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Equitable Access to Education in Indonesia: A Systematic Review of the Literature with Bibliometric Analysis (2007-2025)

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A B S T R A C T

Equitable access to education remains a key priority of Indonesia's national education policy. Various government initiatives, including the Smart Indonesia Program (PIP), the New Student Admissions (PPDB) zoning system, and educational development in 3T regions, have been implemented to reduce educational disparities. This study aims to analyze the development and research trends related to equitable access to education in Indonesia during 2007-2025 through a systematic literature review combined with bibliometric analysis. A total of 155 articles published between 2007 and 2025 were selected based on predefined inclusion criteria using the PRISMA approach and analyzed using VOSviewer. The results reveal a significant increase in publications, particularly during 2020–2021 and 2024-2025. The dominant research themes include policy implementation, educational infrastructure, zoning policies, and digital transformation. Network visualization indicates strong thematic relationships among educational equity, access, policy, and basic education. The findings show that educational policies have contributed positively to expanding access, with 78% of the analyzed studies reporting improvements in educational access. However, equitable quality remains a major challenge, as 89% of the studies identified disparities in school quality, teacher distribution, and educational facilities. Future research should focus on underserved regions, longitudinal approaches, advanced analytical methods, and the integration of access and quality dimensions to support sustainable educational equity in Indonesia.

1. Introduction

Education is the foundation for developing quality human resources and a key pillar of sustainable development. Indonesia mandates in Article 31 of the 1945 Constitution and Law Number 20 of 2003 that every citizen has the right to a quality education regardless of socioeconomic or geographic background (Hakim, 2016).

However, in practice, Indonesia still faces structural challenges in achieving equitable access to education, with clear disparities between urban and rural areas, between preferred and non preferred schools, and between different socioeconomic groups (Vito et al., 2016).

Educational disparities between urban and rural areas are particularly evident in school resources, access to digital technology, and teacher quality (Lin et al., 2023; Xiang & Stillwell, 2023). Data from the Central Statistics Agency (BPS) shows that 5.11% of rural residents have never attended school and 12.39% have not completed primary education, compared to only 1.93% and 6.62% in urban areas (Badan Pusat Statistik, 2023). Urban areas, particularly on the island of Java, have significant advantages in school infrastructure and teachers with bachelor's and master's degrees, while rural and remote areas still struggle to meet minimum standards (Adlim & Zulfadli, 2016). This disparity is also reflected in the perspective of human development, which is influenced by access to education and digital literacy (Yulianto & Pranoto, 2024). Access inequality is not only related to geographical barriers but is also closely associated with the affordability of educational services and institutional capacity to provide equitable learning opportunities (Rahmania & Sirozi, 2025; Aziziyah & Ahmad, 2024).

As a strategic response, the government has launched various comprehensive policies. The Smart Indonesia Program (PIP) has provided cash assistance since 2014 to support access for students from low income families (Abdillah & Agustina, 2022), with its effectiveness being continuously evaluated (Wiranta & Sutarto, 2023). The PPDB zoning system, through Minister of Education and Culture Regulation No. 17 of 2017, aims to eliminate the stigma of favored schools by prioritizing domicile factors (Sulistyosari & Dwiningrum, 2020), although its implementation has shown mixed results (Sutrisno, 2020; Rabbani et al., 2023).

Education decentralization policies are also a crucial strategy for ensuring local relevance in program implementation (Sofiani et al., 2024). Previous studies indicate that decentralization provides opportunities to improve educational service delivery, although challenges remain in the equitable distribution of resources, infrastructure, and educational personnel across regions (Oskar et al., 2025). Special programs for 3T (outermost) regions and the digitalization of education are integral to the strategy for equal access (Sihombing, 2022; Rustam & Rahman, 2024), reinforced by the 13 Year Compulsory Education agenda (Kementerian Pendidikan Dasar dan Menengah, 2025) and the Independent Learning (Merdeka Belajar) transformation (Mansur, 2023). In addition, effective educational governance and adaptive educational bureaucracy are important supporting factors in ensuring that access expansion policies can be implemented consistently across different educational contexts and regions (Syifaurrahmah et al., 2025).

Research on educational equity has shown rapid acceleration since 2020, when the COVID-19 pandemic accelerated comprehensive discussions on access and digital transformation (Sihombing, 2022). The challenges of technology based learning in the Industry 4.0 era have become a primary focus (Kirana & Sutrisno, 2019), while information technology transformation efforts continue to be developed

(Kusumastuti, 2024). Evaluation studies of the Smart Indonesia Program have demonstrated success in increasing school enrollment, but still face challenges in targeting accuracy in remote areas (Rosmana et al., 2022).

In depth analysis reveals a fundamental dilemma: while educational policies have successfully expanded equitable access to schooling, they do not automatically guarantee equitable quality of education and learning outcomes (World Bank, 2020; Romlah et al., 2023). The implementation of inclusive education is also a crucial part of the strategy to promote educational equity and equal learning opportunities for all students (Ediyanto & Kawai, 2023). Despite the significant increase in publications on educational equity, comprehensive research mapping research trends remains limited. A Systematic Literature Review using the PRISMA approach and bibliometric analysis is a relevant method for systematically describing the evolution of this research (Van Eck & Waltman, 2010). This combined approach effectively identifies research hotspots, research gaps, and methodological gaps (Nurdin & Kuswoyo, 2025; Firnanda et al., 2025).

This study aims to: (1) analyze the development and trends of research on equitable access to education in Indonesia from 2007 to 2025; (2) identify dominant topics, methodologies, and geographic locations; (3) map the network of key concepts using bibliometric analysis; (4) identify research gaps and methodological gaps; and (5) formulate strategic recommendations for future research and policy. Analysis of the research landscape on educational equity is essential for identifying under researched themes, methodological evolution, policy implementation challenges, and providing strategic and evidence based research directions to support the achievement of sustainable and inclusive educational equity goals.

2. Methodology

Research Design and Data Sources

This study employed a Systematic Literature Review (SLR) combined with bibliometric analysis to examine the development of research on equitable access to education in Indonesia. The review process followed the PRISMA 2020 protocol to ensure a systematic and transparent article selection procedure. Literature searches were conducted using Google Scholar through the Publish or Perish application with the Boolean keywords ("educational equity" OR "educational equality" OR "educational gap" OR "educational access") AND Indonesia. The search covered publications from 2007 to 2025. This approach enabled the identification of publication trends, thematic developments, and emerging issues related to educational equity in Indonesia over time.

Inclusion and Exclusion Criteria

To ensure the relevance and quality of the reviewed literature, inclusion and exclusion criteria were established before the screening process. Studies were included if they discussed educational equity or access to education in Indonesia,

were published between 2007 and 2025 in peer-reviewed journals, conference proceedings, or theses, were written in Indonesian or English, and provided complete bibliographic metadata. Studies were excluded if they did not focus on educational equity or access, consisted solely of opinion-based discussions without empirical evidence, were duplicate records, examined educational issues outside Indonesia, or demonstrated insufficient methodological quality. These criteria were applied consistently throughout the screening process to ensure the reliability of the final dataset.

PRISMA Selection Process

The article selection process followed the four stages of the PRISMA framework. During the identification stage, 300 articles were initially retrieved from the database search. After the screening process, 252 articles remained following the removal of irrelevant studies. The eligibility stage involved a full-text assessment of 205 articles, while studies that did not meet the established quality criteria were excluded. Finally, 155 articles satisfied all inclusion requirements and were retained for bibliometric analysis. To enhance the credibility of the review process, all eligible studies underwent a quality assessment procedure, and only studies achieving acceptable methodological standards were included in the final dataset. The complete article selection procedure based on the PRISMA guidelines is presented in Figure 1.

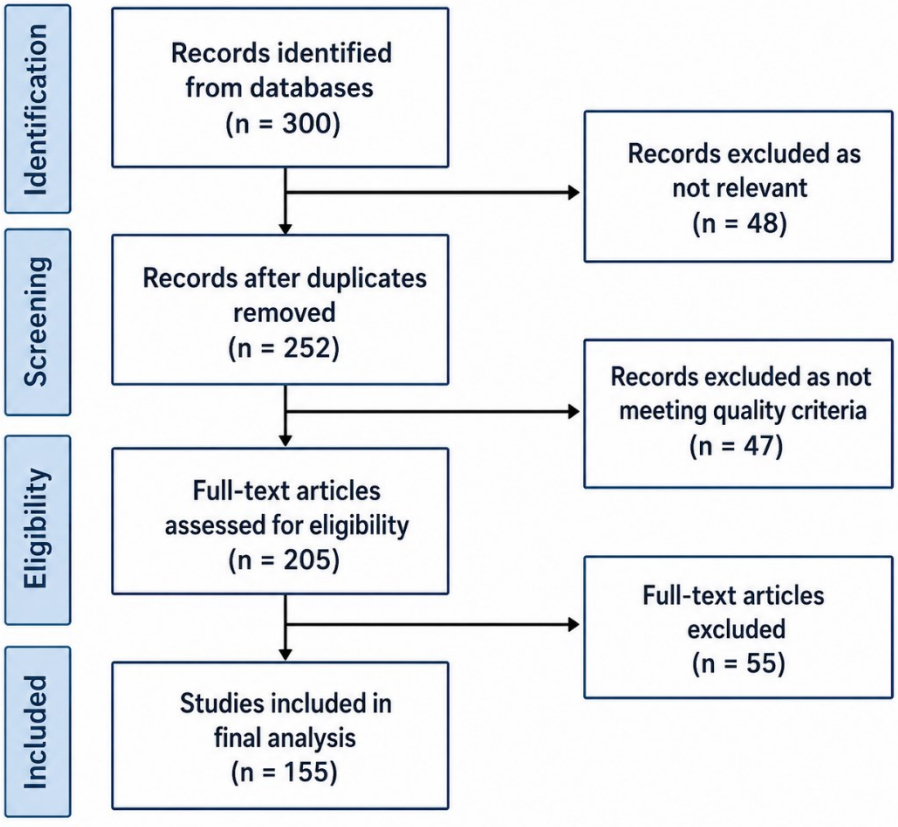

Figure 1. PRISMA Flow Diagram

Data Analysis

The bibliometric analysis was conducted using VOSviewer version 1.6.18. Bibliographic data were exported in RIS format and analyzed using co-occurrence analysis with a minimum threshold of three keyword occurrences. The analysis consisted of network visualization to identify relationships and connection strengths among keywords, overlay visualization to examine the temporal evolution of research topics between 2007 and 2025, and density visualization to identify highly researched themes and emerging research areas. In addition to bibliometric mapping, qualitative analysis was performed to examine policy contexts, research methodologies, key findings, and recommendations reported in the 155 selected studies. This combined approach enabled a comprehensive understanding of publication trends, thematic developments, and research gaps related to equitable access to education in Indonesia.

3. Results and Discussion

The results and findings from 155 articles published between 2007 and 2025 reveal a notable increase in research output, particularly during the periods 2020–2021 (27.1%) and 2024–2025 (22.6%). This trend indicates growing scholarly attention to issues of educational equity and access in Indonesia. Bibliometric analysis identified several dominant keywords, including equity, access to education, basic education, policy, and Indonesia. Among these, Indonesia emerged as the largest node in the network visualization, highlighting its central role and strong thematic connections with other research topics. The distribution of publications across different research periods is presented in Table 1.

Table 1. Publication Data of Articles on Equal Access to Education in Indonesia (2007-2025)

Year of Publication	Number of Publications	Percentage
2007-2009	3	1.9%
2010-2014	8	5.2%
2015-2019	29	18.7%
2020-2021	42	27.1%
2022-2023	38	24.5%
2024-2025	35	22.6%
Total	**155**	**100%**

The peak in publications occurred during 2020–2021, accounting for 27.1% of the total articles analyzed. This increase was closely related to the implementation of the PPDB zoning system introduced in 2017, which generated extensive academic debate regarding educational equity and school access. In addition, the COVID-19 pandemic accelerated discussions on digital learning, technology integration, and disparities in educational opportunities across regions. These developments stimulated greater research interest in access-related issues. The relationship between keywords and the structure of research themes can be observed in the network visualization presented in Figure 2.

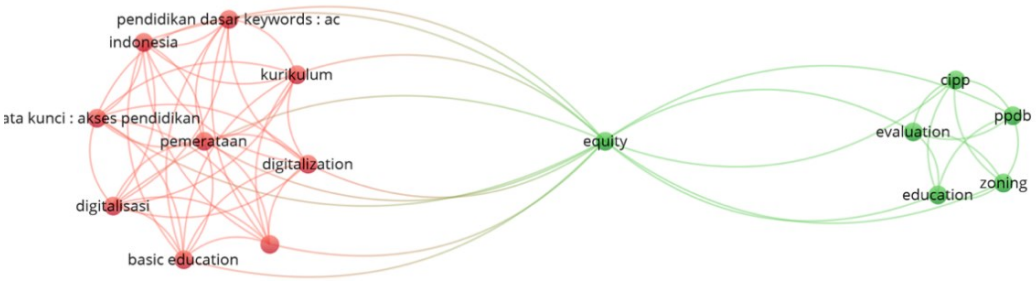

Figure 2. Results of the Visualization Analysis of the Network of Equal Access to Education in Indonesia

The network visualization shows two main clusters with the bridge concept "equity":

a. Cluster 1 (Red) - Policy & Infrastructure: Keywords include basic education, access, equity, digitalization, curriculum, and the Smart Indonesia Program. Dominant in 2020-2021, it focuses on policy implementation and infrastructure provision to expand access to education. Research in this cluster analyzes operational challenges, infrastructure barriers, and practical solutions for remote areas.

b. Cluster 2 (Green) Evaluation & Accountability: Keywords include equity, evaluation, PPDB, zoning, CIPP, and education. Dominant in 2023-2025, it focuses on the effectiveness of fair policies and mechanisms. The research analyzes the impact of the zoning system, the regulation practice gap, and the achievement of educational equity.

c. Bridge Concept: "Equity" (betweenness centrality 0.89) indicates that equity is a core concept that integrates all dimensions of educational equity research.

Changes in research focus over time can be observed through the overlay visualization in Figure 3.

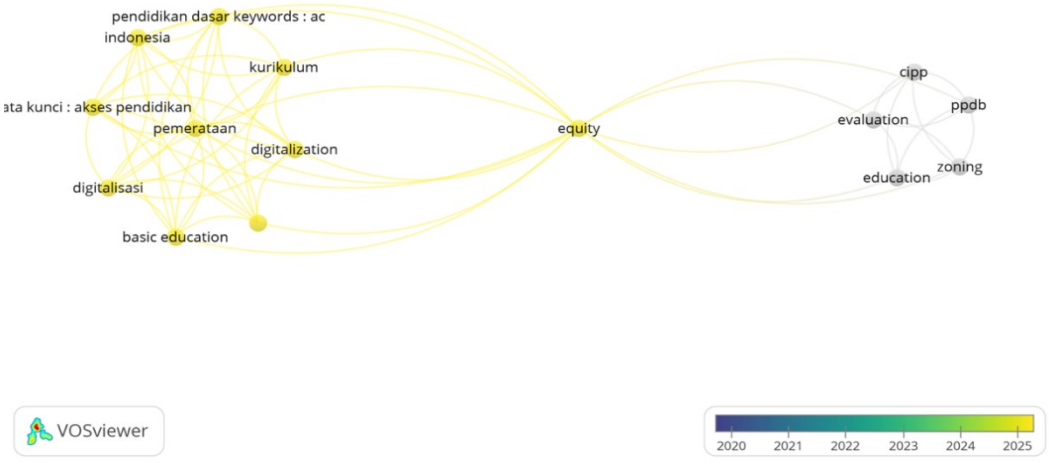

Figure 3. Results of the Visualization Analysis of the Network of Equal Access to Education Based on Year

The overlay visualization shows a significant shift in research focus over time. The blue-purple period (2007–2019) indicates an initial emphasis on policy implementation, educational infrastructure development, and efforts to expand access to schooling. In contrast, the yellow-green period (2020–2025) reflects a transition toward policy evaluation, zoning systems, digitalization, educational equity, and the improvement of education quality outcomes. This evolution demonstrates how research has progressed from the awareness and implementation phase to a more comprehensive evaluation and continuous improvement phase within the educational policy cycle. The results of the research density visualization are presented in Figure 4.

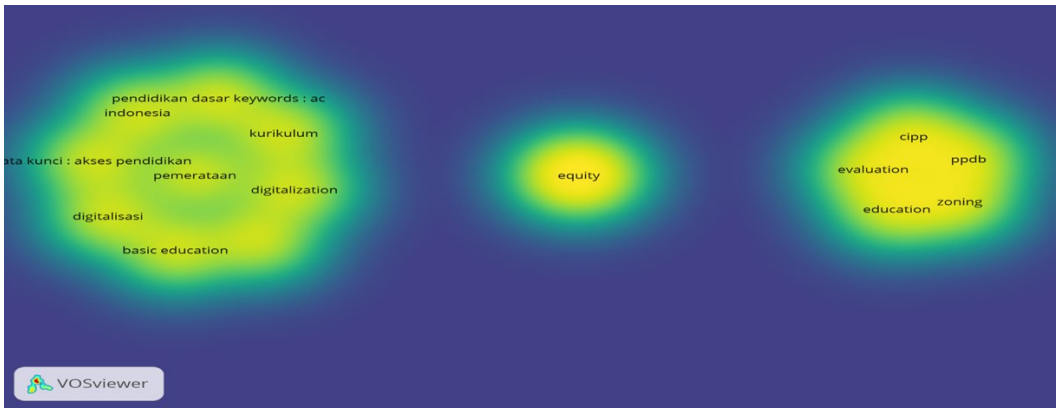

Figure 4. Results of Visualization Analysis of Research Density on Equal Access to Education

The density visualization shows research intensity, with yellow (highest hotspots) surrounding equity, educational access, equity, basic education, and policy indicating that the structural dimension of equity is a core research area. Green (medium density) surrounding PPDB, zoning, and evaluation indicates an emerging focus on implementation mechanisms and accountability. Blue (low density) indicates specialist topics or local case studies that remain under researched. The bibliometric analysis shows that the research landscape on educational equity exhibits a paradigmatic shift from an initial focus on policy and infrastructure (2020-2021) to evaluating system effectiveness (2023-2025). This reflects the natural evolution of the policy cycle: from the awareness and problem identification phase to the evaluation and improvement phase.

The network visualization identifies that research stems from the core concerns of equity and access in the Indonesian context. Cluster 1 (Red) emphasizes that educational equity is primarily a matter of access, ensuring every child has the opportunity to access basic education, requiring a combination of equitable infrastructure investment, fair teacher allocation, and the use of digital technology. Cluster 2 (Green) emphasizes that educational equality is not only about access, but also about quality and equity. This finding is consistent with previous studies which emphasize that improving educational quality requires adequate financing, institutional support, and equitable distribution of educational resources across schools (Aziziyah & Ahmad, 2024). Furthermore, educational equity should not be

viewed solely in terms of access and resource allocation, but also through the provision of inclusive learning environments, equitable participation opportunities, and quality educational services that accommodate diverse learner needs (Mutiara et al., 2026). Equity policies must be evaluated comprehensively to ensure equitable quality improvements across all schools.

Critical findings from 155 articles reveal a fundamental dilemma: Policies have successfully increased access to education (78% of studies reported positive impacts), but they do not automatically guarantee equitable quality (89% of studies reported disparities in school quality, unequal teacher distribution, and disparities in educational facilities. This indicates that a single policy is insufficient. To achieve true educational equity, the government needs to integrate access policies (zoning/domicile, PIP/BOS) with quality policies (teacher training, infrastructure, resource allocation) simultaneously and in a coordinated manner. Similar concerns show that educational affordability, governance reform, and decentralization remain important determinants of equitable educational opportunities in Indonesia (Rahmania & Sirozi, 2025; Oskar et al., 2025; Syifaurrahmah et al., 2025).

The analysis shows: (1) Strong urban concentration: 89% of regional studies are in large cities (especially Java); (2) Dominance of descriptive methodology: 67% are qualitative or descriptive quantitative; (3) Limited advanced methodology: only 11% use multilevel analysis, quasi experimental design, or DEA. This suggests that research still focuses on "what" and "how" policies are implemented, while deeper questions about "why" and "the extent of impact (controlling for other factors)" remain open for exploration. The identified research gaps include: (1) Limited comparative studies, most of which are local/regional in nature without comparing between regions or international contexts; (2) Weak causal evidence, the majority of which are descriptive or exploratory in nature without using rigorous quasi experimental or experimental designs; (3) Geographical concentration of research is concentrated in urban areas and the island of Java with minimal research in 3T (Disadvantaged, Frontier, Outermost) areas; (4) Advanced methodology gaps, very few studies use multilevel analysis, spatial analysis with GIS, or other causal inference methods; (5) Minimal integration between the dimensions of access and quality, research still rarely integrates these two dimensions in a cohesive analytical framework; (6) Limitations of longitudinal studies, there are still few studies that track the long term impact of educational equality policies over a period of 3-5 years or more.

4. Conclusion

This study concludes that research on equitable access to education in Indonesia has experienced significant development during the 2007–2025 period, with increasing scholarly attention to issues of educational access, equity, policy implementation, digital transformation, and educational quality. Bibliometric analysis revealed a shift in research focus from discussions of educational access and infrastructure provision toward the evaluation of policy effectiveness and educational quality improvement. The findings indicate that educational equity in

Indonesia remains a multidimensional issue. While various policies have contributed to expanding educational access, challenges related to school quality, teacher distribution, and educational facilities continue to influence the achievement of equitable educational outcomes. These findings suggest that improving access alone is insufficient without parallel efforts to strengthen educational quality across different regions and school contexts.

This study also identified several research gaps, including the limited number of studies conducted in 3T regions, the dominance of descriptive research approaches, and the relatively low use of advanced analytical methods and longitudinal designs. Therefore, future studies are encouraged to expand investigations into underserved regions, employ more rigorous methodologies, and integrate the dimensions of access, quality, and inclusivity within a comprehensive analytical framework. Overall, achieving educational equity in Indonesia requires integrated, sustainable, and evidence based policies that address both access and quality dimensions simultaneously.

References

Abdillah, M. R., & Agustina, I. F. (2022). Resources for Implementing the Smart Indonesia Program in an Effort to Equalize Education. *Indonesian Journal of Public Policy Review*, *18*. https://doi.org/10.21070/ijppr.v18i0.1221

Adlim, G. H., & Zulfadli. (2016). Permasalahan dan Solusi Pendidikan di Daerah Kepulauan: Studi Kasus di SMA Negeri 1 Pulau Aceh, Kabupaten Aceh Besar. *Jurnal Pencerahan*, *10*(2), 48–61.

Aziziyah, A., & Ahmad, M. (2024). The Role and Strategy of Schools in Financing Education to Improve Education Quality. *Journal of Educational Sciences*, *8*(1), 83–91. https://doi.org/10.31258/jes.8.1.p.83-91

Badan Pusat Statistik. (2023). *Statistik Pendidikan Indonesia Tahun 2023*. BPS.

Ediyanto, & Kawai, N. (2023). The Measurement of Teachers' Attitudes Toward Inclusive Education: An Empirical Study in East Java, Indonesia. *Cogent Education*, *10*(2), 2229014. https://doi.org/10.1080/2331186X.2023.2229014

Rosmana, P. S., Iskandar, S., Fadilah, N., Azhar, N., Oktavini, D., & Munte, A. C. (2022). Upaya Pemerataan Pendidikan Berkelanjutan di Daerah 3T. *ATTADIB*, *6*(2), 405–418.

Firnanda, R., Nurviyana, D., & Aziz, F. F. (2025). Pemerataan Pendidikan Berkualitas dalam Perspektif Muhammad Nuh dan Abdul Muti: Kajian Komparatif atas Gagasan dan. *Jurnal Edukasi Dan Literasi*, *6*(3). https://ejurnals.com/ojs/index.php/jelp

Hakim, L. (2016). Pemerataan Akses Pendidikan Bagi Rakyat Sesuai Dengan Amanat Undang-Undang Nomor 20 Tahun 2003 Tentang Sistem Pendidikan Nasional. *EduTech: Jurnal Ilmu Pendidikan Dan Ilmu Sosial*, *2*(1). https://doi.org/10.30596/edutech.v2i1.575

Kementerian Pendidikan Dasar dan Menengah (2025). *Program Prioritas Pendidikan 2025: Pemerataan Akses Layanan Pendidikan Melalui Wajib Belajar 13 Tahun*. Kemendikdasmen.

Kirana, S., & Sutrisno, T. (2019). Pendidikan dan Tantangan Pembelajaran Berbasis Teknologi Informasi di Era Revolusi Industri 4.0. *E-Tech: Jurnal Ilmiah Teknologi Pendidikan*, *7*(2).

Kusumastuti, A. D. (2024). Transformasi Pendidikan Menuju Efisiensi dan Kesetaraan Melalui Pemanfaatan Teknologi Informasi Indonesia. *Jurnal Inovasi Kebijakan Pendidikan*, *4*(1), 45–58.

Lin, R., Chu, J., Yang, L., Lou, L., Yu, H., & Yang, J. (2023). What are the Determinants of Rural-Urban Divide in Teachers' Digital Teaching Competence? Empirical Evidence from a Large Sample. *Humanities and Social Sciences Communications*, *10*, 422. https://doi.org/10.1057/s41599-023-01933-2

Mansur, K. (2023). Implementasi Merdeka Belajar Sebagai Transformasi Kebijakan Pendidikan. *Jurnal Educatio*, *9*(2).

Mutiara, E., Aw, S., Nuradiah, M. F., Faniyah, I., B, N. K. L., & Saputri, B. E. G. (2026). Evaluation of Inclusive and Multicultural Education Policies to Support the Achievement of the Sustainable Development Goals (SDGs) at Tumbuh Elementary School in Yogyakarta. *Journal of Educational Sciences*, *10*(1), 1913–1936. https://doi.org/10.31258/jes.10.1.p.1913-1936

Nurdin, M., & Kuswoyo, H. (2025). Kebijakan Pendidikan di Indonesia: A Systematic Literature Review. *Jurnal Manajemen Pendidikan*, *18*(4).

Oskar, R., Putra, F. M., & Sirozi, M. (2025). Decentralization of Education: Opportunities and Challenges for Central Government, Provincial Government and Regional Government in Management of Education. *Journal of Educational Sciences*, *9*(4), 1807–1813. https://doi.org/10.31258/jes.9.4.p.1807-1813

Rabbani, M. S., Cholifah, A. N., & Pasha, J. F. (2023). Polemik Sistem Zonasi PPDB dalam Mewujudkan Pemerataan Pendidikan. *Simpati*, *1*(3), 204–212. https://doi.org/10.59024/simpati.v1i3.227

Rahmania, E., & Sirozi, M. (2025). The Impact of the Increase in Single Tuition Fees (UKT) on Access to Education at State Universities in Indonesia. *Journal of Educational Sciences*, *9*(4), 1889–1898. https://doi.org/10.31258/jes.9.4.p.1889-1898

Romlah, S., Imron, A., Maisyaroh, Sunandar, A., & Dami, Z. A. (2023). A Free Education Policy in Indonesia for Equitable Access and Improvement of the Quality of Learning. *Cogent Education*, *10*(2), 2245734. https://doi.org/10.1080/2331186X.2023.2245734

Rustam, R., & Rahman, A. (2024). Analisis Implementasi Kebijakan Pemerataan Akses Pendidikan pada Daerah Tertinggal Indonesia. *Jurnal Governance Dan Kebijakan Publik Indonesia*, *8*(4).

Sihombing, R. (2022). Pemerataan Pendidikan: Studi Kasus 34 Provinsi di Indonesia. *Parahyangan Economic Development Review*, *1*(2), 143–151.

Sofiani, N., Frinaldi, A., Magriasti, L., & Wahyuni, Y. S. (2024). Kebijakan Desentralisasi Pendidikan Serta Implementasi Dalam Pendidikan Di Indonesia. *Menara Ilmu: Jurnal Penelitian Dan Kajian Ilmiah*, *18*(1).

Sulistyosari, Y., & Dwiningrum, S. I. A. (2020). Social Justice in the Implementing Zoning School Policy (Case Study in Temanggung Regency). *Conference Proceedings EAI*, 1–8.

Sutrisno, S. (2020). Dampak Sistem Zonasi pada Penerimaan Siswa Baru dan Mutu Pendidikan. *Journal of Education Studies*, *5*(1), 23–42.

Syifaurrahmah, S., Milda, J., & Sirozi, M. (2025). Educational Bureaucracy in Indonesia and Its Implications for School Governance. *Journal of Educational Sciences*, *9*(3), 1255–1264. https://doi.org/10.31258/jes.9.3.p.1255-1264

Van Eck, N. J., & Waltman, L. (2010). Software Survey: VOSviewer, a Computer Program for Bibliometric Mapping. *Scientometrics*, *84*(2), 523–538. https://doi.org/10.1007/s11192-009-0146-3

Vito, B., Krisnani, H., & Resnawaty, R. (2016). Kesenjangan Pendidikan Desa dan Kota. *Prosiding KS*, *2*(2).

Wiranta, W., & Sutarto, S. (2023). Efektivitas Program Indonesia Pintar (PIP) di SMA Negeri 15 Makassar. *Jurnal Kebijakan Pendidikan*, *7*(3).

World Bank. (2020). *The Promise of Education in Indonesia*. World Bank. https://www.worldbank.org/en/country/indonesia/publication/the-promise-of-education-in-indonesia

Xiang, L., & Stillwell, J. (2023). Rural–Urban Educational Inequalities and Their Spatial Variations in China. *Applied Spatial Analysis and Policy*, *16*, 873–896. https://doi.org/10.1007/s12061-023-09506-1

Yulianto, E., & Pranoto, D. (2024). Pengaruh Index Development Gender, Gini Ratio, dan Kepemilikan Telepon Genggam terhadap Indeks Pembangunan Manusia di Indonesia. *Economics and Education Journal*, *3*(3).

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