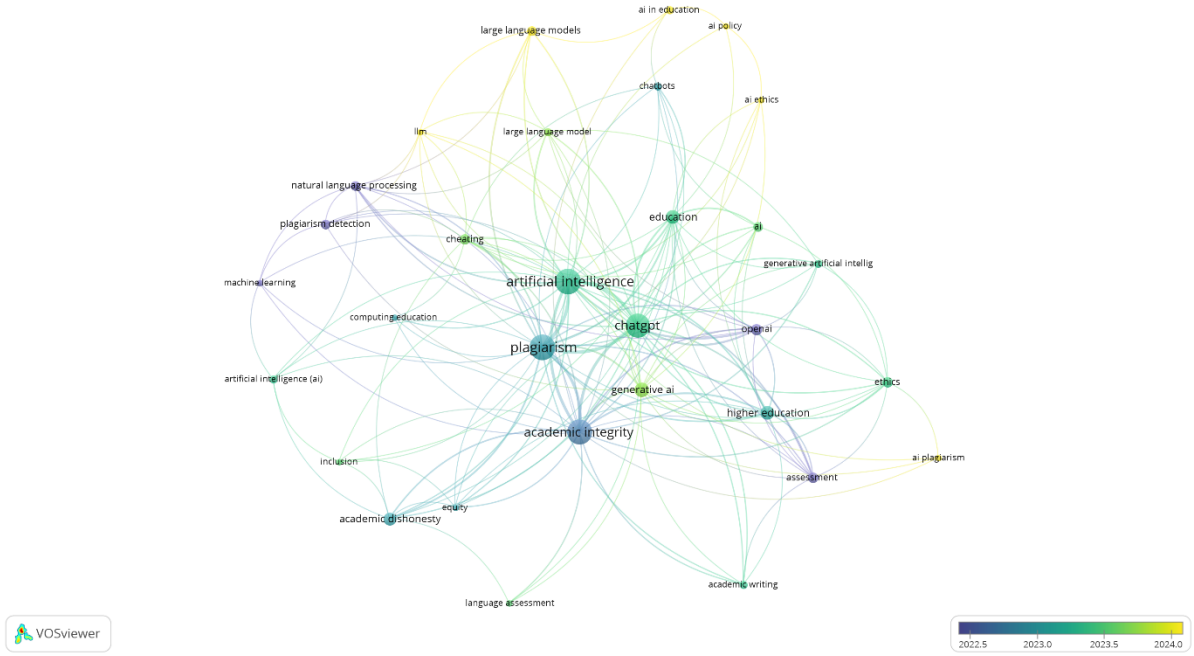

Figure 3. Overlay Visualization

Figure 3 shows an overlay visualization of bibliometric mapping**.** This map highlights how research themes on artificial intelligence, plagiarism, and academic integrity have developed over time. The color gradient from purple to yellow indicates the chronological order of keywords, with purple representing earlier studies (around 2022) and yellow showing the most recent trends (2023–2024). In Figure 3, keywords like “AI policy,” “AI in education,” “large language models,” and “AI plagiarism” appear in yellow, indicating they are the latest emerging topics. Conversely, terms such as “plagiarism detection,” “machine learning,” and “academic dishonesty” are shown in darker shades, suggesting they were more prominent in earlier research. This trend shows a shift from technical aspects of AI and plagiarism detection toward broader issues like ethics, policies, and the role of generative AI in higher education. Overall, the visualization reveals that recent research has rapidly shifted focus toward ChatGPT, OpenAI, and policy issues, reflecting how generative AI is transforming academic practices. According to the data, the number of publications related to AI plagiarism in education increased quickly in 2023 (Figure 4).

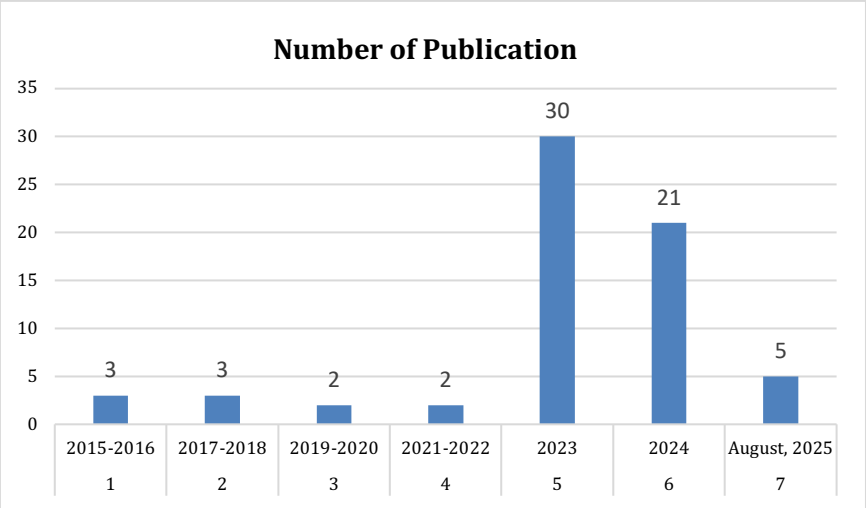

Figure 4. Yearly Publication Comparison

The rise of generative AI like ChatGPT presents new challenges in education, especially around plagiarism and academic honesty. Past research has mainly looked at technical issues, such as using machine learning to detect plagiarism, but recent trends focus more on ethics, policies, and how large language models affect academic practices (Deng and Joshi 2024; Perkins 2023; Plata, De Guzman, and Quesada 2023; Sahu 2016).

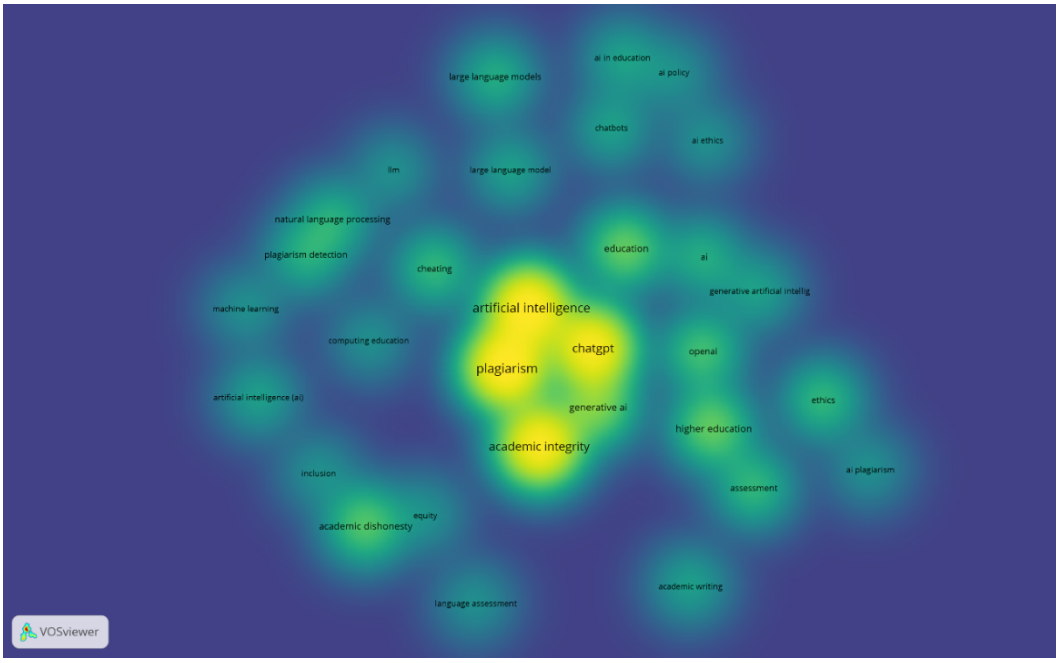

Figure 5. Density Visualiazition

The density visualization in Figure 5 illustrates the frequency of keyword occurrences within the analyzed articles. The brighter yellow areas indicate keywords that appear more frequently compared to others. Based on the 66 articles included in this study, the keywords *"artificial intelligence," "ChatGPT," "plagiarism,"* and *"academic integrity"* show a high level of density. This finding suggests that academic discussions in the field of education are increasingly focused on the intersection between the advancement of artificial intelligence and issues of plagiarism as well as academic integrity. Furthermore, the emergence of keywords such as *"generative AI," "higher education,"* and *"ethics"* reflects a research trend directed toward the impact of large language models (LLMs) on ethics, policy, and academic fairness. Thus, the growing emphasis on academic integrity and plagiarism aligns with the urgent need for education systems to respond to the transformations driven by generative AI technologies (Farrelly and Baker 2023; Kramm and McKenna 2023).

Publication Location

The extracted literature dataset was mapped based on the location of publication using Map Customizer (www.mapcustomizer.com/). This visualization is shown in Figure 6, which illustrates the distribution of 66 articles across various countries. The map indicates that most publications are concentrated in Europe, especially in countries like Germany, the United Kingdom, and the Netherlands, where the markers are densely grouped. Additionally, a significant number of studies originate from North America, particularly the United States and Canada, as well as from Asia, with India and Indonesia being notable contributors. Meanwhile, Australia also demonstrates an emerging presence in this field. Conversely, research contributions from Africa and certain parts of the Middle East remain limited. This suggests that, although scholarly discussions on artificial intelligence, plagiarism, and academic integrity are increasingly prominent in Western countries and parts of Asia, there is still room to expand this research in underrepresented regions to promote a more global perspective on the topic.

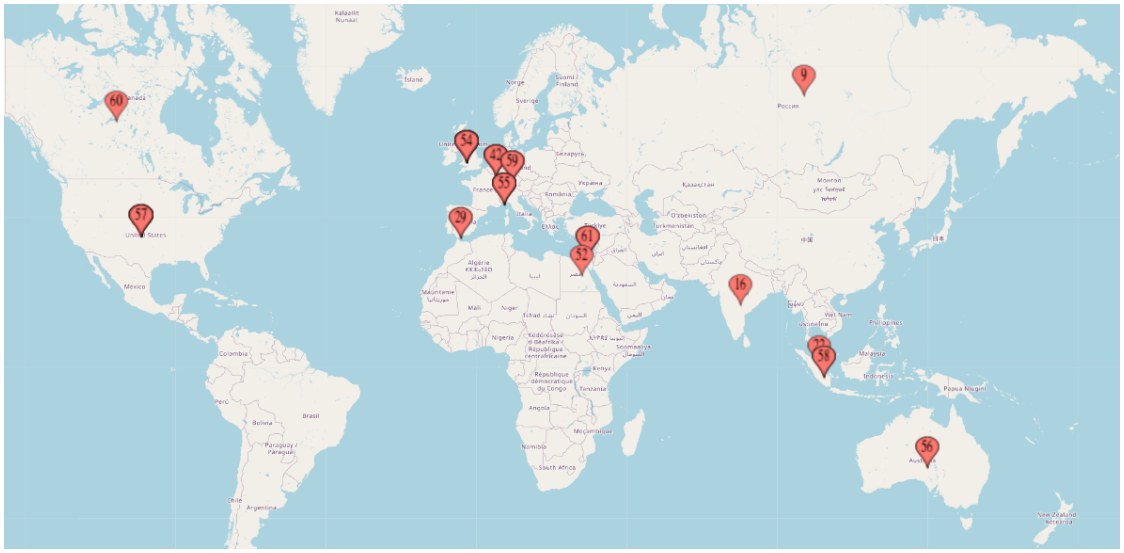

Figure 6. Publication Location

Key Dimensions Influencing AI Plagiarism in Education

To understand the broader landscape of AI plagiarism in education, it is essential to explore the main aspects that influence its occurrence and regulation. According to the bibliometric findings, three key dimensions emerge: AI Policy, AI Ethics, and Academic Integrity. Each of these aspects plays an important role in shaping how students, educators, and institutions interact with AI technologies in academic settings. AI policies establish formal rules and preventive measures, AI ethics emphasize moral and digital literacy perspectives, while academic integrity upholds the core values and cultural norms of higher education.

To provide a clearer overview, Table 2 summarizes these three dimensions, their forms of influence, and their relationship with plagiarism cases, supported by recent scholarly contributions.

Aspect Analyzed	Form of Influence	Relationship with Plagiarism Cases	Authors
AI Policy (rules & AI usage regulations)	Regulation and prevention	AI Policy for teaching and learning in university	(Chan 2023; Ghimire and Edwards 2024)
AI Ethics (digital literacy, morality, ethical awareness in AI use)	Originality and Plagiarism	Digital ethics limits the misuse of AI and plagiarism.	(Eaton 2023; Lim et al. 2023)
Academic Integrity (values of honesty,	Academic values	The campus civitas uses AI to support the	(Gallent-Torres, Zapata-González,

responsibility, academic culture)	efficiency of the learning process, not to replace task/jobs.	and Ortego-Hernando 2023; Sullivan, Kelly, and McLaughlan 2023)

Table 2. Analyzed Aspect of AI Plagiarism in Education

CONCLUSION

AI-driven plagiarism in education has become an increasing concern with the rapid growth of generative tools like ChatGPT. The bibliometric results show five main clusters, indicating a research trend that has shifted from mainly focusing on plagiarism detection to broader discussions on ethics, academic integrity, and AI policy. Geographically, publications are mostly concentrated in Europe, North America, and certain parts of Asia, highlighting the need for more active contributions from other regions. Additionally, the study emphasizes that AI plagiarism research is closely linked to three critical areas: AI policy, digital ethics, and academic integrity, which are essential for balancing technological innovation with academic originality. Future research could explore how these aspects can be applied across different educational levels and settings.

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