School-based literacy policy research (2014–2024): global trends, networks, and thematic developments

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Article Info

ABSTRACT

Despite the increasing global emphasis on literacy education, school-based literacy policies continue to face challenges in their development, implementation, and effectiveness. However, research examining these policies remains fragmented, particularly regarding their thematic evolution and geographic distribution. This study aims to analyze the research trends, thematic developments, and collaboration patterns in school-based literacy policy research from 2014 to 2024 through a bibliometric analysis. Using the Scopus database, 781 research articles were analyzed with VOSviewer and R Bibliometrix to identify citation structures, co-authorship networks, and thematic clusters. The findings reveal four major research clusters: (1) pedagogical approaches and teacher professional development, (2) health and well-being, including mental health literacy, (3) basic literacy skills and language development, and (4) policy implementation and evaluation. Over the past decade, publication output increased from 20 articles in 2014 to over 60 in 2023-2024, reflecting a growing academic interest in school-based literacy policies. The citation analysis shows that highly cited studies often focus on the intersection of literacy, digital transformation, and student well-being, indicating a shift toward a more integrated policy framework. Collaboration analysis highlights strong research networks among institutions in North America and Australia, though representation from developing regions remains limited. These findings provide critical insights for policymakers and educators in designing holistic literacy policies that integrate pedagogy, digital literacy, and mental health considerations. By applying bibliometric methods to literacy policy research, this study offers a novel, data-driven perspective on the field's evolution and highlights directions for future research.

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Introduction

Literacy is a key foundation in education that enables individuals to participate in society and reach their full potential. Recent research shows that strong literacy skills from primary school are correlated with better academic achievement and higher life prospects (Sari et al., 2024). However, PISA 2022 data reveals significant disparities in reading performance across countries, with some countries such as Indonesia scoring well below the OECD average of 476 points. This reflects the challenges in literacy policy, especially in the design, implementation, and effectiveness of school-based literacy policies in various educational contexts.(Abrigo & Francisco, 2024). Recent studies also show the importance of technology integration and learning innovation in

literacy development (Falloon, 2020). However, implementing literacy policies remains challenging due to factors such as inconsistent policy execution, variations in pedagogical approaches, and unequal resource allocation (Xiao et al., 2023)

Challenges in school-based literacy policy also include insufficient resources in certain schools, lack of teacher preparedness in implementing literacy programs, and disparities in digital literacy access, which further widen the literacy gap among students. Addressing these challenges requires a comprehensive and evidence-based approach.

Key challenges in school-based literacy policies include inconsistent implementation, differences in pedagogical approaches, and inequities in the allocation of educational resources. Research shows that educational technology and innovative teaching methods have great potential to improve digital literacy from an early age (Kaynar et al., 2020). In addition, collaboration between teachers, parents, local communities, and other stakeholders plays a critical role in supporting the effectiveness of literacy policies (Statti & Torres, 2020). Research also reveals that an integrated approach involving technology and evidence-based policies is critical to the success of literacy programs (Gibson & Smith, 2020). However, many previous studies have focused only on national or regional contexts, without providing a broader global perspective on how literacy policies have evolved across countries (Artyukhov et al., 2024)

An in-depth understanding of global trends in school-based literacy policy is crucial. Policymakers and educators need to learn from successful implementation in multiple contexts for evidence-based decision-making in literacy education reform. Recent research shows that the success of literacy programs is highly dependent on effective collaboration between stakeholders (Behnamnia et al., 2020). The implementation of effective literacy policies requires a comprehensive understanding of global best practices and local contexts (Kumpulainen et al., 2020).

A number of studies have addressed literacy policies from various perspectives. (Sari et al., 2024) researched the strengthening of digital literacy in Indonesia with a focus on collaboration, innovation, and sustainable education. examined strengthening digital literacy in Indonesia through collaboration and sustainable educational innovation. (Abrigo & Francisco, 2024) analyzed the impact of compulsory kindergarten policy on functional literacy in the Philippines. Research by (Statti & Torres, 2020) highlighted the importance of technology access in enhancing student engagement in community-based learning. Although providing valuable insights, these studies have several limitations, including the lack of a global perspective, fragmented policy analysis, and the absence of a systematic mapping of collaboration patterns in school-based literacy research.

While previous research has examined various aspects of literacy policy, there are critical gaps that remain unaddressed. First, most studies focus on national or regional contexts without offering a comprehensive global perspective. Second, existing analyses tend to be fragmented, examining only specific aspects of literacy policy without integrating broader research patterns. Third, there has been no study that systematically maps the evolution of school-based literacy policy research using bibliometric analysis. Fourth, the patterns of international collaboration in literacy policy research have not been well-documented. Given these gaps, a holistic and data-driven approach is needed to understand the global trends and developments in this field.

To fill this gap, this study aims to conduct a bibliometric analysis of global research trends in school-based literacy policy from 2014 to 2024. Using the Scopus database, this study analyzes 781 articles related to school-based literacy policy utilizing VOSviewer software to map publication patterns, academic collaboration networks, and thematic developments in this field. Bibliometric analysis was chosen for its ability to systematically uncover research patterns, identify influential works and authors, and provide a comprehensive mapping of emerging trends in school-based literacy policy. This approach has been proven effective in various other educational studies (O'Brien & Howard, 2020). The article selection criteria were systematically established to ensure the validity and relevance of the dataset used in the analysis. Articles included in this study met the following requirements: firts published in peer-reviewed journals, second focused on school-based literacy policy, thrid published between 2014 and 2024, and available in English to ensure broad readability in global analysis. Additionally, articles categorized as technical reports, editorials, or conference summaries were excluded from the analysis to maintain data quality.

The data validation process was carried out in several stages. First, duplicate data resulting from retrieval from multiple databases were identified and removed to avoid redundancy in the analysis. Second, articles that were not relevant to the research topic were filtered based on abstract analysis and keywords. This filtering was performed using bibliometric software such as VOSviewer, which enables the identification of dominant keywords and thematic relevance. Third, the validity of the dataset was verified through data triangulation by comparing results from various databases, as well as a manual review by two independent researchers to ensure consistency in article selection. This approach aims to enhance the accuracy and reliability of bibliometric

analysis in uncovering global research trends in school-based literacy policy. This approach also allows for in-depth analysis of the network of collaboration and the impact of research (Chen et al., 2020).

This study aims to analyze the trend pattern of school literacy policies in the field of education globally. To guide this article, researchers ask the main questions in this study: (1) What are the top citation trends, publication trends and the most productive authors in school-based literacy policy research?; (2) How is the analysis of collaboration: patterns of collaboration between authors, institutions and countries?; (3) How is the trend analysis of research topics?

The results of this study will make a significant contribution to the development of education policy by providing evidence-based insights for policymakers, researchers, and practitioners. By systematically mapping research trends, collaboration networks, and thematic developments in school-based literacy policies, this study will help stakeholders understand the evolving landscape of literacy education. The findings can identify successful policy implementations in different regions, highlight research gaps that require further investigation, and provide recommendations for improving policy frameworks. Additionally, this analysis will shed light on the role of international collaboration in shaping literacy policies and the impact of emerging trends such as digital literacy integration, equitable access to resources, and pedagogical innovations. By offering a global perspective, this study aims to support the development of more effective, inclusive, and sustainable literacy programs that cater to diverse educational needs and socio-economic contexts(Woods et al., 2020; Yusliza et al., 2020).

Method

This study employs a bibliometric approach to analyze global research trends in school-based literacy policy by collecting data from multiple major databases, including Scopus, Web of Science, and Google Scholar, to avoid bias from reliance on a single source and to enhance the representation of research from various regions. The analyzed articles must be published in peer-reviewed journals, focus on school-based literacy policy, be published between 2014 and 2024, and be available in English to ensure global readability, while technical reports, editorials, and conference summaries are excluded to maintain dataset quality. This research was taken from the Scopus database, which was selected because of its comprehensive coverage and strict indexing standards. Our search strategy used the query terms "school-based" and "literacy" in titles, abstracts, and keywords, taking 781 research articles published in English in the social sciences and arts & humanities.

The search keywords are as follows: title-abs-key (school-based and literacy) and (limit-to (pubyear , 2014) or limit-to (pubyear , 2015) or limit-to (pubyear , 2016) or limit-to (pubyear , 2017) or limit-to (pubyear , 2018) or limit-to (pubyear , 2019) or limit-to (pubyear , 2020) or limit-to (pubyear , 2021) or limit-to (pubyear , 2022) or limit-to (pubyear , 2023) or limit-to (pubyear , 2024)) and (limit-to (doctype , "ar")) and (limit-to (subjarea , "soci") or limit-to (subjarea , "arts")) and (limit-to (language , "english"))

The collected data were exported in RIS (Research Information System) format and imported into the Mendeley reference management software for initial processing, such as deduplication and standardization of author names and institutional affiliations. Data validation was conducted by filtering out irrelevant articles and removing duplicate entries to ensure dataset quality. The validation process included a manual review of search results to identify topic inconsistencies and the removal of data that did not meet the selection criteria. Missing or incomplete data were addressed by cross-referencing additional metadata from the original database sources to ensure accuracy and completeness.(Marmoah et al., 2022).

Articles included in the analysis were then processed using the bibliometric software VOSviewer to analyze research relationships and trends. This study's bibliometric analysis covers several key aspects, including publication analysis by year to identify temporal trends, collaboration network analysis among researchers and institutions, and citation analysis to identify influential works and authors in this field. Additionally, keyword analysis using the co-word analysis method was performed to uncover emerging research themes. Thematic clusters, such as pedagogy, mental health, and policy, were automatically identified through algorithms in VOSviewer and then manually validated by the research team to ensure accuracy and relevance. This manual validation involved an in-depth analysis of clustering results to confirm that the generated thematic groups aligned with the research context.

Bibliometric results were visualized using various network maps, including network visualization to show relationships among researchers and institutions, overlay visualization to map the evolution of research over time, and density visualization to identify the most discussed topics. These visualizations were then qualitatively examined to provide deeper interpretations of trends and patterns in school-based literacy policy research. To ensure research replication, the search query syntax used in each database is detailed. The analysis parameters

in VOSviewer are also transparently documented, including co-word and co-citation analysis methods, to allow for repetition by other researchers. Data validation steps, including methods for filtering out irrelevant articles and handling missing or incomplete data, are also outlined to enhance the credibility and transparency of this study. Additionally, the cleaned and analyzed dataset is documented to ensure openness and accessibility for further research.

Our analytical framework covers several key dimensions of the research landscape. We examined publication trends during the decade to identify temporal patterns in the research output. The analysis of the co-authorship network reveals a pattern of collaboration between researchers, institutions, and the state. Citation analysis helps identify the influential works and authors that make up the field. Keyword co-emergence analysis maps the evolution of research themes and emerging topics. The software generates a network visualization map to clearly illustrate these relationships. This can be seen in the following Fraemwork research Figure 1:
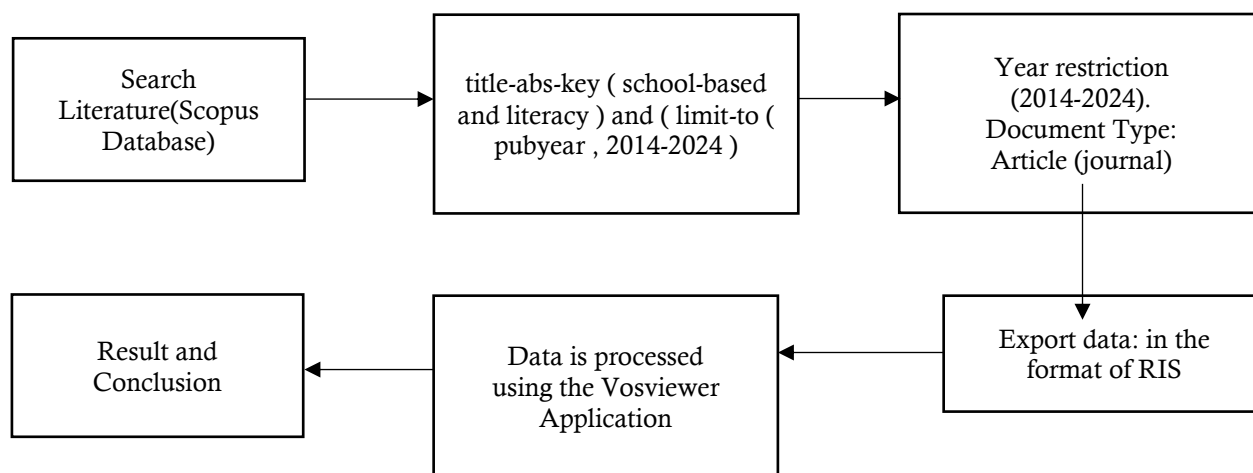
Figure 1 <Research Framework Bibliometric>

To analyze research impact and collaboration patterns, we focused on three key indicators: publication productivity, citation patterns, and co-authorship networks. The assessment of the research theme uses quantitative keyword analysis and qualitative interpretation of the content group. This dual approach provides insight into the field's statistical patterns and conceptual development.

Some limitations of this methodology need to be acknowledged. Our reliance on the Scopus database, while providing high-quality data, may exclude relevant research published in unindexed journals. Focusing on English-language publications has the potential to overlook valuable contributions in other languages. In addition, a ten-year timeframe, while capturing recent developments, may not reflect long-term historical trends in the field. Despite these constraints, this methodology provides a robust framework for understanding contemporary developments in school-based literacy policy research.

Results and Discussions

A bibliometric analysis of school-based literacy policy research from 2014-2024 reveals patterns, top citations, trends, and significant thematic developments in this field. Our findings shed light on the evolution of research focuses, collaboration networks, and emerging priorities in literacy education policy globally. This analysis provides important insights to understand the current state of knowledge and identify future research directions in school-based literacy initiatives. The specific results are as follows

Top Citasis, Publication Trends and Most Productive Authors

Based on the bibliometric analysis in Figures 2 and 3 below, the top citations on literacy policy research have experienced developments on school-based literacy policies in the last decade showing an interesting trend. Citation analysis shows a significant increase in both the number of publications and the academic impact.

In terms of publication volume, there has been a consistent increase from around 20 articles in 2014 to more than 60 articles in 2023-2024. This increase reflects the increasing attention of the academic community to the issue of school-based literacy policy. The Surge publication is mainly seen in the 2018-2023 period, which can be attributed to digital transformation in education and the impact of the COVID-19 pandemic that promotes adaptive policy literacy.

Citation analysis indicates a significant growth trend, with the number of citations increasing steadily over the years. The most frequently cited articles cover diverse topics, including STEM education, mental health, and teacher roles in literacy development, demonstrating the multidimensional nature of school-based literacy policy research. Bibliometric mapping using VOSviewer highlights key research themes and citation networks, reflecting the increasing academic and policy interest in literacy education.
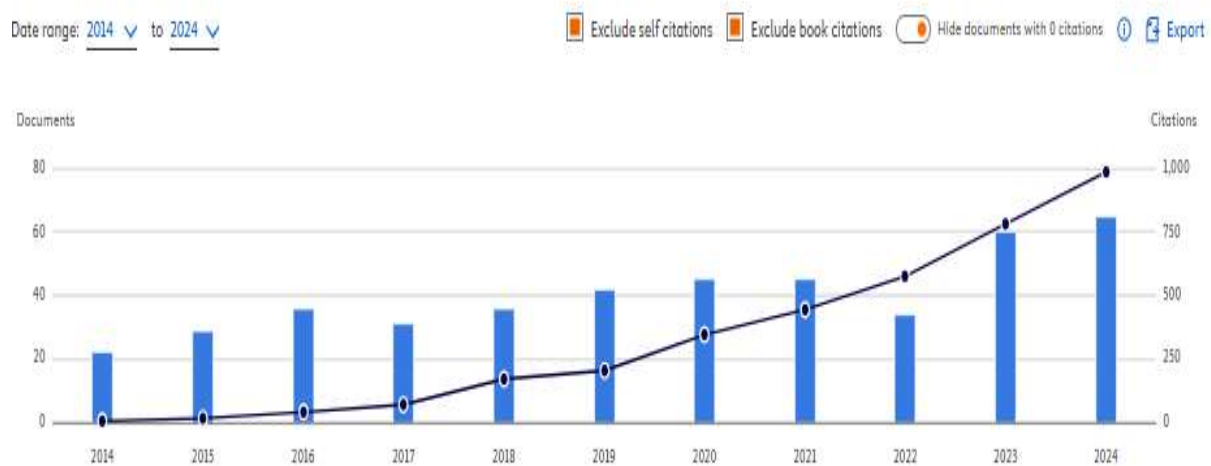

Figure 2 <Citation Curve in the Last 10 Years>

Documents	Year	<2014	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Subtotal	>2024	Total
Total		0	6	16	41	70	171	204	346	444	576	782	986	1,642	26	3,668
1 An Integrated Analysis of School Students' Aspirations for STEM Careers: W...	2018	0	0	0	0	0	2	4	12	16	22	22	18	96	1	97
2 Effectiveness of Universal School-Based Mental Health Awareness Progra...	2016	0	0	0	0	1	3	8	14	14	10	14	13	77	0	77
3 Teacher Recognition, Concern, and Referral of Children's Internalizing and ...	2019	0	0	0	0	0	0	1	5	7	17	21	22	75	1	76
4 Impact of vocational education and training on adult skills and employme...	2019	0	0	0	0	0	0	1	5	8	13	8	23	58	1	59
5 That Sounds So Coool: Entanglements of Children, Digital Tools, and Liter...	2015	0	0	1	2	3	10	4	8	11	8	5	6	58	0	58
6 The Impact of Financial Education for Youth in Ghana	2018	0	0	0	0	0	4	4	8	6	12	9	13	56	1	57
7 Effects of a brief school-based media literacy intervention on digital media...	2014	0	0	0	1	1	4	9	2	10	6	8	13	56	0	56
8 The Impact of Environmental Education on Environmental and Renewable ...	2020	0	0	0	0	0	0	0	1	4	11	20	15	51	2	53
9 Exploring media literacy and computational thinking: A game maker curri...	2016	0	0	0	1	2	3	1	9	7	6	7	9	47	0	47
10 Towards a school-based 'critical data education'	2021	0	0	0	0	0	0	0	2	2	10	5	16	39	1	40

Figure 3 <Top 10 Quotes articles on Literacy>

In Figures 2 and 3. The citation pattern shows an increasingly strong academic impact. The citation curve depicts exponential growth, reaching around 1,000 citations by 2024. The most influential articles are

"An Integrated Analysis of School Students' Aspirations for STEM Careers" (2018) with 96 citations"

"followed by "Effectiveness of Universal School-Based Mental Health Awareness Programs" (2016) with 77 citations"

"Teacher Recognition, Concern, and Referral of Children's Internalization and Externalization Behavior" (2019) with 75 citations"

The distribution of citations shows that recent publications (2020-2024) are rapidly accumulating citations, indicating the relevance and immediate impact of contemporary research. Meanwhile, early publications (2014-2017) show a pattern of ongoing situations, reflecting their long-term influence in this area. The diversity of topics in the most cited articles – from STEM integration, mental health, to teacher roles – illustrates the multidimensional nature of school-based literacy policy research.

This trend confirms that school-based literacy policy research is becoming an increasingly dynamic field with a growing scope and impact, especially in integrating traditional literacy with contemporary educational challenges and opportunities.
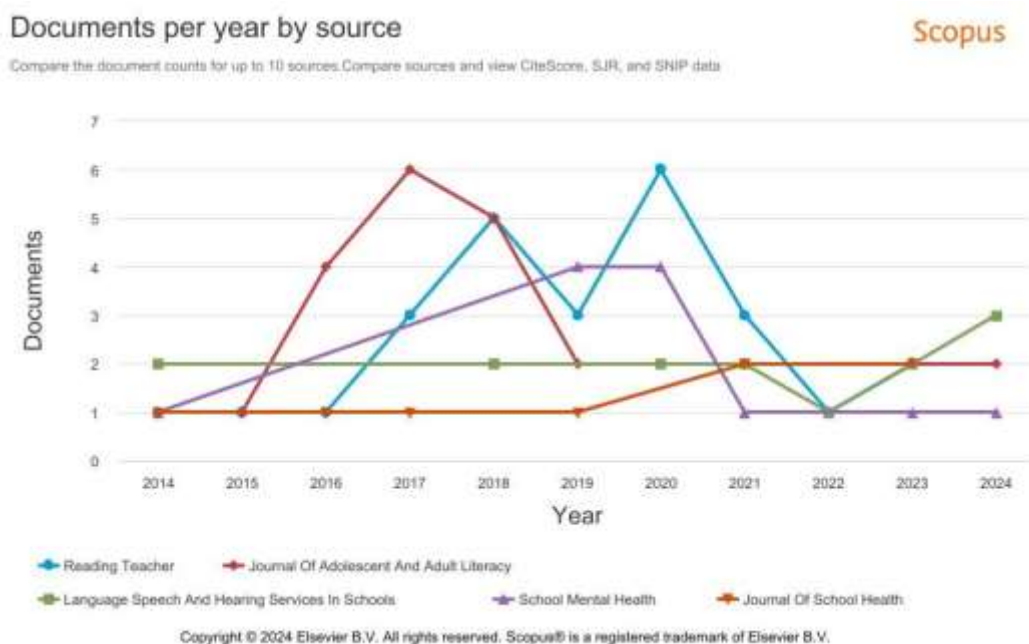

Figure 4 <Number of Publications Per Year by Source>

In Figure 4, the five main journals show diverse dynamics during the period 2014-2024. For example, *Reading Teacher* reached peak productivity in 2020 with 6 publications, reflecting a significant surge compared to previous years. On the other hand, *the Journal of Adolescent and Adult Literacy* showed a strong trend in 2016-2017 with 6 publications, but experienced a slow decline after that. Meanwhile, *School Mental Health* managed to maintain consistency with an average of 4 articles per year in 2018-2020, underscoring the continued focus on the relationship between mental health and literacy in educational settings

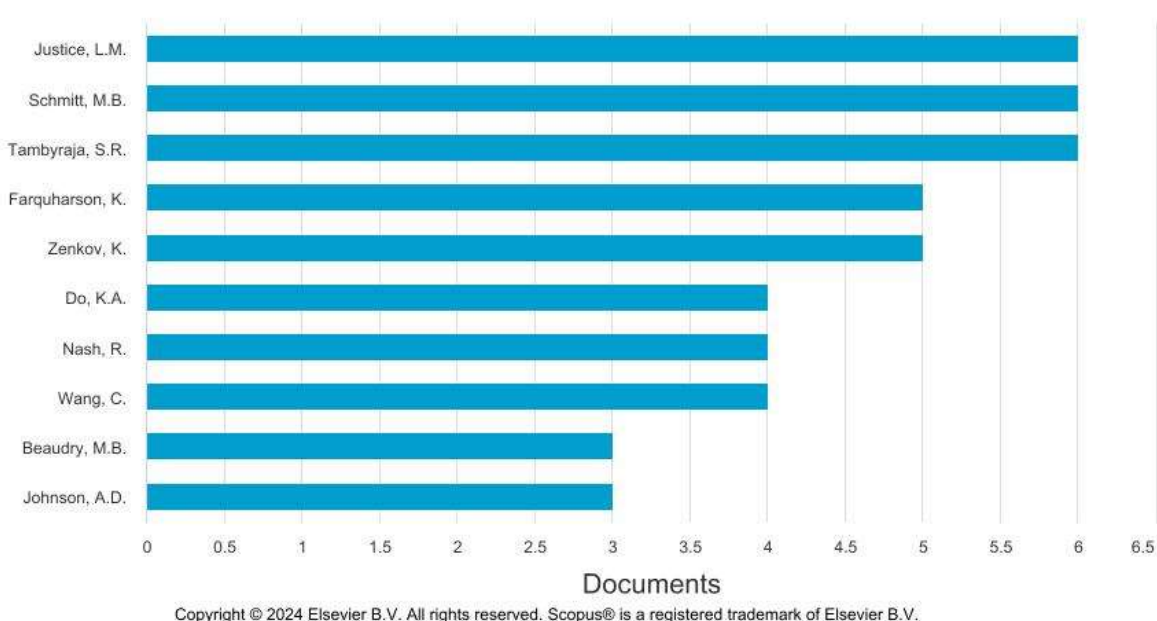**Figure 5 <The Most Prolific in the Field of Literacy School Policy>**

In Figure 5. In terms of individual contributions, several researchers have emerged as major figures in this field. Justice, LM, Schmitt, MB, and Tambyraja, SR each produced 6 publications, making them the most prolific researchers in this dataset. Farquharson, K., and Zenkov, K. followed with 5 publications each. Other research groups, such as Do, K.A., Nash, R., and Wang, C., contributed 4 publications each, while Beaudry, M.B., and Johnson, A.D. produced 3 publications. Interestingly, the productivity of these researchers is in line with the increasing citation trend in the 2018-2023 period. This means that their contribution is not only significant in quantity but also has a great impact on the development of school-based literacy policy research. This pattern shows that their work has managed to reach and influence the scientific community at large.

Thus, it can be synthesized that these findings show that school-based literacy policy research is developing dynamically, driven by the consistent contributions of leading researchers and leading journals. The diverse research focuses, ranging from basic literacy to mental health, further enrich our understanding of school-based literacy comprehensively.

Collaboration analysis: patterns of collaboration between authors, institutions and countries
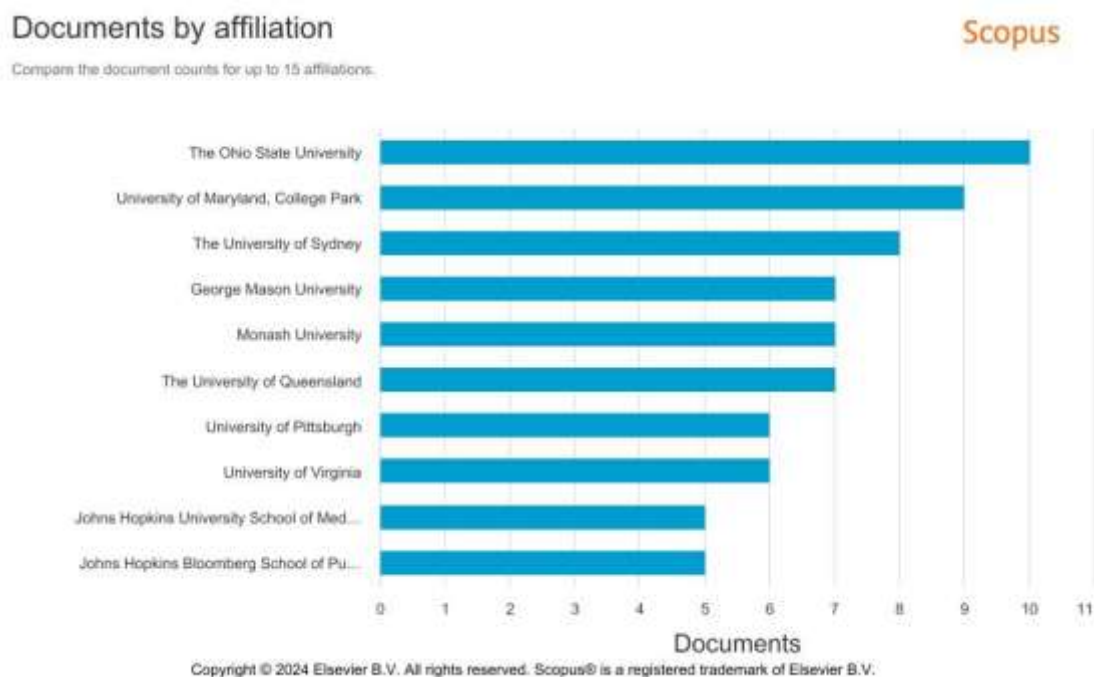
Documents by affiliation

Compare the document counts for up to 15 affiliations.

Figure 6 <Top Institutions>

Documents by country or territory

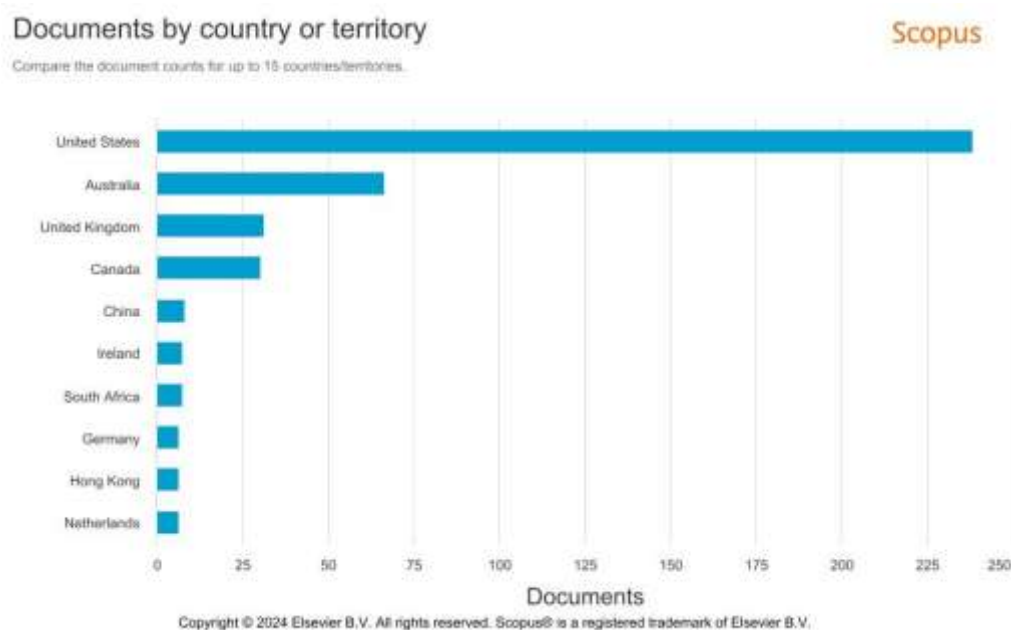Compare the document counts for up to 15 countries/territories.

Figure *7* <Top Country>

Institutional Collaboration Of institutional affiliations can be seen in Figure 7, showing that The Ohio State University leads the way with 10 publications, followed by the University of Maryland, College Park and The University of Sydney. This pattern indicates the existence of strong research clusters in these institutions. Interestingly, there is a balanced representation between North American institutions (Ohio State, Maryland, Pittsburgh) and Australia (Sydney, Monash, Queensland), suggesting a cross-continental collaboration in school-based literacy research.

International Collaboration Analysis by country shows the dominance of the United States with about 250 documents see in Figure 8 below, well above Australia (75 documents) and the United Kingdom (50 documents). Nonetheless, the presence of countries such as China, Ireland, South Africa, and Hong Kong shows that school-based literacy policy research has become a global effort. This geographical distribution reflects variations in approaches and applications of literacy policies across different cultural contexts and education systems.

The relationship between these third dimensions reveals that school-based literacy policy research is driven by structured network collaboration, with centres of excellence in North America and Australia playing a key role in advancing this field. This pattern of collaboration also explains why the 2018-2023 period showed a significant increase in research productivity and impact, as mature network collaboration allows for a more effective exchange of knowledge and resources.
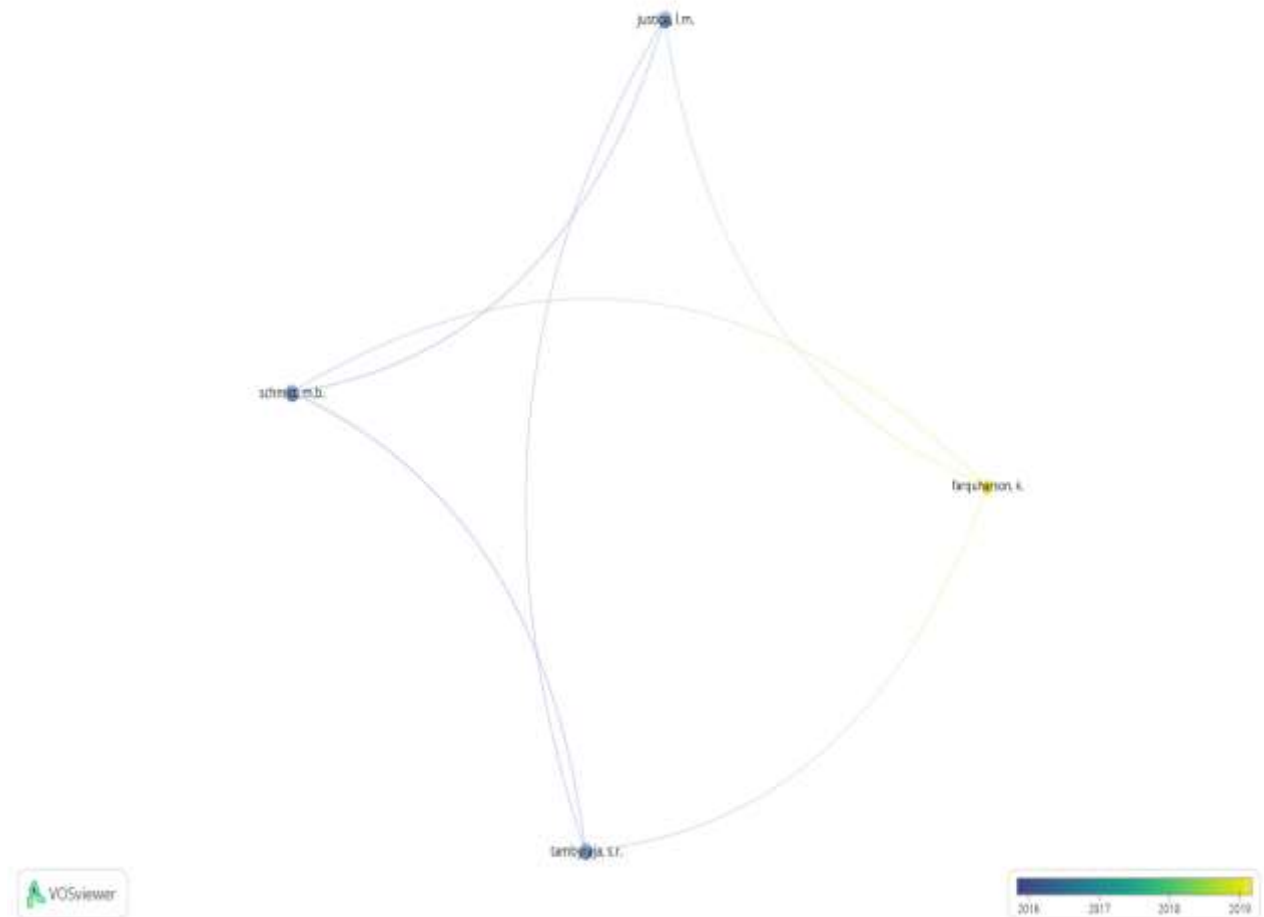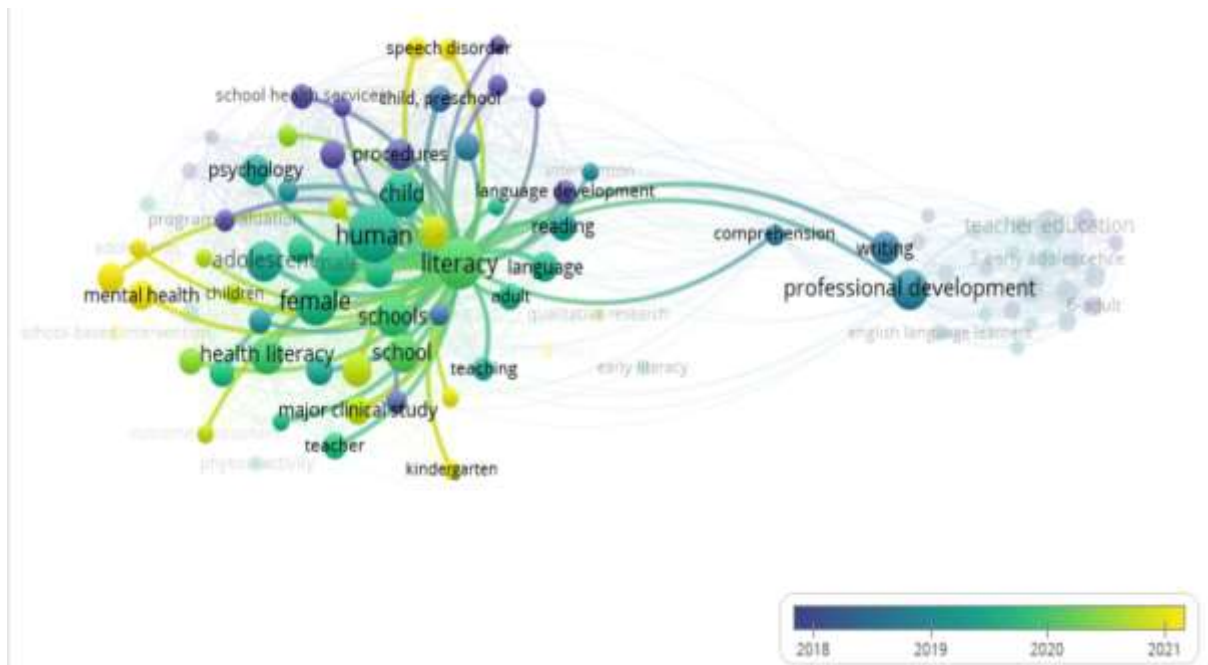

Figure 8 <Author's Collaboration>

Figure 8. Showing a pattern of Collaboration Between Researchers The visualization of the researcher collaboration network reveals a strong relationship between the principal researchers such as Justice LM, Schmitt MB, Tambyraja SR, and Farquharson K. This collaboration pattern can be seen from the connecting line in the VOSviewer visualization, which shows the strength of the collaborative relationship during the period 2016-2019. This result is also linear as shown in Figure 3 above. These results show that the intensity of this collaboration slows down with researcher productivity, where the three best researchers each produce 6 publications, suggesting that strong collaboration drives research productivity.

Trend analysis of research topics

Figure 6. Distribution of Bibliometric Topic Trends

Figure 7. Spread of School Literacy Policy

Based on the trend analysis of research topics in Figure 9. and 10 Indicates that the Visualization Key Theme Cluster shows four major thematic clusters that are interconnected. At the center of the network, the keyword "literacy" becomes a central point that connects various aspects of research. The first cluster focuses on pedagogical aspects and professional development, characterized by a strong connection between "professional development", "teacher education" and "writing". The second cluster is related to health and well-being,

including "mental health literacy", "health literacy", and "school health services". The third cluster deals with language learning and basic literacy, which involves "language development", "reading", and "comprehension". The fourth cluster covers aspects of implementation and policy, as seen from the relationship between "schools", "procedures", and "program evaluation".

Interestingly, the bibliometric results can be summarized as several key findings revealing how important literacy policies are starting in 2014: (1) It began with a change in the focus of research during the 2018-2021 period. Initially, research was dominated by fundamental themes such as language development and reading, but later expanded in a more comprehensive direction to include mental health and teacher professional development. This shows the evolution of understanding that policy literacy needs to include broader aspects than just reading and writing skills; (2) Second, a strong integration between literacy and mental health in the context of schools was identified. The emergence of a focus on "mental health literacy" and "health literacy", especially in the 2019-2020 period, indicates an adaptive response to student needs during the pandemic. This shows that literacy policies increasingly recognize the importance of holistic well-being in learning; (3) Third, there is an increased emphasis on the professional development of teachers and education teachers, especially in 2020-2021. This reflects the awareness that the effectiveness of policy literacy is highly dependent on the capacity and competence of teachers in implementing it; (4) Fourth, research shows an increasingly integrated approach to school policy literacy, where pedagogical, health, and professional development aspects are no longer seen as separate elements but as interrelated components in a complex education system; (5) Fifth, visualizations show that literacy policy interventions are increasingly focused on specific age groups, with special attention to early childhood and early adolescence, as evidenced by the strong association between age-group-related keywords in the research network.

These findings point to the need for the development of more comprehensive and adaptive literacy policies, which not only focus on basic literacy skills but also consider mental well-being, professional teacher development, and the specific needs of various age groups.

Discussion

This study aims to analyze the trend pattern of school literacy policies in the field of education globally. The bibliometric analysis of school-based literacy policy research from 2014-2024 reveals significant trends and patterns in academic discourse and policy development. Publication trends show remarkable growth, with output increasing from approximately 20 articles in 2014 to over 60 in 2023-2024, accompanied by exponential growth in citations reaching around 1,000 by 2024. This surge reflects intensifying academic attention to literacy policies, particularly during 2018-2023, coinciding with digital transformation in education and pandemic-driven adaptations (Sari et al., 2024).

The findings of this study align with previous research but also reveal shifts in school-based literacy policy. The increasing focus on digital literacy and mental health literacy after 2020 supports the findings of Falloon (2020) and Widana et al. (2023), who emphasized the importance of digital competence and student well-being in modern literacy education. However, this study demonstrates that these aspects are no longer treated as separate domains but have been integrated into school literacy policies. According to Argadinata et al. (2025), the development of global education policies in the last decade shows a strong emphasis on digitalization, inclusion, and well-being. In this context, the integration of digital literacy and mental health into school literacy policies reflects an adaptive policy response to the demands of the 21st century.

Additionally, the emergence of teacher professional development as a central research cluster confirms the findings of Abrigo & Francisco (2024), who highlighted the importance of stakeholder collaboration in literacy initiatives. However, this study goes further by showing that teacher development is strongly linked to both pedagogical and health-related themes, indicating a more holistic approach to literacy policy. The regional analysis also identifies disparities in literacy infrastructure, consistent with Nadifa & Zulvani (2024). However, while previous research primarily documented these disparities, this study provides evidence that such inequalities are also reflected in research trends, with limited studies focusing on underrepresented regions. Thus, this study contributes to the literature by demonstrating that school literacy policy is evolving toward a more integrated system that connects pedagogy, digital literacy, and student well-being—an evolution not fully captured in earlier research. The study by Judijanto et al. (2024) emphasized that the evaluation of modern education programs not only assesses the effectiveness of policies, but also maps how policies are interrelated, including their impact on teachers and students.

Institutional analysis identifies in Fig. 7 show. The Ohio State University, University of Maryland, and University of Sydney as leading research centers, establishing strong collaborative networks. The visualization of author collaboration networks reveals robust connections among key researchers seeing in Fig. 6 like Justice L.M., Schmitt M.B., and Tambyraja S.R., supporting previous findings about the crucial role of stakeholder

collaboration in advancing literacy initiatives (Abrigo & Francisco, 2024). However, this concentration of research leadership in specific geographical regions suggests potential gaps in global representation that warrant attention (Jauti et al., 2023)

Thematic analysis identifies four primary research clusters: pedagogical approaches and professional development, health and well-being, basic literacy and language learning, and policy implementation. This evolution shows a notable shift from fundamental literacy concerns to more integrated approaches incorporating digital literacy and mental health considerations, particularly after 2020. Research as (Falloon, 2020) argues, this shift reflects growing recognition of digital competence as integral to contemporary literacy education.

Regional comparative data reveals significant disparities in literacy infrastructure and outcomes. For instance, Java leads with a reading literacy activity index of 72.2, while regions like Maluku (57.8) demonstrate considerably lower performance. These findings align with recent research highlighting uneven distribution of literacy resources and outcomes across different regions (Nadifa & Zulvani, 2024) Such disparities underscore the need for targeted interventions and resource allocation strategies.

The VOSviewer network analysis identifies four interconnected thematic clusters, with "literacy" serving as the central node connecting various research aspects. This network structure demonstrates the field's progression from siloed approaches to a more integrated understanding of literacy education.

The first notable finding shows a clear shift in research focus during 2018-2021, transitioning from foundational literacy topics toward a more comprehensive approach. As (Sari et al., 2024)note, this evolution reflects growing recognition that literacy policy must encompass more than basic reading and writing skills. The emergence of professional development and pedagogical aspects as a primary cluster, marked by strong connections between "professional development," "teacher education," and "writing," indicates increased attention to teacher capacity building in literacy instruction.

A second significant development is the strengthening integration between literacy and mental health in educational contexts. The prominence of "mental health literacy" and "health literacy" keywords, particularly during 2019-2020, aligns with (Widana et al., 2023) findings on the importance of holistic student development. This trend was notably accelerated by pandemic-related educational adaptations, demonstrating the field's responsiveness to emerging student needs.

The analysis also reveals an intensified focus on teacher professional development during 2020-2021. This finding corresponds to (Falloon, 2020) research on digital competency frameworks, highlighting how policy effectiveness increasingly depends on teacher implementation capacity. The visualization shows strong connections between professional development nodes and both pedagogical and health-related clusters, suggesting a more integrated approach to teacher preparation.

Perhaps most significantly, the network analysis demonstrates evolution toward viewing school literacy policy as an interconnected system. The clear linkages between pedagogical, health, and professional development clusters support (Nadifa & Zulvani, 2024) argument for comprehensive literacy policy approaches. This marks a departure from earlier, more compartmentalized views of literacy education components.

The visualization also reveals increasing attention to age-specific interventions, particularly for early childhood and early adolescence. This targeted approach aligns with (Abrigo & Francisco, 2024)findings on the importance of age-appropriate literacy interventions. The strong connections between age-related keywords across clusters suggest growing recognition of developmental considerations in literacy policy design.

The findings of this study indicate that school-based literacy policies are increasingly shifting toward a more integrated approach, encompassing digital literacy, mental health literacy, and teacher professional development. Therefore, education policymakers can utilize these findings to develop more comprehensive literacy strategies. For instance, the integration of digital literacy in school curricula should not only focus on technical skills but also on leveraging technology for broader literacy learning. Additionally, the increasing focus on mental health literacy suggests that school literacy policies should include student well-being programs that are literacy-based (Argadinata, et al, 2025)

Policymakers can develop guidelines for schools to integrate mental health literacy content into learning and provide training for teachers to identify and support student well-being. Furthermore, the trend analysis highlights the critical role of teacher professional development in the effectiveness of literacy policies. Consequently, education policies should emphasize teacher training that not only covers basic literacy instruction but also interdisciplinary approaches that connect literacy with student well-being and 21st-century skills. Specific policy recommendations that could be implemented include: Ongoing professional development for teachers in digital and mental health literacy. The development of integrated literacy policy modules,

incorporating cognitive and emotional aspects of learning. Strengthening school-community partnerships to develop literacy programs that are relevant to local needs.

Like all bibliometric studies, this research has several limitations. First, the analysis only includes publications indexed in specific databases, which means it may not capture all relevant research that is not documented in the selected databases. Second, while trend analysis provides insights into the evolution of research topics, these findings do not directly indicate the effectiveness of literacy policies implemented in schools. Further qualitative studies are needed to confirm how literacy policies are applied in various cultural and geographical educational contexts. Third, this study highlights global trends but does not specifically discuss how these policies are implemented at the national or local levels. Therefore, future research could focus on policy analysis at more specific levels to understand how literacy policies are practically applied within different educational systems.

Although this study provides deep insights into global school-based literacy policy trends, several aspects require further exploration. One of the key issues is the geographical disparity in literacy research, as most studies are still dominated by developed countries such as the United States, Australia, and the United Kingdom. Future research should focus on how developing countries adapt school-based literacy policies and the challenges they face in implementing these policies. Additionally, this study shows that mental health literacy and digital literacy are increasingly being integrated into school literacy policies, but little research has examined the effectiveness of these policies in classroom practice. Therefore, future studies could explore how schools implement technology-driven and mental health-based literacy policies and their impact on student learning outcomes. Further research should also delve into academic collaboration in literacy policy research. Bibliometric data indicate that most collaborations are concentrated among major universities in developed countries, while contributions from developing regions remain limited. Future studies could investigate ways to enhance the participation of researchers from developing countries in global literacy policy research.

Conclusions

This study has successfully conducted a bibliometric analysis of school-based literacy policy research from 2014-2024, which provides valuable insights into the evolution and current conditions of the field. The study shows that literacy policy research has evolved significantly, moving away from an isolated approach to a more integrated framework that recognizes the interrelated nature of literacy development, mental health, and professional capacity building.

This study has successfully conducted a bibliometric analysis of school-based literacy policy research from 2014-2024, providing valuable insights into the evolution and current trends in the field. The findings highlight a shift from isolated literacy policies to a more integrated framework that connects literacy development with mental health literacy, digital literacy, and teacher professional development. This evolution reflects a growing recognition that effective literacy policies must address not only academic skills but also students' well-being and teachers' professional capacities.

The findings of this study have important policy implications for improving school-based literacy strategies. First, policymakers should adopt a more holistic approach to literacy policy that integrates academic, social-emotional, and technological aspects into school curricula. Second, international collaboration in literacy research should be strengthened to bridge geographical gaps and promote literacy strategies that are contextually relevant across different regions. Third, the study underscores the crucial role of teacher professional development in literacy policy implementation. Policies should ensure that educators receive continuous training on digital literacy, mental health literacy, and inclusive teaching methods to effectively support student learning.

To build on these findings, future research should explore the long-term impact of integrated literacy policies, particularly in diverse educational and cultural contexts. Additionally, further studies should investigate the effectiveness of technology integration in school literacy programs and develop strategies to reduce regional disparities in literacy outcomes. Expanding research efforts to include developing countries will also be critical in ensuring that literacy policies are globally inclusive.

This study contributes to the understanding of how school-based literacy policy research has evolved and provides practical recommendations for policymakers and educators seeking to enhance literacy education. As education systems continue to adapt to technological advancements and changing societal needs, these insights can help guide the development of more responsive and equitable literacy policies. Ultimately, this research serves as a valuable resource for policymakers, educators, and researchers who are working to improve literacy outcomes in diverse educational contexts.

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