

Teacher Self-Assessment: A Bibliometric Study

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ABSTRACT

Teachers' self-assessment is crucial for professional growth and improving teaching practices, yet it remains underexplored and fragmented across various contexts and disciplines. This bibliometric study analyzes publications from 2021 to 2024 to identify trends and influences in the field. Using scoping analysis, the study mapped key themes, authorship, and geographical distribution. It found that Education Sciences and Frontiers in Education are leading journals, with a focus on open-access, interdisciplinary research. Studies spanned countries including Taiwan, Iran, China, and the United States, with Namaziandost et al. leading collaborative research teams with four citations. The literature increasingly draws from social sciences, educational psychology, and technology integration, exploring topics such as self-efficacy, professional development, technology, and assessment practices. Spain and the United States emerged as top contributors, with authors like Cullen M., Choles J. R., and Ricketts N. P. prominent in the co-authorship network. The analysis underscores the importance of continued research into teachers' self-assessment to enhance both teaching practices and student outcomes. It suggests that future studies, particularly in Islamic education, can offer valuable insights into how self-assessment is applied in this specific context. Further exploration within social science research will deepen our understanding and encourage interdisciplinary collaboration, ultimately advancing educational practices.

Keywords: Teachers' self-assessment, professional growth, bibliometric analysis, interdisciplinary research, educational psychology

INTRODUCTION:

Teacher self-assessment (TSA) is a crucial aspect of professional development, offering educators an opportunity to reflect on and evaluate their teaching practices. This process not only enhances individual pedagogical skills but also fosters a culture of continuous improvement within educational institutions (Ortube, Panadero, & Dignath, 2024). Self-assessment enables teachers to identify strengths and areas for growth, aligning their personal reflections with broader educational standards and student outcomes. The significance of TSA has gained increasing attention, particularly in fostering self-regulated learning, enhancing teaching quality, and ultimately improving student engagement and achievement (Namaziandost, Kargar Behbahani, & Heydarnejad, 2024).

Various studies underscore the positive effects of self-assessment on teachers' ability to create learner-centered environments and promote effective instructional practices (Liu et al., 2024). TSA practices encourage educators to engage in deeper reflection on their methods, fostering not only skill development but also emotional intelligence and a growth mindset (Seifert & Lindmeier, 2024). Furthermore, TSA serves as a tool for improving teachers' digital competence, particularly with the integration of technology in classrooms (Suprihatiningrum et al., 2024). Despite its advantages, the implementation of self-assessment in teacher education and practice remains under-explored in many contexts. The challenge lies in developing effective tools and frameworks to guide teachers through the process and ensure the authenticity of their self-reflections.

This article aims to explore the role of self-assessment in shaping the professional growth of teachers, particularly focusing on how self-assessment can be integrated into teacher education programs. By synthesizing existing research and offering practical strategies, we aim to provide a comprehensive framework for the application of TSA that can enhance teaching quality, foster student outcomes, and drive educational reform across different teaching contexts.

Teacher self-assessment is an essential component of professional growth and effective teaching. It allows educators to reflect on their practices, strengths, and areas for improvement, facilitating a deeper understanding

of their pedagogical effectiveness. As the educational landscape evolves, the need for teachers to engage in self-reflection has become increasingly critical, particularly in fostering an adaptive and responsive teaching environment. Self-assessment helps teachers evaluate their instructional strategies, communication skills, and ability to meet student needs, which can directly impact their teaching outcomes and the learning experiences of students (Schmalz et al., 2024).

In the context of diverse learning environments, including those enriched by technology and innovative assessment methods, teacher self-assessment has gained significant attention. For example, digital tools such as screencast-based feedback and artificial intelligence applications have introduced novel avenues for teachers to reflect on their teaching performance (Shi, Wang, & Zhang, 2024). Additionally, research highlights the importance of self-perceived competencies, such as knowledge, skills, and interests, in shaping teacher effectiveness, particularly in specialized fields like dental education (Schmalz et al., 2024). Furthermore, teacher self-assessment is not merely an introspective practice; it is deeply intertwined with the professional development process, where feedback and reflection inform the strategies that contribute to student success.

The growing emphasis on self-assessment in teacher education aligns with broader trends in education, such as the shift towards personalized learning, active learning methods, and the integration of new technologies (Yang et al., 2024). As such, exploring the role of self-assessment in enhancing teacher performance, and understanding its relationship with various pedagogical practices, offers valuable insights into how teachers can continue to evolve as reflective practitioners committed to improving their practice and, ultimately, the quality of education they provide.

To comprehensively analyze the landscape of teachers' self-assessments, this study employs a combination of network analysis and bibliometric indicators. These methodologies offer a robust framework for identifying key trends, influential authors, and significant sub-areas within this rapidly evolving field. By examining the interconnections between various research outputs and measuring the impact of scholarly contributions, we aim to provide a nuanced understanding of the current state and future directions of teachers' self-assessment.

To guide this investigation and determine the trends in teacher self-assessment, the following research questions are proposed:

- Q1. What is the distribution of document types per source in the field of teachers' self-assessment?
- Q2. Who are the top 10 authors based on citation metrics in the field of teachers' self-assessment?
- Q3. What are the most frequently cited documents by subject area in teachers' self-assessments?
- Q4. What are the most prevalent keywords associated with research on teachers' self-assessment?
- Q5. What are the most influential countries with research on teachers' self-assessment?
- Q6. What patterns of international collaboration exist among researchers studying teachers' self-assessment?

By addressing these questions, this study aims to provide a comprehensive overview of the current state of research on teachers' self-assessment, identify emerging trends, and offer valuable insights for educators, researchers, and policymakers working to enhance assessment practices in secondary education.

LITERATURE REVIEW

Teacher self-assessment is an evolving area of interest in educational research, emphasizing the role of teachers in evaluating their own teaching practices and professional competencies. It has gained prominence as an effective tool to foster reflective practices and professional development (Crescenzi-Lanna et al., 2024). Self-assessment allows educators to critically analyze their performance and identify areas for improvement, which can lead to enhanced teaching strategies and student outcomes (Masfuah et al., 2024). Recent studies suggest that self-assessment is a key component in various professional development models, particularly when integrated into teacher training programs (Kalim, 2024). In higher education, it has been shown to promote deeper engagement with learning materials, as teachers evaluate their teaching methods and adapt to diverse student needs (Crescenzi-Lanna et al., 2024). Moreover, incorporating self-assessment with feedback mechanisms, such as those provided through collaborative online international learning projects, can lead to an improved understanding of both teaching content and pedagogy (Crescenzi-Lanna et al., 2024).

In addition, teacher self-assessment contributes to the development of competencies needed in the 21st century, helping educators address gaps in their skills and adapt to the changing dynamics of the classroom (Kalim, 2024). These competencies range from technological pedagogy content knowledge (TPACK) to emotional intelligence and non-cognitive skills, which are increasingly recognized for their influence on educational success (Masfuah et al., 2024; Sultanova & Shora, 2024). This multidimensional approach to teacher self-assessment enhances both personal and professional growth, ultimately benefiting the students. Teacher self-assessment has gained attention as an essential tool for professional development and improving teaching practices. It involves teachers critically reflecting on their own teaching methods, behaviors, and classroom management strategies. Research indicates that teacher self-assessment encourages teachers to engage in continuous improvement and enhances their professional growth. Vadivel et al. (2024) highlight the impact of Facebook-mediated feedback on teachers' self-

assessment in the context of language teaching. The study suggests that teachers' use of online platforms to receive feedback leads to greater self-reflection, helping them assess their pedagogical effectiveness and adapt their teaching strategies. Similarly, Colla et al. (2022) investigate self-assessment in teachers facing vocal and musculoskeletal complaints, demonstrating that self-assessment not only fosters awareness of physical and emotional health but also encourages teachers to modify their working conditions for better well-being.

The role of alternative assessments, which incorporate self-assessment techniques, is also significant. Abugweder (2024) discusses how alternative assessment methods in language education promote teachers' self-evaluation practices by focusing on students' strengths and performance-based learning, thus encouraging reflective teaching practices. Additionally, Kaur et al. (2024) stress that teacher professional development, aided by self-assessment, is vital for the successful implementation of innovative curricula. Teachers who actively engage in self-assessment can more effectively deliver new content, such as Einsteinian physics, demonstrating a link between self-reflection and teaching efficacy. In the context of student self-assessment, Estriegana et al. (2024) show how teachers' perceptions and their relationships with students influence the acceptance of self-assessment. Effective communication and feedback from teachers enhance students' confidence in self-assessment practices. Similarly, Apridayani et al. (2024) examine how integrating teacher and student self-assessments in English writing courses leads to improved academic outcomes, reinforcing the value of self-reflection both for teachers and students. These studies underline that self-assessment, whether for personal growth or teaching enhancement, fosters a more reflective and adaptive teaching environment, contributing to both teacher and student success.

Teacher self-assessment (TSA) is recognized as a critical component of professional development, fostering reflection, growth, and improved instructional practices. Reflective practices, such as self-assessment, empower teachers to evaluate their teaching performance and identify areas for improvement (Urzúa & Drescher, 2024). Research has demonstrated that reflective writing and self-assessment tools can significantly enhance teachers' ability to connect theory with practice, and they are essential for fostering continuous professional growth (Al-Hattami & Bawaneh, 2024). By engaging in self-assessment, teachers can enhance their metacognitive strategies, improving both teaching efficacy and student outcomes (Tharmalingam et al., 2024).

The benefits of TSA extend beyond professional development; it has been linked to increased teacher leadership traits, which in turn positively influence student motivation and success (Prabahar et al., 2024). Teachers who engage in leadership-oriented self-assessment tend to create more supportive learning environments, which bolster students' academic and social development. Moreover, TSA provides a reflective framework that encourages teachers to align their practices with evolving educational standards and student needs, fostering both personal and institutional growth (Masuwai et al., 2024).

In the context of Islamic education, TSA practices have proven beneficial in enhancing reflective thinking and fostering a deeper understanding of teaching practices among educators (Masuwai et al., 2024). TSA also encourages educators to develop a sense of self-awareness, thereby improving their decision-making and teaching quality. Furthermore, the use of tools like rubrics for self-assessment can improve the reliability of evaluations and guide teachers toward better instructional strategies (Asli et al., 2024). Overall, TSA plays a pivotal role in enhancing teaching effectiveness, fostering reflective practices, and supporting continuous professional growth, all of which are critical for improving educational quality.

METHODOLOGY

The Methodology used to Bibliometric research is Preferred reporting items for systematic review and meta-analysis (PRISMA) include identification, screening and eligibility. This study employs bibliometrics, a robust approach for the collection, organization, and analysis of bibliographic data from scientific publications (Verbek et al., 2002; Assyakur & Rosa, 2022; Alves et al., 2021). Our methodology encompasses both basic descriptive information such as publishing journals, publication year, and principal author categorization, as well as advanced techniques like document co-citation analysis (Wu & Wu, 2017). To ensure a systematic and comprehensive review, we identified relevant keywords, conducted a thorough literature search, and analyzed the findings to create a complete bibliography (Fahimnia, 2015). The study focused on top-tier papers to provide valuable insights into the theoretical perspectives influencing the field's development. Data reliability was ensured by utilizing the SCOPUS database for data collection (Di Stefano et al., 2010; Khiste & Paithankar, 2017; Al-Khoury et al., 2022), renowned for its comprehensive coverage. We gathered papers from 2021 to 2024, focusing solely on peer-reviewed academic journal articles to maintain high-quality standards, while intentionally excluding books and lecture notes (Gu et al., 2019).

Our analysis employs a combination of quantitative bibliometric indicators and network analysis techniques. Specifically, we conducted publication trend analysis, citation analysis to identify influential papers and authors, co-citation analysis to map the field's intellectual structure, keyword co-occurrence analysis to identify emerging themes, and collaboration network analysis to examine international cooperation patterns. These analyses were performed using VOSviewer software, allowing for the creation and visualization of bibliometric networks. While

our approach provides a comprehensive overview, we acknowledge limitations such as the use of a single database and the exclusion of non-journal publications. Ethical considerations were addressed by using only publicly available bibliometric data. By employing these rigorous bibliometric techniques, this study aims to offer a data-driven foundation for understanding current trends, identifying influential works and authors, and highlighting future research directions in the research of teachers' self-assessments.

3.1 Data Search Strategy

The study employed iterative screening procedures to delineate search terms for retrieving relevant articles called identification. Initially, a query was conducted on the Scopus database using the search string "teacher" AND "self-assessment" which yielded 3,1134 articles. Subsequently, the query parameters were refined to emphasize assessment within the context of "teacher" and "self-assessment." The final search string, encompassing various criteria including publication years 2020-2025, subject area, document type, language, and keywords related to education, resulted in 1,265 articles. These papers were examined in more detail, with reviews being excluded and only English-language research articles included. After refinement in screening and eligibility process, 895 articles were used for bibliometric analysis. Consequently, as of December 2024, all relevant articles on teacher self-assessment were assimilated from the Scopus database for inclusion in the study. Table 1. shows the search string used to search for articles or database references and Table 2 shows the selection criteria.

Table 1. The Search String Used to Search for Articles or Database References

Database	Search String
Scopus	TITLE-ABS-KEY (teacher AND self-assessment) AND (LIMIT-TO (PUBYEAR , 2021) OR LIMIT-TO (PUBYEAR , 2022) OR LIMIT-TO (PUBYEAR , 2023) OR LIMIT-TO (PUBYEAR , 2024) OR LIMIT-TO (PUBYEAR , 2025)) AND (LIMIT-TO (LANGUAGE , "English"))

Table 2. The Selection Criteria

Criterion	Inclusion	Exclusion
Language	English	Non-English
Time line	2021-2024	< 2020
Document Type	Article	Non- Article
Literature type	Journal (Article)	Book, Review, Conference
Subject Area	Social Sciences	Education

3.2 Data Analysis

VOSviewer is a user-friendly bibliometric software developed by Nees Jan van Eck and Ludo Waltman at Leiden University, Netherlands (Van Eck & Waltman, 2010; 2017). Widely utilized for visualizing and analyzing scientific literature, the tool specializes in creating intuitive network visualizations, clustering related items, and generating density maps. Its versatility allows for the examination of co-authorship, co-citation, and keyword co-occurrence networks, providing researchers with a comprehensive understanding of research landscapes. The interactive interface, coupled with continuous updates, ensures efficient and dynamic exploration of large datasets. VOSviewer's ability to compute metrics, customize visualizations, and its compatibility with various bibliometric data sources make it a valuable resource for scholars seeking insights into complex research domains.

One of the standouts features of the VOSviewer is its capacity to transform intricate bibliometric datasets into visually interpretable maps and charts. With a focus on network visualization, the software excels at clustering related items, analyzing keyword co-occurrence patterns, and generating density maps. Researchers benefit from its user-friendly interface, which enables both novice and experienced users to explore research landscapes efficiently. VOSviewer's continuous development ensures it remains at the forefront of bibliometric analysis, offering valuable insights through metrics computation and customizable visualizations. Its adaptability to different types of bibliometric data, such as co-authorship and citation networks, positions VOSviewer as a versatile and indispensable tool for scholars seeking deeper understanding and meaningful insights within their research domains.

Data sets comprising information on the publication year, title, author name, journal, citation, and keywords in PlainText format were procured from the Scopus database, spanning the period from 2021 to 2025. These datasets were then analyzed using VOSviewer software version 1.6.19. Through the application of VOS clustering and mapping techniques, this software facilitated the examination and generation of maps. Offering an alternative to

the Multidimensional Scaling (MDS) approach, VOSviewer focuses on situating items within low-dimensional spaces, ensuring that the proximity between any two items accurately reflects their relatedness and similarity (Van Eck & Waltman, 2017). In this respect, VOSviewer shares a similarity with the MDS approach (Appio, 2014). Diverging from MDS, which primarily engages in the computation of similarity metrics like cosine and Jaccard indices, VOS utilizes a more fitting method for normalizing co-occurrence frequencies, such as the association strength (AS_{ij}) which is calculated as (Van Eck & Waltman, 2007):

$$AS_{ij} = \frac{C_{ij}}{W_i W_j}$$

Where

The index, as elucidated by Van Eck and Waltman (2007), is proportionate to the ratio of observed co-occurrences of items i and j to the expected co-occurrences under the assumption of statistical independence. Utilizing this index, the VOSviewer strategically positions items on a map by diminishing the weighted sum of squared distances between all item pairs. Appio (2014) introduced LinLog/modularity normalization in this context, facilitating the application of visualization techniques through the VOSviewer. This approach revealed patterns grounded in mathematical relationships, enabling analyses encompassing keyword co-occurrence, citation analysis, and co-citation analysis.

When investigating how study areas evolve, Zhang et al. (2022) and Gu et al. (2019) both highlight the value of keyword co-occurrence analysis and the effective identification of prominent subjects across a variety of domains. Furthermore, citation analysis, as emphasized by Allahverdiyev (2017) proves instrumental in identifying key research issues, trends, and techniques, shedding light on the historical relevance of a discipline's primary focus. Document co-citation analysis, frequently employed in bibliometrics (Appio, 2014; Fahimnia et al., 2015; Bai et al., 2021) relies on network theory to map the relevant structure of data (Bai et al., 2021).

RESULT

The scholarly classification research analysis encompasses various aspects such as document types, source types, annual growth, language, subject area, keyword analysis, country productivity, authorship, and citation analysis. The findings of this study are predominantly conveyed through metrics such as frequency, percentage, graphical representations, and visualization maps.

4.1 Document and Source Type

The top 5 sources on "Teacher Self-Assessment" over the years, totalling 79 publications, are displayed in the chart based on the Scopus database. Figure 1 illustrates the annual publication trends across five different sources within the field of teachers' self-assessment. It reveals fluctuations in publication activity over the years, with "Education Sciences" leading in 2021 and "Frontiers in Education" taking the lead in 2023. The increasing trend in "Lecture Notes in Networks and Systems" suggests a growing interest in this area, while "AIP Conference Proceedings" shows a decline. Several factors may have influenced these trends, including advancements in technology, changes in funding, shifts in research priorities, and emerging trends in the field.

For instance, the rise of open-access publishing and increased emphasis on interdisciplinary research might have contributed to the changing publication landscape. These trends have implications for the future development of the field. Identifying emerging sources and understanding their impact can guide researchers in selecting appropriate outlets for their work. Additionally, analyzing publication patterns can help identify knowledge gaps and inform future research directions. By understanding the factors influencing publication trends, researchers can optimize their publication strategies and contribute to the advancement of the field of teachers' self-assessment.

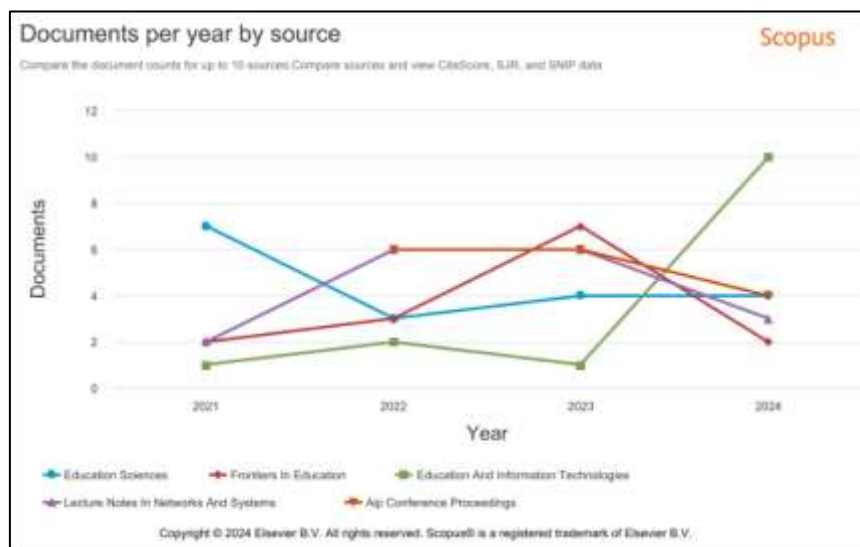


Figure 1. Document Type

4.2 Top Ten Authors Based on Citation Metrics

The authorship landscape of the 2024 self-assessment research reveals a diverse and collaborative approach to educational studies. The publications feature multiple research teams, with most studies involving 4 - 6 authors, indicating a trend toward collaborative scholarship. Notably, certain institutions and researchers demonstrate repeated involvement in self-assessment research. The research teams span multiple geographical contexts, including studies from Taiwan (Zhao et al.), Iran (Namaziandost et al., Ebrahimi et al.), China (Liu et al., Shi et al.), and the United States (Kinsey et al.), suggesting a global interest in self-assessment methodologies. Some authors appear multiple times in the dataset, such as those published in Language Testing in Asia, which highlights specialized research clusters.

The authorship patterns also reflect interdisciplinary collaboration, with researchers from medical education, language learning, and educational psychology coming together to explore various dimensions of self-assessment. Prominent collaborative teams include Namaziandost et al., who produced the most cited paper with four citations, and Yang et al., whose research on case-based learning and flipped classrooms garnered three citations. The authorship analysis demonstrates a rich, collaborative ecosystem of researchers investigating self-assessment techniques across different educational domains, emphasizing the collective and interdisciplinary nature of contemporary educational research. Table 3 shows the top ten authors based on citation metrics.

Table 3. The Top 10 Authors Based on Citation Metrics

Authors	Title	Year	Source title	Cited by
Soelling S.J.; Saadat L.V.; Jolissaint J.S.; Cummins E.; Nitzschke S.L.; Smink D.S.	Self-Assessment and Coaching Techniques Utilized in an Intraoperative Resident Peer Coaching Program	2024	Journal of Surgical Education	0
Zhao H.-G.; Li X.-Z.; Kang X.	Development of an artificial intelligence curriculum design for children in Taiwan and its impact on learning outcomes	2024	Humanities and Social Sciences Communications	0
Yang W.; Zhang X.; Chen X.; Lu J.; Tian F.	Case-based learning and flipped classrooms as a means to improve international students' active learning and critical thinking ability	2024	BMC Medical Education	3
Ortube A.F.; Panadero E.; Dignath C.	Self-Regulated Learning Interventions for Pre-service Teachers: A Systematic Review	2024	Educational Psychology Review	0

Namaziandost E.; Kargar Behbahani H.; Heydamejad T.	Tapping the alphabet of learning-oriented assessment: self-assessment, classroom climate, mindsets, trait emotional intelligence, and academic engagement are in focus	2024	Language Testing in Asia	4
Kinsey D.; Mikeska J.N.; Howell H.; Kaur Bharaj P.	Examining the connection between preservice teachers' discussion performance in a mixed reality teaching simulation with their self-reported goals and success in facilitating discussions	2024	Computers and Education: X Reality	0
Liu Z.; Wang T.; Wu S.; Xu B.; Zhao W.; Yin X.; Sun Y.	Assessment of the competency of learner-centered teaching of clinical preceptor using the augmented Stanford Faculty Development Program Questionnaire (SFDQP): a cross-sectional comparative study	2024	BMC Medical Education	1
Gil-Martín M.; Luna-Jiménez C.; Esteban-Romero S.; Esteche-Garitaigotia M.; Fernández-Martínez F.; D'Haro L.F.	A dataset of synthetic art dialogues with ChatGPT	2024	Scientific Data	0
Ebrahimi B.; Ebadi S.	Exploring the impact of screencast-based ipsative assessment on EFL students' writing development	2024	Language Testing in Asia	0
Shi X.; Wang X.; Zhang W.	Exploring the relationships between ASS indices and CAF and the impact on Chinese college students' oral English performance	2024	Language Testing in Asia	0

4.3 Subject Area Analysis

The pie chart (Figure 2) illustrates the distribution of publications across various subject areas as indexed in Scopus. Social Sciences emerges as the dominant field, accounting for 41.4% of the total publications. This significant proportion suggests a strong research focus on social science disciplines within the dataset. Following Social Sciences, Computer Science (11.6%) and Arts and Humanities (8.7%) occupy the next two largest segments, indicating substantial research activity in these areas. The remaining subject areas, including Medicine, Psychology, Engineering, and Health Professions, contribute to a more diverse research landscape, each representing a significant portion of the overall publications.

It's important to note that the "Other" category encompasses a wide range of subjects that may not be explicitly categorized within the specific subject areas listed. This category could potentially include interdisciplinary research or emerging fields that have not yet been fully classified within the Scopus database. By analyzing this distribution, researchers can gain insights into the current trends and priorities within the field of study. It highlights the areas of active research and potential opportunities for collaboration and interdisciplinary work.

The analysis of the publication distribution across various subject areas reveals a diverse research landscape. Social Sciences emerge as the dominant field, while Computer Science, Arts and Humanities, and other disciplines also contribute significantly. Understanding this distribution can inform future research directions, identify potential collaborations, and guide strategic planning within the academic community.

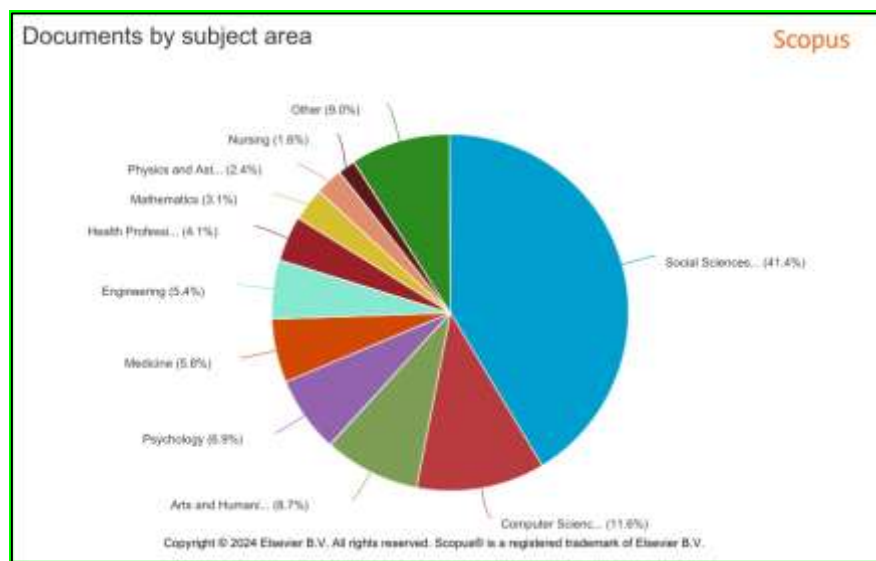


Figure 2. Documents by Subject Area

4.4 Keywords Analysis

The VOSviewer map provides a visual representation of the intellectual structure of the research field of teachers' self-assessments. By analyzing the co-occurrence network of keywords, we can identify key themes, emerging trends, and potential research gaps. The analysis reveals that the field is characterized by a diverse range of research interests, including self-efficacy, professional development, technology integration, and assessment practices.

The identified clusters and keywords suggest that future research could delve deeper into the intersection of technology and self-assessment, explore the impact of self-assessment on student learning outcomes, and investigate the role of self-assessment in promoting teacher professional growth. By understanding the current state of research and emerging trends, researchers can contribute to the development of effective self-assessment practices and ultimately enhance the quality of teaching and learning.

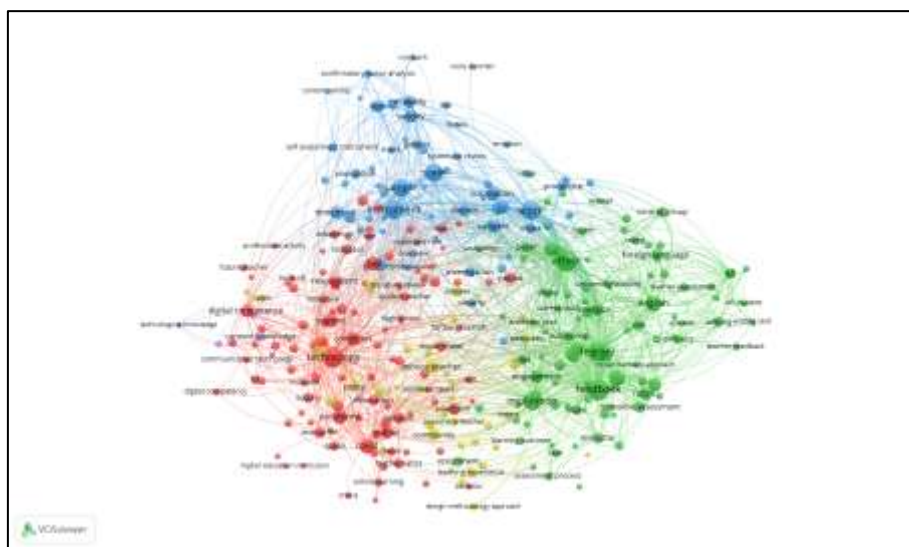


Figure 3. Network Visualization Map of Keywords' Co-occurrence

4.5 Most Influential Countries

The bar chart (Figure 4) illustrates the distribution of publications across 10 countries/territories, as indexed in Scopus. Spain and the United States emerged as the leading countries in terms of publication output, with significantly higher numbers of documents compared to the other countries. China, Germany, and Indonesia follow closely behind, indicating substantial research activity in these regions. The remaining countries, including Canada, Turkey, Ukraine, Italy, and the Russian Federation, exhibit lower publication counts, suggesting a less significant research focus or potential limitations in data indexing for these regions.

This analysis provides valuable insights into the global landscape of research on teachers' self-assessments. It highlights the dominance of certain countries and suggests potential areas for international collaboration and knowledge exchange. The analysis of the publication distribution across ten countries/territories reveals a global research landscape dominated by Spain and the United States. While these countries have a significant lead, other countries like China, Germany, and Indonesia are also actively contributing to the field. Understanding this global distribution can inform international collaborations, facilitate knowledge sharing, and identify potential areas for future research.

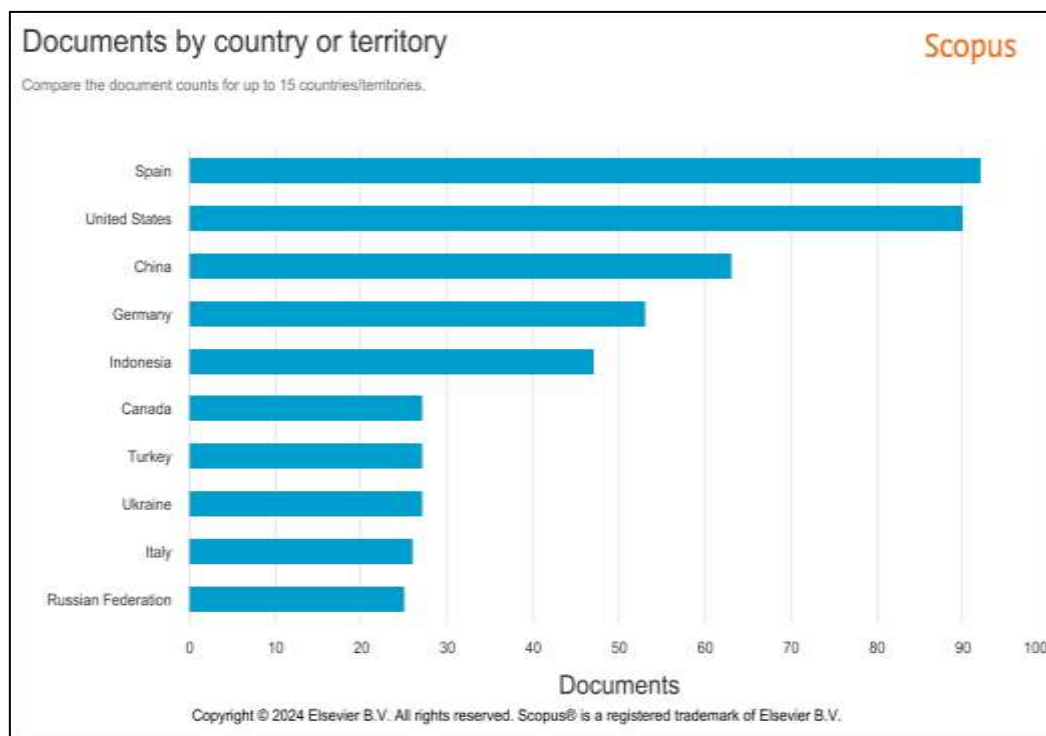


Figure 4. Countries Contributed to the Publications

4.6 Co-Authorship Network Analysis

The VOSviewer map (Figure 5) provides a visual representation of the co-authorship network among researchers in the field of teachers' self-assessments. The network reveals a relatively dense cluster of interconnected authors, suggesting a strong collaborative research community. Several authors, such as Cullen M., Choles J.R., and Ricketts N.P., appear to be central to this network, with numerous connections to other researchers. This indicates that these individuals may play significant roles in shaping the field's research agenda and fostering collaborations. The map also highlights potential research clusters or groups of authors who frequently collaborate on related topics. These clusters may represent specific research interests or thematic areas within the field of teachers' self-assessment. By analyzing the co-authorship network, we can gain insights into the collaborative dynamics within the field, identify influential researchers, and explore potential avenues for future collaborations. The co-authorship network analysis reveals a strong collaborative research community within the field of teachers' self-assessment. The identification of central authors and research clusters can inform future research endeavors by highlighting potential collaborators and areas for further investigation. Understanding the collaborative dynamics can foster interdisciplinary research, knowledge sharing, and the advancement of the field.

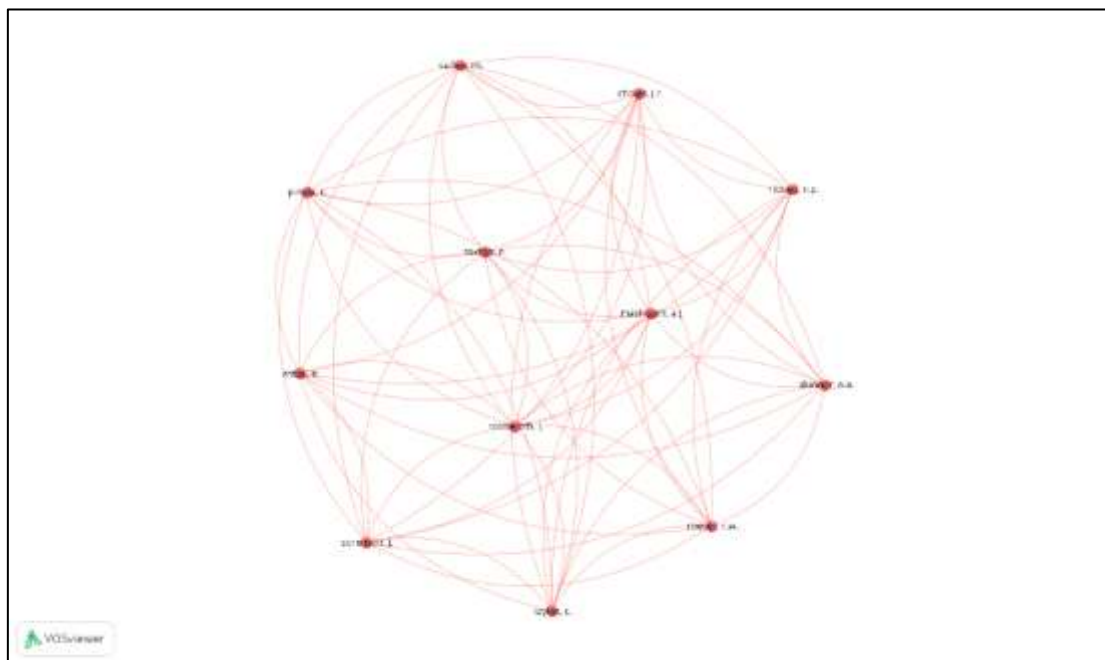


Figure 5. Authorship Analysis on Teacher Self-Assessment Research

DISCUSSION

This bibliometric analysis addressed six key objectives to map the intellectual, structural, and collaborative landscape of research on teachers' self-assessment. First, the distribution of document types across sources demonstrates the field's progressive maturation. Journal articles constitute the dominant publication format, particularly in outlets such as *Education Sciences* and *Frontiers in Education*, which primarily publish peer-reviewed empirical and theoretical studies. This dominance indicates that research on teachers' self-assessment has evolved beyond exploratory discussions toward more rigorous, data-driven investigations. In contrast, sources such as *Lecture Notes in Networks and Systems* and *AIP Conference Proceedings* predominantly disseminate conference papers that often present emerging findings or interdisciplinary applications. The increasing preference for journal-based publications may be attributed to institutional evaluation systems that prioritize Scopus-indexed outputs, the growing emphasis on citation impact, and the expansion of open-access publishing models that enhance research visibility. Fluctuations in conference proceedings may further reflect shifts in research priorities, technological transitions, and global disruptions affecting academic events.

Second, the identification of the top ten authors based on citation metrics reveals the presence of influential research clusters shaping the trajectory of the field. Authors such as Namaziandost et al. and Yang et al. exemplify how specialized scholars drive thematic concentration and collaborative networks. This pattern aligns with Lotka's Law, which posits that a small proportion of authors contribute a disproportionately large share of publications within a discipline (Lotka, 1926). The recurrence of certain authors within specialized journals, including *Language Testing in Asia*, suggests the formation of epistemic communities characterized by stable collaboration patterns. Such clustering reflects structured research agendas rather than isolated scholarly efforts, reinforcing the cumulative and networked nature of knowledge production.

Third, subject area analysis demonstrates a strong concentration within the Social Sciences, accounting for the largest proportion of publications. This dominance is expected, as teachers' self-assessment is fundamentally grounded in educational theory, professional development, policy reform, and classroom practice. The presence of Computer Science highlights the growing integration of digital platforms, artificial intelligence, and learning analytics in assessment practices. Contributions from Arts and Humanities and Psychology reflect the theoretical underpinnings of reflection, metacognition, and self-efficacy, while the inclusion of Medicine and Engineering indicates that professional self-evaluation extends into applied and technical domains. Collectively, these findings confirm the interdisciplinary expansion of the field.

Fourth, the keyword co-occurrence analysis reveals that self-efficacy, professional development, assessment practices, and technology integration are among the most prevalent themes. The dense interconnections among these constructs indicate that teachers' self-assessment functions as an integrative concept situated at the intersection of psychological belief systems, instructional improvement, and digital transformation. The

prominence of technology-related keywords further suggests a shift toward data-driven and technology-enhanced self-reflective practices, aligning with broader global trends in digital education.

Fifth, the geographical distribution of publications highlights Spain and the United States as leading contributors, followed by China, Germany, and Indonesia. The dominance of Spain and United States can be attributed to established research infrastructures, strong funding ecosystems, and policy emphasis on teacher evaluation frameworks. The significant contributions from China further reflect the rapid expansion of educational research and investment in teacher quality reforms. The presence of diverse contributing countries demonstrates the internationalization of the field while also revealing disparities in research visibility and indexing coverage.

Sixth, the co-authorship analysis confirms the existence of strong international and interdisciplinary collaboration networks. Research teams frequently span multiple institutions and countries, illustrating a global commitment to advancing teacher self-assessment practices. The collaborative structure indicates that contemporary research increasingly relies on shared expertise across educational psychology, technology integration, language education, and assessment studies. Such interdisciplinary partnerships contribute to methodological robustness and thematic diversification.

Despite its contributions, this study has limitations. The analysis was confined to publications indexed within selected databases, potentially excluding relevant research in non-indexed journals or regional outlets. Variations in terminology such as “teacher evaluation” or “teacher performance appraisal” may also have influenced document retrieval. Additionally, citation counts may underestimate the impact of recently published studies due to time-lag effects in citation accumulation.

Overall, the findings indicate that research on teachers’ self-assessment is consolidating within established academic journals, expanding across interdisciplinary domains, and strengthening through international collaboration. The field demonstrates intellectual maturity while remaining responsive to technological innovation and evolving educational priorities, suggesting promising directions for future research and policy development.

CONCLUSION

This bibliometric analysis demonstrates that research on self-assessment has developed into a mature and interdisciplinary field, integrating perspectives from educational psychology, teacher education, language assessment, medical education, and educational technology. The findings reveal strong thematic connections between self-assessment and key constructs such as self-efficacy, feedback, professional development, and technology integration, indicating that self-assessment functions as a multidimensional component within broader learning and assessment systems. Authorship patterns further show that the field is shaped by a relatively small group of highly productive scholars and stable research clusters, reflecting sustained scholarly engagement and the gradual consolidation of expertise. Nevertheless, this study has several limitations. The analysis relied primarily on bibliographic data from indexed databases, which may exclude relevant publications from non-indexed journals, regional databases, or books, thereby limiting the full representation of global scholarship. Additionally, bibliometric methods focus on quantitative publication patterns and may not capture the depth of theoretical or methodological contributions within individual studies.

Geographically, the research landscape is dominated by established academic systems such as Spain and the United States, with growing contributions from emerging research contexts including China and Indonesia. These trends highlight the increasing internationalization and collaborative nature of educational research, as well as the expanding role of digital and technology-mediated self-assessment practices. Future research should extend this body of work by exploring self-assessment within Islamic education, particularly among Islamic education teachers, to better understand its pedagogical implementation and impact on professional practice (Masuwai et al., 2024). Expanding research in this context would enrich the field by incorporating perspectives from underrepresented domains within the social sciences. Greater cross-national collaboration and broader database coverage may also provide a more comprehensive understanding of the field’s development and emerging research directions.

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