

<https://journals.eduped.org/index.php/IJMME>

Geometry in Ethnomathematics Research Publication: Bibliometric Analysis

Edi Supriyadi 

Sekolah Tinggi Teknologi Bandung, Indonesia

Universitas Pendidikan Indonesia, Indonesia

Turmudi 

Universitas Pendidikan Indonesia, Indonesia

Jarnawi Afgani Dahlan 

Universitas Pendidikan Indonesia, Indonesia

Dadang Juandi 

Universitas Pendidikan Indonesia, Indonesia

To cite this article:

Supriyadi. (2023). Geometry in Ethnomathematics Research Publication: Bibliometric Analysis. *International Journal of Mathematics and Mathematics Education (IJMME)*, 1(1), 18-30
<https://doi.org/10.56855/ijmme.v1i1.218>



Ciptaan disebarluaskan di bawah [Lisensi Creative Commons Atribusi 4.0 Internasional](https://creativecommons.org/licenses/by/4.0/).

Geometry in Ethnomathematics Research Publication: Bibliometric Analysis

Edi Supriyadi, Turmudi, Jarnawi Afgani Dahlan, Dadang Juandi

Article Info

Article History

Received:

13 December 2022

Accepted:

17 January 2023

Keywords

Bibliometric

Ethnomathematics

Geometry

Abstract

This study examines the implementation of ethnomathematics in geometry, in addition to the challenges and benefits of this approach. This study also emphasizes the dearth of bibliometric studies in this area and provides a Scopus-based bibliometric analysis of research on geometry in ethnomathematics. This study examines the evolution of research publications, the most cited articles, the most prolific writers, and current trends in research. This paper uses bibliometric analysis using Rstudio Biblioshiny as its methodology. The study discovered that studying geometry from an ethnomathematics perspective provides benefits such as enhancing learning interaction activities and conceptual comprehension. However, the lack of understanding about the ethnomathematics approach and how to incorporate it into teaching geometry, the teacher's lack of knowledge about geometry content knowledge, and the teacher's aversion to change are impediments to the use of this technique. Researchers that desire to discover research gaps for future studies are anticipated to find this study's findings valuable.

Introduction

Geometry can be used in ethnomathematics, although there may be obstacles associated with teaching geometry using ethnomathematics methodologies. Sunzuma & Maharaj (2021c) discovered that the perspectives of geometry held by in-service mathematics instructors in Zimbabwe fall under the cultural, social, and practical dimensions of ethnomathematics. Sunzuma & Maharaj (2019) discovered that teacher-related barriers to the integration of ethnomathematics approaches into the teaching of geometry include a lack of understanding regarding ethnomathematics approaches and how to incorporate these approaches into the teaching of geometry. Massarwe et al. (2012) discovered that a new course entitled "Issues in Ethnomathematics: Teaching Geometry in Socio-Cultural Context" helped students significantly improve their content and pedagogical content knowledge in geometry, as well as comprehend the significance of ethnomathematical learning activities related to the students' own and other cultures. Putra et al. (2020) discovered the idea of field geometry at the Soko Tunggal

Mosque and grouped triangles, squares, rectangles, rhombuses, circles, and reflections as geometry elements.

Using an ethnomathematics lens to examine geometry presents various obstacles. These challenges include lack of knowledge on ethnomathematics approaches and how to integrate them into the teaching of geometry; teachers' lack of knowledge of geometry content knowledge; teachers' perceptions of the geometry taught in schools; teachers' competence in teaching geometry; teaching and professional experience; and teachers' resistance to change (Sunzuma & Maharaj, 2019). Additionally, some skills are required to study geometry through an ethnomathematics lens, and these skills can be developed (Verner et al., 2019). In addition, doing ethnomathematical research presents methodological problems, such as questions about participants and knowledge holders, study languages, interviews and observations, familiarity (or lack thereof) with knowledge holders, mathematical analysis of cultural artefacts, etc. (Mosimege, 2012). Notwithstanding these obstacles, incorporating ethnomathematics into augmented reality technology can be advantageous for geometry study (Sudirman et al., 2020).

The study of geometry from the point of view of ethnomathematics has a number of advantages. According to Fouze & Amit (2021), using an ethnomathematical approach in the classroom can be useful to students' learning of geometry. The studies of (Faqih et al., 2021; Sudirman et al., 2020; Sunzuma & Maharaj, 2021c) all suggest that there are advantages to studying geometry from an ethnomathematics perspective. Some of these advantages include increased learning interaction activities, improved understanding of concepts, and the provision of information related to ethnomathematics and local wisdom. As a consequence of this, it would appear that learning geometry from the point of view of ethnomathematics can be advantageous. However, in order to corroborate these findings, additional research is required.

On the topic of ethnomathematics, few academics have produced bibliometric studies. The majority of ethnomathematics research has been conducted through literature reviews so far. This article utilizes bibliometric analysis to visualize the evolution of geometric research in ethno-mathematics. This research analyses the development of research papers, articles with the largest number of citations, the most productive authors, and author keyword analysis. This is essential for providing an overview to empirical researchers in order for them to determine the novelty or research gaps in future studies so that they do not overlap with previous studies

Method

Second Level Headings

The purpose of this study is to examine how research on geometry in ethnomathematics has developed over time using the Scopus database. At the end, a research map, current trends, and the most recent research topics connected to this topic will be disclosed. This can serve as a helpful overview for empirical researchers who are looking for uniqueness or originality in their research. This research used

a method known as bibliometric analysis. A technique known as "bibliometric analysis" is a way of determining the patterns of study conducted on a specific subject through the use of statistics. An in-depth exploration of scientific data is made possible by bibliometric analysis, which helps facilitate an understanding of the linkages, connections, and effects of the elements that are being evaluated in the field that is the subject of the study. Figure 1 provides a more in-depth look at the methodology that was applied in this study.

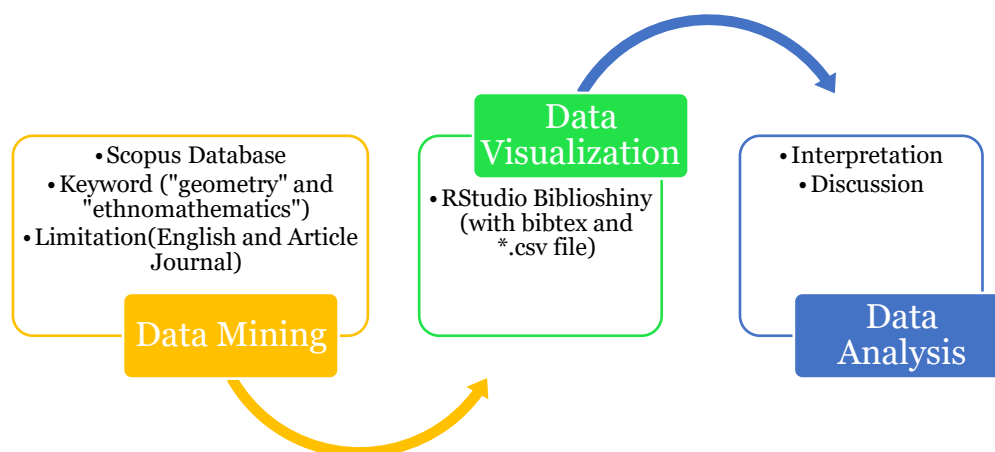


Figure 1. Research Scheme

Considering Figure 1 as a research scheme, the initial step is data mining. The Scopus database was subjected to data mining on February 18, 2023. Scopus was selected because it is a world-class indexer with comprehensive article metadata. The search keywords include "geometry" and "ethnomathematics" based on the title and abstract of the article. Double quotation marks (") are used to lock phrases at the beginning and end of keywords. This means that only publications containing the terms "geometry" and "ethnomathematics" in the title, abstract, or keywords will be mined. This database solely contains journal papers. The second step is data visualization with the software RStudio Biblioshiny (Aria & Cuccurullo, 2017; Supriyadi, 2022a, 2022b; Supriyadi, Dahlan, Darhim, et al., 2022; Supriyadi, Dahlan, Dasari, et al., 2022). This program was selected due to its prevalence in bibliometric analysis journal publications. The third step consists of interpreting and analyzing the data produced by the visualization, along with some discussion.

Results

Main Information

The information in Table 1 relates to the publication trends and contents of research articles on geometry in ethnomathematics from 2007 to 2022. The data set consisted of 28 items gathered from 22 sources, including periodicals and books. The results revealed an average document age of 4.46 years and an annual growth rate of 9.68%. The average number of references per document was 4.179, with a total of 1185 references. The investigation uncovered seven Keywords Plus and eighty-eight Author's Keywords. 57 authors contributed to the publications, while 5 people produced single-authored pieces. The average number of co-authors per document was 2.68, and 7.143% of co-authorships were foreign.

Eventually, each of the 28 publications was a research article published in an academic journal.

Table 1. Main Information about Geometry in Ethnomathematics

Description	Results
Timespan	2007:2022
Sources (Journals, Books, etc)	22
Documents	28
Annual Growth Rate %	9.68
Document Average Age	4.46
Average citations per doc	4.179
References	1185
Keywords Plus (ID)	7
Author's Keywords (DE)	78
Authors	57
Authors of single-authored docs	5
Single-authored docs	5
Co-Authors per Doc	2.68
International co-authorships % article	7.143 28

Discussion

Annual Scientific Productions

Figure 2 represents the annual scientific production of geometry-related articles in ethnomathematics, a discipline that examines the relationships between mathematics and culture. The table displays the number of articles published annually from 2007 through 2022. In 2007, one article pertaining to geometry was published in ethnomathematics. There were no articles published the following year, in 2008. The absence of publications persisted in 2010, 2011, 2016, and 2017 as well. But so far, in 2009, 2012, 2013, 2014, and 2015, one paper was published annually. In 2019, the number of articles dramatically climbed to five, followed by an even greater increase in 2020, when seven articles were generated. In 2021, six papers were published, and in 2022, that number dropped to four. This data shows that the popularity of geometry in ethnomathematics has increased, particularly between 2019 and 2020. The rise in the number of publications published throughout these years indicates that the area is increasing and that more scholars are examining the relationships between geometry and culture.

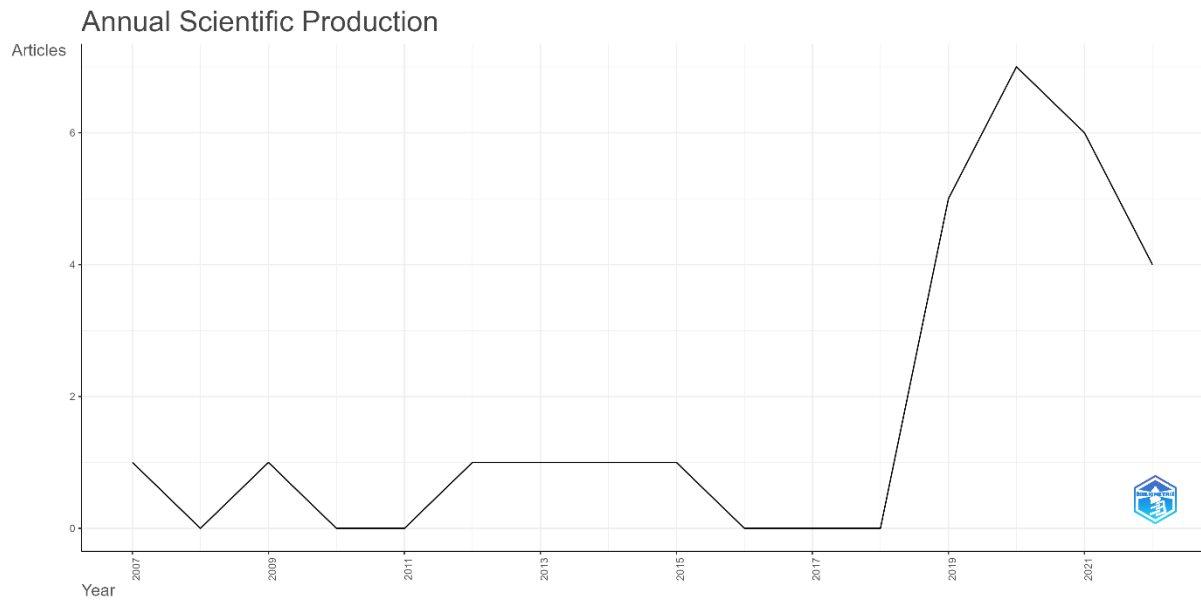


Figure 2. Annual Scientific Production about Geometry in Ethnomathematics

Nonetheless, it is important to note that no geometry-related studies have been published in ethnomathematics for some years. This could be due to a number of factors, including a loss of funding or interest, or a shift in research focus to other topics. But still, the general tendency indicates that the area is expanding, and it will be fascinating to observe its future development.

Most Relevant Sources

Figure 3 displays the most relevant sources for papers on geometry in ethnomathematics. The list of sources includes the number of articles produced by each source. "International Journal of Science and Technological Research" is the most commonly cited source of papers, with three articles created on the topic of geometry in ethnomathematics. Following closely with two papers each are "The International Journal of Mathematical Education in Science and Technology" and "The International Journal of Science and Mathematics Education." Moreover, each of "The Journal of Mathematical Behavior" and "The Journal of Mathematics Education" published two articles. The remaining sources, including "the Australian Journal of Teacher Education," "Bolema - Mathematical Education Bulletin," "Educational Research and Reviews," "Elementary Education Online," and "Eurasia Journal of Mathematics," "Science and Technology Education," each contributed a single article.

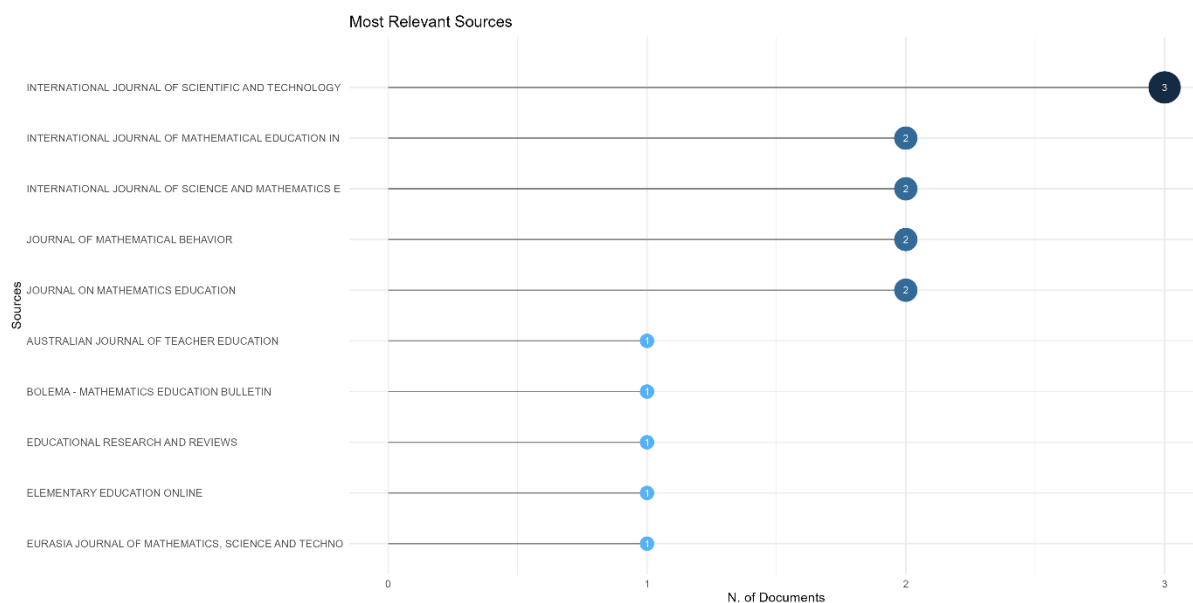


Figure 3. Most Relevant Sources about Geometry in Ethnomathematics

According to the statistics, there is no single dominant source for papers on geometry in ethnomathematics. Instead, articles are produced by a range of sources, with a small number of sources contributing several articles. This demonstrates the interdisciplinary nature of the topic, as researchers publish their work in a variety of academic journals. In addition, the fact that the majority of sources only generated a single article shows that study on the topic of geometry in ethnomathematics is still in its infancy. As the area expands and receives more attention, it is expected that more articles will be published in a larger variety of media. It is also important to note that the sources included in this table are not exhaustive, as there may be additional sources of papers linked to geometry in ethnomathematics that are not included in these statistics. So far, the data provides insight into some of the most pertinent research sources in this sector.

Most Relevant Authors

Table 2 displays the most relevant authors of geometry-related articles in ethnomathematics. The authors are listed along with the number of articles they have produced. Maharaj A. and G. Sunzuma are the two most frequently cited authors in the topic of geometry in ethnomathematics, with each author contributing seven publications. This indicates that both authors have made substantial contributions to the field and are acknowledged as leaders in this area of research. Marsigit and Bshouty D are close behind, having produced three and two pieces, respectively. Massarwe K, Prahmana RCI, and I. Massarner each contributed two articles. The remaining authors, including Achor EE, Aida, and Albab IU, each published a single article.

Table 2. Most Relevant Authors about Geometry in Ethnomathematics

Authors	Articles
MAHARAJ A	7 (Sunzuma & Maharaj, 2019, 2020a, 2020c, 2020b, 2021b, 2021c, 2021a)
SUNZUMA G	7 (Sunzuma & Maharaj, 2019, 2020a, 2020c, 2020b, 2021c, 2021a)
MARSIGIT	3 (Fendrikfendrik et al., 2020; Fitriawanawati et al., 2020; Muhammad et al., 2019)
BSHOUTY D	2 (Verner et al., 2013, 2019)
MASSARWE K	2 (Verner et al., 2013, 2019)
PRAHMANA RCI	2 (Prahmana & D'Ambrosio, 2020; Prahmana & Istiandaru, 2021)
VERNER I	2 (Verner et al., 2013, 2019)

Furthermore, the results indicate that just a few authors have made substantial contributions to the topic of geometry in ethnomathematics, with Maharaj A. and Sunzuma G. being the most prolific. This demonstrates that the authors have specific knowledge and expertise in this field and have undertaken substantial study on the topic. The fact that a number of authors have written many publications shows that there are a small number of important study issues in the field of geometry in ethnomathematics, and that these authors are likely focused on exploring particular parts of the field. It is conceivable that their contributions have influenced the development and expansion of the field. Notably, this table represents only a subset of authors in the topic of geometry in ethnomathematics; there may be other significant authors whose work is not included in these statistics. Until now, the data provides insight into the contributions of some of the most productive authors in this scientific field.

Most Relevant Affiliation

The table lists the affiliations of the most relevant geometry-related papers in ethnomathematics, together with the number of publications published by each affiliation. "Universitas Bengkulu" is the affiliate with the most number of articles generated in this area of research, with seven articles. "Bindura University of Science Education" follows closely behind with six articles. Both institutions have generated a substantial number of articles in the field of geometry in ethnomathematics, suggesting that they are likely leaders in this area of study. With five articles produced, "Universitas Muhammadiyah Surakarta (UMS)" is the third most prolific affiliation. This indicates that this institution has a major presence in the field of geometry in ethnomathematics and has made substantial contributions to this area of study. The remaining affiliations each generated two to four articles, including "the University of KwaZulu-Natal," "Technion - Israel Institute of Technology," "Universitas Ahmad Dahlan," "Universitas Pendidikan Indonesia," "Benue State University," and "Emirates College for Advanced Education."

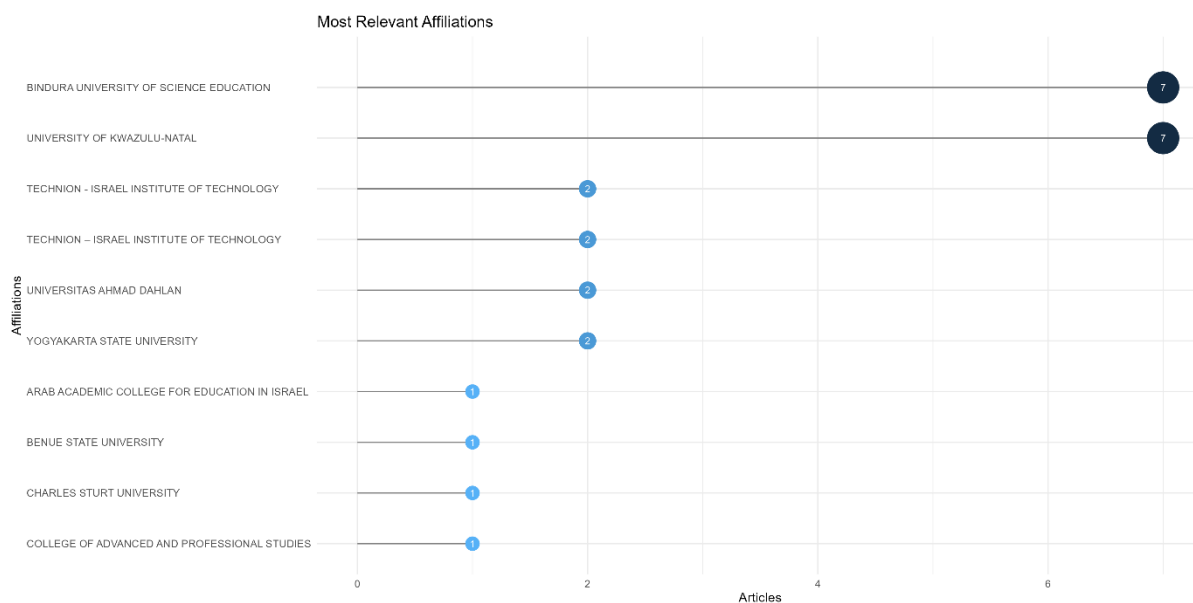


Figure 4. Most Relevant Affiliations about Geometry in Ethnomathematics

The findings indicate that Universitas Bengkulu and Bindura University of Science Education have made the biggest contributions to the field of geometry in ethnomathematics. This may be owing to the availability of specialist programs or research institutes at these institutions that focus on this field of study. It is important to note that this table represents only a subset of the affiliations in the field of geometry in ethnomathematics; there may be other affiliations whose work is valuable but is not included in these statistics. Even, the data provides insight into some of the most active research institutes in this subject and their contributions.

Most Cited Document

The following table provides details on the papers that have been cited the most frequently in the field of ethnomathematics, including the titles of the papers, their DOIs, and the total number of times each publication has been cited. The piece of writing titled "ACHOR EE, 2009, EDUC RES REV" has a total of 23 citations, making it the piece of writing with the highest total number of citations. The following two works, "VERNER I, 2013, J MATH BEHAV" and "OWENS K, 2014, INT J SCI MATH EDUC," each have a total of 16 and 13 citations, respectively, in their respective journals. The number of cumulative citations for the remaining papers on the list ranges from 10 to 3.

Table 3. Most Cited Document about Geometry in Ethnomathematics

Paper	Total Citations
(Achor et al., 2009)	23
(Verner et al., 2013)	16
(Owens, 2014)	13
(Sunzuma & Maharaj, 2019)	10
(Prahmana & D'Ambrosio, 2020)	8

(Verner et al., 2019)	7
(Supriadi, 2019)	7
(Widada et al., 2019)	4
(Sunzuma & Maharaj, 2021a)	3
(Faiziyah et al., 2020)	3

Most Frequent Words

Table 6 displays the terms that appear most frequently in the context of geometry in ethnomathematics. There is a total of 22 occurrences of the word "ethnomathematics," making it the most prevalent term. As ethnomathematics is the study of the link between mathematics and culture, and geometry is a branch of mathematics, this is not surprising. The term "geometry" appears 12 times, making it the second most frequent term. As the table is about the development of geometry in ethnomathematics, this is expected. The use of the term "ethnomathematics methods" six times indicates that scholars are interested in applying ethnomathematics to the teaching of geometry.

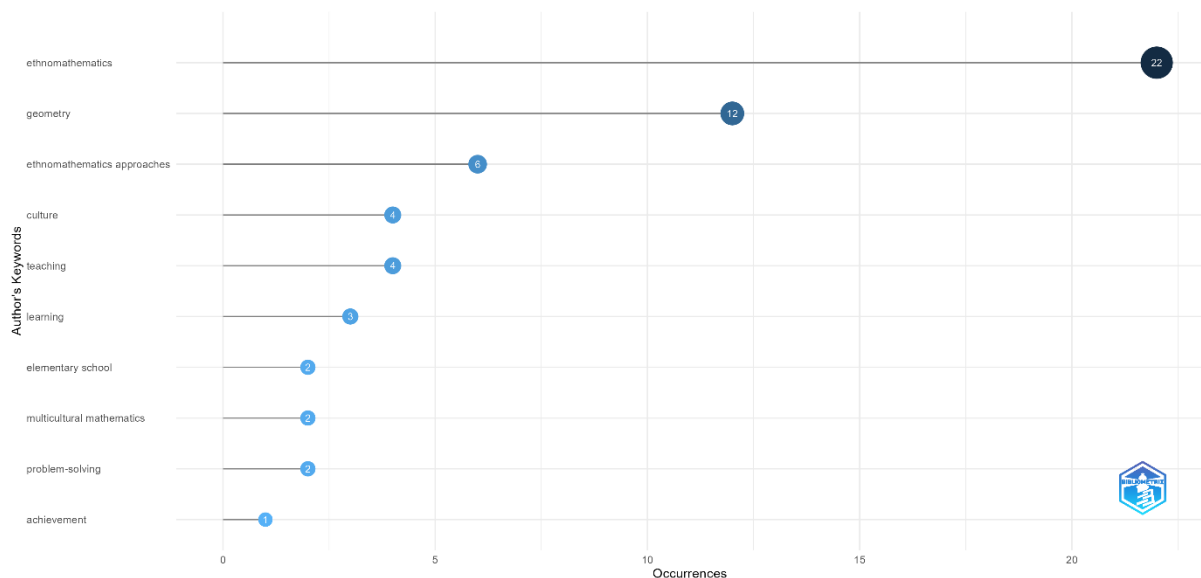


Figure 5. Most Frequent Words about Geometry in Ethnomathematics

Each of the terms "culture" and "teaching" appears four times, indicating that ethnomathematics focuses heavily on how culture influences the teaching of geometry. Three uses of the term "learning" indicate that scholars are also interested in how students learn geometry within the framework of ethnomathematics. The table also contains the terms "elementary school," "multicultural mathematics," "problem-solving," and "achieving." These terms show that scholars are interested in how to teach geometry to students from varied backgrounds using culturally relevant and inclusive methods.

Conclusion

Examining the annual production of geometry-related papers in ethnomathematics reveals an annual variability in the number of articles published. Between 2007 and 2022, the number of articles ranged from 0 to 7, with the largest number created in 2020. The most pertinent sources, authors, affiliations, and cited documents in the topic of geometry in ethnomathematics were identified next. The most-cited documents examined the use of ethnomathematics approaches to mathematics teaching and learning, notably in elementary schools. In the literature, terms such as "ethnomathematics," "geometry," "culture," "teaching," "learning," and "problem-solving" appeared most frequently. The statistics shown in the tables suggest that the study of geometry in ethnomathematics is a new and expanding area, with an emphasis on the application of ethnomathematics approaches to mathematics instruction and learning. This field has the potential to make mathematics more accessible and meaningful to students from varied cultural backgrounds, as well as to improve their mathematical performance.

Recommendations

The data suggests numerous ways to develop ethnomathematics geometry. The rising number of studies on this issue, educators and researchers might focus on innovative geometry teaching and learning in varied cultures. Researchers and educators could collaborate internationally since the top affiliations for articles on this topic are universities from numerous nations. Highly cited publications can help instructors and researchers build on their methods. Finally, given the emphasis on the intersection of culture, teaching, and learning in the most frequent words associated with geometry in ethnomathematics, educators and researchers could explore ways to improve geometry instruction in diverse cultural contexts by emphasizing problem-solving, achievement, and technology.

Acknowledgements or Notes

Please collate acknowledgements or notes in a separate section at the end of the article before the references.

References

- Achor, E. E., Imoko, B. I., & Uloko, E. S. (2009). Effect of ethnomathematics teaching approach on senior secondary students' achievement and retention in Locus. *Educational Research and Reviews*, 4(8), 385–390. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-77949908774&partnerID=40&md5=bc9174a6a46cb82302507ce167ede85d>
- Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, 11(4), 959–975. <https://doi.org/10.1016/j.joi.2017.08.007>
- Faiziyah, N.,utama, Sholihah, I., Wulandari, S., & Yudha, D. A. (2020). Enhancing Creativity through Ethnomathematics. *Universal Journal of Educational Research*, 8(8), 3704–3710.

<https://doi.org/10.13189/ujer.2020.080850>

- Faqih, A., Nurdiawan, O., & Setiawan, A. (2021). Ethnomathematics: Utilization of Crock, Ladle, and Chopping Board for Learning Material of Geometry at the Elementary School. *IndoMath: Indonesia Mathematics Education*, 4(1), 46–55.
- Fendrikfendrik, M., Marsigit, & Wangid, M. N. (2020). Analysis of riau traditional game-based ethnomathematics in developing mathematical connection skills of elementary school students. *Elementary Education Online*, 19(3), 1605–1618. <https://doi.org/10.17051/ilkonline.2020.734497>
- Fitrianawati, M., Sintawati, M., Marsigit, & Retnowati, E. (2020). Developing ethnomatematics in geometry learning for elementary schools students: A preliminary design. *International Journal of Scientific and Technology Research*, 9(1), 2754–2758. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85078906064&partnerID=40&md5=d46f6edf1d4ce049d44bad65a8103bb8>
- Fouze, A. Q., & Amit, M. (2021). Teaching Geometry by Integrating Ethnomathematics of Bedouin Values. *Creative Education*, 12(02), 402.
- Massarwe, K., Verner, I., & Bshouty, D. (2012). Ethnomathematics and multi-cultural education: Analysis and construction of geometric ornaments. *Journal of Mathematics and Culture*, 6(1), 344–360.
- Mosimege, M. (2012). Methodological challenges in doing ethnomathematical research. *International Journal of African Renaissance Studies-Multi-, Inter-and Transdisciplinarity*, 7(2), 59–78.
- Muhammad, A. F. N., Marsigit, & Soeharto. (2019). A case study of geometri literacy in elementary school through ethnomathematics at borobudur temple Indonesia. *International Journal of Scientific and Technology Research*, 8(10), 1041–1045. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85073943375&partnerID=40&md5=a4cd39a012a25d2a5e0edf59bf324bf4>
- Owens, K. (2014). Diversifying Our Perspectives on Mathematics about Space and Geometry: An Ecocultural Approach. *International Journal of Science and Mathematics Education*, 12(4), 941–974. <https://doi.org/10.1007/s10763-013-9441-9>
- Prahmana, R. C. I., & D'Ambrosio, U. (2020). Learning geometry and values from patterns: Ethnomathematics on the batik patterns of yogyakarta, indonesia. *Journal on Mathematics Education*, 11(3), 439–456. <https://doi.org/10.22342/jme.11.3.12949.439-456>
- Prahmana, R. C. I., & Istiandaru, A. (2021). Learning sets theory using shadow puppet: A study of javanese ethnomathematics. *Mathematics*, 9(22). <https://doi.org/10.3390/math9222938>
- Putra, R. Y., Wijiyanto, Z., & Wiodo, S. A. (2020). Ethnomathematics: Soko Tunggal Mosque For Geometry 2D Learning. *Jurnal Riset Pendidikan Dan Inovasi Pembelajaran Matematika*, 4(1), 10–22.
- Sudirman, S., Yaniawati, R. P., Melawaty, M., & Indrawan, R. (2020). Integrating ethnomathematics into augmented reality technology: Exploration, design, and implementation in geometry learning. *Journal of Physics: Conference Series*, 1521(3). <https://doi.org/10.1088/1742-6596/1521/3/032006>
- Sunzuma, G., & Maharaj, A. (2019). Teacher-related challenges affecting the integration of


- ethnomathematics approaches into the teaching of geometry. *Eurasia Journal of Mathematics, Science and Technology Education*, 15(9). <https://doi.org/10.29333/ejmste/108457>
- Sunzuma, G., & Maharaj, A. (2020a). Exploring Zimbabwean Mathematics Teachers' Integration of Ethnomathematics Approaches into the Teaching and Learning of Geometry. *Australian Journal of Teacher Education*, 45(7), 77–93. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85095406620&partnerID=40&md5=8397a043dd9586bc57774be58b6aboab>
- Sunzuma, G., & Maharaj, A. (2020b). In-service Secondary Teachers' Teaching Approaches and Views towards Integrating Ethnomathematics Approaches into Geometry Teaching [Enfoques y puntos de vista de los profesores secundarios en servicio hacia la integración de enfoques etnomatemáticos en la enseñanza de la geometría]. *Bolema - Mathematics Education Bulletin*, 34(66), 22–39. <https://doi.org/10.1590/1980-4415v34n66a02>
- Sunzuma, G., & Maharaj, A. (2020c). Teachers' views on learner-related variables impeding the integration of ethnomathematics approaches into the teaching and learning of geometry. *International Journal of Inclusive Education*. <https://doi.org/10.1080/13603116.2020.1808717>
- Sunzuma, G., & Maharaj, A. (2021a). In-service mathematics teachers' knowledge and awareness of ethnomathematics approaches. *International Journal of Mathematical Education in Science and Technology*, 52(7), 1063–1078. <https://doi.org/10.1080/0020739X.2020.1736351>
- Sunzuma, G., & Maharaj, A. (2021b). In-service Zimbabwean teachers' obstacles in integrating ethnomathematics approaches into the teaching and learning of geometry. *Journal of Curriculum Studies*, 53(5), 601–620. <https://doi.org/10.1080/00220272.2020.1825820>
- Sunzuma, G., & Maharaj, A. (2021c). Zimbabwean in-service teachers' views of geometry: an ethnomathematics perspective. *International Journal of Mathematical Education in Science and Technology*. <https://doi.org/10.1080/0020739X.2021.1919770>
- Supriyadi, S. (2019). Didactic design of sundanese ethnomathematics learning for primary school students. *International Journal of Learning, Teaching and Educational Research*, 18(11), 154–175. <https://doi.org/10.26803/ijlter.18.11.9>
- Supriyadi, E. (2022a). a Bibliometrics Analysis on Mathematical Thinking in Indonesia From Scopus Online Database With Affiliation From Indonesia. *Alifmatika: Jurnal Pendidikan Dan Pembelajaran Matematika*, 4(1), 82–98. <https://doi.org/10.35316/alifmatika.2022.v4i1.82-98>
- Supriyadi, E. (2022b). A Bibliometric Analysis: Computer Science Research From Indonesia. *TIERS Information Technology Journal*, 3(1), 28–34. <https://doi.org/10.38043/tiers.v3i1.3706>
- Supriyadi, E., Dahlan, J. A., Darhim, D., & Taban, J. (2022). Bibliometric Analysis: Trend of ICT and RME Researches. *Eduma: Mathematics Education Learning and Teaching*, 11(2), 139–150. <https://doi.org/10.24235/eduma.v11i2.11023>
- Supriyadi, E., Dahlan, J. A., Dasari, D., Darhim, D., & Sugiarni, R. (2022). Bibliometric analysis of learning mathematics studies from Indonesian authors. *Jurnal Kajian Pembelajaran Matematika*, 6(2), 84–95.
- Verner, I., Massarwe, K., & Bshouty, D. (2013). Constructs of engagement emerging in an ethnomathematically-based teacher education course. *Journal of Mathematical Behavior*, 32(3), 494–507. <https://doi.org/10.1016/j.jmathb.2013.06.002>
- Verner, I., Massarwe, K., & Bshouty, D. (2019). Development of competencies for teaching geometry

through an ethnomathematical approach. *Journal of Mathematical Behavior*, 56.
<https://doi.org/10.1016/j.jmathb.2019.05.002>

Widada, W., Herawaty, D., Ma'rifah, N., Aida, Serlis, Yunita, D., & Sarwoedi. (2019). Characteristics of students thinking in understanding geometry in learning ethnomathematics. *International Journal of Scientific and Technology Research*, 8(11), 3496–3503.
<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85075369044&partnerID=40&md5=301b35a2a9256d44584b47b925408305>

Author Information

Edi Supriyadi*

 <https://orcid.org/0000-0001-6244-5724>


Sekolah Tinggi Teknologi Bandung

Universitas Pendidikan Indonesia

Indonesia

Contact e-mail: edipmatematika@gmail.com

Turmudi


 <https://orcid.org/0000-0001-7976-211X>

Universitas Pendidikan Indonesia

Indonesia

Contact e-mail: turmudi@upi.edu

Jarnawi Afgani Dahlan


 <https://orcid.org/0000-0002-9290-7755>

Universitas Pendidikan Indonesia

Indonesia

Contact e-mail: jarnawi@upi.edu

Dadang Juandi

 <https://orcid.org/0000-0001-6997-1399>

Universitas Pendidikan Indonesia

Indonesia

Contact e-mail: dadang.juandi@upi.edu
