

# BIBLIOMETRIC ANALYSIS OF QUALITY ASSURANCE IN SCHOOLS: TRENDS AND INSIGHTS

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**Abstract** — This study conducts a bibliometric analysis to explore trends and insights in the field of quality assurance in schools. By analyzing a comprehensive dataset from leading academic databases, including the Scopus database, we investigate the development of scholarly discussions, key themes, and collaborative networks among researchers from 2000 to 2023. A total of 383 publications, including journal articles, proceedings articles, book chapters, and books, were analyzed using VOSViewer and R-Packed Biblioshiny software. The study identifies the most influential publications, prolific authors, and significant journals through citation and co-authorship analysis. Keyword co-occurrence analysis reveals emerging trends and shifting research focuses, particularly in the implementation of quality assurance frameworks, the impact of educational policies, and the role of technology in enhancing educational quality. Our findings highlight the increasing importance of data-driven approaches and continuous improvement practices in school quality assurance. The analysis also reveals current trends and emerging themes in quality assessment within school education, with a focus on differences in research focus, author contributions, and publication patterns across various geographical regions. The findings highlight the significant concern for quality assurance in educational institutions, particularly in the United States, and suggest potential areas for future research, policy development, and educational practice aimed at enhancing the quality of education in schools. This bibliometric overview provides valuable insights for educators, policymakers, and researchers, offering a comprehensive understanding of the field and guiding future research endeavors to improve educational outcomes. The study underscores the global relevance of effective quality assurance systems and the potential for shared strategies to improve educational standards worldwide.

**Keywords:** *Bibliometrics, Quality Assurance, school.*

## I. INTRODUCTION

Education is paramount in nation-building, and the cornerstone of ensuring its quality lies in the thorough assessment conducted within schools (1). Indonesia, like many countries, grapples with multifaceted challenges within its education system. These encompass issues of accessibility, regional disparities, and the ongoing struggle to maintain consistent standards of quality (2). Despite concerted efforts aimed at elevating educational standards across different tiers, the focal point often returns to the inherent difficulties in effectively evaluating and ensuring the quality of education. These challenges persistently

demand attention and resources as part of broader endeavors to enhance the overall effectiveness of Indonesia's educational landscape (3).

One critical aspect of improving the quality of education in Indonesia involves gaining a profound understanding of the trends and practices in quality assessment within schools. However, efforts to delve into these insights often encounter constraints due to limitations in the available literature. The depth of analysis required to grasp the nuances of quality assessment may be impeded by gaps or deficiencies in existing research, hindering the comprehensive understanding necessary for informed decision-making and policy formulation.

Therefore, employing bibliometric analysis emerges as a viable solution to this challenge (4). By systematically collecting, organizing, and analyzing a wide array of scholarly literature, bibliometric methods offer a structured approach to uncovering trends and insights in quality assessment within school systems. This systematic examination enables researchers to identify influential works, key contributors, and emerging themes, thereby providing a more comprehensive overview of the landscape of quality assessment in basic schools.

When considering the quality assessment of education in basic school, it becomes evident that numerous challenges demand attention and resolution. Among these challenges, a prominent issue is the stark quality gap observed between schools situated in urban and rural areas, as well as those in more developed versus less developed regions of the country (1,5). Schools in urban centers or more affluent regions often benefit from better infrastructure, well-equipped facilities, and access to a wider range of educational opportunities compared to their counterparts in rural or underdeveloped areas. Consequently, students attending schools in these disadvantaged areas face significant disadvantages in terms of educational quality and opportunities for academic advancement (6,7).

Furthermore, the quality of education is significantly influenced by various systemic factors that contribute to the challenges faced by schools across the country (8,9). Inadequate resources, including funding allocations, educational materials, and teaching aids, pose substantial obstacles to delivering quality education uniformly across

all regions. Insufficient infrastructure, such as poorly maintained school buildings, lack of classrooms, and inadequate sanitation facilities, further exacerbate the disparity in educational quality. Moreover, the dearth of qualified and adequately trained educators remains a persistent issue, particularly in remote or marginalized communities. The shortage of skilled teachers, coupled with limited access to professional development opportunities, undermines the effectiveness of teaching and learning processes, ultimately impacting the overall quality of education provided in many Indonesian schools.

Addressing these challenges requires a multifaceted approach that encompasses targeted interventions, policy reforms, and resource mobilization efforts aimed at bridging the quality gap and ensuring equitable access to quality education for all Indonesian students. Such initiatives may include initiatives to improve infrastructure development, increase investment in education, enhance teacher training programs, and implement equitable resource allocation strategies. By addressing these systemic challenges and fostering an environment conducive to educational excellence, Indonesia can work towards achieving its goals of providing high-quality education that empowers all students to reach their full potential, regardless of their geographic location or socio-economic background.

Moreover, aspects of teaching and learning quality also remain a primary concern. The evaluation of school quality should encompass not only students' academic outcomes but also factors such as student engagement, support from the local community, and students' readiness for life after school. Therefore, it is important to analyze trends and patterns in quality assessment in schools to identify areas where improvements are needed.

By understanding the quality of education or schools in basic education, bibliometric research that explores trends and insights into quality assessment in schools can provide valuable contributions to the development of more effective educational policies and the improvement of educational practices nationwide. Thus, this research holds significant relevance in the context of sustainable improvements in the quality of basic education.

## II. METHODOLOGY

The research methodology proposed for the article "Bibliometric Analysis of Quality Assessment in Schools: Trends and Insights" involves a systematic approach to analyzing the existing scientific literature in this field (10,11). The research database used in this research is Scopus which will then be carried out using relevant keywords related to quality Assurance in schools (12,13). The retrieved literature will then undergo a rigorous screening process based on predefined inclusion and

exclusion criteria, including publication year, language, and document type, to select a representative sample of articles for analysis.

Based on search results on the Scopus database using the keywords "quality assurance" and "school" in the title, abstract and keyword columns. From the search results, publication data was obtained 383 literature consisting of publications in journal articles, proceedings articles, book chapters and books. Next, after obtaining the data, the researcher directed the data to be processed using data visualization software, namely VOSViwer and R-Packed Biblioshiny (14,15).

Finally, the findings of the bibliometric analysis will be interpreted to derive insights into the current trends and emerging themes in quality assessment within school education. Comparative analyses may be conducted to examine differences in research focus, author contributions, and publication patterns across different geographical regions or educational contexts. The implications of the bibliometric analysis will be discussed, highlighting potential areas for future research, policy development, and educational practice aimed at enhancing the quality of education in schools.

## III. RESULTS AND DISCUSSION

### 1. search result.

Based on the data obtained from the Scopus database, general information is presented in Figure 1 below. This figure reveals that there has been a total of 294 publications related to quality assurance in elementary schools spanning the years 1972 to 2023. Over this period, the data also indicates a cumulative total of 1.033 authors contributing to these publications, and 290 distinct sources of publication. The average annual growth rate of publications in this field is calculated to be 5.54%.

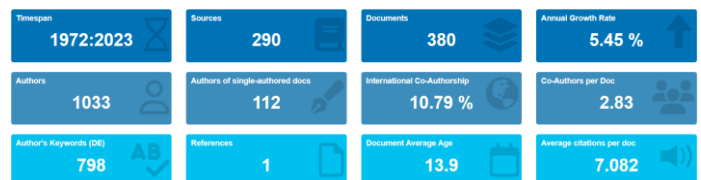


Figure 1. Search Result

Next, the search results also show the trend of annual publications. In Figure 2, we can see that research publications on the topic of quality assurance in schools have experienced fluctuations, with the highest point in 2020, totaling 26 publications.

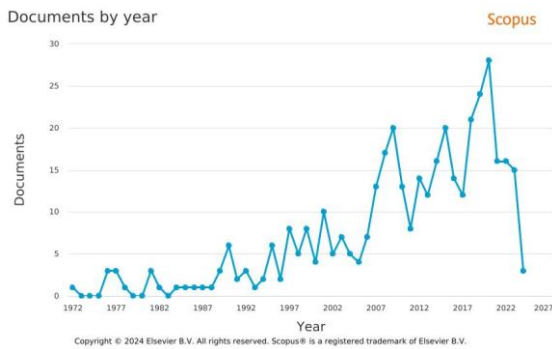


Figure 2. Publication trend

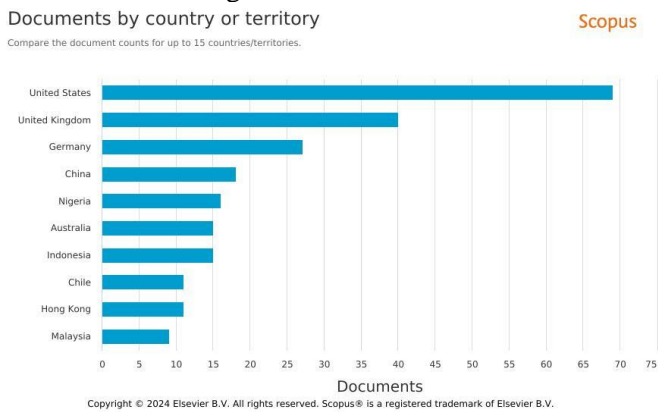


Figure 3. Author countries

Another search result shows the number of publications on the topic of quality assurance in schools based on the authors' countries. From Figure 3, we can see that the most authors are from the United States with 69 documents, followed by the United Kingdom with 40 documents, and Germany in third place with 27 documents. Indonesia is in seventh place with a total of 15 publications.

Based on these search results, we can see that publications on quality assurance in schools are still relatively few compared to publications on quality assurance in higher education (16,17). However, there is a notable increase in the number of these publications when we look at the annual publication growth. Moreover, quality assurance in schools has also garnered attention from several developed countries, including the USA, UK, Germany, and China.

This trend indicates a growing recognition of the importance of quality assurance at the school level. While historically, much of the focus has been on higher education, the increasing number of publications suggests that researchers and policymakers are beginning to pay more attention to the foundational levels of education. Quality assurance in schools is crucial as it directly impacts the quality of education that students receive from an early age, which can have long-term effects on their academic and professional success.

The interest from developed countries in this topic

highlights its global relevance and the universal need for effective quality assurance systems. These countries often serve as benchmarks for educational standards and practices, and their involvement suggests a potential for shared strategies and collaborative efforts to improve quality assurance in schools worldwide.

In summary, while publications on school quality assurance may still be fewer compared to those in higher education, the upward trend and the attention from developed nations indicate a positive shift. This growing body of research can lead to better-informed policies and practices, ultimately enhancing the educational experiences and outcomes for students globally.

## 2. Three-Field Plot (Country, Keyword and Source)

One of the analyses that can be conducted in a bibliometric study is the Three-Field Plot analysis, which illustrates the interconnections between fields such as country, keyword, and source. Figure 4 below shows a visualization of the relationships among these three fields.

In this Three-Field Plot, we can see how specific keywords are associated with authors from different countries and how these keywords and countries are linked to various sources or journals. This type of analysis helps in understanding the distribution and focus of research across different regions and highlights the key journals that disseminate this research.

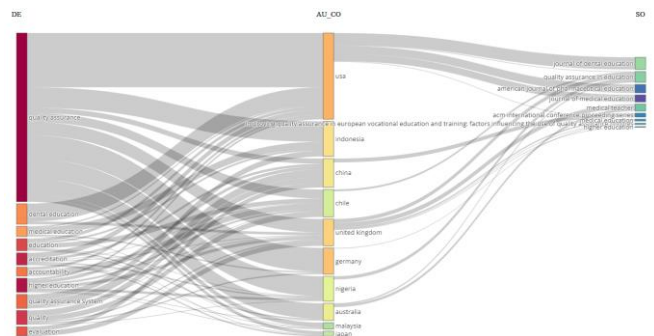


Figure 4. Three-Field Plot.

To clarify the diagram, DE represents author keywords, AU\_CO represents the author's country, and SO represents the source. Based on this information, when we apply it to Figure 4, we can observe various trends in keyword usage across different countries.

Authors from the United States predominantly use the keyword "quality assurance." This indicates a strong focus on this concept within American educational research. The frequent use of this keyword suggests that ensuring high standards in educational institutions is a significant concern and area of study for American researchers.

In contrast, authors from Indonesia often use both

"quality assurance" and "quality assurance system" as keywords. This indicates a nuanced approach in Indonesian research, where there is not only a focus on the general concept of quality assurance but also on the specific systems that support it. This dual focus might reflect an interest in both understanding the broader implications of quality assurance and the practical implementation of these systems in Indonesian schools.

Chinese authors show a diverse range of interests, frequently using the keywords "quality assurance," "evaluation," and "quality assurance system." This variety suggests that Chinese researchers are exploring multiple facets of quality assurance, including its evaluation and the systems that underpin it. The emphasis on evaluation indicates a strong interest in assessing the effectiveness of quality assurance measures, which is crucial for continuous improvement in educational standards.

Furthermore, the source or journal that publishes the most articles on this topic is "Quality Assurance in Education." This journal's prominence underscores its central role in disseminating research findings related to quality assurance in education. The high volume of publications in this journal highlights its importance as a platform for scholars to share their insights and advancements in this field.

In summary, the diagram reveals distinct patterns in keyword usage and highlights the global interest in quality assurance in education. The differences in focus among researchers from various countries reflect their unique educational contexts and priorities. Meanwhile, the significant role of the journal "Quality Assurance in Education" in publishing related research underscores the growing body of knowledge dedicated to improving educational quality worldwide.

### 3. Research Trend

Based on the findings analyzed using the R-package biblioshiny, we obtained results on research trends measured by the frequency of keywords that appear each year. The results of this analysis are visualized in Figure 5. From this figure, we can observe changes in research trends over the years, including keywords such as quality control, accreditation, accountability, quality assurance system, education, leadership, and most recently, higher education.

One notable observation is that the trend for the keyword "schools" emerged in 2009 but has not reappeared in subsequent years. This indicates a relatively low interest in research on quality assurance in schools compared to quality assurance in higher education.

The shift in research focus highlights the evolving priorities within the field of educational quality

assurance. While early studies might have concentrated on broad concepts like quality control and accreditation, more recent research has diversified to include topics such as leadership and higher education. This reflects a growing recognition of the different dimensions of quality assurance and its application across various educational levels and contexts.

The limited recurrence of the keyword "schools" suggests that quality assurance in school settings has not been as extensively explored or prioritized as it has been in higher education. This gap presents an opportunity for future research to delve deeper into quality assurance practices and systems in schools, potentially leading to improved educational outcomes at the foundational levels.

In summary, the analysis of keyword trends using biblioshiny reveals dynamic shifts in research focus within the field of educational quality assurance. While the interest in higher education continues to grow, the relatively low attention given to quality assurance in schools highlights an area that warrants further investigation. Addressing this gap could contribute significantly to the overall enhancement of educational quality.

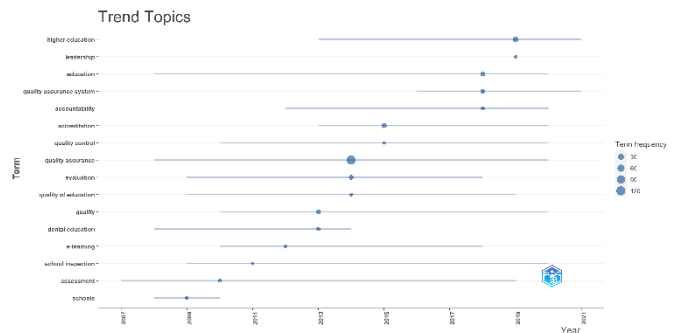


Figure 5. Research Trend

## IV. CONCLUSION

This study conducts a bibliometric analysis to explore trends and insights in the field of quality assurance in schools. By analyzing a comprehensive dataset from leading academic databases, including the Scopus database, we investigate the development of scholarly discussions, key themes, and collaborative networks among researchers from 2000 to 2023. A total of 383 publications, including journal articles, proceedings articles, book chapters, and books, were analyzed using VOSViewer and R-Packed Biblioshiny software. The study identifies the most influential publications, prolific authors, and significant journals through citation and co-authorship analysis.

Keyword co-occurrence analysis reveals emerging

trends and shifting research focuses, particularly in the implementation of quality assurance frameworks, the impact of educational policies, and the role of technology in enhancing educational quality. Our findings highlight the increasing importance of data-driven approaches and continuous improvement practices in school quality assurance. The analysis also reveals current trends and emerging themes in quality assessment within school education, with a focus on differences in research focus, author contributions, and publication patterns across various geographical regions.

The bibliometric analysis of quality assurance in schools in Indonesia reveals a growing interest in the topic, emphasizing the importance of improving educational quality. The study highlights key areas of focus, such as quality assurance, evaluation, and quality assurance systems, and underscores the need for further research to address gaps in these areas. By addressing these gaps, there is potential to significantly enhance educational outcomes in Indonesian schools.

The findings highlight the significant concern for quality assurance in educational institutions, particularly in the United States, and suggest potential areas for future research, policy development, and educational practice aimed at enhancing the quality of education in schools. This bibliometric overview provides valuable insights for educators, policymakers, and researchers, offering a comprehensive understanding of the field and guiding future research endeavors to improve educational outcomes. The study underscores the global relevance of effective quality assurance systems and the potential for shared strategies to improve educational standards worldwide.

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