The Urgency of Accreditation in Improving the Quality of Vocational High School: Literature Review and Bibliometric Study

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ABSTRACT

This research was conducted to determine the urgency of accreditation in improving the quality of education in Vocational High Schools (SMK) through a literature review and bibliometric study on the Google Scholar database on Publish or Perish and with VOSviewer assistance, from 2019 to 2024. In this literature study, 200 articles were obtained, then filtered into 167 articles related to the content, based on data collection results using the keywords "The Importance of Accreditation in Vocational High Schools" and "Improving the Quality of Education in Vocational High Schools". The results of data searches for the last six years show that from 2019 to 2020 there was an increase in the number of publications and from 2021 to 2024 there was a decrease in the number of publications. Three types of visualization in data mapping analysis were added, namely network visualization, overlay visualization, and density visualization, to support the analysis of related articles. The fifteen most relevant journals were selected in the literature review so that the research results will help researchers identify developments and understanding of international research related to the proposed keywords. These developments and understanding can be used as references for further research.

Keywords: *Quality of Education, Accreditation, Vocational High Schools (SMK), Literature Review, Bibliometric Studies*

1. INTRODUCTION

Improving the quality of education is one of the main priorities in the education system in Indonesia. Vocational High School (SMK) education has a very important role in preparing a workforce that is ready to compete in the industrial world. Therefore, educational accreditation at vocational schools is very crucial to ensure the quality standards of education provided by schools. Accreditation is an evaluation process carried out by an accreditation body to determine whether an educational institution meets established quality standards [1]. Accreditation not only functions as a tool to ensure the quality of education, but also as a mechanism to continuously encourage quality improvement. According to research conducted by Asopwan [2], accreditation contributes to improving the

quality of school management, curriculum, learning processes and student learning outcomes [2]. Therefore, an effective accreditation process can encourage schools to strive to improve their educational standards continuously.

As time passes, demands for the quality of vocational school education are increasing. The industrial world requires workers who not only have technical skills but are also able to think critically, work in teams, and adapt to new technology. Accreditation is one way to ensure that vocational schools can produce graduates who meet the needs of the industry [3]. Research conducted by Hasanah shows that accredited schools have a higher level of public trust compared to schools that are not accredited [4]. This is because accreditation is said to provide a guarantee that the school has met the quality standards set by the government. Accreditation is also a

form of school accountability towards the community regarding the educational services it provides. Thus, accreditation also plays a role in improving the school's image and reputation in the eyes of the community.

Bibliometric analysis is an effective method for identifying research trends and understanding the development of a scientific field. In this context, bibliometric analysis can be used to evaluate research developments related to accreditation and improving the quality of vocational school education in Indonesia. The bibliometric analysis helps in identifying the most researched topics, the most influential journals, and authors who are active in the field [5]. The use of bibliometric analysis in this study aims to provide a comprehensive overview of research related to vocational school education accreditation in Indonesia over the last few years. Thus, it is hoped that the results of this analysis can provide useful information for policy makers, educational units, educators and researchers to understand trends and developments in this field.

This literature review will also discuss the road mapping for educational accreditation in vocational schools, including the obstacles faced and solutions that can be implemented to support improving the quality of education. By utilizing a literature review and bibliometric analysis, this research aims to provide a deeper understanding of the role and importance of accreditation in improving the quality of vocational school education in Indonesia. It is hoped that the results of this review can provide comprehensive information about how accreditation can be implemented effectively and how to overcome the challenges that arise, so that ultimately it can encourage improvements in the overall quality of education.

2. METHODOLOGY

This study presents an analysis of the urgency of accreditation in improving the quality of education in vocational schools using a literature review and bibliometric studies. The illustration of the methodology design stages and detailed information for the experiments in this research includes four stages, namely as follows:

2.1. Data Selection

Research article data selection was carried out by collecting related articles that had been published using the Google Scholar database and using the Publish or Perish software. Data was collected on June 23, 2024. The data search was carried out at the level of the last 6 (six) years, namely from 2019 to 2024. In the article search, the keywords used were "The Importance of Accreditation in Vocational High Schools" and "Improving the Quality of Education in Vocational High Schools". Document searches are filtered based on

document type in the form of journals, conference proceedings, and books, excluding patents. The results of the data search found 200 research articles about the urgency of accreditation in improving the quality of education in vocational schools. The articles were then entered into Microsoft Excel software and saved in comma-separated value (*.csv) format. Google Scholar is one of the largest free scientific bibliographic databases, and Google Scholar collects many confidential databases whose contents cannot be accessed via the public internet. Therefore, Google Scholar was chosen as the database in the bibliometric analysis. In general, Google Scholar functions similarly to Web of Knowledge (edited by ISI/Thomson) and Scopus (created by Elsevier) in that both databases are relatively expensive sources of scientific bibliography.

2.2. Data Filters

In this study, data filtering is required because the data collected and obtained cannot be analysed directly. At this stage, data screening was carried out by looking at the title and year of publication of each article. Articles with irrelevant titles and incomplete publication years were discarded. Once the data were cleaned, a Microsoft Excel file was created for analysis using bibliometric software. There were 167 articles that were eligible for further analysis after data screening was carried out.

2.3. Data Analysis and Visualization

The Microsoft Excel program can be used to change the .ris document format. which has been cleaned and stored. Then after that open it and look at the data. VOSViewer bibliometric analysis software is used to analyze developments and understand the urgency of accreditation in improving the quality of education in vocational schools. At this stage, the words used in the VOSviewer network mapping visualization are selected. The source database is used to map article data, where there are three types of data mapping used, namely network, density, and overlay visualization. Detailed information for data analysis and visualization using VOSviewer and Publish or Perish software [6].

2.4. Literature Review

From the results of screening and data visualization, 15 (fifteen) articles were selected that were most relevant to topics related to the urgency of accreditation in improving the quality of education in vocational schools. Next, analysis was carried out through a literature review to obtain understanding as a first step and limitations in future research.

3. RESULTS AND DISCUSSION

3.1. Bibliometric Studies

Various studies on the urgency of accreditation in improving the quality of education in vocational schools have determined the level of publication. Data after the screening process via the Publish or Perish software produced 200 articles from various institutions in the world and after the screening stage 167 articles were selected that were related and still relevant to the keywords. Figure 1 shows the trend of documents published regarding the urgency of accreditation in improving the quality of education in vocational schools from 2019 to 2024.
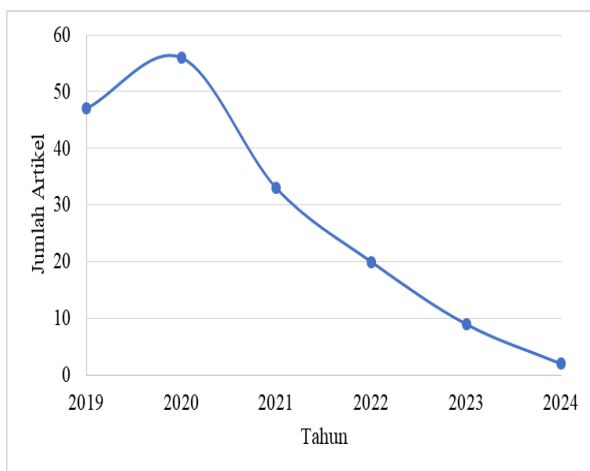

Figure 1 Trend analysis of the urgency of accreditation in improving the quality of education in vocational schools (2019-2024)

In Figure 1 the number of publications increased from 2019 to 2020, then decreased from 2021 to 2024. The number of articles from 2019-2024 was 47, 56, 33, 20, 9 and 2 articles respectively. In 2020, the highest trend for publications related to the urgency of accreditation in improving the quality of education in vocational schools was seen with 56 articles. The lowest trend level of publication in 2024 is 2 articles.

Bibliometric study analysis data visualization shows relationships between terms. The co-occurrence visualization map succeeded in grouping keywords into clusters with different colors which were grouped into 6 (six) clusters. Some general irrelevant and frequently occurring terms without specific meaning were marked in the program with a low relevance score and thus were excluded from the analysis (not selected). Figure 2 shows a network visualization term map based on frequency of co-occurrence, with six groups of related concepts depicted in different colors.
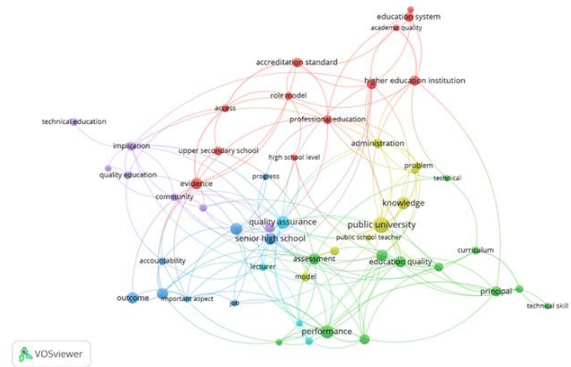

Figure 2 Network visualization regarding the urgency of accreditation in improving the quality of education in vocational schools

In the network, each node functions as an entity (such as article, author, country, institution, keyword, journal, etc.), and in cases like the one shown in Figure 2 there are many descriptions, including:

a) The appearance of keywords is indicated by the size of the color node,

b) Node relationships show the magnitude of co-occurrence between keywords,

c) Co-occurrence of keywords is indicated by the link number,

d) The larger the node, the greater the keywords that appear,

e) The thicker the links between nodes, the greater the co-occurrence between keywords,

f) Each color indicates a thematic group. Topics (nodes) of themes (groups) and relationships (links) between topics (nodes) below them can be explained through nodes and links within groups.

Research related to the urgency of accreditation in improving the quality of education in vocational schools based on mapping visualization is divided into 6 (six) clusters, including:

1) Cluster 1, which is coloured red, corresponds to 12 items which include academic quality, access, accreditation standards, education system, evidence, evolution, high school level, higher education institution, influence, professional education, role model, upper secondary school. Based on the literature, these clusters reflect key components that influence the quality, accessibility and evolution of the education system at various levels. The connection between the keyword's academic quality and Senior High School is interrelated, however, nothing has been connected to Vocational High Schools, so this could be an opportunity for researchers who focus on improving the quality of education in vocational schools. Apart

from that, the existence of academic quality in Vocational Schools can increase cooperation between Vocational Schools and industry to ensure that the curriculum and training provided are in line with industry needs. This could include internship programs, industrial visits, and collaboration in curriculum development [7].

2) Cluster 2, which is green, is related to 12 items which include assessment, curriculum, education quality, important role, performance, principal, school accreditation, significant role, technical leadership, technical skills and vocational school. Cluster 2 groups based on the focus on management, evaluation and improving the quality of education in vocational schools, including the important role of school principals and management, the relevance of the curriculum to industry, as well as assessment and accreditation which ensures high educational standards. This is also because the keywords related to vocational education with performance and curriculum are very large so that a good educational curriculum can improve students' abilities, both technical skills according to their field of expertise and non-technical skills such as communication, teamwork and problem solving [8].

3) Cluster 3, which is blue, has 8 items, namely accountability, important aspect, job, outcome, progress, senior high school, standard, and teaching. Cluster 3 groups based on the focus on accountability, results and educational standards at the vocational school level. This also includes how vocational high schools are responsible for educational results, progress achieved, and the relevance of education to student preparation for work and further education [9].

4) Cluster 4, which is yellow, contains 8 items, namely administration, knowledge, model, opportunity, problem, public school teacher, public university and solution. Cluster 4 groups based on the focus on management, problem solving, and model development in the context of general education and higher education. This includes effective administration, opportunities for school improvement, as well as solutions to problems faced by public high school or vocational schools [10].

5) Cluster 5 is purple with 7 items, namely certification, community, implications, quality education, significance, technical education, vocational training. Cluster 5 groups based on the

focus on technical and vocational education, as well as the importance of the community in supporting and improving the quality of this education. This includes certification, implications for individuals and society, and significance in the context of economic and social development [11]. With vocational training, the aim is to prepare students to enter the world of work directly with the skills needed by industry.

6) Cluster 6, which is light blue, consists of 4 interrelated items, including the keywords higher education accreditation, lecturer, professional development, and quality assurance. Cluster 6 groups based on its focus on mechanisms and strategies to ensure and improve the quality of higher education through accreditation, teacher professional development, and quality assurance systems. So, it can include quality assessment, developing teacher abilities, and meeting high educational standards [12].

Figure 3 shows research trends on related topics per year in scientific publications from 2019 to 2024. The overlay visualization image shows that solid colours indicate the results of many studies that have been carried out and light colours indicate the latest research that has been carried out [6].
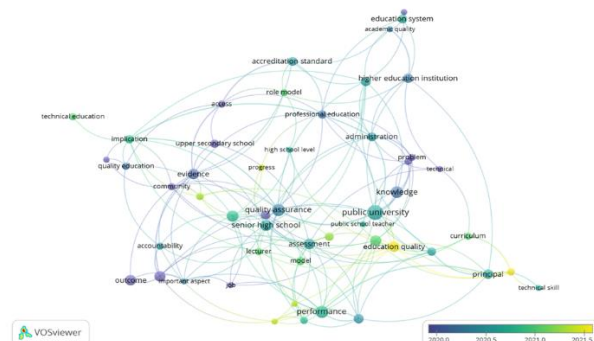
Figure 3 Research trends on related topics per year

Based on Figure 3, if you look at the latest research that was carried out in 2021 (see yellow node), this is based on the visualization results showing the yellow points which represent the last years of scientific publications. Research and publications related to the importance of quality or improving the quality of education based on the urgency of accreditation, especially for vocational high schools which have not yet been researched much, so it is a big opportunity to improve the quality of vocational school education.

Figure 4 Visualization of density related to the urgency of accreditation in improving the quality of education in vocational schools.

The results of the density visualization are shown in Figure 4. In the density visualization, each item point has a certain colour which indicates the density of the item at that point; by default, these colours range from blue to green and yellow. If there are more items around the point and the items are heavier, the colour of the point becomes yellower [13]. By noting which parts of the items are considered important for analysis, this section is very useful for gaining an understanding of the general structure of a bibliometric map.

Based on Figure 4, through this analysis researchers can interpret the keywords that are most often used in a publication. The darker the colour produced, the more researchers use keywords related to the topics "quality of education", "performance", and "high school" so it can be ascertained that there is still very little research related to the quality of education, the urgency of accreditation and

vocational secondary education. Once, with this data, researchers will continue their research regarding the importance of quality education to improve vocational school accreditation.

3.2. Literature Review

Analysis of authors and publications with the most citations is an important factor for analysing research and research developments in various fields [14]. The urgency of accreditation in improving the quality of education in vocational schools with 15 selected relevant quotes being the topic of analysis related to content based on the Google Scholar database for the 2019-2024 period is presented in Table 1.

Table 1. Selected articles about the urgency of accreditation in vocational schools

No	Authors	Title	Analysis Results	Quote
1	Ulker, N., & Bakioglu, A. (2019), [15] (Journal article)	An international research on the influence of accreditation on academic quality	Findings indicate that accreditation contributes more to improving processes and practices at institutions that have been operating for 1–20 years compared to institutions that have been operating for more than 41 years. Likewise, accreditation makes a greater contribution to the initial accreditation process compared to re-accreditation. In addition, accreditation makes the greatest contribution to the importance of learning outcomes and the	88

			least to the number of students who graduate from a program.	
2	Joyce, S. (2019), [16] (Book)	Strengthening skills: expert review of Australia's vocational education and training system	The Australian Government commissioned this Review of the Vocational Education and Training system to examine how it can better serve job seekers and employers in Australia today and in the future. This review was commissioned to provide a fresh look at Australian VET sector considerations and insights from the reform experience.	78
3	Hasan, A., & Pardjono, P. (2019), [17] (Journal Article)	The correlation of higher order thinking skills and work readiness of vocational high school students.	Higher Order Thinking Skills (HOTS) are needed to deal with rapidly changing and unpredictable situations or conditions in the future. The results of the research show that the HOTS profile of Mechanical Engineering Vocational School students is in the high, medium and low categories at 36.81%, 18.68% and 44.5% respectively. The higher the level of thinking of vocational school students, the higher the student's work readiness. This means that HOTS is related to the psychological, physical and experiential aspects of students. The results of the HOTS profile can be used by vocational school teachers as a basis for providing quality learning so as to produce graduates who have HOTS and better competitiveness and professionalism in the world of work.	35
4	Martínez-Morales, I., & Marhuenda-Fluixá, F. (2020), [18] (Journal Article)	Vocational education and training in Spain: steady improvement and increasing value.	Over the past four decades, vocational education and training in Spain has experienced a steady and consistent increase in status and value. While this progress may be considered slow by some, it has been supported by broad consensus among all stakeholders, including companies, unions, and education and labor administrations. This consensus also involved major political parties, which is rare in other education policies. This school-based system has successfully responded to labor market demands and given employers great authority in determining vocational qualifications, including level, content and curriculum requirements outlined in competency units and learning outcomes.	48
5	Misbah, Z., Gulikers, J., Dharma, S., & Mulder, M. (2020), [19] (Journal Article)	Evaluating competency-based vocational education in Indonesia.	The research results show that the ten principles of Comprehensive Competence-Based Education (CCBE) listed in this framework are mostly found in Indonesian policy documents. Principals, teachers and students see the realization of CCBE principles in different study programs, except for the principle of flexibility which is largely absent. The level of implementation of CCBE varies, from initial levels of competency-based education to education that is largely competency-based. These findings contribute to discussions about CCBE design principles and CBE	68

			implementation studies from an educational perspective.	
6	Ali, M., Triyono, B., & Koehler, T. (2020, October), [20] (Proceedings)	Evaluation of Indonesian technical and vocational education in addressing the gap in job skills required by industry	The changing demands of the workforce in the era of the industrial revolution 4.0 are a fundamental challenge for Technical Vocational Education and Training (TVET) to quickly and efficiently meet the changing skills needs of the economy, especially in the field of electrical engineering. The findings of this research indicate that there is a large mismatch between TVET and the needs of the business and industrial world, especially in the field of electrical engineering. Most TVET institutions in Indonesia have limitations in terms of the quality of human resources, facilities and infrastructure that meet standards, lack of collaboration with industry, curriculum that suits work needs, and a weak modern work culture on campus. Based on data analysis and findings, a recommended framework for strengthening relationships between TVET providers and the manufacturing sector has been proposed for use by educational planners in building or improving existing TVET.	30
7	Komalasari, K., Arafat, Y., & Mulyadi, M. (2020), [21] (Journal Article)	Principal's management competencies in improving the quality of education	School principals in the "current era" play a more complex role that requires multitasking abilities and dynamic role changes. The principal's leadership is effective and widely accepted as a key component in realizing school quality improvements. School quality has an impact on staff motivation and teacher performance in the quality of classroom learning.	147
8	Mohammad Shafi, M., Neyestani, M.R., Jafari, SEM, & Taghvaei, V. (2021), [22] (Journal Article)	The Quality Improvement Indicators of the Curriculum at the Technical and Vocational Higher Education	The results of qualitative research show that to improve the quality of the technical and vocational higher education curriculum, solutions are needed such as adapting the curriculum to the professional needs of the business world, emphasizing professional standards and competencies, paying attention to competency focus, linkages between employers and planners. , content modulation, content application, work-based teaching, real-time teaching, integration of science and practice, group-based and participatory teaching, performance-based assessment, student-based assessment of students' roles and tasks in study groups, emphasis on practical work and effective team projects in assessment.	21
9	Djuhartono, T., Ariwibowo, P., & Alhamidi, L.A. (2021), [23] (Journal Article)	Implementation of Total Quality Management (TQM) on Teaching Factory (TEFA) vocational middle school in Bogor district.	This qualitative research aims to analyze the effectiveness of implementing Total Quality Management (TQM) at vocational schools in Bogor Regency, especially at the Teaching Factory (TEFA). The research results show that the implementation of TQM in vocational schools follows the Plan-Do-Check-Action (PDCA) concept, involving planning learning tools, implementation according to the RPP and teaching factory	13

			model, as well as continuous evaluation and adjustments based on industry assessments.	
10	Widayati, A., MacCallum, J., & Woods-McConney, A. (2021), [24] (Journal Article)	Teachers' perceptions of continuing professional development: a study of vocational high school teachers in Indonesia.	This research examines the perceptions of vocational high school teachers in Indonesia towards continuous professional development (CPD) in the context of policy changes related to teacher CPD. They consider CPD as an assessment of teacher performance and government regulations (exosystem), personal development activities (individual), and some also consider religious values when describing CPD. These teachers consider their profession as devotion to God and CPD as part of their duties and responsibilities as obedient individuals (interaction factors between individuals and macrosystems). PNS teachers take part in PKB in a more structured manner than non-PNS teachers because PKB activities are more closely related to promotion. Teachers show that they have the interest and capacity to further develop their CPD but need support to develop their professionalism through microsystem and exosystem factors.	41
11	Indrawati, SM, & Kuncoro, A. (2021), [25] (Journal Article)	Improving competitiveness through vocational and higher education: Indonesia's vision for human capital development in 2019–2024	This article explores Indonesia's readiness to increase its human resources in response to changes in population and economic structure to take advantage of the technological advances of the Industrial Revolution 4.0. Indonesia's education policy framework to improve human resources and increase the country's competitiveness focuses on five areas: access to education; education quality; synergy between government, industry and higher education; industrial relations; and incentives. Meanwhile, the disruption caused by the Covid-19 pandemic has forced the Indonesian education system to immediately revolutionize its teaching methods so that it can adapt to pandemic and post-pandemic conditions.	123
12	Sudjimat, DA, Nyoto, A., & Romlie, M. (2021), [26]. (Journal Article)	Implementation of project-based learning model and workforce character development for the 21st century in vocational high school	This research examines the implementation of the Project-based learning (PjBL) model and the development of the character of the 21st century workforce in Vocational High Schools (SMK). The research results show that the projects planned by vocational school teachers start from simple to complex work objects. Apart from that, implementation can be classified into three, including pre-PjBL, PjBL with simple projects, and models with real or complex projects. The evaluation includes process and product assessments. There are ten characteristics of the 21st century workforce that were developed and integrated into the implementation of this model.	43
13	Maryanti, R., Hufad, A., Sunardi,	Analysis of curriculum for science education for	The curriculum is a tool for achieving national goals, thus making it a reference in	35

	S., & Nandiyanto, Abd (2021), [27] (Journal Article)	students with special needs in vocational high schools.	formulating goals in the learning process that must be achieved by each student. The research results show that in the educational curriculum for students with special needs (SSNs) in vocational schools, to achieve learning objectives in teaching, most educators must implement individual learning programs. The material in the curriculum taught is the same, but the approaches, strategies, methods and media must be reconstructed and adapted to the needs of SSNs. Some teachers have to make curriculum modifications known as differentiated curriculum. It is hoped that this research will become knowledge for SMK recipients of SSN, and this research can be an alternative in creating a differentiated curriculum for students, so that it becomes one solution in teaching general and SSN students.	
14	Kholifah, N., Sofyan, H., Pardjono, P., Sudira, P., & Nurtanto, M. (2021), [28] (Journal Article)	Explicating the experience of beginner vocational teachers.	The findings in the research were that teacher experiences were identified in four aspects, namely understanding, activities, problems, and use of technology in their work. An important finding is that increasing the age of work experience increases social and professional competence and the age of novice vocational school teachers to have better technology affinity.	27
15	Nugroho, BS, Tannady, H., Fuadi, TM, Aina, M., & Anggreni, MA (2023), [29] (Journal Article)	Role of Work Experience, Work Motivation and Educational Background on Teacher Performance at Vocational School.	The results of the research show that the quality of education has a significant effect on teacher performance, work experience and motivation have a significant positive effect on teacher performance in vocational schools.	23

Based on Table 1, the article 15 relevant quotes come from 13 journal articles, 1 book and 1 proceeding. if we look at the number of citations, books contributed 108 citations, while journal articles accounted for 712 citations. the most cited publication is the publication of a journal article entitled "principal's management competencies in improving the quality of education" by Komalasari et al. (2020) published in the journal of social work and science education [30]. Then, from several literature reviews, researchers can find out aspects and understanding related to the quality of education in vocational schools to improve accreditation, and easily get directions and limitations of further research.

School accreditation road mapping is a systematic process to improve the quality of education. This analysis begins with a self-evaluation, in which the school assesses its strengths and weaknesses against accreditation standards. Schools identify strengths and weaknesses in various aspects, such as curriculum, facilities, management and teacher competency. By involving the entire school community, including teachers, students, and parents, this evaluation provides a comprehensive figure of areas for improvement. The data obtained becomes the basis for developing appropriate improvement plans, so that schools can achieve higher and sustainable quality standards. This process encourages a culture of reflection and continuous improvement in the educational environment. Next, the development of an improvement plan is carried out by involving all stakeholders, including teachers, students and parents. Challenges such as limited resources and teacher competency gaps must be addressed with ongoing training and managerial support. Regular monitoring and evaluation is important to ensure progress and strategy adjustments. Thus, this mapping does not only focus on achieving accreditation, but also creates a culture of sustainable quality in schools.

In the field of vocational secondary education, challenges and competition are becoming increasingly difficult and complex, resulting from the expansion of the international market in the world of education on the one hand and the internal dynamics of domestic education. The increasing global competition currently occurring

requires Vocational High Schools (SMK) to develop following the direction of developments in the world of work, so that vocational high schools need to adjust by opening new skill competencies and/or sharpening existing skill competencies by considering relevance to the demands of the business world and the world. industry. Apart from that, the challenge in quality assurance is related to the availability of quality teaching staff and adequate facilities. Today's employees facilitate the actualization and development of employee competencies through systematic development and empowerment programs. Employee development and empowerment is part of HRM (Human Resource Management) which has the function of improving employee competency, adaptability and commitment. Therefore, improving the quality of human resources is a reality that must be carried out in a planned, directed, intensive, effective and efficient manner in the development process if this nation does not want to be unable to compete in the era of globalization. Then school quality management, school quality management or Total Quality Management (TQM) plays a very important role in the implementation of education in schools which is expected to provide better changes in accordance with developments, demands and dynamics of society in responding to education management problems at the school level. The components that play the most role in improving quality are the roles and functions of teachers and the leadership role of school principals' management in an organization has four basic functions, namely planning, organizing, implementing and monitoring. planning is a management function that includes determining the direction of organizational goals, designing the strategies needed to achieve the specified goals and developing plans to coordinate the activities needed to implement these strategies. planning is very important to carry out because without planning, all required management functions will not run.

4. CONCLUSION

Based on analysis of bibliometric studies and literature reviews regarding the urgency of accreditation in improving the quality of education in vocational schools from 2019 to 2024, 167 related articles were obtained, the highest number of publications occurred in 2020 with a total of 56 articles published. However, the number continues to decline in the following years, 2021 to 2024. The results of bibliometric mapping regarding the urgency of accreditation in improving the quality of education in vocational schools still need to be studied and paid attention to by current researchers, because there is still too little research related to this topic, so it is a big opportunity in improving the quality of researchers and educators in Indonesia. And the results of the literature review show that Researchers can find out aspects and understanding related to the quality of education in

vocational schools to improve accreditation, and easily get directions and limitations of further research.

On the other hand, to improve the quality of vocational schools, the government is present through the transformation of accreditation at the vocational school level carried out by the National Accreditation Board (BAN) for Schools and Madrasah. The transformation that began in 2018 has provided significant changes in several things, namely: the Vocational School accreditation instrument which has shifted its paradigm from merely assessing administrative compliance to an assessment based on the performance of educational units, apart from that there are also changes to the competency of Vocational School assessors who have professional abilities in assessing educational unit and high integrity in carrying out accreditation duties. In the end, it is hoped that the quality of vocational school level education will continue to improve, along with the use of accreditation instruments that assess the performance of educational units.

REFERENCES

[1] Awaludin, AAR (2017). School accreditation as an effort to guarantee the quality of education in Indonesia. SAP (Architecture of Educational Articles), 2(1).

[2] Asopwan, D. (2019). Study of accreditation in increasing school productivity. Indonesian Journal of Education Management & Administration Review, 2(2), 265-272. https://doi.org/10.36088/manazhim.v5i1.2920

[3] Roesminingsih, MV, Hariastuti, TR, & Agustina, F. (2022). Planning for Improving School Quality at SMKN Purwosari Bojonegoro. Tambusai Education Journal, 6(1), 1892-1906. https://doi.org/10.31004/jptam.v6i1.3234

[4] Hasanah, E., Sukirman, S., Afriliandhi, C., & Wijayanto, A. (2021). Implementation of accreditation from the perspective of teachers and school principals in Yogyakarta. Mandala Education Scientific Journal, 7(3). https://doi.org/10.47750/pegegog.13.01.13

[5] Muhammad, I., & Triansyah, FA (2023). Complete Guide to Bibliometric Analysis with VOSviewer: Understanding Research Developments and Trends in the Digital Era. Adab Publishers.

[6] Al Husaeni, DF, Nandiyanto, ABD, & Maryanti, R. (2023). Bibliometric analysis of educational research from 2017 to 2021 using VOSviewer: Google scholar indexed research. Indonesian Science Teaching Journal, 3(1), 1-8. https://doi.org/10.17509/ijotis.v3i1.43182

[7]   Pambudi, NA, & Harjanto, B. (2020). Vocational education in Indonesia: History, development, opportunities, and challenges. Children and Youth Services Review, 115, 105092. https://doi.org/10.1016/j.childyouth.2020.105092

[8]   Sanchez-Gomez, CA (2022). Implementing a joint learning method (PBL and EBL) to innovate the development of mechanical engineering technical and non-technical skills. International Journal of Mechanical Engineering Education, 50(1), 176-196. https://doi.org/10.1177/030641902095075

[9]   Apriana, D., Kristiawan, M., & Wardiah, D. (2019). Headmaster's competency in preparing vocational school students for entrepreneurship. International Journal of Scientific & Technological Research, 8(8), 1316-1330.

[10] Schildkamp, K. (2019). Data-based decision-making for school improvement: Research insights and gaps. Educational research, 61(3), 257-273. https://doi.org/10.1080/00131881.2019.1625716

[11] Gonczi, A. (2020). The new professional and vocational education. In Dimensions of adult learning (pp. 19-34). Routledge. eBook ISBN 9781003115366

[12] Makhoul, S. A. (2019). Higher education accreditation, quality assurance and their impact on teaching and learning enhancement. Journal of Economic and Administrative Sciences, 35(4), 235-250. https://doi.org/10.1108/JEAS-08-2018-0092

[13] McAllister, J. T., Lennertz, L., & Atencio Mojica, Z. (2022). Mapping a discipline: a guide to using VOSviewer for bibliometric and visual analysis. Science & Technology Libraries, 41(3), 319-348. https://doi.org/10.1080/0194262X.2021.1991547

[14] Wong SL, Nyakuma BB, Wong KY, Lee CT, Lee TH, & Lee CH, (2020) Microplastics and Nanoplastics in the Global Food Web: A Bibliometric Analysis (2009–2019). Marine Pollution Bulletin, 158, 111432 https://doi.org/10.1016/j.marpolbul.2020.111432

[15] Ulker, N., & Bakioglu, A. (2019). An international research on the influence of accreditation on academic quality. Studies in Higher Education, 44(9), 1507-1518. https://doi.org/10.1080/03075079.2018.1445986

[16] Joyce, S. (2019). Strengthening skills: expert review of Australia's vocational education and training system. ISBN:978-1-925364-10-1

[17] Hasan, A., & Pardjono, P. (2019). The correlation of higher order thinking skills and work readiness of vocational high school students. Journal of Technology and Vocational Education, 25(1), 52-61. http://dx.doi.org/10.21831/jptk.v25i1.19118

[18] Martínez-Morales, I., & Marhuenda-Fluixá, F. (2020). Vocational education and training in Spain: steady improvement and increasing value. Journal of Vocational Education & Training, 72(2), 209-227. https://doi.org/10.1080/13636820.2020.1729840

[19] Misbah, Z., Gulikers, J., Dharma, S., & Mulder, M. (2020). Evaluating competency-based vocational education in Indonesia. Journal of Vocational Education & Training, 72(4), 488-515. https://doi.org/10.1080/13636820.2019.1635634

[20] Ali, M., Triyono, B., & Koehler, T. (2020, October). Evaluation of Indonesian technical and vocational education in addressing the gap in job skills required by industry. In 2020 Third international conference on vocational education and electrical engineering (ICVEE) (pp. 1-6). IEEE. https://doi.org/10.1109/ICVEE50212.2020.9243222

[21] Komalasari, K., Arafat, Y., & Mulyadi, M. (2020). Principal's management competencies in improving the quality of education. Journal of social work and Science Education, 1(2), 181-193. https://doi.org/10.52690/jswse.v1i2.47

[22] Mohammad Shafi, M., Neyestani, M.R., Jafari, SEM, & Taghvaei, V. (2021). The Quality Improvement Indicators of the Curriculum at the Technical and Vocational Higher Education. International Journal of Instruction, 14(1), 65-84.

[23] Djuhartono, T., Ariwibowo, P., & Alhamidi, L.A. (2021). Implementation of total quality management (TQM) on teaching factory (TEFA) vocational middle school in Bogor district. Tarbawi: Journal of Educational Management Science, 7(02), 269-282. https://doi.org/10.32678/tarbawi.v7i02.4847

[24] Widayati, A., MacCallum, J., & Woods-McConney, A. (2021). Teachers' perceptions of continuing professional development: a study of vocational high school teachers in Indonesia. Teacher Development, 25(5), 604-621. https://doi.org/10.1080/13664530.2021.1933159

[25] Indrawati, SM, & Kuncoro, A. (2021). Improving competitiveness through vocational and higher education: Indonesia's vision for human capital development in 2019–2024. Bulletin of Indonesian Economic Studies, 57(1), 29-59. https://doi.org/10.1080/00074918.2021.1909692

[26] Sudjimat, DA, Nyoto, A., & Romlie, M. (2021). Implementation of project-based learning model

and workforce character development for the 21st century in vocational high school. International Journal of Instruction, 14(1), 181-198.

[27] Maryanti, R., Hufad, A., Sunardi, S., & Nandiyanto, ABD (2021). Analysis of curriculum for science education for students with special needs in vocational high schools. Journal of Technical Education and Training, 13(3), 54-66.

[28] Kholifah, N., Sofyan, H., Pardjono, P., Sudira, P., & Nurtanto, M. (2021). Explicating the experience of beginner vocational teachers. TEM Journal, 10(2), 719.

[29] Nugroho, BS, Tannady, H., Fuadi, TM, Aina, M., & Anggreni, MA (2023). Role of Work Experience, Work Motivation and Educational Background on Teacher Performance at Vocational School. Journal of Education and Entrepreneurship, 11(2), 476-487. https://doi.org/10.47668/pkwu.v11i2.745

[30] Komalasari, K., Arafat, Y., & Mulyadi, M. (2020). Principal's management competencies in improving the quality of education. Journal of social work and Science Education, 1(2), 181-193. https://doi.org/10.52690/jswse.v1i2.47