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MATHEMATICS EDUCATION LEARNING AND TEACHING

Trend Analysis of Character Education in Mathematics Learning in Indonesia Over A Decade

Yuni Fitriyah[1], Turmudi[2], Wahyudin[3*], Hanifah Nurhayati[4], Fitria Maghfiroh[5]

1,4,5 Graduate Student on Department of Mathematics Education, Faculty of Mathematics and Natural Sciences Education, Universitas Pendidikan Indonesia
2,3 Lecturer on Department of Mathematics Education, Faculty of Mathematics and Natural Sciences Education, Universitas Pendidikan Indonesia

*Corresponding author: Setiabudi Street No. 229 FPIPS Building, UPI, Isola, Sukasari Bandung, Jawa Barat 40154, Indonesia.
e-mail address: wahyudin.mat@upi.edu

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a b s t r a c t

Character education is a critical component in 21st-century education, serving not merely as a means to foster academic dimensions, but also as a foundational cornerstone in shaping moral and ethical values among students. This study aims to conduct a bibliometric analysis of recent developments and trends in character education research in mathematics learning in Indonesia over the past decade. The method utilized was bibliometric analysis, primarily condu cted through searches in the Dimensions database using the phrases "character education" and "mathematics education," following the PRISMA method. A total of 166 eligible articles were identified. Primary data were analyzed using Microsoft Excel and Mendeley's VOSviewer. The results indicated that publications related to character education in mathematics education in Indonesia fluctuated during 2014-2023, with the highest number of publications occurring in 2023. Semarang State University emerged as the institution with the most publications. The highest number of published articles came from the "Journal of Physics: Conference Series," while research demographics primarily focused on Central Java Province. Rochmad from Semarang State University was identified as the most influential author. Lastly, collaborative research primarily centered on "character education," with a particular emphasis on "Islamic values" and "learning materials," suggesting potential avenues for further investigation.

INTRODUCTION

Character, as articulated by Helzer et al. (2023), represents a profound moral dimension capable of generating complex actions and decisions. Shubert et al. (2019) add that character is the distinctive way individuals think and act in their lives, socialize, and cooperate within their families, communities, and nations. Hence, the moral dimension plays a crucial role in shaping character and guiding individuals in interacting with their environment and making life decisions. The cultivation of good character in an individual can be achieved through an educational activity known as character education (Singh, 2019). Therefore, developing character through dedicated character education initiatives not only fosters moral integrity but also equips individuals with essential qualities needed to navigate and contribute meaningfully to their communities and broader society.

Character education is a highly significant aspect in the context of perpetual modern education (Singh, 2019). It serves not only as a means to develop academic dimensions but also as a critical foundation in shaping moral and ethical values in individuals (Khadijah et al., 2021; Munfaida & Haryati, 2023). Character education provides a basis for developing positive attitudes, morality, and ethical behavior in students, involving cognitive, affective, and behavioral aspects (Watts et al., 2021). In this complex era of globalization, character education becomes a crucial foundation for preparing students to face life challenges and contribute positively to society (Wardhani et al., 2022), as well as a solution to addressing social issues involving moral and ethical values (Iriany & Paciana, 2019). Character education is not merely a supplement to the curriculum but an urgent necessity in shaping a younger generation committed to moral and ethical values, contributing positively to social development and the nation (Watts et al., 2021). Character education not only shapes positive attitudes and behaviors in students but also enhances their academic achievements (Jeynes, 2019; Watts et al., 2021).

Various efforts have been made by the Indonesian government, particularly in the field of education (Faiz et al., 2021; Fahdini et al., 2021). This is supported by the research results of Susilo et al., 2022), that formal and private schools in Indonesia implement character education directly in special learning or integrate it into other subjects. The Ministry of National Education of Indonesia has formulated 18 values that must be instilled from an early age in students to build and strengthen the nation's character. Character education is not only imparted in specific subjects such as civics education but also integrated into other subjects like mathematics education. According to Tyaningsih et al. (2019), the development of character in mathematics education is achieved through material, formal, normative, and spiritual communication, which needs to be adapted to the mathematical learning environment of students to determine the success of character education based on the definition and implementation of basic mathematical concepts in schools.

In mathematics education, integrating character education provides a comprehensive approach that helps students connect mathematical concepts with moral values. In this regard, considering values such as honesty in solving mathematical problems enriches learning and strengthens students' character (Tyaningsih et al., 2020). The importance of character education in mathematics education not only relates to moral values but also impacts learning outcomes. Research indicates that students engaged in integrated character education in mathematics tend to achieve better academic performance (Sukerstiyarno et al., 2019; Khadijah et al., 2021). Integrating character values can enhance motivation and student engagement, resulting in a deeper understanding of mathematical concepts (Miller et al., 2021). Integrating character education into mathematics pedagogy not only aligns mathematical learning with ethical principles but also enhances academic success by fostering greater student engagement and understanding.

The efforts to integrate character education into mathematics education in Indonesia have been undertaken by teachers and academics. This is supported by research conducted by Khadijah et al. (2021) showing that from 2012 to 2019, many academics have researched character education in mathematics education globally. Similarly, research by Anggraini & Retnawati (2022) indicates that from 2014 to 2020, research on the implementation of character education in mathematics learning has been conducted across various mathematical topics in schools.

However, studies or research on the trends in character education research in mathematics education in Indonesia have not been conducted. Thus, the author is interested in studying and examining the publication trends of character education research conducted in mathematics education in Indonesia. This study will be conducted through a literature review of articles related to character education and mathematics education in Indonesia using bibliometric analysis. Bibliometric analysis is chosen as the framework to assist researchers in mapping and identifying knowledge elements regarding character education in mathematics education in Indonesia. The bibliometric method can be used to analyze publications in various journals with a predetermined theme (Muhammad et al., 2023). This approach considers the configuration, dependencies, interactions, and dynamics of writing related to the topic (Majdouline et al., 2022).

Based on the above descriptions, this study specifically aims to answer the following research questions:

1. What are the current trends in academic publications related to the integration of character education in mathematics education in Indonesia?
2. What are the collaboration patterns among affiliations in research related to the integration of character education in mathematics education in Indonesia?
3. Which sources publish articles related to the integration of character education in mathematics education in Indonesia?
4. How does the geographic distribution of scholarly publications on the integration of character education in mathematics education indicate collaborative research efforts across regions in Indonesia?
5. What are the collaboration patterns among authors in research related to the integration of character education in mathematics education in Indonesia?
6. What specific themes and emphases characterize contemporary research efforts related to character education, especially focusing on its integration into mathematics education at schools?

METHODS

Population and Sample

The population used in this study consists of metadata documents such as research articles and proceedings related to the integration of character education in mathematics education published in the Dimensions database. The sample includes articles published between 2014 and 2023, conducted in Indonesia, and meeting the criteria set by the authors to address the research questions. Data were retrieved on November 18, 2023, using the Dimensions application, yielding a total of 166 articles.

Research Design

This research employs bibliometric visualization and bibliometric analysis methods. Bibliometric analysis is conducted using a descriptive approach to examine research trends, author collaborations, and analyze bibliometric relationships based on keywords. Visualization methods provide a structural overview of the research area.

Bibliometric analysis also contributes to educational policy development by offering a better understanding of existing research focus and orientation (Donthu et al., 2021; Sahni & Kaurav, 2023). The findings of these analyses can guide policymakers in designing evidence-based programs (Zahra et al., 2021). By tracking publication trends and research developments related to character education in mathematics, bibliometric analysis aids in shaping education policies and practices that respond to current educational developments.

Data Collection and Analysis

Publication and citation trends related to the integration of character education in mathematics education are segmented by year, spanning from 2014 to 2023, following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) method as depicted in Figure 1. Referring to Page et al., 2022, the PRISMA method was used to provide a systematic review of the literature related to character education in mathematics education. Annual publication counts are visualized using diagrams with the assistance of Microsoft Excel. The geographic distribution by country is displayed using the Canva application, while collaboration among researchers is examined using VOSviewer software.
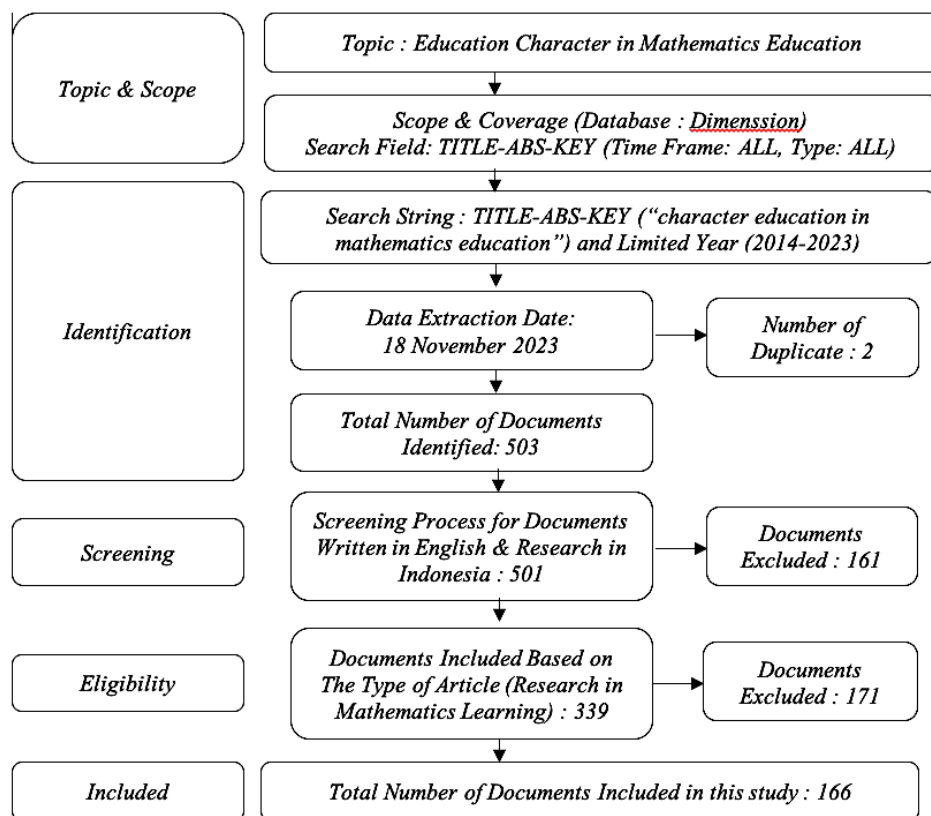

Figure 1
Data Search and Collection Process

In presenting affiliation demographics, the researcher utilized Microsoft Excel for visualization aided by the Canva application. Furthermore, to display sources and affiliations, researchers employed Microsoft Excel software to present ranking diagrams of sources and affiliations. Data obtained from the Dimensions database, totaling 503 publications, will be categorized based on research implementation criteria in Indonesia. This indicates that 166 publications related to the integration of character education in mathematics education were published from 2014 to 2023.

Research focusing on the integration of character education in mathematics education was conducted using VOSviewer software to analyze occurrences with keywords. Researchers

established a threshold to display research focus, requiring a minimum of 2 publications using keywords concurrently.

RESULT AND DISCUSSION

Result

Current trends in academic publications

The trend of publications related to the integration of character education in mathematics education in Indonesia from 2014 to 2023 is depicted in Figure 2. A total of 168 publications are grouped by year of publication. The growth trajectory of publications concerning the integration of character education in mathematics education, as shown in Figure 2, indicates that in 2019, 2020, and 2023, the number of publications accounted for over 15% of the total publications in Indonesia over the past decade.
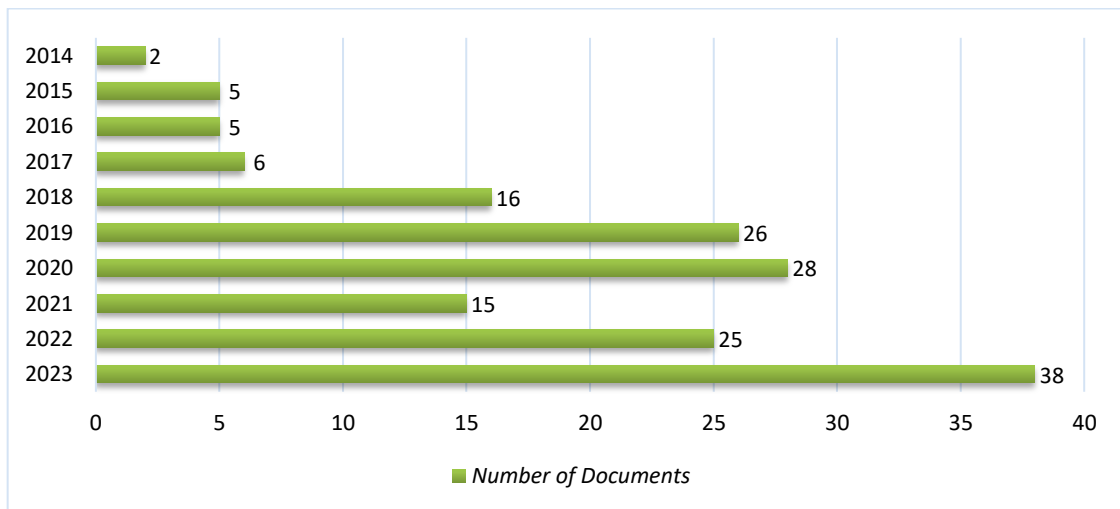

Figure 2
Publication Trends in 2013-2023

From Figure 2, it can be seen that in 2023, there were 38 articles published, which is the highest number compared to other years. Looking at the trend line, the number of publications fluctuated over the past 10 years. From 2014 to 2020, the research interest in integrating character education into mathematics education consistently increased. However, from 2020 to 2021 (from 28 to 15 publications), there was a significant decrease of 46.42%. Despite this decline, there was rapid growth in the number of publications from 2021 to 2022 and from 2022 to 2023.

Patterns of collaboration among affiliates

Based on the data analysis results, 10 affiliations have published the most articles over the past 10 years. It can be observed in Table 1.

Table 1
10 Top Relevant Affiliation

No	Affiliation	Articles
1	Universitas Negeri Semarang	26
2	Universitas Negeri Yogyakarta	13
3	Universitas Pendidikan Indonesia	13
4	Universitas Masamus Merauke	12
5	Universitas Negeri Padang	10
6	Universitas Sebelas Maret	9
7	Institut Agama Islam Negeri Langsa	8

8	Universitas Islam Negeri Bandung	8
9	Universitas Negeri Surabaya	8
10	Universitas Muhammadiyah Purworejo	8

From Table 1, it is evident that Universitas Negeri Semarang has the highest number of published articles, totaling 26 articles. The second and third highest affiliations are Universitas Negeri Yogyakarta and Universitas Pendidikan Indonesia, respectively. Other affiliations in the table have published between 8 to 12 articles. This indicates that Universitas Negeri Semarang is the most active affiliation in publishing articles related to the integration of character education in mathematics education in Indonesia, followed by Universitas Negeri Yogyakarta and Universitas Pendidikan Indonesia. Conversely, other affiliations tend to have fewer publications.

Sources of published articles

Based on the search results in the Dimensions database, a total of 166 publications that met the criteria were identified. The top ten sources publishing research on the integration of character education in mathematics education in Indonesia can be seen in Table 2.

Table 2
Most Relevant Sources

Sources	Articles
Journal of Physics: Conference Series	29
AKSIOMA: Jurnal Program Studi Pendidikan Matematika	2
AR-RIAYAH : Jurnal Pendidikan Dasar	2
Daya Matematis: Jurnal Inovasi Pendidikan Matematika	2
EDU-MAT: Jurnal Pendidikan Matematika	2
Infinity Journal	2
Jurnal Pendidikan Karakter	2
Kreano, Jurnal Matematika Kreatif-Inovatif	2
Math Educa Journal	2
Scholaria: Jurnal Pendidikan dan Kebudayaan	2

Based on Table 2, it is noted that the highest number of articles was published in the "Journal of Physics: Conference Series," totaling 29 articles. Meanwhile, other sources in the table published 2 articles each during the period from 2014 to 2023. This data indicates that the "Journal of Physics: Conference Series" was the most active source in publishing articles related to the integration of character education in mathematics education in Indonesia. Other sources have also published related articles but in relatively fewer numbers. In terms of percentage, sources that published only one article account for 70% of the total.

Geographical distribution of publications

The geographical distribution of publications in Indonesia is illustrated in Figure 3 below.
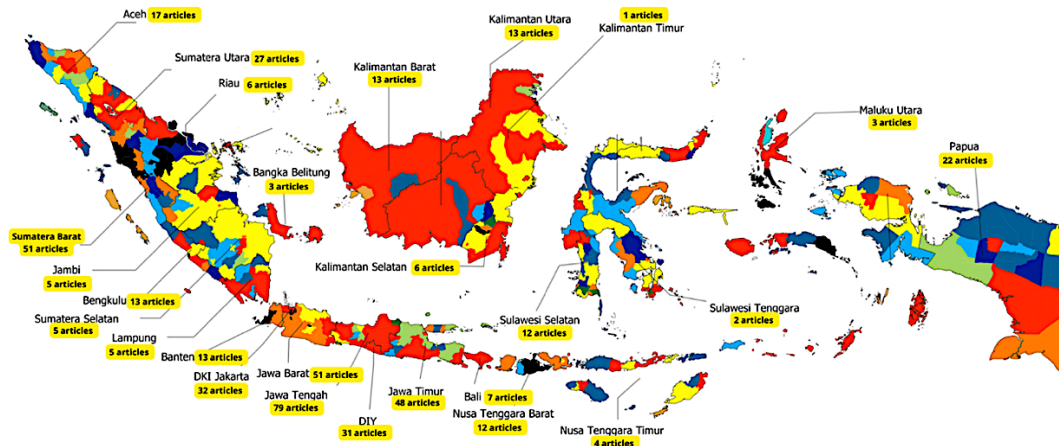
Figure 3
Demographic Distribution Map

Figure 3 shows the originating areas of the affiliations of these publications. Central Java Province leads with the highest number of publications at 79 articles, followed by West Java Province with 51 articles. Provinces like East Java, DKI Jakarta, Yogyakarta Special Region, North Sumatra, Papua, West Sumatra, Aceh, Bengkulu, West Nusa Tenggara, and South Sulawesi have between 12 to 48 publications each. Conversely, Bali, South Kalimantan, Riau, Jambi, Lampung, South Sumatra, East Nusa Tenggara, Bangka Belitung Islands, North Maluku, Southeast Sulawesi, and East Kalimantan each have between 1 to 7 publications.

The pattern of cooperation between authors

This study applied a threshold where each publication must have a minimum of 1 citation. Out of the total 166 publications, 438 authors were involved, but only 17 authors met this citation threshold. The bibliography pairing of publications is depicted in Figure 4 using network visualization as shown below.
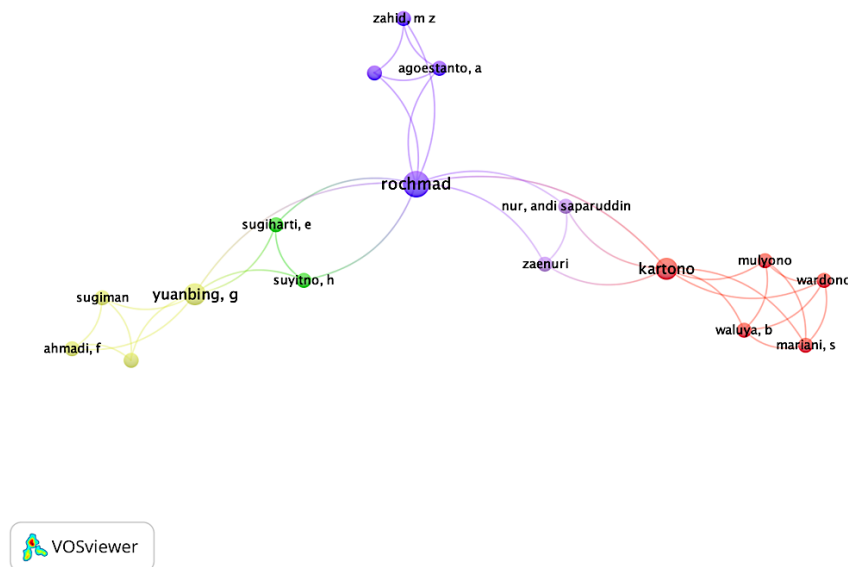

Figure 4
Network visualization of publication bibliographic pairs

From Figure 4, it is clear that the largest circle represents Rochmad. Author Rochmad has the largest node size compared to other authors, indicating significant influence. Rochmad

is identified as having published 3 articles on the same topic. Additionally, Rochmad collaborated with 9 other authors: Zahid, M. Z., Kharis, M., Agoestanto, A., Nur, Andi Saparuddin, Zaenuri, Kartono, Sugiharti, e., Suyitno, H., and Yuanbing, G. Rochmad has published three articles: "Algebraic Creative Thinking of Undergraduate Students of Mathematics Education Program" in 2019, "The Implementation of Mathematics Comic through Contextual Teaching and Learning to Improve Critical Thinking Ability and Character" in 2021, and "Teacher's Perception of Culture-Based Mathematics Learning" in 2023. This indicates that Rochmad has consistently conducted research from 2019 to 2023, involving various educational levels including schools, universities, and teachers. . This illustrates that Rochmad's articles have the most substantial impact on research related to the integration of character education in mathematics education in Indonesia.

Next, the bibliography pairs of authors are shown in Figure 5, presented with overlay visualization.
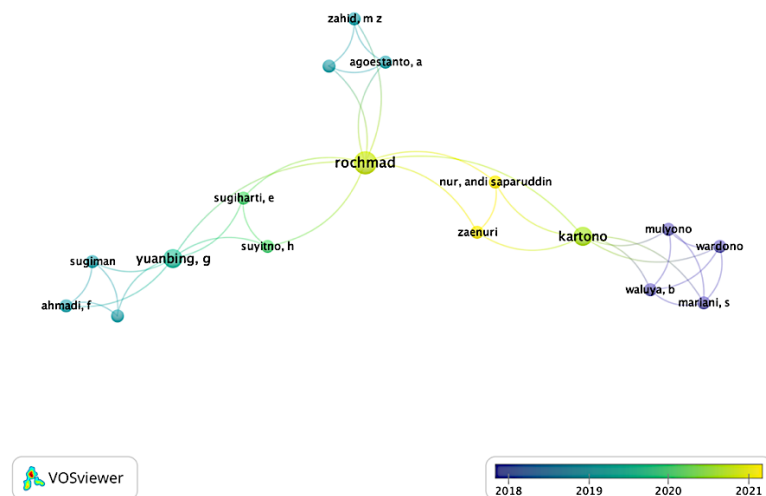

Figure 5
Visualisasi Ovelrlay terhadap pasangan bibliografi publikasi

Figure 5 shows the overlay visualization, nodes are represented with different colors indicating the publication time of the articles. There are several colors such as yellow, green, and blue. The brighter the color of a node, the more recent the publication. Blue indicates articles published around 2018, green represents articles published around 2020, and yellow indicates articles published around 2021. Nur, Andy Saparuddin, and Zaenuri, both affiliated with Universitas Negeri Semarang, have nodes colored in yellow, indicating they have published several articles around 2021. On the other hand, authors like Mulyono, Wardono, Waluya, B., and Mariani, S., also affiliated with Universitas Negeri Semarang, have nodes colored in blue and green, indicating their articles were published around 2018 and 2020.

Research focus related to character education in mathematics education in Indonesia

At this stage, the researchers set a minimum requirement for shared keywords displayed in VOSviewer, where each keyword must appear together in at least 3 publications. This ensures that only keywords used in collaboration across multiple publications—37 in total out of the initial 234—are shown in the shared keyword visualization, as depicted in Figure 6.
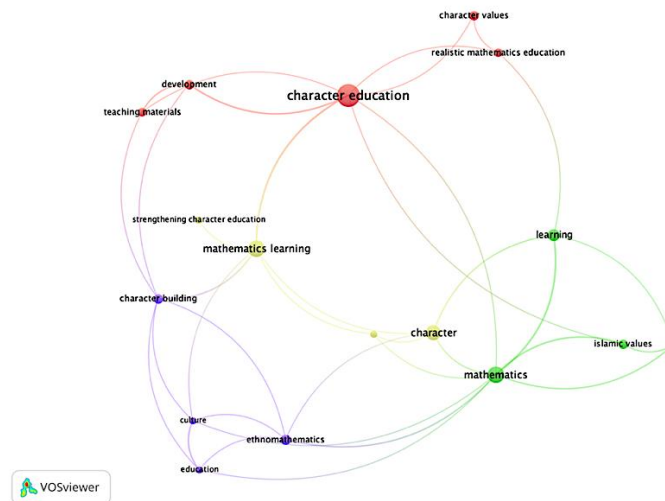
Figure 6
Keyword Co-occurrence (Occurrence Threshold ≥ 3)

From Figure 6, it is evident that there are several clusters represented by different colors, reflecting the research focus on integrating character education in mathematics education in Indonesia. There are four clusters: red, blue, yellow, and green.

1. The red cluster consists of five items, with the largest circle representing the keyword "character education". This indicates that "character education" is the primary focus of research along with "development", "teaching materials", "character values", and "realistic mathematics education".
2. The blue cluster contains four items, with "character building" and "ethnomathematics" being the largest keywords. This suggests that "character building" and "ethnomathematics" are the main research focuses along with "education" and "culture".
3. The yellow cluster includes four items, with the largest circle representing "mathematics learning" and "character". This implies that "mathematics learning" and "character" are the primary research focuses, alongside "strength in character education" and "primary school".
4. The green cluster comprises four items, with "mathematics" and "learning" being the largest keywords. This indicates that "mathematics" and "learning" are the main research focuses along with "integration" and "Islamic values".

By examining the size of each circle in the clusters, we can identify the primary research keywords within each cluster. This provides a clear overview of the direction and research focus in the integration of character education within mathematics education in Indonesia.

The first research focus is on character education itself, which relates to character values, development, teaching materials, and realistic mathematics education. Zuliana et al. (2025) investigated Culture-Based Realistic Mathematics Education as an alternative learning approach to enhance students' character at schools. This approach can improve students' mathematical learning outcomes in both cognitive and affective domains, fostering not only academic prowess but also character development and appreciation for community culture. Similarly, Domu & Mangelep's research (2019) examined that developing teaching materials using local culture not only instills character in students but also enhances their learning outcomes due to a more enjoyable learning environment. These four research focuses can serve as a reference for future researchers to determine their research focus on character education in mathematics education. Next, the researcher presents data using overlay visualization as shown in the figure below.
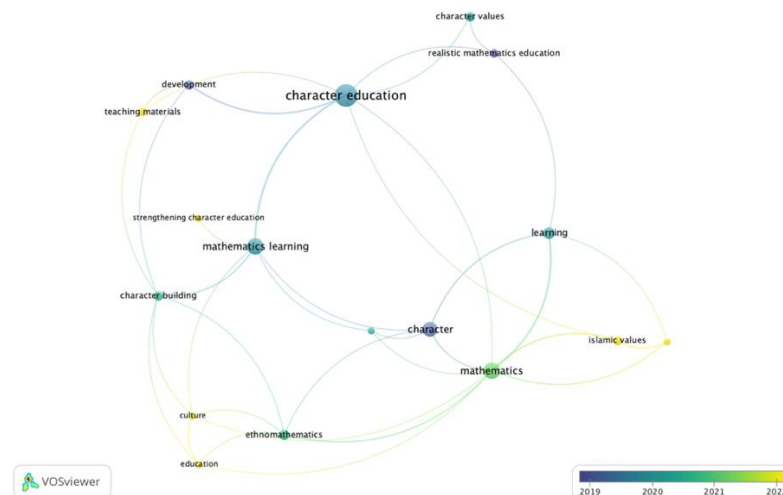
Figure 7 `
Overlay Visualization (Occurrence Threshold ≥ 3)

In Figure 7 above, there is an overlay visualization of co-occurring keywords in authors' publications. The yellow color indicates keywords related to recent publications, meaning keywords such as "teaching materials," "Islamic values," "education," "culture," and "strengthening character education" originate from articles newly published around 2022. This phenomenon indicates a shift in keyword focus over time, where keywords focused on "character values" in 2020 have evolved into "Islamic values." This reflects that character development is not only limited to general values-based character education or self-potential-based education but is also increasingly emphasizing religious values-based character education through mathematics education.

Furthermore, in the context of implementing character education integration in mathematics learning, developments occurred from 2019 to 2021. Earlier research focused more broadly on development, particularly in the practice of character education itself, such as developing lesson plans, teaching media, or assessment instruments. However, recent studies have begun to emphasize more specific aspects, particularly teaching materials.

Dicussion

Based on the findings that have been described previously, the following are discussed the findings to answer the research questions.

What are the current trends in academic publications related to the integration of character education in mathematics education in Indonesia?

The publication trend related to the implementation of character education in mathematics learning in Indonesia over the past decade shows interesting fluctuations. In general, research interest in this topic has continued to increase from 2014 to peak in 2023 with the highest number of publications of 38 articles. A significant increase occurred in 2019, 2020, and 2023, where the number of publications exceeded 15% of the total publications over the past ten years. This indicates great attention and interest from researchers and education practitioners to integrate aspects of character education in mathematics learning. However, there was also a significant decline in 2021, where the number of publications fell by 46.42% compared to the previous year. This decline can be caused by various factors, such as the shift in research focus to other topics. As found in Siregar et al. (2024) throughout 2020-2023 the most researched topics in mathematics education were the development of mathematics learning models/methods, followed by an analysis of students' abilities/skills in mathematics, and the development of learning media/technology. However, the publication trend again experienced rapid growth in 2022

and 2023. This shows that interest and efforts to integrate character education into mathematics learning remain a major concern among academics and education practitioners in Indonesia.

What are the collaboration patterns among affiliations in research related to the integration of character education in mathematics education in Indonesia?

It is known that Semarang State University is the affiliate with the highest number of article publications related to the implementation of character education in mathematics learning in Indonesia, which is 26 articles. This finding shows that Semarang State University is the most active affiliate in publishing articles related to the implementation of character education in mathematics education in Indonesia. This can be caused by several factors, such as the existence of research programs or research groups that focus on this topic at Semarang State University. According to research conducted by Bates (2019), character education is an important component of the education system to help students develop good moral and ethical values. Semarang State University seems to have taken a significant role in efforts to integrate character education into mathematics learning, which is often considered a dry subject and only focuses on cognitive aspects (Benefits, 2024). Meanwhile, other affiliates tend to have fewer publications than the top three affiliates. However, it cannot be ignored that the existence of publications from various affiliations shows that the topic of implementing character education in mathematics learning has attracted interest from various institutions in Indonesia. The existence of publications from various affiliations reflects the efforts made by various educational institutions in Indonesia to achieve this goal.

Which sources publish articles related to the integration of character education in mathematics education in Indonesia?

It was found that the source that published the most articles related to the implementation of character education in mathematics learning in Indonesia was "Journal of Physics: Conference Series" with a total of 29 articles. Meanwhile, other sources listed in the table only published 2 articles during the period 2014 to 2023. Other sources also published related articles, but in relatively smaller numbers. In percentage terms, sources that only published one article amounted to 70% of the total sources listed in the table. This indicates that most sources only occasionally publish articles related to this topic, while "Journal of Physics: Conference Series" appears to be the main source that consistently publishes these articles. Some factors that may contribute to this are that it is the largest conference proceedings in the world, which provides a fast, easy-to-use, and effective publishing process for authors with a wide range of fields, not only in physics but also mathematics and others as explained on its website. While other sources that publish articles related to this topic are fewer in number, perhaps due to the different focus or scope of the journal, or the lack of special attention to the topic.

How does the geographic distribution of scholarly publications on the integration of character education in mathematics education indicate collaborative research efforts across regions in Indonesia?

Based on geographical distribution data, authors affiliated with Central Java Province are the most active authors in publishing research related to the integration of character education in mathematics education in Indonesia. These findings indicate that more than 65% of regions in Indonesia have integrated character education in mathematics education. This shows that since character education was introduced in the Indonesian curriculum in 2010 (Hakim, 2023), it has been responded positively by stakeholders by integrating it into mathematics subjects. In addition, Central Java Province has a significant concentration of publications related to this topic, perhaps due to the presence of strong educational institutions or research centers in the province, such as Semarang

State University which is affiliate with the highest number of publications as shown in Table 1. The concentration of publications in certain areas is in line with research conducted by Supriandi et al. (2023) who found that there are geographical patterns in research and publication activities in a country. They stated that factors such as resource availability, research infrastructure, and government policies can influence the geographical distribution of research and publication activities. However, it cannot be ignored that there are publications related to the implementation of character education in mathematics learning in almost all provinces in Indonesia, although in varying numbers. This reflects the efforts made in various regions to integrate aspects of character education into mathematics learning, although with varying intensities.

What are the collaboration patterns among authors in research related to the integration of character education in mathematics education in Indonesia?

One of the most influential researchers in research related to the implementation of character education in mathematics learning in Indonesia, Rochmad managed to stand out by publishing 3 main articles from 2019 to 2023 in collaboration with 9 other authors. This shows a broad network of collaboration and has a significant influence on research related to this topic. An interesting publication pattern based on the color of the time the article was published (Muhammad et al., 2023). Articles in blue, green, and yellow indicate that they were published by different authors each year. This reflects the evolution of research and different research focuses over time in the context of character education through mathematics education in Indonesia.

What specific themes and emphases characterize contemporary research efforts related to character education, especially focusing on its integration into mathematics education at schools?

In the overlay visualization based on keywords, it is found that the keyword "character education" has the largest circle size followed by "mathematics learning". The size of the circle in each cluster reflects the main focus of each research group (Donthu et al., 2021), which provides a clear picture of the direction and emphasis of character education research through mathematics education in Indonesia. It means, the topics of "character education" and "development" are the main focus, but other focuses are also found in other clusters. This confirms the diverse approaches being explored, ranging from pedagogical methods and cultural contexts to religious values (Fitriadi et al., 2024), all aimed at facilitating holistic character development in students through mathematics education. Furthermore, in 2022, the research trend related to character education in mathematics learning in Indonesia experienced a change in focus. First, character education no longer only focuses on general values, but also begins to emphasize character education based on religious values through mathematics education. This illustrates the response to the diverse social and cultural context of Indonesia, where character education needs to be sensitive to local and religious values. Second, developments in the implementation of character education in mathematics learning show an evolution from previous research that was more general to more specific. Previous studies have focused on the development of lesson plans, learning media, or assessment instruments (Mahfudy et al., 2019; Fadillah et al., 2019), while recent studies have focused more on a more specific aspect, namely teaching materials (Gradini et al., 2021). Teaching materials here are defined as any form of material used to assist educators in facilitating the teaching and learning process (Magdalena et al., 2020; Nuryasana & Desiningrum, 2020). This reflects a new direction in research that shows potential for further exploration by authors, readers, and researchers in this field.

CONCLUSION AND IMPLICATION
Conclusion
Overall, based on the findings and discussion, this study draws several conclusions. First, interest and focus on the implementation of character education in mathematics learning in Indonesia have fluctuated over the past decade, although there was a decline in 2021, research on this topic showed significant growth in other years, especially in 2019, 2020, and 2023. Second, Semarang State University plays a dominant role with the largest number of publications, indicating a strong commitment to integrating character education into mathematics learning. Third, "Jurnal Fisika: Conference Series" is a consistent primary source in publishing articles related to this topic. Fourth, geographical analysis shows that Central Java is the focal point for publication activities in this field. Fifth, Rochmad from Semarang State University was identified as the most influential author. Sixth, the diversity of research focuses underscores the ability to adapt to contextual demands and local values, especially the increasing emphasis on religious values. Overall, this study provides a comprehensive picture of the evolution and variation of approaches to character education through mathematics education in Indonesia and emphasizes the importance of adaptation and response to social, cultural, and educational dynamics.

Implication
Through the analysis of research trends related to the implementation of character education in mathematics education, it was found that research growth has tended to increase over the past 10 years. The data from this study provide important evidence to direct educational policies that are more supportive of character strengthening in all subjects, including mathematics. Policy makers can design curricula or teacher training programs that emphasize the importance of character education as part of a holistic approach to learning. Meanwhile, other researchers can use these findings as a basis for further studies, for example exploring specific methods or approaches that are most effective in integrating character education into mathematics teaching. A new focus of research that provides a gap for authors, readers and researchers in this field to be able to conduct further research. For further research, it is recommended to discuss "Islamic values" and "teaching materials" used in other fields of education. In addition, this study still has limitations. Therefore, to get a more comprehensive view, further research is recommended to expand the scope of this study by analyzing its impact in various cultural contexts, educational levels, or geographic areas.

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