

Enhancing the Quality Standards of Education in Indonesia: A Systematic Literature Review

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Abstract. The rapid development era has brought change and dynamism to the pattern of human thought in the digital era and challenges to sustainable education. The school climate plays a substantial part in student development. The purpose of the study is to conduct a systematic literature review to uncover the trend of concepts in the study of enhance the quality standar of education. The objective of this study is to carry out a comprehensive literature review in order to identify the patterns and trends in the study of improving the standards of education. The present study utilizes a systematic literature review using the PRISMA method. It applies descriptive analysis using data sources obtained from the Scopus database covering the period from 2014 to April 2024. The data is processed using VOSviewer software. These clusters are learning process; skill and strategy; program and research. The results showed four dominant concepts, namely program, process, learning, and skill. Some of the most important aspects of it are all party's involvement in all aspects of education, namely, creating learning programs that are engaging and have a clear impact on students; improving teaching capability through research and adding knowledge and experience through some training; and improve skills and strategies for teaching and managing education that must continue to be upgraded following current developments in the ICT era.

1 Introduction

Nowadays, quality definition, role, and implementation have been significant considerations in educational development. In fact, for several decades, the importance of ensuring high-quality education has been widely recognized across various nations [1], [2], [3], [4], [5], [6], [7]. In the context of the Indonesian education system, a developing country located in Southeast Asia, quality has been a keyword ever since the nation declared its independence [8], [9], [10], [11]. The concept of education quality has become firmly ingrained in the fundamental principles of the nation, expressing the significance of enhancing the country's human capital and providing a prosperous future for those who live there [12]. Hence, it is crucial, if not essential, to establish and execute measures to ensure the quality of education in order to promote the long-term progress and advancement of the country [13], [14], [15],

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[16], [17]. Since quality in education carries multiple meanings, it is crucial to define the standards and criteria for measuring it [18], [19], [20], [21], [22].

Quality education goes beyond just teachers imparting information to students. The objective is to establish a captivating and all-encompassing educational setting in which students may delve into their passions, engage in creative thinking, and cultivate a lasting enthusiasm for acquiring knowledge. A high-quality education system is defined by proficient and motivated educators who employ creative instructional methods to cater to the varied requirements of students [1], [23], [24], [25], [26]. Furthermore, high-quality education acknowledges the significance of providing equal opportunities for education to all individuals, irrespective of their socio-economic status, gender, ethnicity, or talents [27], [28]. It surpasses the act of removing obstacles and guaranteeing equal chances, and instead aims to establish a conducive atmosphere that fosters the comprehensive growth of each student. This encompasses investing in school infrastructure, allocating sufficient resources, and formulating inclusive policies and practices that promote a secure and supportive educational environment.

In addition, an excellent education incorporates the utilization of educational technologies and tools that enhance the learning experience [25], [29], [30], [31], foster digital literacy [32], and empower students with the necessary skills to tackle the demands of the 21st century [33], [34], [35]. It emphasizes developing transferable skills such as analytical thinking, problem-solving, cooperation, and adaptability, which are crucial for achieving success in the rapid and interconnected world of today. This study seeks to offer a comprehensive analysis of the significance of improving education quality standards and to identify the primary obstacles and solutions through a systematic review of prior publications.

Overall, quality education is a complex and multi-dimensional concept that cannot be reduced to a simple definition. It requires a comprehensive understanding and constant reflection on the evolving needs and aspirations of learners, as well as the broader sociocultural and economic contexts in which education operates, which is the intention of this paper. By pursuing the objective of delivering high-quality education, countries can enhance the capabilities of individuals, fortify communities, and make valuable contributions to the sustainable development of societies.

2 Literature Review

The literature review component of this study discusses four key aspects of enhancing educational quality, namely the obstacles, quality standards, training provision, and collaboration.

2.1 Challenges of Educational Quality Improvement

Enhancing educational quality standards is essential for a thriving education system. Nevertheless, there are other obstacles that must be overcome in order to accomplish this objective. These difficulties encompass insufficient money, obsolete curricula, and inadequate teacher training programs. Lack of sufficient finance impedes educational institutions from adequately providing the essential resources and facilities required for high-quality education [36], [37]. This eventually impacts the overall learning process and impedes pupils' capacity to achieve their maximum potential. An obsolete curriculum neglects to cater to the requirements and expectations of the swiftly evolving work market and technological progressions [38]. This results in a discrepancy between the abilities that students gain and the skills that are necessary in the contemporary labour market.

Insufficient teacher training programs result in a lack of efficient teaching techniques and approaches to address the varied learning requirements of students [39], [40]. This leads to

less student involvement and understanding, ultimately impacting academic achievement. In order to raise education quality standards and ensure that students acquire the necessary information and skills for future success, it is imperative to confront and overcome these issues. By employing tactics such as augmented government financing, curriculum enhancements, and thorough teacher training initiatives, educational institutions can initiate efforts to address these difficulties and enhance the overall caliber of education. These strategies need a cooperative approach from policymakers, educators, stakeholders, and other relevant parties is essential in establishing a favourable setting for high-quality education [41].

Furthermore, it is imperative to engage parents and communities in the education process to guarantee a comprehensive approach in improving the standards of education quality. Involving parents and communities can offer essential assistance and promote a sense of responsibility and ownership in education, so enhancing the standards of education quality. The cooperative strategy has the potential to generate a favorable and enduring influence on the overall standard of education and assist in resolving the difficulties encountered by the education system. Through collaboration, stakeholders can discern and execute efficacious measures that will not only augment educational quality benchmarks but also establish a fairer and more comprehensive educational framework for all pupils.

Additionally, involving parents and communities in the education process is essential to ensure a holistic approach towards enhancing education quality standards. Engaging parents and communities can provide valuable support resources and foster a sense of ownership and accountability in education, further contributing to the improvement of education quality standards. This collaborative approach can create a positive and sustainable impact on the overall quality of education and help address the challenges faced by the education system. By working together, stakeholders can identify and implement effective solutions that will not only enhance educational quality standards but also create a more equitable and inclusive education system for all students. This will ultimately result in a more promising future for both people and society as a whole [27], [38], [42].

2.2 Quality Standards of Education

Regarding the quality education that based on Sustainability Development Goals (SDGs) goal 4 ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. It focused on the reduction of disparities and inequities in education, both in terms of access and quality.

Table 1. SDGs Assessment Test (UNICEF Data)

Countries	Indicators	2022	2021	2020	2019	2018
Indonesia	Proportion of children and young people at the end of lower secondary achieving at least a minimum proficiency level in reading (%)	-	-	-	-	30.091999
Indonesia	Children living below the national poverty line (%)	-	-	9.8000002	-	-
Indonesia	Children living in households in extreme poverty (%)	4.2449608	4.50966	4.97643	-	683.663

Source: <https://data.unicef.org>

About the quality, when the children are offered the tools to develop their full potential themselves, they become productive adults ready to give back to their communities and break the cycle of poverty. Unicef data in Table 1. explains that education enables upward socioeconomic mobility. Despite these gains, in 2018 approximately 260 million children were out of school, nearly one fifth of the global population in that age group. Furthermore, more than half of all children and adolescents worldwide are failing to meet minimum proficiency standards in reading and mathematics (Unicef, s. f.). UNICEF works with governments worldwide to raise the quality of education in this case. A completion rate of 100% indicates that all children and adolescents have completed a level of education by the time they are 3 - 5 years older than the official age of entry into the last grade of that level of education. A low completion rate indicates low or delayed entry into a given level of education, high drop-out, high repetition, late completion, or a combination of these factors [14], [43].

2.3 Providing Training Opportunities in Era Digital: ICT

Presently, the education system is confronted with numerous problems in improving the standards of quality. The difficulties can be classified into two primary domains: insufficient infrastructure and obsolete instructional techniques. Inadequate infrastructure refers to the insufficiency of appropriate facilities and resources, such as classrooms, libraries, and technology, that limit the efficient provision of [44], [45], [46]. In addition, urban schools, even those that are older, typically have better infrastructure in comparison to newer rural schools. Furthermore, schools located in rural areas also encounter a shortage of vital resources, such as computers and instructional media [47].

Outdated teaching methods are conventional ways that do not effectively involve students and adjust to their specific learning requirements [48], [49]. These approach frequently depend on repetitive memorization, unengaged learning and an one-size-fits-all approach which obstructs the often rely heavily on rote memorization, passive learning, and a one-size-fits-all approach, which hinders students' critical thinking skills and creativity.

Furthermore, these outdated teaching methods do not effectively prepare students for the demands of the modern workforce, which requires problem-solving abilities and the ability to think critically. Instead, students need to develop skills such as collaboration, communication, and adaptability in order to succeed in today's rapidly changing global economy by technology. Matas (2020) said that humans are required to achieve a balance between information consumption and reflection, by means of this information will take steps from technological developments for the benefit and progress of education, so that it is not just processed into information and knowledge but is studied, implemented, and reflected on. By enhancing education quality standards, it is crucial to address these challenges and ensure that students are equipped with the necessary skills and knowledge to thrive in the modern world [13], [30], [50]. This can be done through implementing innovative teaching strategies, providing access to up-to-date technology, and creating a conducive learning environment that fosters creativity and critical thinking.

Additionally, investing in professional development for teachers and promoting continuous improvement in educational practices will contribute to enhancing education quality standards. This includes offering opportunities for teachers to update their pedagogical skills, stay abreast of current research and best practices in education, and encourage their professional growth and promoting collaboration and continuous improvement among educators [24], [51], [52]. By doing so, teachers will be better equipped to meet the diverse needs of their students and create engaging and effective learning experiences. This will ultimately lead to improved educational outcomes and ensure that students are prepared for the challenges of the future. They will be able to develop the

necessary competencies and skills to thrive in a rapidly changing world and contribute to the overall progress and development of society.

2.4 Supporting Collaboration to Continuous Improvement

In the digital era, collaboration is needed to drive continuous improvement in education quality standards. Collaborative efforts can lead to innovative solutions that address diverse educational challenges. In order to foster collaboration, educational institutions should establish platforms and spaces for teachers [21], [26], [53], administrators, and stakeholders to share best practices and exchange ideas (Addi-Raccah & Ainhoren, 2009; Hussain, 2019; Penuel et al., 2020; Richardson, 2009; Yulianti et al., 2019). By providing these opportunities for collaboration, education institutions can create a supportive and dynamic environment that encourages the sharing of knowledge and expertise. Collaboration between the generation, students, and stakeholders is crucial for enhancing education quality. Corporate social responsibility (CSR) involvement is needed to foster collaboration and promote continuous improvement in education [58].

This collaboration can facilitate the identification of effective teaching methods and the implementation of comprehensive strategies that cater to the diverse needs of learners. In addition, collaboration can also lead to the development of new curriculum materials and resources that align with the latest educational standards and advancements [59], [60]. These resources can provide educators with the tools they need to deliver high-quality instruction and enhance student learning outcomes. Furthermore, collaboration can promote ongoing professional development opportunities for educators, allowing them to stay updated on current research and best practices in education. By staying informed and continuously improving their teaching practices, educators can better meet the needs of their students and contribute to the overall enhancement of education quality standards. Collaboration also allows for the sharing of student data and assessment results, which can inform instructional decision-making and drive targeted interventions for students who may be struggling [53], [61], [62]. By analyzing and interpreting this data together, educators and stakeholders can develop personalized and effective strategies to support students' individual learning needs and promote collective efforts towards continuous improvement in education quality.

Moreover, collaboration can foster a culture of accountability and transparency within educational institutions, as stakeholders work together to evaluate and assess the effectiveness of educational programs and practices [63], [64]. This collaborative evaluation process can lead to the identification of areas for improvement and the implementation of evidence-based interventions, resulting in a higher standard of education quality. Furthermore, collaboration can also lead to the establishment of partnerships with external organizations and experts, bringing in additional resources and knowledge to further enhance education quality standards. These partnerships can provide access to research, funding opportunities, and specialized expertise that can contribute to the continuous improvement of education quality standards.

Additionally, collaboration with external organizations can facilitate the exchange of ideas and best practices on a global scale, allowing for the adoption of innovative approaches and strategies that can further enhance education quality standards. By learning from and collaborating with educators and experts from around the world, educational institutions can stay at the forefront of advancements in teaching and learning, ensuring that their education quality standards remain high and relevant in the ever-changing landscape of education.

Overall, supporting collaboration is essential for continuous improvement in education quality, as it allows for the exchange of ideas, the development of innovative strategies, the sharing of resources, and the establishment of partnerships that contribute to the ongoing enhancement of education standards. Through collaboration, educational institutions can

create a collective effort towards enhancing education quality standards, ultimately leading to improved learning outcomes for students. Collaboration among education stakeholders plays a crucial role in enhancing the overall quality standards of [21]. It allows for the pooling of resources, expertise, and ideas to foster continuous improvement in educational practices. Collaboration also facilitates the sharing of best practices and innovative strategies, ultimately raising the overall quality of education.

3 Research Method

This study examines various articles associated with the Enhance Quality Standards of Education. The articles come from international peer reviewed scientific journals. Researchers emphasize summarizing previous studies to find a common thread to analyze how to enhance the quality standards of education that are taking a position in the current era.

3.1 The review protocol: PRISMA

The figure 1 shows that this study adheres to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method. It is a standard guideline for conducting a systematic literature review (SLR) and has been utilized in various of research [65]. Due to its comprehensiveness and capacity to rise the review's accuracy [66], [67], [68], then reduce the researchers' biases. Besides, to reduce researcher bias, one of the authors prepared the protocol, the others reviewed it. Also, the authors engaged in discussion, review, and iteration. The authors continued to report the findings of their database searches. PRISMA provides a brief overview of the systematic literature review of pertinent.

3.2 Resources

The current study began with a search for articles using the Scopus database, because the Scopus database is the biggest reference source currently. The keyword used "the improving of educational quality standards" for the 2014–April 2024 period; the last ten years choose. It is because to see the contemporaries' situation before the pandemic (pre-Covid19), during and after the Covid19 era. That were then reviewed based on three stages: searching for many articles (search on Scopus database); importing articles meta data in the application software (VOSviewer); and mapping to discussion topics.

3.3 The systematic literature review process for selecting the articles

Some articles have strong links obtained by researchers based on the following procedures: firstly, the researchers identify to sort and select articles only those related to the topic used. This study was conducted by inputting the keywords "enhance quality standards of education" in the search space. Based on the search process, 2,238 articles related to the themes were obtained. Secondly, it involved verifying various articles found to determine whether it was very needed and closely related to enhancing education quality standards in the current era. Verification was carried out by limiting the subject area there is "social science", the keywords there are "education, quality improvement, quality measurement, quality assurance, needs assessment, student", the document type "article", and the language "English." The verification process identified 90 articles from journals relevant to the topic. These articles were used as a reference for studying "enhance the quality standard of education".

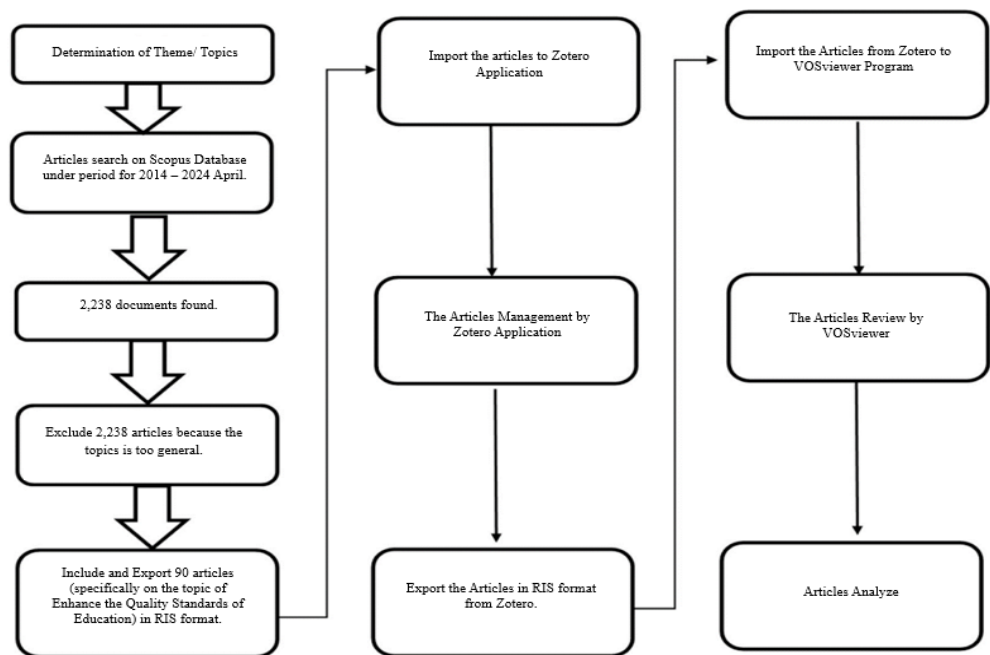


Fig. 1. Flow diagram showing the method used in this review with PRISMA method

4 Results and Discussion

4.1 Publication and Leading Author

Articles on the topic of the increase of the quality standards of education fluctuate in typical studies for ten years (2014-2024) and continue to decrease interest in the subject. It can be seen in Figure 2 that the highest number of articles were published, a total of 14 documents, in 2017. In contrast, the year in which the fewest articles were published was in the middle of this year (April 2024), with four articles.

Furthermore, the 10 authors with the highest number of publications related to enhancing education quality standards between 2014 and April 2024 are shown in Figure 3. Half of the total authors are Aggarwal, Chandran, Darzi, Nestel, and Scheele, who published two articles each.

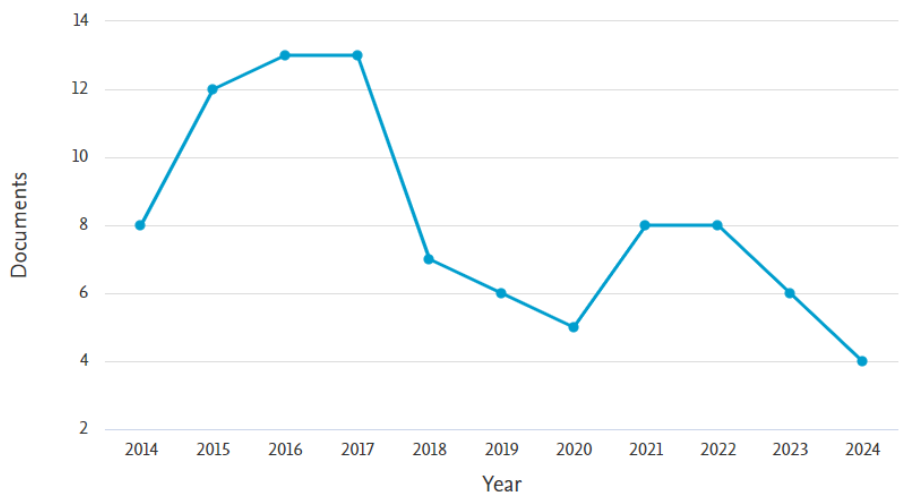


Fig. 2. Number of document publications each year from 2014 until April 2024

4.2 Correlating and Grouping of Themes in Enhancing the Quality Standards of Education

The following description is a follow-up procedure sourced from various articles/ journals after the previous selection and verification process. The results of the review were processed using the VOSviewer application to categorize concepts based on groups [69]. Figure 4 shows the various concept names displayed with 3 clusters. There are three different colors (blue-green-red) displayed for each existing cluster, which refers to the grouping of 21 respective concepts. Also, it shows how theme groups were shorted for review with those that have a correlation based on the theme discussion.

Maps concepts or themes based on clusters related to the study are followed in Table 2. There show that cluster 1 mostly discusses how processes and learning are the two main points in this cluster, discussing how to enhance the quality of education. These points also include performance, evaluation, and use of facilities to support educational success. In cluster 1, the most dominant keyword is “process”. This shows that the process aspect is the most widely discussed topic. This happens because all the concepts written by the author always refer to the process (learning).

Methods commonly used in the learning process, namely lecture, discussion, simulation, role play, fieldwork, project, and inquiry. Selecting teaching methods for teachers is needed [24]. When a teacher teaches, the learner is expected to do something [70]. Here, both the teacher and the learner complement each other's efforts in the teaching and learning process. Teaching, then, is regarded as a process of bringing about learning. In this regard, teaching becomes an art of inducing pupils to behave in ways that lead to learning.

That is, through teaching, the learner must not only be made to love learning and appreciate its importance, but he must also be equipped with the skills of learning on his own so that he will be able to stand on his own when the teacher ceases to be on the scene. That is the concept of learning as the involvement of students in teaching and learning [71]. To achieve this, then, the student must be motivated, inspired, and encouraged. As a matter of fact, teaching is not simply a matter of encouraging and developing the mental and physical faculties but also encouraging and training the emotional aspect of the student's life. Effective teaching should enable the teacher to develop emotional stability by creating a friendly atmosphere in the teaching and learning process. This atmosphere encourages frankness and

sincerity on the part of the learner. It helps minimize the feeling of inferiority, and makes the learner feel he is important. Thus, a friendly relationship between the teacher and the learner is the foundation of all teaching.

Cluster 2 emphasizes the "ability" aspect more. Teacher abilities are categorized into three things, namely, skills, experience, and strategy. In cluster 2, the most dominant keywords are skills and strategy as concepts written by writers always refer to the topic of abilities possessed by teachers; therefore, many writers have researched this topic. Teacher abilities cannot be separated from pedagogic abilities (cognitive, affective, and psychomotor). For this reason, training is key in developing teacher strategies and skills.

Cluster 3. Quite similar to the dominant concept in the previous cluster, cluster 3 predominantly features developing knowledge and explicitly encourages the improvement of teaching capability by research because it is necessary to support the quality of teacher knowledge. Besides that, an aspect of "program" in education (school) is needed. Program is a view of school activities, for example, curriculum by follow up by any programs in school (intra-curricular and extracurricular). In this cluster, "Program" and "Research" many researchers investigate this aspect for enhancing the quality standards of education. On the other hand, the implications or problems that arise because of time management who had teachers. A number of teachers did not give more attention to the school program and also did not do research on it. In addition, Indonesian teachers have administrative and teaching demands. In fact, all three (teaching, program, research, and administrative) must work in balance and in tandem, so to make it easy, the involvement of all parties is needed.

Table 2. Themes grouped based on cluster

Clusters	Concepts	Total (items)
Cluster 1	Evaluation; impact; learning; nurse; paper; performance; proses; use	8
Cluster 2	Evidence; experience; participants; patient; perception; skill; strategy	7
Cluster	Article; author; need; program; research; year;	6

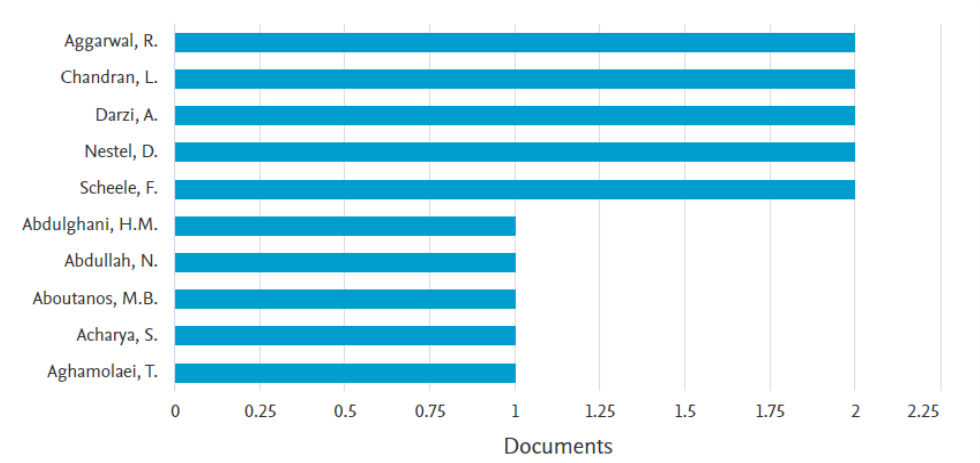


Fig. 3. Top 10 authors of publications related to enhancing the quality standards of education between 2014 and April 2024

4.3 The Dominant Themes in the Study of Enhancing the Quality Standards of Education

Based on the data analysis undertaken, several dominant themes have a strong association with the study of enhancing the quality standard of education. This categorization or grouping of dominant themes aims to make the study more focused to present a relevant conclusion. Additionally, the categorization and classification of dominant themes are also used because they can make it easier for the author to map out any topics that have a strong association with the topics discussed.

Reviewing the studies of enhancing the quality of education requires verification or sorting of the data so that it is truly in line with the topic of the study. This is carried out so that the discussion or subject of the study is not too general and widespread. Figure 5 shows some of the dominant concepts associated with the study. Looking at the group of words featured in Figure 5, it would appear that of the various previous discussions on enhancing the quality standards on education, several groups discussed the dominant themes or concepts that tended to be discussed the most. Researchers in this study used an analytical tool called VOSviewer to process data and come up with dominant themes or concepts related to the study of enhance the quality standards on education.

The dominant concepts/ themes that were often discussed by previous researchers included process, learning, skills, need, participant, strategy, perception, evidence, year, research, performance, use, article, and impact. The color thickness in Figure 5 indicates how dominant each focus group is. The group of themes with the thickest colors was discussed the most. These various groups of dominant concepts have a strong mutualism symbiosis that makes it easier for researchers to come to conclusions that are truly conical to studies related to enhancing education quality standards. This review of the dominant theme was needed to provide a reference for concepts that were often discussed. Therefore, the results of the processed data are shown in Figure 5. Based on the dominant concepts or themes related, as described in Figure 5, several topics are quite dominant or have been frequently studied. The first dominant topic, program, was at the center of studies on enhancing education quality standards in early 2018, as shown in Figure 6. Meanwhile, strategy was the most discussed topic in 2019.

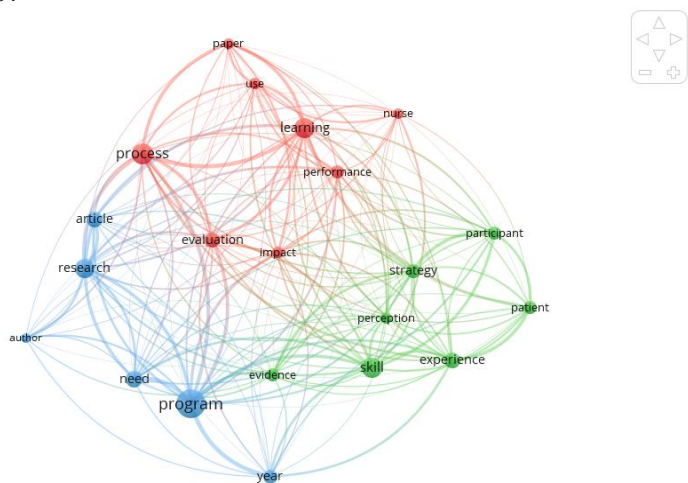


Figure 4. Clusters of discussion topics related to enhancing the quality standards of education

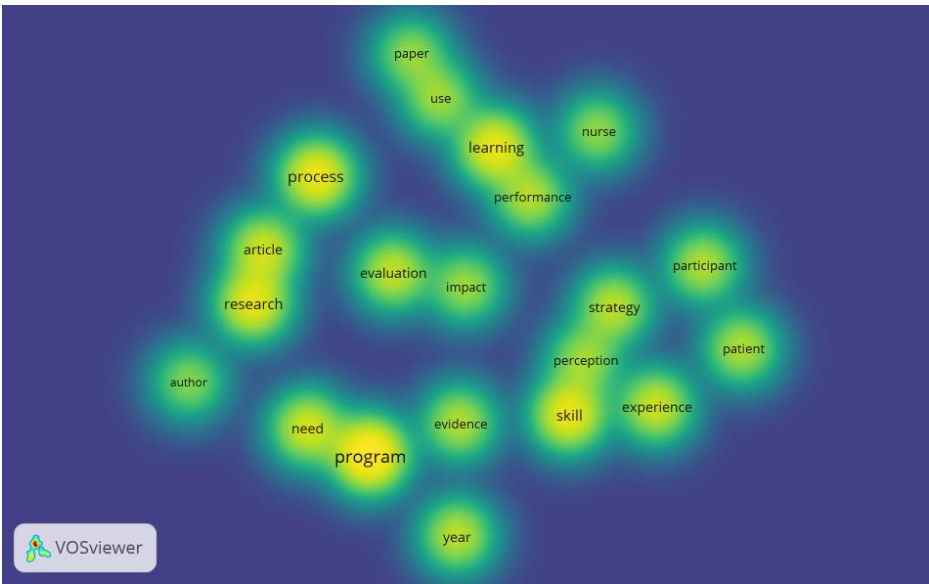


Fig. 5. Dominant topics in the study of enhancing quality standards of education

4.4 The Period of Article Publication of Enhance the Education Quality Standards

The next elaboration relates to the period of publication of articles in the study of enhancing educational quality standards. Figure 6 shows articles published for ten years, during the period from 2014 to April 2024. When examined based on thickness or color dominance, studies related to enhancing educational quality standards published between 2017 and 2018 were more dominant in discussing the program, experience, evaluation, learning, and so on. This means that during the 2017–2018 period, dominant and focus studies discussed how the program of learning can be used as a field for all parties (stakeholders) involvement in enhancing quality standards, especially on education scope.

From 2019 to 2020, the study that was dominant began to change and attempted to examine the benefits of the enhanced quality standards of education in medicine scope. The studies in this period were also dominant in discussing the education quality standards focused during the COVID-19 pandemic and the post-COVID-19 era; that is why many themes relate to patients until nurses, as shown in Figure 6. This means that there has been a very dynamic study of enhancing education quality standards. In the last five years, several themes discussed health scope, and the publishers are also mostly health education journals. However, studies on related themes are generally dominantly related to or have implications for the quality of sustainable education.

Studies and publication of articles on the enhance quality standard of education are considered very important given the massive changes that have occurred lately. Additionally, enhancing the quality standards in the digital era has challenges and shortcomings associated with its implementation; therefore, future studies need to be scaled up in the interests of sustainable quality education in every country. The novelty presented in that study provides benefits as a reference and alternative solution for the future. Therefore, researchers expect to undertake large-scale studies and present new findings to provide lessons that can be incorporated into future studies related to enhancing the quality standards of education.

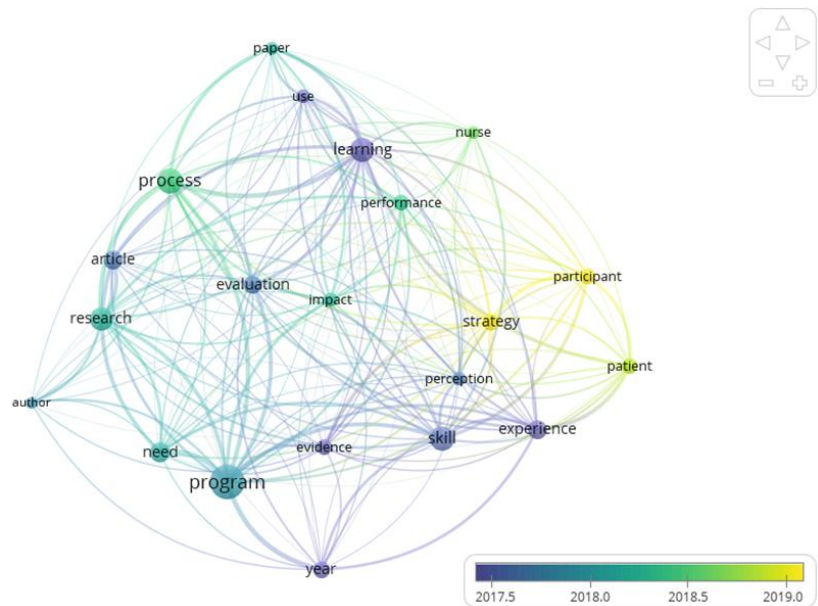


Fig. 6. Publication trend of the study of enhancing the quality standards of education

5 Conclusion

Studies related to enhancing education quality standards are important and need to be widely presented. The rapid development era has brought change and dynamism to the pattern of human thought in the digital era and challenges sustainable education. This research reveals several dominant studies related to enhancing the quality standards of education through learning programs in education. Some of the most important aspects of it are all party's involvement in all aspects of education, namely, creating learning programs that are engaging and have a clear impact on students; improving teaching capability through research and adding knowledge and experience through some training; and improve skills and strategies for teaching and managing education that must continue to be upgraded following current developments in the ICT era.

This research is useful for showing the development and urgent need to enhance the quality standards of education globally. However, this research also has limitations. First, the articles reviewed were only sourced from the Scopus database; therefore, there is no comparison data. Second, during the time of the COVID-19 pandemic and post-COVID-19 era between 2019 and April 2024, the dominant discussed aspect was enhancing the quality standards of education, especially in health education; this thing can be seen from several publishers of health education journals. Therefore, further studies need to apply a comparative analysis approach that uses the Web of Science (WoS) database as a source of highly reputable international journals and specifies aspects of the school so that it focuses more on improving school quality standards.

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