The Evolving Landscape of Collaborative Writing in Literacy Education: A Systematic Bibliometric Review (2016-2025)

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Abstract: This study aims to explore the global landscape of research on *Collaborative Writing in Literacy Education* through a systematic bibliometric analysis. Using 364 Scopus-indexed publications from 2016 to 2025, the study maps trends in publication growth, influential authors, productive countries, and thematic evolution. Data were collected through a TITLE-ABS-KEY search with the keywords "collaborative writing" and "literacy" and analyzed using Microsoft Excel, VOSviewer, and Biblioshiny. The results indicate a steady increase in scholarly output, with the United States, United Kingdom, and Canada as dominant contributors, and emerging research from China, Indonesia, and Australia. The most active authors, including Ann Hill Duin and Isabel Pedersen, advanced studies on digital and academic literacy integration. Thematic mapping identified *digital literacy*, *academic writing*, and *teacher education* as core areas, while *AI-assisted writing* and *critical literacy* represent emerging trends. The study's novelty lies in providing a comprehensive bibliometric synthesis that integrates thematic, co-authorship, and keyword analyses to reveal intellectual linkages and future directions. Practically, it guides educators and policymakers in adopting collaborative and technology-enhanced pedagogies that foster critical, digital, and reflective literacy. This study contributes to a deeper understanding of how collaboration transforms literacy learning in a digitally connected world.

Keywords: Academic Literacy, Bibliometric Analysis, Collaborative Writing, Digital Literacy, Higher Education

A. Introduction

Collaborative writing (CW) has become a central focus in literacy education, reflecting a broader shift toward socially mediated and interaction-driven models of learning. Over the past decade, research has highlighted that collaborative writing enhances critical literacy, metacognitive awareness, and dialogic engagement among learners (Adlington & Feez, 2019; AlGhazo et al., 2022; Mohr et al., 2024). In this study, *literacy education* refers primarily to academic literacy including reading–writing integration, argumentation, and text production while also encompassing elements of digital literacy due to the increasing use of online collaborative platforms. Within socio-

cultural theory, which serves as the overarching framework for this review, writing is inherently collective, shaped by interaction, scaffolding, and culturally mediated tools. Concepts such as Vygotsky's Zone of Proximal Development (ZPD) underpin how peer negotiation, shared authorship, and co-regulation allow learners to jointly construct meaning (Rojas-Drummond et al., 2020). Thus, CW is not only a pedagogical technique but a socio-cognitive practice that aligns with collaborative meaning-making.

The expansion of digital platforms including wikis, shared documents, blogs, and multimodal authoring tools has further extended CW beyond the physical classroom (McKenzie, 2023; Morley & Aston, 2023). These environments support synchronous and asynchronous interaction, peer review, and co-authorship, positioning digital mediation as an integral component of contemporary literacy development (Bouhmid, 2019). However, despite a wide range of methodologies and contexts, current research remains fragmented. Existing studies vary from classroom case studies to mixed-methods investigations, yet lack an integrated synthesis that maps how CW contributes to literacy outcomes across disciplines and educational settings (Beck & del Calvo, 2023; Ho & Yan, 2021). Moreover, while cognitive benefits of collaboration are well-documented, broader socio-cultural dimensions such as identity, power, and equity remain underexamined (Blackburn & Schey, 2018). Similarly, although digital tools are increasingly central to writing instruction, the mechanisms through which technology mediates collaborative literacy practices are inconsistently explored (McKenzie, 2023; Wang, 2020).

A critical gap also exists in the bibliometric understanding of the field. No comprehensive mapping has been conducted to chart research growth, influential authors, prominent sources, or conceptual trajectories in CW within literacy education from 2016 to 2024. The need for such a synthesis is particularly urgent *now*, given the convergence of two major global shifts: (1) Post-pandemic digital learning, which normalized remote collaboration and reshaped writing practices; and (2) The rise of AI-supported writing tools, which are transforming how learners co-construct texts, negotiate meaning, and develop literacy skills (Ye et al., 2025). These developments make a bibliometric review timely and necessary to understand how CW has evolved in response to rapid technological change.

Recent scholarship demonstrates that CW has diversified across educational levels and modalities, from dialogic writing in primary classrooms (Rojas-Drummond et al., 2020) to collaborative essay design in higher education (Ho & Yan, 2021). Activity theory and community-of-practice frameworks further reveal how collaboration enhances academic literacy, agency, and disciplinary participation (de Costa et al., 2024). Meanwhile, AI-enabled writing environments introduce new dynamics in scaffolding, fluency development, and peer interaction—although scholars caution

against over-reliance on automation at the expense of authentic collaboration (Fujimoto-Adamson et al., 2024).

From a global perspective, CW research reflects increasing geographic diversity, with significant contributions from Asia, Europe, and North America (Bouhmid, 2019; Roux Sparreskog & Dylman, 2025). This cross-cultural expansion underscores the adaptability of CW across multilingual and multicultural contexts. Yet, despite its pedagogical importance, few studies have systematically examined the intellectual structure and evolution of CW scholarship.

The novelty of the present study lies in offering a bibliometric synthesis that not only maps research productivity but also reveals co-authorship networks, conceptual clusters, and thematic evolution between 2016 and 2024. By integrating co-citation, co-authorship, and keyword analyses, this review provides both quantitative and qualitative insights into how CW research has developed over time. Importantly, this study establishes a post-pandemic baseline for understanding emerging CW trends, including the growing influence of digital and AI-mediated writing tools. The findings are expected to advance theoretical clarity, inform pedagogical practice, and guide future research on collaboration, technology, and literacy learning.

In line with these objectives, the study addresses the following questions:
1. How has the research output on Collaborative Writing in Literacy Education evolved between 2016 and 2024?
2. Which source titles have contributed most significantly to this field?
3. Who are the most prominent authors and how are they connected through collaborative networks?
4. Which countries and institutions have demonstrated the highest productivity and influence?

B. Methods

This study applied a bibliometric mapping approach to systematically analyze research trends and intellectual structures on *Collaborative Writing in Literacy Education* between 2016 and 2025. Bibliometric analysis is a quantitative and descriptive method used to evaluate the growth, impact, and thematic development of a field through statistical assessment of publication metadata (Nurfadilah et al., 2025). This approach was chosen because it enables a transparent, replicable, and data-driven synthesis of academic productivity and collaboration patterns, offering a comprehensive overview of the field's evolution.

The study focused exclusively on peer-reviewed literature indexed in the Scopus database (https://www.scopus.com), which provides broad and reliable coverage of international scholarly works. Data collection was carried out on September 25, 2025,

using the search field TITLE-ABS-KEY with the keywords *"collaborative writing"* and *"literacy."* This search strategy ensured that all documents explicitly addressing both concepts in their title, abstract, or keywords were included. The initial query yielded 645 records, encompassing journal articles, conference papers, and other document types.

After retrieval, a systematic filtering process was conducted to refine the dataset shown in figure 1. The first step applied a year coverage filter (2016–2025) to ensure currency, narrowing the records to 398 documents. The second step restricted document types to journal articles and conference papers, reducing the total to 391 documents. The third step limited the dataset to English-language publications, yielding a final corpus of 364 documents. These documents were considered the "respondents" of the study, representing global scholarly contributions to research on collaborative writing and literacy. The research setting was fully digital, conducted within Scopus and supported by analytical tools—Microsoft Excel, VOSviewer, and Biblioshiny.
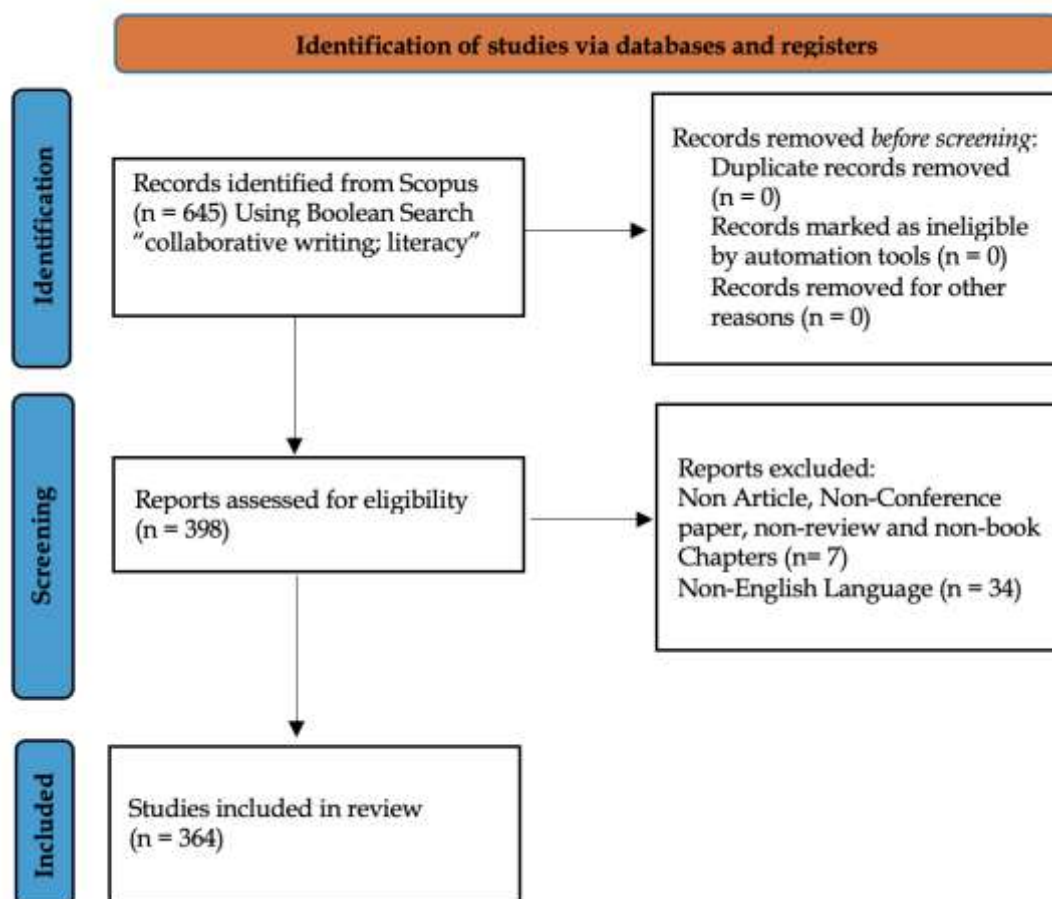

Figure 1 The PRISMA flow diagram detailing the screening and selection process of literature

The data analysis combined quantitative and interpretive techniques. Descriptive statistics were calculated to identify annual publication growth, leading sources, and country-level research productivity. Network visualizations were then generated to illustrate the relationships among authors, citations, and keywords. The resulting maps were qualitatively interpreted to reveal clusters representing major research themes such as collaborative learning, digital literacy, and academic writing development. This dual analysis provided both numerical trends and conceptual insights into the evolution of research on *Collaborative Writing in Literacy Education.*

To ensure validity and reliability, all data were obtained from Scopus, a standardized and reputable database. The search parameters, filters, and analytical procedures were explicitly documented to allow replication by future researchers. The use of multiple software tools enhanced triangulation, and the consistency of results across tools confirmed reliability. Data were analyzed objectively without modification of original records, and all steps were transparently described to ensure methodological rigor.

In terms of ethical considerations, this study did not involve human participants; therefore, no ethical clearance was required. All data analyzed were publicly available bibliographic records. The research followed ethical standards of academic integrity by properly citing sources, ensuring accuracy, and protecting data authenticity. The study adhered to open-science principles by providing clear descriptions of procedures and parameters to promote replicability.

C. Results and Discussion

1. Results

1.1 Growth of Research Output (2016–2025)

Figure 2 illustrates the annual growth of publications on *Collaborative Writing in Literacy Education*. The trend shows a steady increase from 26 articles in 2016 to approximately 55 in 2025, indicating growing scholarly attention to collaborative writing as an essential approach to literacy pedagogy.
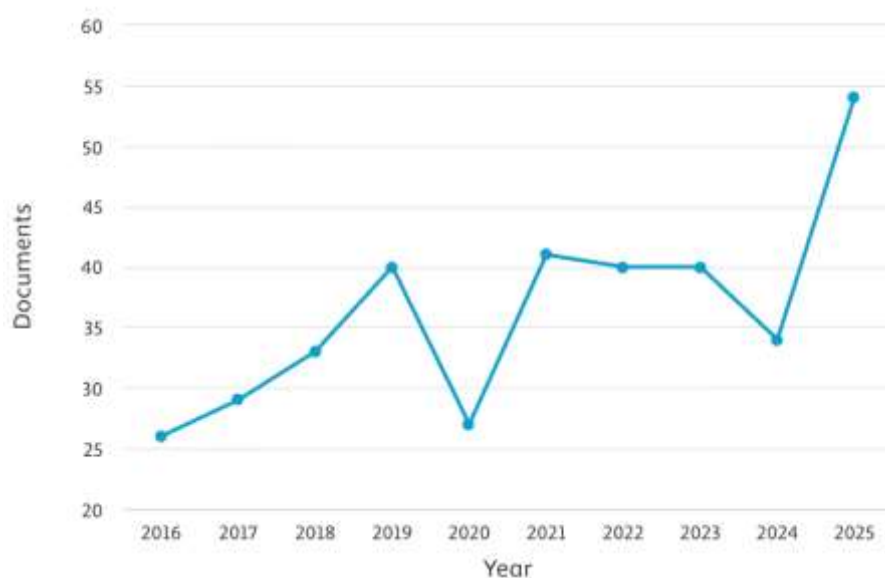
Figure 2 Number of articles published annually from 2016 to 2025

The early years (2016–2018) saw gradual development, characterized by exploratory classroom studies and qualitative approaches to understanding how collaborative writing fosters literacy skills. A temporary decline in 2020 (around 28 papers) coincided with global disruptions due to the COVID-19 pandemic, which limited research activities. However, output recovered rapidly from 2021 onward, reflecting intensified academic focus on digital collaboration and online literacy practices.

The sharp increase in 2025 suggests that research in this area continues to accelerate, likely influenced by new technological developments such as AI-assisted writing tools and digital literacy frameworks. This growth pattern confirms the field's transformation from a niche pedagogical topic into a mainstream research area in applied linguistics and education.
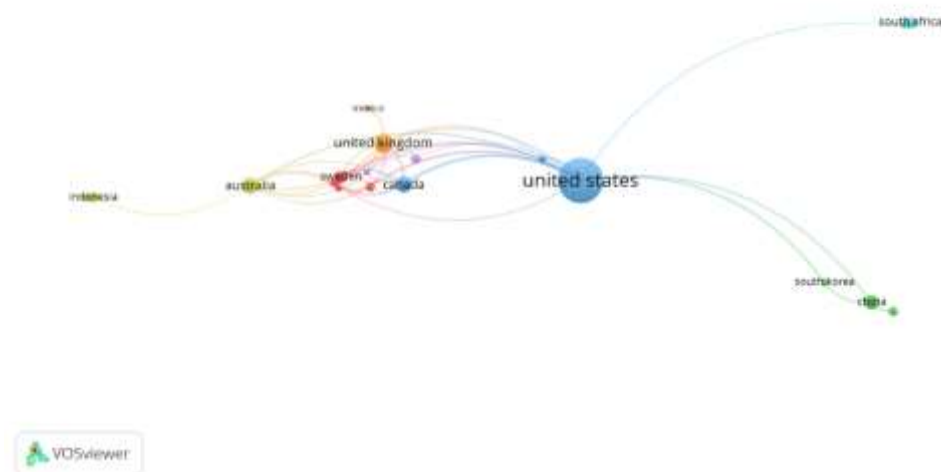
1.2 Bibliographic Coupling of Countries

Figure 3 presents the bibliographic coupling of countries, which reveals patterns of research collaboration based on shared citation links and presented in Table 1. The United States leads with 161 documents and 1,632 citations, demonstrating both high productivity and strong academic influence (total link strength = 30). The United Kingdom (29 documents, 314 citations) and Canada (24 documents, 229 citations) follow as significant contributors with well-established networks in literacy and composition studies.

Emerging research activity is evident in China (17 documents, 156 citations) and Australia (21 documents, 196 citations), both of which show increasing engagement in technology-supported literacy education. Other active contributors include Sweden,

South Africa, Indonesia, and New Zealand, reflecting a more globally distributed research landscape. Indonesia, with 10 publications, is a promising emerging contributor in the Southeast Asian region.

Table 1 Top 20 Countries Contributing to the Topic of Collabirative Writing

No	Country	Documents	Citiation	Total Link Strengh
1	United State	161	1632	30
2	United Kingdom	29	314	18
3	Canada	22	229	16
4	Australia	21	205	12
5	China	17	156	7
6	Sweden	14	61	10
7	South Africa	11	81	1
8	Indonesia	10	20	2
9	New Zealand	8	57	13
10	Hong Kong	8	115	3
11	Spain	8	117	3
12	Portugal	7	146	8
13	Taiwan	6	58	1
14	Turkey	5	10	8
15	South Korea	5	21	5
16	Germany	5	217	4
17	Denmark	4	67	9
18	Mexico	4	46	2
19	United Arab Emirates	4	11	2
20	Ireland	4	11	0

Figure 3 Bibliographic coupling of countries

The bibliographic coupling map displays dense linkages among Anglophone countries, suggesting that collaborative writing research is strongly interconnected through shared theoretical foundations and cross-institutional projects. The growing participation of Asian and European nations also demonstrates the globalization of literacy education and cross-linguistic perspectives in writing pedagogy.

1.3 Three-Field Plot: Affiliations, Countries, and Keywords

Figure 4 visualizes the three-field relationship among author affiliations, countries, and keywords. The left field represents the top contributing universities and research institutions, including institutions from the United States (e.g., University of Michigan, Arizona State University), the United Kingdom (University of London, University of Leeds), and Asia (Hong Kong Polytechnic University, National Taiwan Normal University). The middle field corresponds to author countries, where the U.S., U.K., Canada, Australia, and China dominate in both productivity and international collaboration. The right field presents frequently occurring keywords, notably *collaborative writing*, *literacy*, *academic writing*, *digital literacy*, *EFL learners*, and *higher education*. This plot demonstrates that the field is not isolated within language education but has expanded toward digital literacy, teacher professional development, and AI-assisted learning environments. The strong association between English-speaking institutions and keywords related to *digital learning* underscores the integration of collaborative writing with emerging educational technologies.
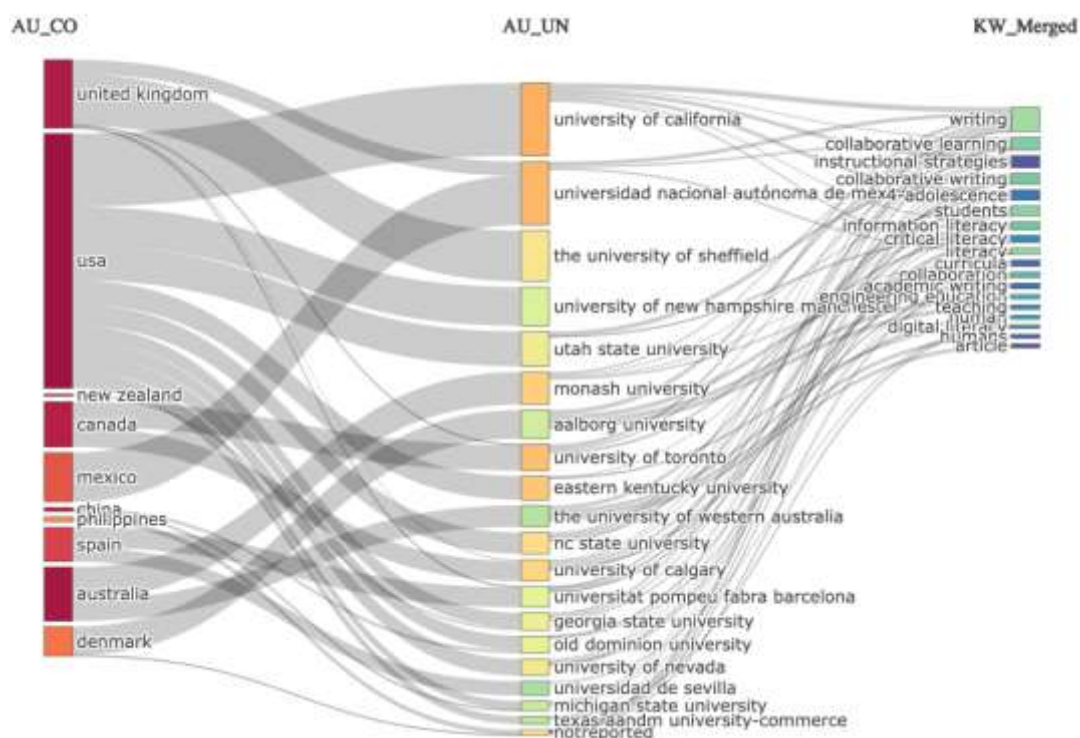

Figure 4 Three field plot of affiliation, author country, and all keywords

1.4 Most Relevant Sources

Figure 5 presents the most relevant source titles contributing to publications on collaborative writing and literacy. The analysis identified five leading journals (1) *System* publishing the largest number of studies (approx. 11% of total output), focusing on applied linguistics, EFL writing pedagogy, and literacy. *(2) Journal of Second Language Writing* – known for high-impact studies on collaborative writing and academic literacy in multilingual contexts. *(3) Computers & Education* – emphasizing digital and technology-enhanced literacy practices. *(4) Teaching in Higher Education* – contributing pedagogical perspectives on academic writing collaboration in universities. *(5) Literacy Research and Instruction* – addressing cross-disciplinary literacy and collaborative learning approaches.

These journals represent the interdisciplinary nature of the field, bridging linguistics, education, and digital technology. Their collective influence suggests that collaborative writing research has matured into a globally recognized and methodologically diverse area of inquiry.
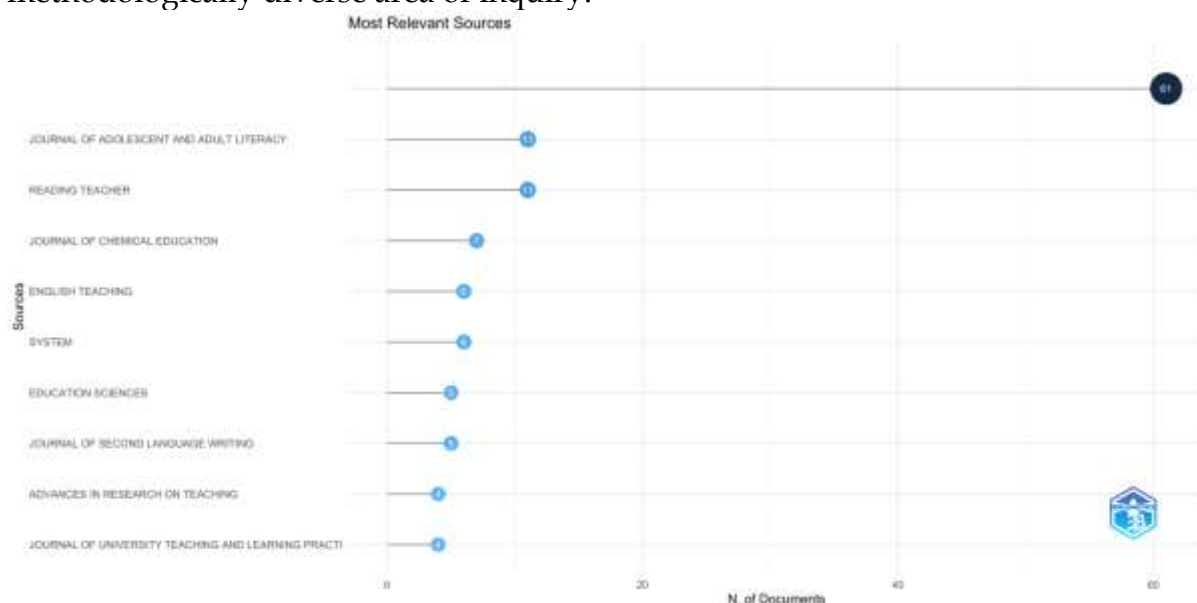

Figure 5 Most Relevant Sources

1.5 Most Prominent Authors

The analysis of author productivity and citation impact provides insight into the scholars shaping the intellectual structure of *Collaborative Writing in Literacy Education*. Based on the bibliometric data (table 2), the most productive authors are Ann Hill Duin and Isabel Pedersen, each contributing five publications to the field. Both researchers have extensively explored digital writing, academic collaboration, and technology-enhanced literacy, reflecting their consistent scholarly engagement over the past decade.

Mimi Li, Sylvia Margarita Rojas-Drummond, and Soobin Yim follow closely with three to four publications each, but they demonstrate greater citation influence. Among them, Yim (127 citations) stands out as the most highly cited author, indicating significant recognition of her contributions on collaborative writing processes and second-language literacy development. Similarly, Rojas-Drummond (46 citations) has been influential in advancing dialogic and socio-cultural perspectives on co-regulated writing and group literacy interactions in educational contexts (Rojas-Drummond et al., 2020). Other notable contributors include Blaine E. Smith (33 citations) and Margaret Bruehl, whose works often focus on digital literacies and collaborative authorship in multimodal environments. Collectively, these researchers form a core cluster that connects literacy studies, applied linguistics, and educational technology.

The total link strength metric from VOSviewer highlights the degree of collaboration between these authors. *Ann Hill Duin* and *Isabel Pedersen* exhibit strong collaborative linkages (link strength = 5 each), suggesting active co-authorship networks and cross-institutional partnerships. *Yim* and *Rojas-Drummond* display slightly lower link strengths (4–6) but higher citation impact, indicating that their individual works are widely referenced even outside their immediate networks.

Table 2 Top 15 Most Productive Authors Over A Decade (2016–2025)

No	Author	Affiliaton	Documents	Cititation	Total Link Strengh
1	Duin Ann Hill	University of Minnesota Twin Citie	5	3	5
2	Pedersen, Isabel	Ontario Tech University	5	3	5
3	Li, Mimi	Texas A&M University-Commerce	4	32	2
4	Rojas-Drummond, Sylvia Margarita	Universidad Nacional Autónoma de México	3	46	6
5	Yim, Soobin	Korea University	3	127	4
6	Smith, Blaine E	Vanderbilt University	3	4	1
7	Bruehl, Margaret	University of Colorado Denver	2	21	6
8	Budd, Skylar	University of Colorado Denver	2	21	6
9	Knight, Jefferson D	University of Colorado Denver	2	21	6
10	Pan, Danise	University of Washington	2	21	6
11	Hofmann, Riikka	The Faculty of Education, Cambridge	2	39	5
12	Maine, Fiona	University of Exeter	2	39	5
13	Cusimano, Andrew	Cassadaga Valley Central School District	2	38	4
14	Krishnan, Jenell A	WestEd	2	38	4
15	Detrick, Rita	Old Dominion University	2	18	4

1.6 The Current Research Landscape

Figure 7 illustrates the keyword co-occurrence network generated using VOSviewer. Each node represents a keyword, while the proximity and thickness of links indicate the strength of co-occurrence relationships among concepts. The color gradient reflects the temporal evolution of research themes between 2019 and 2023.

The map reveals that *collaborative writing* sits at the core of the network, strongly connected to keywords such as *literacy*, *academic writing*, *collaboration*, *digital literacy*, *learning*, and *teacher education*. This demonstrates the centrality of collaborative writing as both a pedagogical and cognitive process in literacy development. The presence of interlinked nodes such as *engineering education*, *EFL learners*, and *higher education* indicates a broad disciplinary reach, spanning applied linguistics, education, and digital learning contexts.
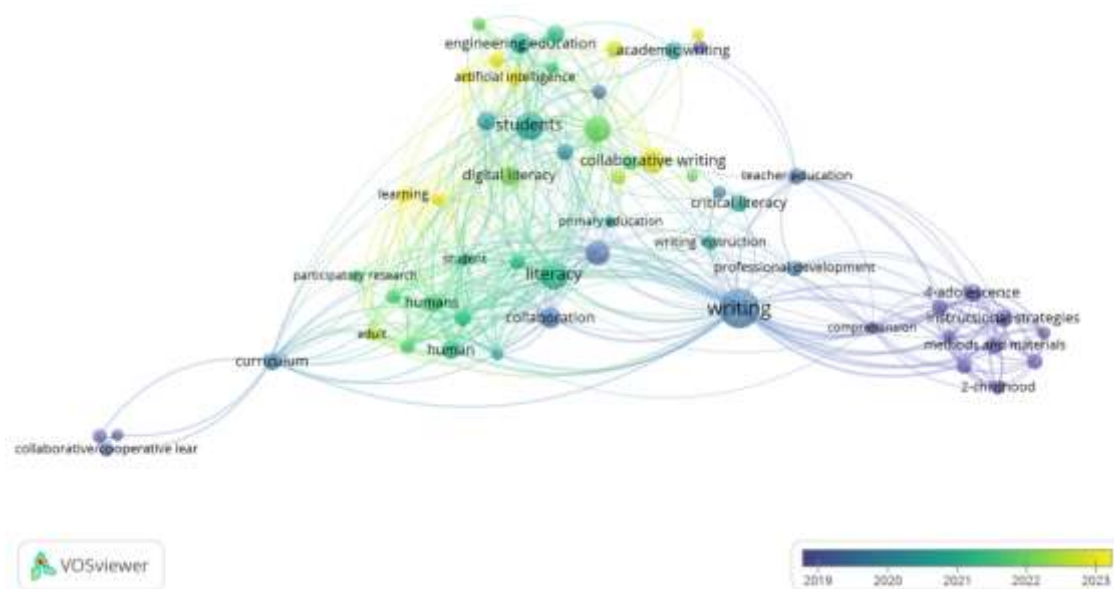

Figure 6 Keyword co-occurrence network of research on collaborative writing

1.7 Trend Topics Analysis (2019–2023)

The Trend Topics visualization (Figure 8) tracks the chronological emergence of major terms from 2019 to 2023. The distribution of keyword trajectories highlights how the field has evolved from foundational pedagogical discussions toward complex digital and interdisciplinary themes.

Between 2019 and 2020, dominant keywords included *collaborative learning*, *peer review*, *academic writing*, and *literacy instruction*. These early themes reflect the pedagogical focus of early collaborative writing studies, emphasizing classroom applications and

student engagement. By 2021, the field expanded toward digital transformation, marked by the rise of keywords such as *digital literacy*, *online collaboration*, and *virtual learning environments*. This shift corresponds with the global transition to remote and hybrid education during the COVID-19 pandemic, which accelerated the adoption of digital platforms for collaborative composition. From 2022 onward, the appearance of new keywords such as *artificial intelligence*, *automation*, and *AI-supported writing* indicates the latest evolution in the field. Studies have begun exploring how AI-driven systems can mediate collaborative writing processes, providing automated feedback and enhancing metacognitive awareness in literacy learning. Additionally, the re-emergence of terms like *engineering education*, *curriculum innovation*, and *professional development* shows that collaborative writing is increasingly applied in cross-disciplinary contexts, extending beyond language classrooms to broader educational and workplace literacy environments.
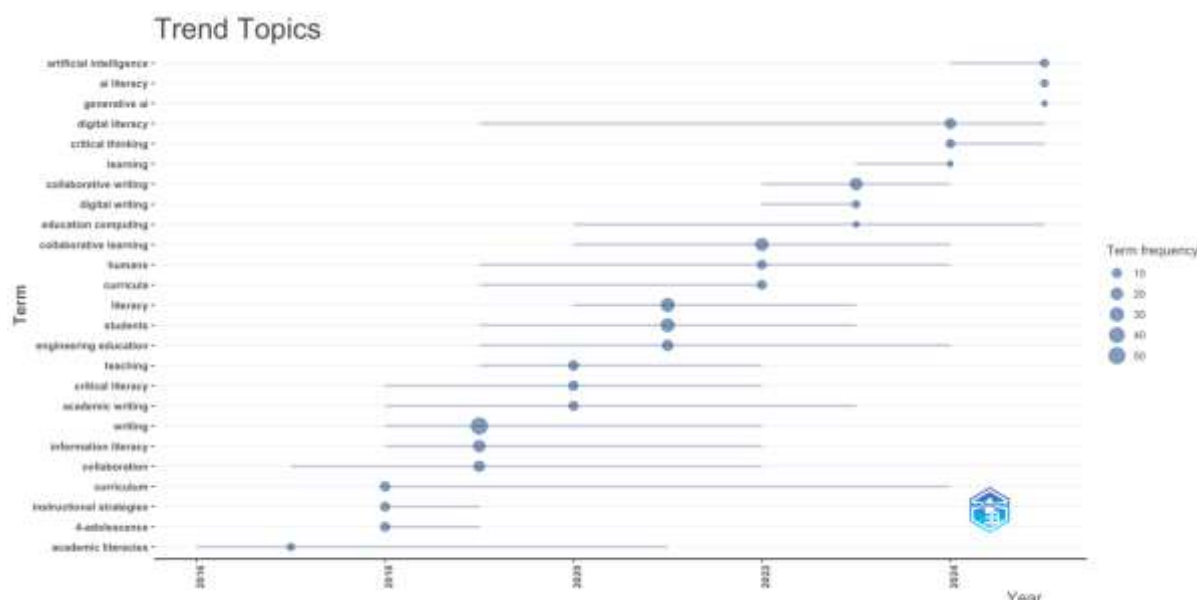

Figure 7 Trend topics of research on collaborative writing

1.8 Thematic Evolution and Conceptual Structure

Figure 8 presents the thematic map of research on *Collaborative Writing in Literacy Education*. The map categorizes research themes based on their *centrality* (relevance degree) and *density* (development degree), dividing them into four quadrants: Motor Themes, Niche Themes, Emerging or Declining Themes, and Basic Themes. This visualization helps identify the maturity, importance, and developmental trajectory of key topics within the field. The emerging or declining quadrant contains themes such as *project-based learning*, *readability*, and *cultural anthropology*. These areas currently have low density and centrality, suggesting limited research activity or a transition phase. However, some may re-emerge as interest grows in interdisciplinary

literacy applications—particularly where collaboration intersects with culture, ethnography, and curriculum design.
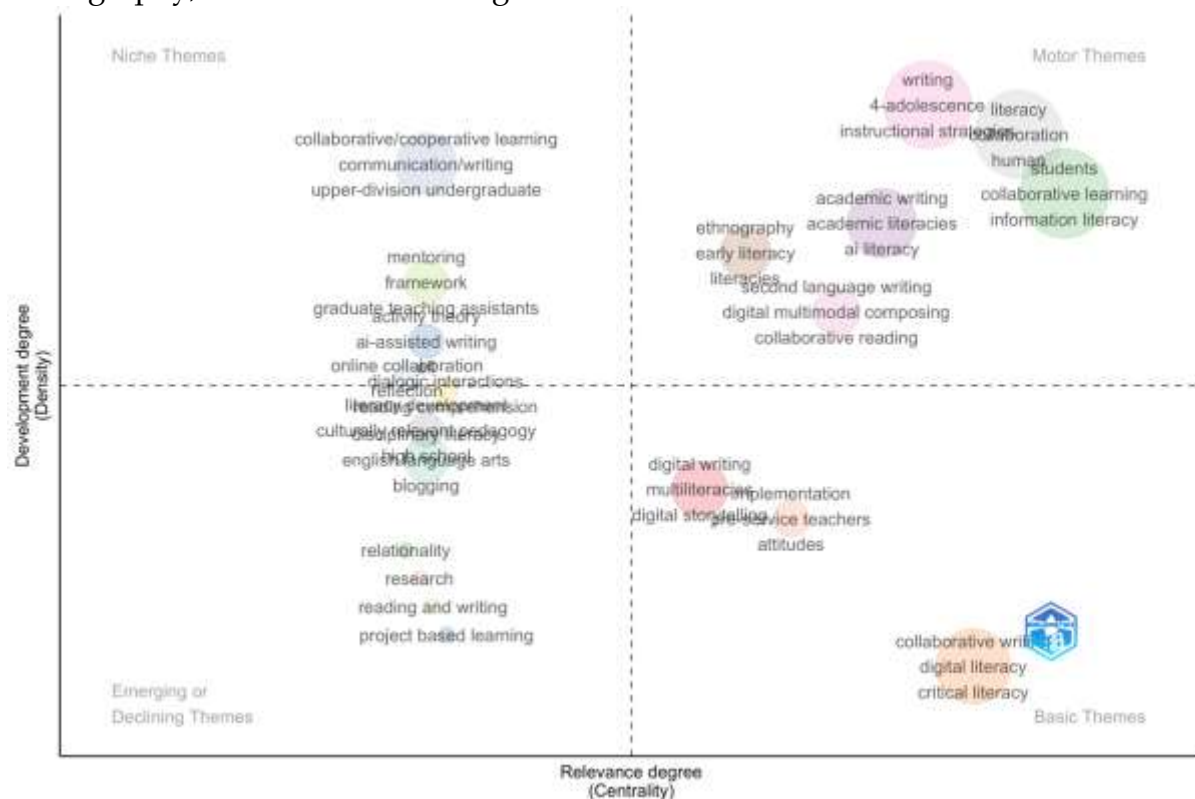
Figure 8 Thematic map of collaborative writing

Motor Themes (Upper Right Quadrant)

Motor themes represent topics that are both well-developed and central to the field. The analysis reveals *collaborative learning*, *academic writing*, *digital literacy*, and *information literacy* as the core research engines driving current scholarship. These themes are interconnected through pedagogical and technological lenses—indicating that most studies view collaborative writing not merely as a method of text production but as a complex literacy practice involving digital mediation and academic communication (McKenzie, 2023; Bowles-Terry & Clinnin, 2020).

Within this cluster, *adolescent literacy* and *instructional scaffolding* are emerging as important subthemes, especially in teacher education and student-centered literacy programs. Their positioning suggests that they serve as conceptual anchors linking pedagogy, technology, and learning outcomes.

Niche Themes (Upper Left Quadrant)

The niche themes exhibit high density but low centrality, meaning they are specialized yet peripheral to the field's core. This quadrant includes *cooperative learning*,

communication writing, *upper-division undergraduate education*, and *mentoring*. Although not dominant, these topics provide important contextual depth, addressing domain-specific adaptations of collaborative writing—particularly in advanced academic settings and project-based learning environments.

Such themes reflect localized experimentation and pedagogical innovation, indicating that while their theoretical contribution is strong, their wider influence across disciplines remains limited.

Basic Themes (Lower Right Quadrant)

Basic themes are fundamental and broadly relevant but may still be underdeveloped. In this study, *digital writing*, *AI implementation*, and *critical literacy* fall into this category. These topics represent foundational constructs that underpin ongoing digital transformation in literacy education. For instance, *digital writing* serves as a conceptual bridge between socio-cultural collaboration and multimodal composition, while *critical literacy* reflects the growing emphasis on social responsibility and empowerment through writing. As artificial intelligence increasingly supports writing feedback and scaffolding, these themes are expected to move toward the motor quadrant in future research cycles, reflecting the integration of automation and human collaboration.
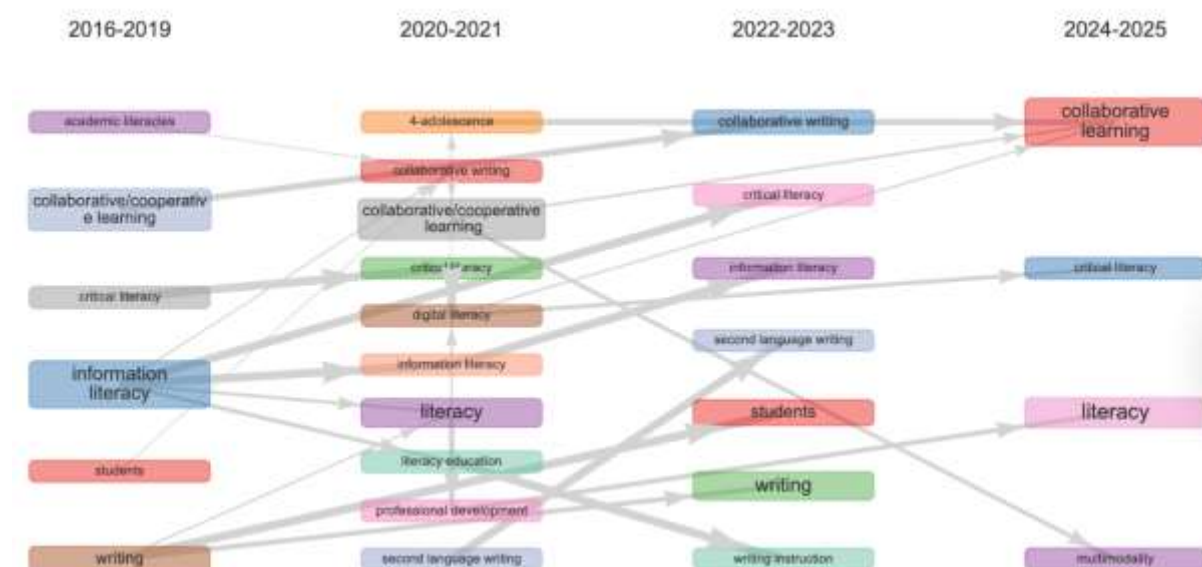

Figure 9 Thematic evolution of research on collaborative writing

Figure 9 illustrates the thematic evolution of collaborative writing and literacy research across four time Early studies (2016-2019) were dominated by fundamental pedagogical themes such as *collaborative/cooperative learning*, *information literacy*, and *academic literacy*. During this stage, researchers focused on peer collaboration and basic literacy development in language learning contexts, often emphasizing classroom

implementation and student interaction. Thematic expansion (2020-2021) occurred with the inclusion of *digital literacy* and *teacher education*. The onset of remote and hybrid learning due to the COVID-19 pandemic triggered new investigations into online collaboration tools and multimodal writing. Research during this period established digital collaboration as an essential literacy competency rather than a supplemental skill. The field matured conceptually (2022–2023), linking *critical literacy*, *academic writing*, and *second language writing* with *AI-supported collaboration*. Studies began exploring how learners use technology to co-construct meaning, engage in reflective dialogue, and manage multimodal texts. The overlap of *digital literacy* with *critical thinking* signaled a shift toward evaluating not just writing outcomes but also students' digital awareness and autonomy. Recent years (2024–2025) show a strong convergence of collaborative learning, digital literacy, and critical literacy as the most relevant and integrated themes. The merging of these concepts demonstrates the field's transition toward a holistic model that treats collaboration as both a cognitive process and a socio-technological literacy practice. This stage also introduces new cross-disciplinary connections, including *AI integration*, *curriculum innovation*, and *multimodality*, suggesting future research directions centered on technology-enhanced collaboration and literacy empowerment.

2. Discussion

The findings of this systematic bibliometric review reveal how research on *Collaborative Writing in Literacy Education* has evolved over the past decade, marking a paradigm shift in the understanding of literacy as a social, digital, and collaborative practice. The steady growth in publications from 2016 to 2025 demonstrates that collaborative writing has become a significant focus within literacy education research, especially as educational contexts worldwide have adopted technology-enhanced learning environments. This transformation reflects a broader movement in literacy theory from an emphasis on individual competence toward a recognition of collective knowledge construction and digital participation (Brooke, 2022; D'ambrosio & Boriati, 2023; Largou & El Guermat, 2025).

The upward trend in research output (Figure 2) suggests that scholars increasingly view collaborative writing as both a pedagogical strategy and a theoretical construct that aligns with socio-cultural learning perspectives. From this standpoint, literacy is not a fixed skill but a mediated practice situated within social interaction. Collaborative writing embodies this principle by allowing learners to co-construct meaning, negotiate perspectives, and engage in shared authorship. The work of Rojas-Drummond et al. (2020) exemplifies this process, showing how dialogue, co-regulation, and feedback cycles promote metacognitive awareness and deeper literacy learning. Consequently, the field has moved beyond examining linguistic accuracy or writing performance to investigating broader developmental outcomes such as collaboration, reflection, and critical thinking.

The thematic structure of the literature (Figures 7 and 9) confirms that research on collaborative writing now encompasses three interconnected domains: socio-cultural literacy, digital literacy, and academic writing. The first domain, socio-cultural literacy, emphasizes interaction and scaffolding as foundations of learning, consistent with the theories of Vygotsky and Johnson and Johnson (D'ambrosio & Boriati, 2023; Shafiee Rad & Mirzaei, 2024). The second domain, digital literacy, situates writing within multimodal and networked environments, reflecting the perspectives of Cope and Kalantzis (D'ambrosio & Boriati, 2023; Stambler et al., 2025; Yu, 2022), who argue that meaning-making in contemporary literacy is increasingly multimodal and technologically mediated. The third domain, academic writing, connects collaborative practices with disciplinary literacy and higher education pedagogy, aligning with Ho and Yan's (2021) findings that teacher collaboration fosters assessment literacy and curriculum innovation.

The bibliometric evidence shows that *academic writing*, *digital literacy*, and *teacher education* have emerged as motor themes well-developed and central to the field (Figure 9). This convergence indicates that collaborative writing is not confined to language classrooms but extends to professional and academic contexts where literacy is linked to critical inquiry and identity formation. The inclusion of *critical literacy* and *AI implementation* as basic yet emerging themes reveals the dynamic expansion of literacy research toward ethical, technological, and transformative dimensions (Teckwani et al., 2024; Ye et al., 2025). In particular, the intersection between collaborative writing and artificial intelligence marks the beginning of Brooke (2022) describe as "academic literacies 3.0," a phase characterized by the integration of human and algorithmic authorship in learning processes.

The evolution of research themes (Figure 9) reflects distinct chronological phases in the field's development. Between 2016 and 2019, studies primarily explored cooperative learning models and peer collaboration in traditional classrooms, focusing on how shared writing tasks support literacy skills. From 2020 to 2021, digital transformation became a dominant concern, driven by the global shift to online learning during the COVID-19 pandemic. This period saw the rise of research on digital tools such as wikis, shared documents, and virtual platforms as facilitators of literacy engagement (McKenzie, 2023). In the following years, 2022–2025, the field expanded further toward integrating critical literacy and AI-assisted collaboration, indicating that writing is now seen as both a social and technological act of communication. These transitions illustrate a maturation of the discipline, from foundational pedagogy to a sophisticated intersection of education, technology, and critical reflection.

Another key insight from this study concerns the geographical and collaborative patterns of publication. The United States, the United Kingdom, and Canada remain the most productive and influential contributors, forming the core of international

research networks (Figure 3). However, emerging contributions from China, Australia, Indonesia, and Sweden signify a growing global interest and diversification in literacy education. This diffusion of research activity underscores that collaborative writing is no longer a Western-centric pedagogical construct but a global practice that adapts to different linguistic, cultural, and technological contexts (de Costa et al., 2024). The increase in transnational co-authorship also supports Hopwood et al.,(2022) concept of *expansive learning*, in which collaboration across boundaries leads to new forms of shared knowledge production.

Pedagogically, these findings highlight that collaborative writing functions as both a learning strategy and a professional development tool. For students, it cultivates academic literacy, digital fluency, and social responsibility. For educators, it provides a reflective framework for co-designing curriculum, assessment, and classroom discourse. Bowles-Terry and Clinnin (2020) emphasize that teacher collaboration enhances research writing instruction by creating communities of practice that mirror the same dialogic processes students experience. This finding is reinforced by the presence of *teacher education* as a recurring keyword, suggesting that professional collaboration is integral to sustaining literacy innovation. The pedagogical implications extend to designing hybrid and AI-supported classrooms where students engage in co-authored digital writing, peer review, and multimodal composition (Grey, 2020; Narayanan & Kumaravel, 2024; Portier et al., 2019).

The emergence of AI as an analytical and pedagogical tool introduces new opportunities and ethical challenges. Ye et al. (2025) demonstrate that AI-assisted systems can enhance collaborative learning by providing feedback and supporting cognitive development. However, the integration of automation into literacy practices also raises questions of authorship, agency, and critical engagement. Therefore, literacy educators must cultivate what has been termed "collaborative intelligence" the ability to work productively with both human and non-human partners in meaning-making processes. This perspective aligns with Koh (2024)) critical pedagogy, which emphasizes dialogic empowerment and the transformation of learners into co-authors of knowledge rather than passive recipients.

At the policy and institutional level, the increasing collaboration between countries and institutions points to the need for more cross-cultural research in literacy education . Future studies should explore how collaborative writing operates across languages, disciplines, and technological infrastructures (Macnaught, 2024; Mujiono et al., 2024). The findings also suggest that educational policymakers must develop guidelines for digital and AI-mediated writing instruction that ensure equitable access, academic integrity, and ethical use of data UNESCO (Thao et al., 2024). As digital transformation continues to redefine literacy, institutions should prioritize teacher readiness and infrastructure that support collaborative, technology-enhanced pedagogies (Reynante et al., 2025).

Despite its contributions, this study acknowledges certain limitations. The bibliometric dataset was limited to English-language publications indexed in Scopus, potentially excluding relevant local or non-English studies. Consequently, the analysis reflects global but Anglophone-dominated trends. Future research could expand to other databases such as Web of Science and ERIC to include diverse cultural and linguistic perspectives. Additionally, combining bibliometric mapping with qualitative meta-synthesis could yield richer insights into the lived experiences of writers, teachers, and students engaged in collaborative literacy practices.

D. Conclusions

This systematic bibliometric review demonstrates that research on Collaborative Writing (CW) in Literacy Education has undergone substantial expansion and conceptual maturation between 2016 and 2024, reflecting shifting pedagogical demands in an increasingly digital and interconnected world. Rather than merely cataloging publication growth, this study provides a comprehensive intellectual map that clarifies how CW scholarship has evolved across theoretical, methodological, and technological dimensions. By visualizing co-authorship networks, thematic clusters, and emerging research fronts, the review offers a structured lens through which scholars can understand the field's trajectory revealing CW as a literacy practice grounded in socio-cultural collaboration, digital mediation, and the co-construction of knowledge. This bibliometric map therefore serves as a foundational reference point for future literacy research, allowing educators, policymakers, and scholars to navigate the rapidly changing landscape shaped by post-pandemic digital learning and the rise of AI-supported writing environments. The findings highlight a growing global commitment to collaborative and digitally mediated literacy practices, signaling the need for institutions to prioritize sustained professional development that equips teachers with pedagogical and technological competencies for facilitating effective CW. Policymakers should move beyond infrastructural investment toward creating equitable access to digital platforms, developing ethical guidelines for AI-assisted writing, and supporting programs that cultivate critical and academic literacy across diverse learning environments. Future research should pursue more empirically grounded investigations into the pedagogical and socio-cultural mechanisms of CW. For instance, empirical studies are needed to examine the effectiveness of AI-powered collaborative writing tools in fostering critical literacy, argumentation skills, and peer interaction among learners from different educational and linguistic backgrounds. Longitudinal studies could illuminate how cross-cultural collaborative writing projects influence student engagement, identity formation, and disciplinary literacy over time. Additionally, mixed-methods research should investigate how power dynamics, authorship ethics, and multimodal composition shape collaborative writing in digitally mediated environments. Overall, the research confirms that working together on writing is not just an instructional method but a

valuable way of learning that allows students to create understanding together, engage in critical discussions, and be active members of global online communities.

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