



RESEARCH ARTICLE

Research Implication of Character Education in Indonesia: Bibliometric Analysis and Future Agenda

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ARTICLE INFO

Received: Aug 18, 2024

Accepted: Oct 9, 2024

KeywordsCharacter Education
Bibliometric Analysis
Indonesia
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ABSTRACT

The quality of a country can be reflected in the character of every citizen in daily life. In simple terms, a country that has a developed and superior civilization is characterized by the quality of the strong character of the people. The purpose of this systematic literature review study is to determine, evaluate, and examine trends in scientific publications on character education research in Indonesia, using a bibliometric review process and data mapping. Research data on Character Education was obtained from the Scopus database. Furthermore, the search was conducted using the Scopus database which contains data on all journal articles relevant to the research topic. The search process is based on the topic area accompanied by title, keywords, year, country, and abstract, language on the study material. The mapping process was carried out using VOSviewer. The initial search with a range of 2014-2024 found 310 relevant articles. The results showed that character education research in Indonesia between 2014-2024. In 2020 had the highest number of publications, which consisted of 58 documents. Meanwhile, the topic of character education, character, and local wisdom is the area most discussed by researchers. Among all universities in Indonesia, the State University of Malang has the highest number of articles with 31 articles, followed by Yogyakarta State University with 30 documents, and Universitas Pendidikan Indonesia with 29 documents. Through VOSviewer, we analyze the number of articles that have been published on the topic and its relation to the research topic area. In the end, the review and assessment of this article can provide a reference point for further research related to character education in Indonesia and the future policy agenda.

INTRODUCTION

Current technological sophistication brings significant changes to the order of values, culture, and habits in the fields of the state, especially in the field of education (Adi Kistoro et al. 2024; Asror, Zainiyati, and Suryani 2024; Irawan et al. 2024; Kusmanto, Zamzani, and Suryaman 2024). Guajardo and Rönnqvist (2016) argue "education and technology are not two separate vague and autonomous elements that suddenly sprouted into a reality". Technology and education are two fields that cannot be separated. Because with the sophistication of technology, learning can be done interestingly and effectively. Ideally, the use of technology can be balanced with extensive knowledge (Alazemi et al. 2024; Ilham and Rahman 2024; Pristiwati et al. 2024; Rochmiyati, Tiasari, and Ermawati 2024).

On the other hand, digitalization seems to refract national borders, so barriers between countries seem unreal or non-existent. This opens the door for foreign values and cultures to be entered and developed in Indonesia (AB. Musyafa Fathoni et al. 2024; Miftahuddin, Aman, and Yuliantri 2024). Digitalization has an impact on psychological issues in adolescents, such as identity crises, dependence, and various other problems. This reality must be faced by the Indonesian people with all preparation and readiness. But if Indonesian people are not ready with all the sophistication of

technology, it will cause various kinds of problems, as is currently happening (Jusubaidi et al. 2024; Purniadi Putra et al. 2024). The young generation is the successor to the baton of the nation's struggle as the spearhead of Indonesia's development into a developed, just, and prosperous country (Irawan, Hermawan, and Wijayanti 2021; M 2016). According to the Indonesian Child Protection Commission throughout 2020 there were 12,944 cases of juvenile delinquency in Indonesia, especially at the education level, starting from student brawls, skipping school, sexual harassment, drug abuse, and other bad actions. This data is corroborated by Widyanti et al. (2020) their research revealed that the higher the use of digital media in daily life for adolescents, the lower their social skills, as well as their social interaction and sociability.

Volante and Ritzen (2016) in their research revealed that education and culture are part of what is considered the national integrity and identity. (Asrial et al. 2024; Salim et al. 2024; Supriyadi et al. 2024). Character as a basic value inherent in each individual who is influenced by heredity and the environment by being manifested in the form of attitudes and behavior. Character as a reflection of behavior or actions that are organized as well as possible so that they can establish interactions with fellow humans (Gunada et al. 2024; Santoso et al. 2024; Suma et al. 2024).

Character education is the spearhead of the nation in fortifying Indonesia's golden generation therefore it is interesting to study in depth. Character education is a process of transforming the values of life that are developed in each individual to form humans with character who contribute positively to society. The implementation of education is very important to be applied in three human environments, it aims to shape or strengthen the attitudes and behavior of the community in accordance with Pancasila (Khisbiyah et al., 2020; Novitasari et al., 2020). 2023; Novitasari et al. 2021; Safitri, Wulandari, and Herlambang 2022; Wandani and Dewi 2021). Indonesian character education as an effort to shape the character of the nation has always changed to adjust to the dynamics of development, this is found in the nomenclature that changes every year (Hariyanto 2021; Maisyaroh et al. 2024; Pasaribu et al. 2024; Ubaidillah et al. 2000; Winataputra and Budimansyah 2012). The purpose of the study is to determine the trend of character education research implications in Indonesia as seen from journals published in the Scopus database. The analysis obtained 20 documents with the keyword "Character Education", and then limited the country "Indonesia", in the Scopus database. Research questions include: (1) to what extent is the trend of scientific publications discussing character education in Indonesia? (2) who are the researchers who contribute to scientific publications on the topic and, (3) what are the implications of character education in Indonesia discussed in each published research article?

METHODOLOGY

This study uses bibliometric analysis. Bibliometric analysis is a quantitative tool for examining bibliographic data and is used in many fields (Qiu et al. 2021; Su et al. 2021). Bibliometric analysis is a quantitative method that is a bibliographic analysis study of scientific activities, which is based on the assumption that a researcher is conducting his research and must communicate the results to colleagues (Aksnes, Hole, and Arnesen 2015; Tupan et al. 2018). There are three bibliometric components, namely: (a) bibliometrics, which is the main domain of bibliometric research and is traditionally used as a research methodology; (b) bibliometrics for scientific disciplines (scientific information), considering that researchers work scientifically oriented, their interests affect their field of specialization and allow for joint borderland with quantitative research in information retrieval; (c) bibliometrics for science policy and management (science policy), which is the domain of research evaluation on various research topics (Donthu et al. 2021; Khan et al. 2022; Ziegler et al. 2009; Zupic and Čater 2015).

Furthermore, performance analysis or scientific mapping can be done in this way (Abdillah, Widianingsih, et al. 2023). Bibliometric studies are also carried out using Viosviewer software and Microsoft Word chart software (Tupan et al. 2018). The central concept in scientific work is seen in the keywords that represent the variables studied in scientific work, then the keywords used in this study (TITLE-ABS-KEY ("character education")) There are 310 search result documents in the Scopus database related to the keywords of this study. Keyword or co-word analysis is based on co-accuracy analysis to analyze the content, patterns, and trends of a document collection by measuring the strength of its terms (van Eck and Waltman 2010; Ziegler et al. 2009). The word analysis technique determines how many keywords from the research article appear in the article being analyzed. The

authors selected these important terms in the research documents in the Scopus database based on the level of relevance and timeline of the research based on the article title and abstract. The more often a keyword appears in a group of documents, the more closely related the documents are (Moral-Muñoz et al. 2020; Di Vaio, Hassan, Chhabra, et al. 2022). Subsequently, in the results of these studies, researchers look at the subject matter that represents the concept to be studied (Su et al. 2021). For keywords that are not standardized or not relevant to this study, researchers use the thesaurus available in the VOSviewer item tools to help standardize existing concepts or research terminology (Domínguez-Téllez et al. 2020; van Eck et al. 2010; Tranfield, Denyer, and Smart 2003; Di Vaio, Hassan, and Alavoine 2022a).

Thesaurus helps standardize keywords so that they have the same meaning across different texts and can be referred to with a single phrase. Bibliometric analysis is used to analyze scientific publications by examining their impact and citation factors, collaboration patterns, dissemination tactics, and scientific work production reports (Aksnes et al. 2015). In this study, it separates data exposure consisting of publication sources, publication impact factors, keywords used, research networks, and researcher productivity to obtain this picture. Afterwards, data collection used Scopus to collect articles about the development trend of character education publications in Indonesia. The selection of Scopus is one of the best scientific document databases in the world, Scopus is considered to accommodate more research results and scientific works of academics, practitioners, and researchers with a good reputation in the field of education science. Data collection was carried out on the Scopus website with the keywords character education and Indonesia. By using a search engine:

[https://www.scopus.com/results/results.uri?sort=plf-f&src=s&st1=%22character+education%22&sid=a8a5302e0c43d813c507fd62c3f429f2&sot=b&sdt=cl&sl=36&s=TITLE-ABS-](https://www.scopus.com/results/results.uri?sort=plf-f&src=s&st1=%22character+education%22&sid=a8a5302e0c43d813c507fd62c3f429f2&sot=b&sdt=cl&sl=36&s=TITLE-ABS-KEY%28%22character+education%22%29&origin=resultslist&editSaveSearch=&yearFrom=2014)

[KEY%28%22character+education%22%29&origin=resultslist&editSaveSearch=&yearFrom=2014](https://www.scopus.com/results/results.uri?sort=plf-f&src=s&st1=%22character+education%22&sid=a8a5302e0c43d813c507fd62c3f429f2&sot=b&sdt=cl&sl=36&s=TITLE-ABS-KEY%28%22character+education%22%29&origin=resultslist&editSaveSearch=&yearFrom=2014) &yearTo=2024&sessionSearchId=a dengan TITLE-ABS-KEY ("character education") AND PUBYEAR > 2013 AND PUBYEAR < 2025 AND (LIMIT-TO (SUBJAREA , "SOC") OR LIMIT-TO (SUBJAREA , "ARTS")) AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "cp")) AND (LIMIT-TO (AFFILCOUNTRY , "Indonesia")) AND (LIMIT-TO (SRCTYPE , "j") OR LIMIT-TO (SRCTYPE , "p")) AND (LIMIT-TO (LANGUAGE , "English"). The data analysis of this research is through the keyword "(TITLE-ABS-KEY ("Character Education")) in the Scopus database. All data search results are stored in CSV (Excel) files, which are then processed and examined using the VOSviewer Program version 1.6.17. which is intended to examine the trend, scale, and cluster of scientific publications on character education in Indonesia. Moreover, VOSviewer is a tool to display and analyze trends in the literature by systematically reviewing maps (van Eck and Waltman 2010). This program can display and describe visual bibliometric maps with unique data through the identification and analysis of research types that can be visualized in VOSviewer, as shown in Figure 1 below:

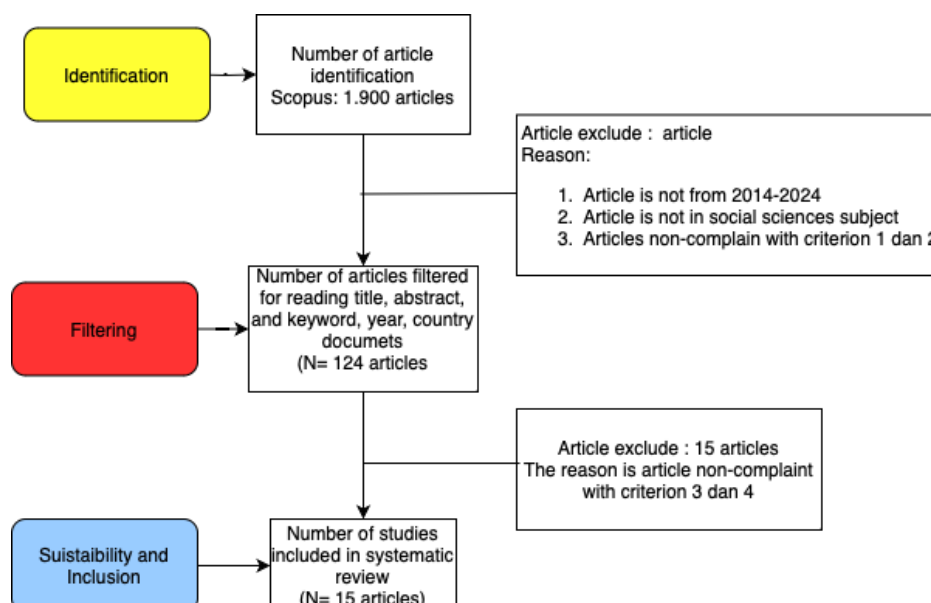


Figure 1. Study Selection, Evaluation, and Inclusion (displayed with the aid of Visualization's VOSviewer).

Source: Processed by researchers, 2024

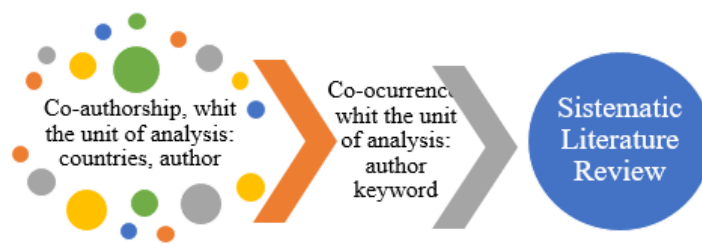


Figure 2. Research data type Analisis Bibliometrics in VOSviewer.

Source: Processed from various sources, 2024

This systematic literature review analysis approach is used to help provide a data set that policymakers, academics, and other stakeholders can utilize to improve the quality of future research (Abdillah, Buchari, et al. 2023; Di Vaio, Hassan, and Alavoine 2022b; Wang et al. 2021). The systematic literature review method is also a comprehensive and reliable way of reviewing and evaluating scientific publications to understand the development of a particular research topic (Moral-Muñoz et al. 2020; Schaltegger and Wagner 2011).

RESULTS- BIBLIOMETRIC STUDY

In this initial stage, 310 documents accessed in September 2024 on civic education were mapped and analyzed according to research trends from the publication search results on the Scopus database. Each data or study is displayed, then identified and analyzed through analytical search results from scopus.com. The data is visualized based on: (1) Documents by year; (2) Documents by author; (3) Documents by country/region (4) Documents by affiliation; and (5) documents by field of study. Over View Trend Research Character Education In Indonesia, based on the results of identification through the Scopus database from the last 10 years, from 2014 to 2024, the trend of character education research in Indonesia can be seen in Figure 3.

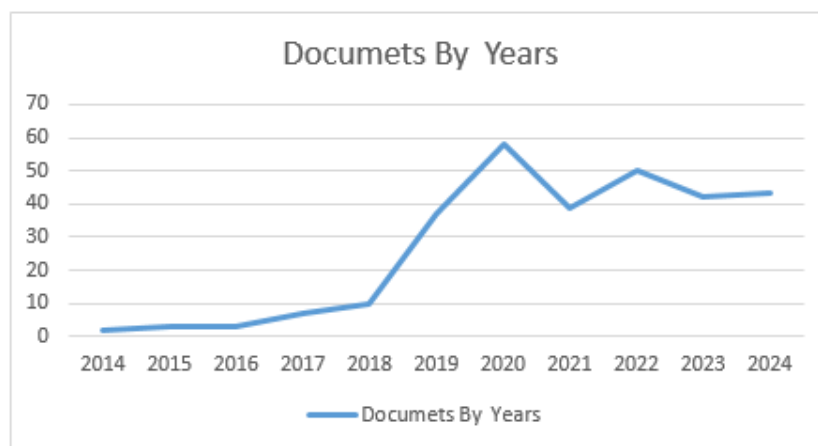


Figure 3. Documents By Years Research Implication of Character Education in Indonesia

Source: Processed via Scopus, 2024

Based on Figure 3. The increasing number of publications on character education shows the increasing attention and recognition of the importance of research related to the issue of character education in Indonesia as a pillar of national character development in Indonesia. Based on this, there is a significant increase in the quantity of research from 2014 to 2024. Starting in 2014 there were 2 documents, 2015 there were 3 documents, 2016 there were 7 documents, 2017 there were 10 documents, 2018 there were 19 documents, 2019 there were 37 documents, 2020 there were 59 documents, 2021 there were 39 documents, 2022 there were 50 documents, 2023 there were 42 documents and an increase in 2024 there were 53 documents. With the increasing number of publications on civic education from 2014 to 2024, it shows that there is growing attention to issues

related to character education. Next is the analysis of the authors who contribute the most to character education research. Furthermore, it can be seen in Figure 4.

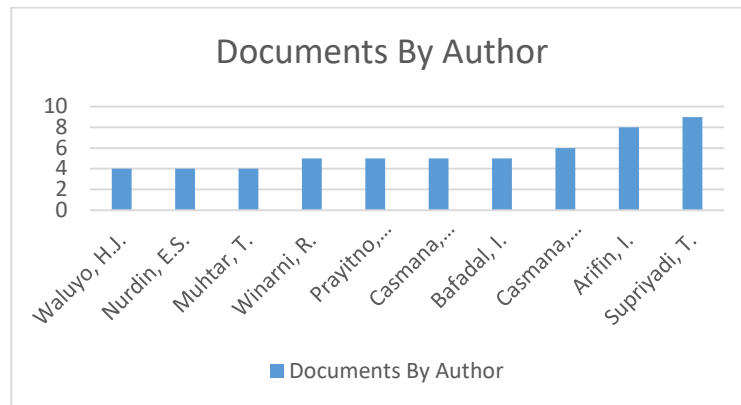


Figure 4. Documents By Author Documents by Years Research Implication of Character Education in Indonesia

Source: Processed via Scopus, 2024

The pillars of the nation as the building of the Indonesian state Character education continues to be implemented in the life of the nation and state, this can be seen in the various contributions of researchers throughout Indonesia. Based on Figure 4. shows 10 authors with the highest number of documents discussing character education in Indonesia, namely: (1) Supriyadi, T (9 documents), (2) Arifin, I. (8 documents), (3) Effendi, Y.R. (6 documents), (4) Bafadal, I. (5 documents), (5) Casmana, A.R. (5 documents), (6) Prayitno, H.J. (5 documents), (7) Winarni, R. (5 documents), (8) Muhtar, T. (4 documents), (9) Nurdin, E.S. (4 documents), (10) Waluyo, H.J. (3 documents). From the data above, it can be seen that of the several authors who contributed to character education, Supriyadi, Tedi ranks first as the author who published the most character education articles with the affiliation of the Indonesian Education University as many as 43 Scopus documents, 295 citations and has a Scopus h-index of 12. Furthermore, researchers analyzed articles related to the affiliation of the authors who contributed the most to the issue of character education in Indonesia, then it can be seen in Figure 5.

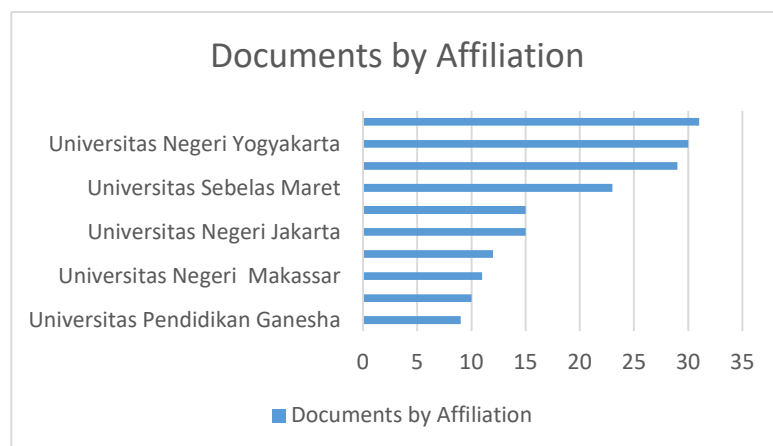


Figure 5. Documents by Affiliations Research Implication of Character Education in Indonesia

Source: Processed via Scopus, 2024

Based on Figure 5. It can be analyzed that 10 affiliations make the largest contribution to the publication of character education research in Indonesia, including (1) Malang State University as the university that contributes the most with the number of publications, which are 31 documents, then followed by (2) Yogyakarta State University (30 documents), (3) Universitas Pendidikan Indonesia (29 documents), (4) Universitas Sebelas Maret (23 documents), (5) Universitas Negeri Semarang (15 documents), (6) Universitas Negeri Jakarta (15 documents), (7) Universitas Ahmad Dahlan (12 documents), (8) Universitas Negeri Makassar (11 documents), (9) Universitas Muhammadiyah Surakarta (10 documents), (9) Universitas Pendidikan Ganesa (9 documents). Based on the list of 10 affiliations above that contribute to research on the issue of character education, the State University

of Malang occupies the first position with a total of 31 publications with publications in Scopus journals totaling 7,358 Documents and the field of Social Sciences 2. 203 documents with 4,627 authors. Furthermore, to see the extent of this research in various countries in the world in research on Character Education in Indonesia, it can be seen in Figure 6 below.

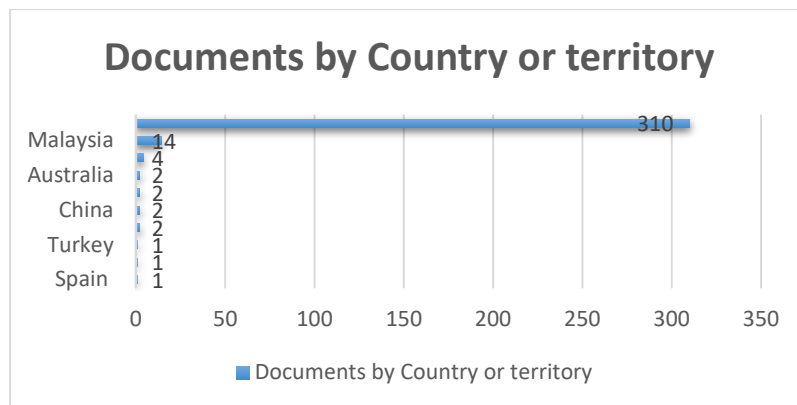


Figure 6. Documents by Country or Territory Research Implication of Character Education in Indonesia

Source: Processed via Scopus, 2024

Based on Figure 6. It is analyzed that 10 countries contribute to research related to Character Education including, in the 1st place Indonesia with a total of 310 publications, (2) Malaysia (14 documents), (3) Japan (4 documents), (4) Australia (2 documents), (5) Brunei Darussalam (2 documents), (6) China (2 documents), (7) Philippines (2 documents), (8) Turkey (2 documents), and in the order (9) and (10) there are New Zealand and Spain with the number of publication documents each having 1 document. Furthermore, from the data of the 10 countries above with the contribution of scientific publications on Character Education with the Indonesian subject area, Indonesia ranks first with a total of 310 publications, followed by Malaysia with 14 and Japan with 4 documents. Then from the data above it can also be analyzed that the topic of Character Education is not only researched in Indonesia but there are several other countries including Brunei Darussalam, China, Philippines, with a considerable number of publications, each of which has 2 documents so that this research trend is a global issue that is widely researched and interesting for researchers around the world to discuss. Furthermore, in order to narrow down the research, the author analyzes documents based on document types, namely conferences and articles, as shown in Figure 7.

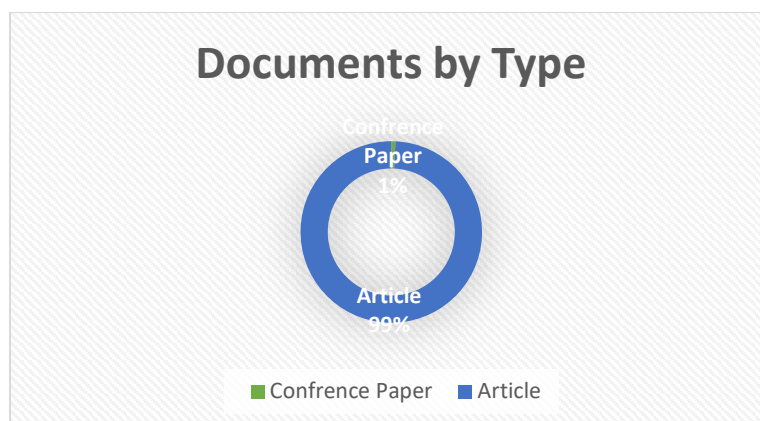


Figure 7. Documents by Type Research Implication of Character Education in Indonesia

Source: Processed via Scopus, 2024

Based on Figure 7. researchers filtered the type of publication by limiting 2 types of documents, namely articles and conference papers published on Scopus which discuss character education in Indonesia. From the data above that most of the publications are articles with a total of 99% of them indexed by Scopus Q1 to Q4 and conference papers are only a small part, which is 1%. Based on the type of document, the most published documents are articles in Scopus publications. This shows that articles have more scientific legitimacy in producing research results, so the type of article document

is most widely published in the Scopus database. Next is the subject area document, which can be seen in Figure 8.

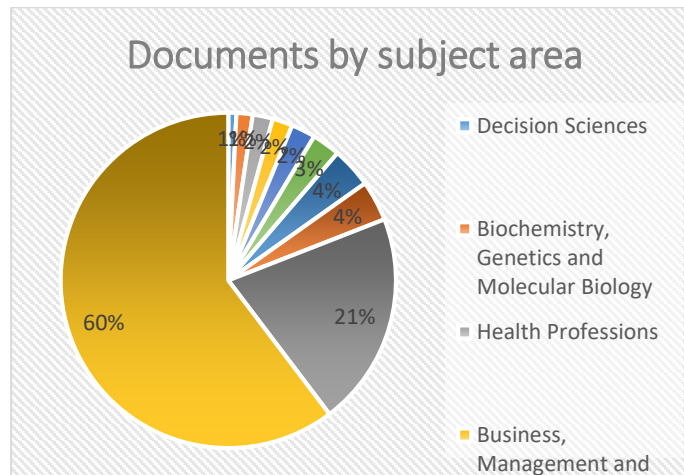


Figure 8. Documents by Subject Research Implication of Character Education in Indonesia
Source: Processed via Scopus, 2024

Based on Figure 8. It can be seen that several subjects are discussed with the keywords “Character Education”, “Indonesia”, “namely, (1) Social Sciences (287 documents), (2) Arts and Humanities (106 documents), (3) Business, Management, and Accounting (23 documents), (4) Engineering (20 documents), (5) Computer Science (14 documents), (6) Environmental Science (14 documents), (7) Psychology (13 documents), (8) Medicine (9 documents), (9) Economics, Econometrics, and Finance (6 documents), (10) Biochemistry, (11) Genetics and Molecular Biology (5 documents), (12) Decision Sciences (5 documents). From the data above, all subjects related to character education with the Social Sciences subject ranking first with a total of 55.1%, namely 287 publication documents, and Arts Humanities in second place with a total of 20.3%, with 106 publication documents. Thus, from the data above it can be concluded that the most discussed character education is the field of Social Sciences and Arts and Humanities in society.

Scale and Clusters of Research on the topic of character education in Indonesia from 2014 to 2024, In this section we will explore the clusters and scale of character education in Indonesia, through VOSviewers tolls in the following visualization

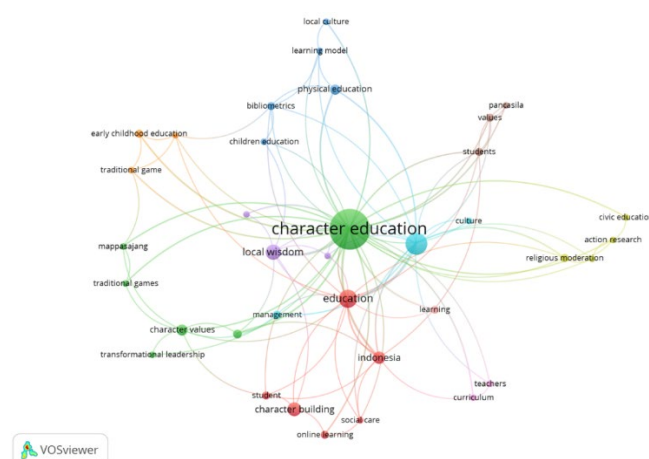


Figure 9. Network Visualization of Research Implication Character Education in Indonesia
Source: Processed via VOSviewer, 2024

By using the VOSviewer tool, we present the research cluster data, as shown in Figure 9. By selecting from the various papers available in the Scopus Database of 310 documents, the following list of research subjects has been recognized as being closely related to Character education. It is found that Figure 8 displays the research issues related to this topic. Figure 9 and Table 1 show 10 clusters that holistically depict the development of research on the topic of Character Education, where each cluster shows strong relationships between topics. 10 clusters. Figure 9, is the cluster mapping

generated by the VOSviewer application, as for the clusters on issues related to Character Education can be seen in the following table:

Table 1. Analysis via Vosviewer (the research issues associated with of Research implication Character Education In Indonesia).
Source: Processed via Vosviewer, 2024

Keyword in Scopus Database: "Character Education"	
Cluster 1 (Red) 6 Items	Character Building, education, Indonesia, online learning, social care, student
Cluster 2 (Green) 6 items	Character Education, Character Values, elementary school, mappasajang, traditional games, transformation leadership
Cluster 3 (Blue) 5 items	Bibliometrics, children education, learning model, local culture, physical education
Cluster 4 (Yellow) 4 items	Action research, civic education, religious moderation, tolerance
Cluster 5 (Orange) 3 items	Early childhood, local wisdom, systematic literature review
Cluster 6 (Purple) 3 items	Character, Culture, management
Cluster 7 (Light Brown) 3 items	Early childhood Education, Islamic education, traditional game
Cluster 8 (Light Green) 3 items	Pancasila, students, values
Cluster 9 (Yellowish-Green) 2 items	Curriculum, Teachers
Cluster 10 (Bluish-Grey) 3 items	Learning

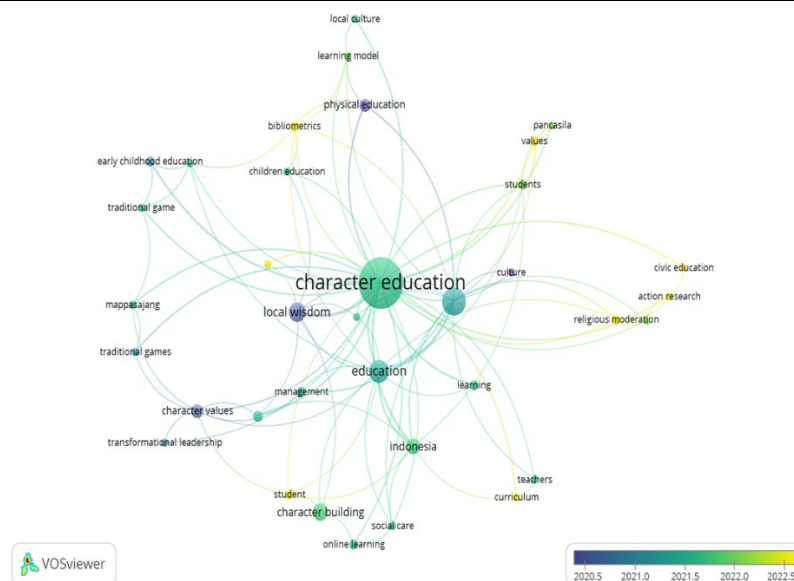


Figure 10. Overlay Visualization of Research Implication of Character Education in Indonesia
Source: Processed via Scopus, 2024

Figure 10 illustrates the density visualization, which explains that the darker the yellow color and the larger the diameter of the circle, the denser the keyword is, which means it is more frequently researched. If the color fades and increasingly blends with the green background color, then this indicates less research (Nandiyanto and Al Husaeni 2021). Based on the visualization in Figure 10, the term character education has the highest number and is often researched even until 2022. Based on Figure 10, the trends of issues regarding character education in Indonesia in the Scopus database have three clusters, cluster 1. Character education, local wisdom, character building, education, Indonesia, online learning, social care, student. In Figure 8, it can be seen that the yellow clusters are clusters or keywords that are the latest research related to the issue of character education in

Indonesia. It can be concluded that Character Education, education, Character Values, and elementary school, are the latest keywords in character education research and can be used as a reference for further research. Meanwhile, the blue keywords are the oldest research related to character education.

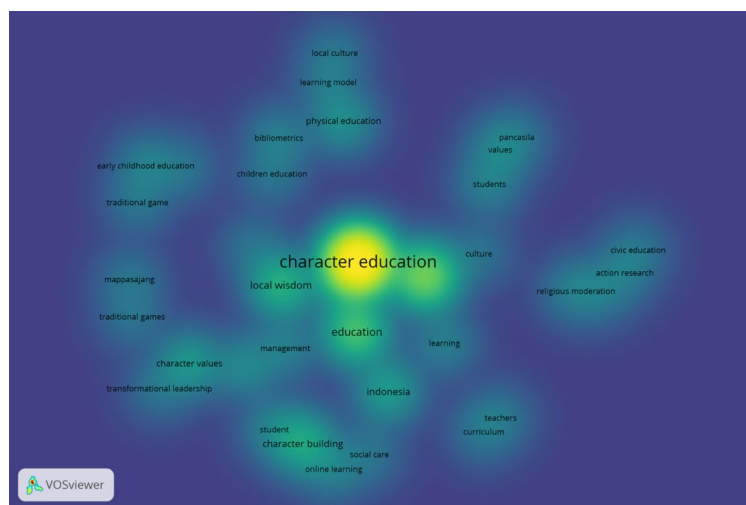


Figure 11. Analysis via VOSviewer (Type of Analysis: Co-occurrence (All Keywords))

Source: Processed via VOSviewer, 2024.

Not much has changed from what is depicted in Figure 10. The results of the overlay visualization show some trends in character education from 2014 to 2024 (depicted in the figure with the “yellow” hue being the brightest). These trends are being investigated by international experts. Some of the research questions are: (1) how can character education shape the character of good citizens? Figure 4 depicting the density visualization explains that the darker the yellow color and the larger the diameter of the circle, the denser the keywords are, which means they are more frequently researched. If the color fades and increasingly blends with the green background color, then this indicates less research (Husaeni, Nandiyanto, and Maryanti 2022). Based on the visualization in Figure 11, the terms character education, local wisdom, education, learning, Indonesia, and character building have the highest number of studies on several key concepts, teachers curriculum, students, childrens education, and character values.

Implications and Future Agenda for Character Education Research in Indonesia

This section outlines the implications as determined by the articles in the sample studied, for Character Education research (the researcher selected 15 documents based on the pre-defined research criteria and the citation levels of the top documents on this topic to see the extent to which Character Education research issues make a wider contribution). The 15 documents were selected because they best fit the pre-set criteria with the highest citations. Based on the results of previous research, it shows that the highest document with 61 citations is related to the topic of “Character Education Based on Local Wisdom”. Furthermore, the trend of the topic “Character Education” is discussed in almost all countries including Indonesia with the main mission of forming good citizens with Pancasila character. The results of the study also show that character education in Indonesia is able to shape the anti-corruption, anti-bullying and nationalist character of citizens (Komalasari and Saripudin 2015, 2017; Lee 2015; Noboru et al. 2021; Trisiana, Priyanto, and Sutoyo 2024). In addition, character education is able to form an attitude of responsibility (Sartika et al. 2024). Character education can be integrated through various digital media in improving citizens' understanding and character (Auh and Sim 2019; Djazilan et al. 2024; Schattle and Plate 2020).

The implications of research on “Character Education in Indonesia” through bibliometric analysis with the help of tools VOSviewer provide important insights into the trends, main topics, and concept networks developing in this field. Character education, which includes aspects such as “local wisdom”, “Pancasila values”, “civic education”, and “religious moderation”, plays a crucial role in the moral and ethical formation of students in Indonesia (Bleazby 2020; Dishon and Goodman 2017; Howard, Berkowitz, and Schaeffer 2004). Based on this analysis, it appears that local approaches such as “traditional games” and “cultural wisdom” are important components that contribute to students' character development. The implication of this finding is the importance of integrating cultural

context and local values into the character education curriculum to create relevant and impactful learning models for learners. Future agendas can focus on more in-depth research related to the effectiveness of culture-based character education learning models, as well as their long-term impact on student character building in Indonesia's multicultural society.

Thereby, this study emphasizes how character education is able to form smart citizens, nationalists, conflict resolution skills (Djazilan et al. 2024; Komalasari and Siti Masyitoh 2022; Sarkadi et al. 2022; Yustiana and Afandi 2023). The character and behavior of good citizens is one of the goals of civic education (Ubaedillah 2018) On the other hand, the study also shows that the main purpose of "Character Education" is to keep a country in existence and maintain the security and peace of the country.

Table 2. Identification of Research Findings according to the research topic's applicability, relevance, and similarity (selection based on document citation level in Scopus).

Title	Author	Methodology	Results	Citations
Exploring the implementation of local wisdom-based character education among Indonesian higher education students	(Hidayati et al. 2020)	Qualitative: phenomenological research	teaching character education in higher education based on local wisdom could be conducted by integrating values and aesthetics in the course, internalizing positive values to students, habituation, and training, providing examples and models, creating characterized situations based on local wisdom, and civilizing.	61
Contextual character education for students in the senior high school	(Hermino and Arifin 2020)	Qualitative	School implements positive discipline and commitment to carry out character education in accordance with local wisdom and local culture	30
Beyond School Reach: Character Education in Three Schools in Yogyakarta, Indonesia	(Abdullah et al. 2019)	Qualitative	Need for changes in school autonomy from an extension of the government, leading to provision of a conducive climate for the emergence of various approaches to improve character education. Character education stems from differences in school ideology and Indonesian cultural diversity.	26
Strengthening national character education through physical education: An action research in Indonesia	(Suherman, Supriyadi, and Cukarso 2019)	Action research	This research aims at improving PE teacher physical education teachers' understanding and skills in developing national characters such as religious, nationalist, independent, mutual cooperation, and integrity.	26

How is the Education Character Implemented? The Case Study in Indonesian Elementary School	(Aningsih et al. 2022)	Qualitative research using an ethnographic approach	Strategies applied in elementary schools, namely, exemplary; habituation; school climate conditioning; integration in learning across all subjects; and integration through extracurricular activities	23
Dimensions of early childhood character education based on multicultural and community local wisdom	(Harun et al. 2020)	Quantitative with the LISREL program tool	Character education has four dimensions with each having four indicators, apparently after being confirmed empirical data there are two indicators that fall, namely indicators of sincerity acting in the dimensions of deity and indicators of discipline in the dimension of oneself	21
Effective teachers' personality in strengthening character education	(Lukman et al. 2021)	Phenomenological research	This study found 12 personality characteristics of teachers that are effective in strengthening character education, include able to behave as friends, able to be roles model, able to understand lessons, discipline, respectful of students, treat students impartially in terms of sanctions, patient, relaxed, willing to pursue life-long learning, master the skill of educating character, not known as fierce teachers, and perceived as joyful teachers.	20
Development of E-learning oriented inquiry learning based on character education in multimedia course	(Suartama et al. 2020)	Research and development	Concluded that that the learning media developed are effective to enhance the quality of learning in multimedia learning. Efforts should be made to develop e-learning by optimizing more varied presentation methods.	20
Developing the Value of Peace in Sport, Health, and Physical Education Lecture through	(Kogoya et al. 2023)	Research development approach	Interactive model, the results obtained were that students were able to practice all traditional games, were able to recognize, understand and apply the values of peace-loving, especially the practice of tolerance, respect, openness, and care and cooperation	19

Traditional Games				
Religious characters-based physical education learning in elementary school	(Muhtar et al. 2019)	Action research	findings reveal that developing students' religious character in PE learning requires the teachers to understand and apply the TADZKIROH method	19
Storytelling through "Wayang Golek" puppet show: Practical ways in incorporating character education in early childhood	(Halimah et al. 2020)	Qualitative research	Findings showcase that practical learning steps including the introduction of themes and character stories, figures of Wayang Golek, storytelling, conversations about character education depicted in the content of the story, actualization of character education through either indoor or outdoor play, and reflection on the character development of children were effective in instilling moral values to generate positive responses from children.	17
The effect of using simulation on developing students' character education in learning economics	(Amri et al. 2020)	Quantitative analysis	Research shows that there are different characters in education development before and after implementation simulation in learning economics. The use of simulation in learning economics has an effect on the development of student character education.	16
Parental engagement on children character education: The influences of positive parenting and agreeableness mediated by religiosity	(Diana et al. 2021)	Quantitative analysis	Positive parenting and agreeableness are considered to have essential influences on parent engagement in children's character education mediated by religiosity.	15
Improved learning design for pre-service teacher in a character	(Sarkadi, Casmana, and Rahmawati 2020)	Qualitative method	Participants were motivated to engage in the course by reflecting on their learning, by using the higher-order thinking skills of critical and creative thinking, and by using	15

education course			collaboration and communication skills	
Analysis of Character Values in the Indonesian Nation's Motto "Bhinneka Tunggal Ika" through An Emancipatory Hermeneutical Study (Anon 2022)	Fitriyah, F.K., Hidayah, N., Muslihati, Hambali, I.M.	Study uses a hermeneutic approach	Study found six-character values on the motto of "Bhinneka Tunggal Ika"; (1) religious, (2) global diversity, (3) mutual cooperation, (4) brave and self-sacrificing, (5) loving, and (6) clever. These characters emerge from the values that have been carried out by Prince Sutasoma in Kakawin Sutasoma	14

CONCLUSION

Through VOSviewer, it can be concluded that the publication trend of character education in Indonesia is strongly influenced by various factors including current developments. The main focus of this research is the importance of character education in Indonesia which is closely related to local wisdom and local culture, showing that local values have a key role in character building. In addition, the values of Pancasila also stand out as an important foundation in character education, reflecting that character education in Indonesia cannot be separated from the state ideology. The research also pays attention to the importance of character education at an early age, especially in the context of children's education and early childhood education, indicating that character-building from childhood is a priority. In the digital era, online learning also has a significant link, emphasizing the role of technology in modern character education. In addition, social aspects such as social care and transformative leadership are important parts of character development, indicating that character formation is also influenced by the social and institutional environment. Overall, this article provides a comprehensive overview of how character education in Indonesia is shaped by a combination of local values, national ideology, and technological developments in education.

Authors' Contributions

Conceptualization, T.W., S.E.P, and M.; Supervision, T.W. and M.R. methodology, software, machine learning, and prediction, T.W., M.R.,S.E.P; data curation, Investigation, writing original draft preparation. TW., M.R., M., and E.H.; writing review and editing. S.E.P, M., T.W., and M.R All authors were equally involved in analyzing and editing the paper. All authors read and approved the final manuscript.

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