



Skills-Based Curriculum is an Innovative Way to Respond to the Demands of Globalization

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Abstract: Skills-based Curriculum is an educational approach that focuses on developing students' practical abilities and soft skills, which are highly relevant in the era of globalization and the Industrial Revolution 4.0. By emphasizing applicative skills such as critical thinking, creativity, collaboration and communication, this Curriculum aims to prepare students for the challenges of the world of work and everyday life. This study aims to explore the benefits, challenges and strategic steps in implementing a skills-based curriculum. The study also highlights best practices at SMAN 10 Tasikmalaya that successfully integrate vocational programs in the skills-based Curriculum, such as cosmetology, automotive, and online business classes. This research uses a literacy study method that involves collecting, analyzing and synthesizing data from various sources, such as scientific journals, policy reports, books and related articles. Through this method, researchers were able to gain a deeper understanding of the theories, concepts and practices that have been applied in various educational contexts. The research also compared the implementation of skills-based Curricula in various schools, including SMAN 10 Tasikmalaya, to identify the supporting and inhibiting factors. The results show that although this Curriculum improves students' work readiness, challenges such as limited infrastructure, teacher readiness and evaluation systems still need to be overcome. Therefore, cooperation between the government, schools and industry is needed to ensure the successful implementation of the skills-based Curriculum.

Abstrak: Kurikulum berbasis keterampilan adalah pendekatan pendidikan yang berfokus pada pengembangan kemampuan praktis dan soft skills siswa, yang sangat relevan di era globalisasi dan revolusi industri 4.0. Dengan menekankan pada keterampilan aplikatif seperti berpikir kritis, kreativitas, kolaborasi, dan komunikasi, kurikulum ini bertujuan untuk mempersiapkan siswa menghadapi tantangan dunia kerja dan kehidupan sehari-hari. Penelitian ini bertujuan untuk menggali manfaat, tantangan, serta langkah strategis dalam implementasi kurikulum berbasis keterampilan. Kajian ini juga menyoroti praktik terbaik di SMAN 10 Tasikmalaya yang berhasil mengintegrasikan program vokasi dalam kurikulum berbasis keterampilan, seperti kelas tata rias, otomotif, dan bisnis online. Penelitian ini menggunakan metode studi literasi yang melibatkan pengumpulan, analisis, dan sintesis data dari berbagai sumber, seperti jurnal ilmiah, laporan kebijakan, buku, dan artikel terkait. Melalui metode ini, peneliti dapat memahami lebih dalam mengenai teori, konsep, dan praktik yang telah diterapkan di berbagai konteks pendidikan. Penelitian ini juga membandingkan implementasi kurikulum berbasis keterampilan di berbagai sekolah, termasuk SMAN 10 Tasikmalaya, untuk mengidentifikasi faktor pendukung dan penghambatnya. Hasil penelitian menunjukkan bahwa meskipun kurikulum ini meningkatkan kesiapan kerja siswa, tantangan seperti keterbatasan infrastruktur, kesiapan guru, dan sistem evaluasi masih perlu diatasi. Oleh karena itu, dibutuhkan kerjasama antara pemerintah, sekolah, dan dunia industri untuk memastikan keberhasilan implementasi kurikulum berbasis keterampilan.

A. Introduction

Education plays a crucial role in shaping competent individuals to face the challenges of globalization. In this modern era, the ability to coexist and adapt within society has become one of the primary needs, as emphasized by UNESCO through the pillar of education, "learning to live together." This pillar not only refers to the ability to live peacefully side by side but also demands the capacity of individuals to navigate the ever-evolving social, economic, and cultural dynamics (Priscilla & Yudhyarta, 2021).

However, existing studies often focus on academic achievement without adequately addressing the holistic development of individuals to meet 21st-century demands. This creates a significant gap in preparing students for real-world challenges. The Industrial Revolution 4.0, characterized by the acceleration of digital technological innovation, has created a demand for a workforce equipped with more complex 21st-century skills. Academic mastery alone is no longer sufficient; the modern workforce requires critical thinking, effective communication, collaboration, and creativity to address ever-changing challenges (Schwab, 2016).

This need for active, experiential, and collaborative learning aligns with the principles of constructivist theory, which suggests that learners construct knowledge through direct experience and social interaction (Mensah, 2015). In the context of education, this emphasizes the importance of methods such as project-based learning, group discussions, and contextual learning to foster critical skills that go beyond traditional academic content.

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The Industrial Revolution 4.0, characterized by the acceleration of digital technological innovation, has created a demand for a workforce equipped with more complex 21st-century skills. Academic mastery alone is no longer sufficient; the modern workforce requires critical thinking, effective communication, collaboration, and creativity to address ever-changing challenges (Schwab, 2016). While previous research has explored the theoretical importance of these skills, there remains a lack of empirical evidence on their practical integration into educational systems, particularly in developing countries like Indonesia (Hakim, 2023).

Despite global discussions on 21st-century skills, there is limited research focusing on the practical challenges and solutions for implementing a skills-based curriculum in Indonesia. Many studies have examined the general benefits of project-based learning and

collaborative methods. However, few have investigated the specific obstacles Indonesian educators face, such as teacher readiness, infrastructure disparities, and evaluation system inadequacies. This study aims to address these gaps by highlighting unique challenges in the Indonesian context, providing practical recommendations to overcome these barriers, and presenting successful examples, such as SMA Negeri 10 Tasikmalaya, to illustrate the potential of a skills-based curriculum. The originality of this study lies in its focus on the integration of the Pancasila Student Profile and the alignment of curriculum goals with workforce demands. By bridging the gap between theoretical frameworks and practical implementation, this research contributes to the growing body of literature on education reform in developing countries.

The significance of this research lies in its potential to influence educational policies and practices in Indonesia. A well-implemented skills-based curriculum can reduce unemployment, foster innovation, and create a generation of resilient individuals capable of adapting to globalization. Furthermore, by addressing specific challenges and proposing actionable solutions, this study provides a roadmap for educators, policymakers, and stakeholders to collaboratively improve the education system.

Education in Indonesia has not remained passive in responding to these changes. One tangible step is the development of a skills-based curriculum designed to equip students with competencies relevant to both the workforce and daily life (Juwita, 2020; Al-Tabany, 2017). This Curriculum emphasizes active, collaborative, and applicative learning. Methods such as project-based learning, group discussions, and contextual approaches are applied to develop students' soft skills, such as communication, time management, and decision-making abilities. These methods enable students to engage more deeply in the learning process, resulting not only in academic knowledge but also in practical skills that can be directly applied. A concrete example of implementation in Indonesia is the "Kurikulum Merdeka," which integrates the values of the Pancasila Student Profile. Through this Curriculum, students are encouraged to be creative, independent, and equipped with life skills relevant to contemporary demands (Kemendikbudristek, 2024; Gajjar, 2017; Goshu & Ridwan, 2024). This aligns with global best practices, where active learning strategies have proven effective in developing 21st-century competencies (Darling-Hammond et al., 2020; Hamalik, 2019).

However, the implementation of a skills-based curriculum in Indonesia faces several challenges that need immediate attention. One of the significant obstacles is teacher readiness to implement project-based learning methods, which often require different approaches compared to traditional teaching methods (Wusthoa & Fadilah, 2024). Teachers need intensive and continuous training to understand and effectively adopt these methods. Additionally, the gap in educational infrastructure is a significant issue, especially in remote areas that lack adequate facilities to support skills-based learning. Furthermore, the evaluation system, which still tends to focus on students' cognitive aspects, needs to be adjusted to include the assessment of practical skills and soft skills. A holistic evaluation is essential to measure the success of skills-based curriculum implementation. Without

addressing these challenges, the potential of the Curriculum to transform education will remain underutilized.

Despite facing many challenges, the immense potential of the skills-based Curriculum remains a significant attraction in educational reform. This Curriculum offers a relevant approach to preparing students for the dynamic modern workforce (Jaya et al., 2023). One example of successful implementation can be seen at SMA Negeri 10 Tasikmalaya, which has developed a double-track curriculum. Through this Curriculum, students receive not only academic education but also vocational skills such as sewing, automotive, online business, culinary arts, and cosmetology. This approach provides students with practical skills that can be directly applied after graduating. Moreover, collaboration with various parties, including industries and the government, ensures that this program remains relevant and has a tangible impact on reducing unemployment (Kemendikbudristek, 2024).

From a broader perspective, the development of a skills-based curriculum is expected to address the challenges of globalization and improve the quality of education in Indonesia (Sumantri, 2019). Key elements such as teacher training, provision of infrastructure, and collaboration with the industrial sector are crucial to the successful implementation of this Curriculum. Equally important is the involvement of the community to ensure the sustainability of this program. The government, schools, and communities must synergize to create an educational ecosystem that supports 21st-century skills.

By focusing on the development of practical skills, the skills-based Curriculum also contributes to the character development of students. The Pancasila Student Profile, for instance, highlights the importance of independence, cooperation, and creativity in the educational process. Programs such as the Strengthening Pancasila Student Profile Project (P5) serve as concrete examples of how this approach is strategically implemented in learning. Overall, the skills-based Curriculum offers a relevant approach to addressing the gap between workforce needs and educational outcomes. With clear implementation strategies, adequate training, and cross-sector support, this approach has the potential to create an education system that is more adaptive, inclusive, and sustainable. This study aims to further examine the implementation of the skills-based Curriculum in Indonesia, including examples of best practices adopted by several schools, and provide recommendations for future improvements.

B. Method

This study employs a literature review method to systematically explore and analyze information from various sources related to the implementation of a skills-based curriculum. The primary objective is to gain an in-depth understanding of the concepts, challenges, and benefits associated with applying a skills-based curriculum in the context of education in Indonesia. According to Sugiyono (2017) that a literature review involves systematically examining existing literature to describe phenomena and comprehend the development of theories relevant to the topic under investigation.

In this research, the literature review establishes a robust theoretical foundation on skills-based curricula, focusing on 21st-century skills such as critical thinking, creativity, communication, and collaboration (Darling-Hammond et al., 2020). This study also incorporates a case study of SMAN 10 Tasikmalaya to illustrate the practical application of a skills-based curriculum. The case study highlights best practices, including the integration of vocational programs such as automotive, sewing, and online business into the school curriculum.

The sources for this research include books, academic journals, research reports, and educational policy documents that provide insights into the successes and challenges of implementing a skills-based curriculum. Data obtained from the literature review are analyzed to formulate strategic recommendations for the development and broader implementation of skills-based curricula in other educational institutions (Creswell, 2014).

A flowchart is presented below to provide a clear visual representation of the research process. This flowchart illustrates the sequential steps undertaken in the study, starting from identifying the research problem to formulating strategic recommendations for the implementation of skills-based curricula. The horizontal layout ensures efficient use of space and enhances readability.

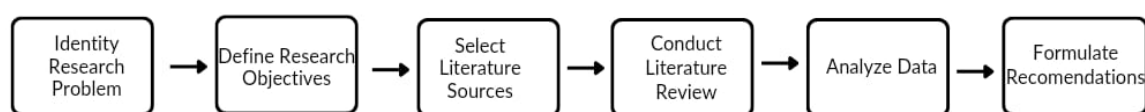


Figure 1. Flowchart Method Research

C. Result and Discussion

Data Analysis

Data Analysis was conducted systematically with a simplified approach. The author's Systematic Literature Review (SLR) was carried out by collecting various references from previous research. The literature search used keywords such as 'skills-based curriculum', '21st-century competencies', 'vocational education', 'project-based learning', and 'challenges in curriculum implementation'. Afterwards, the articles were filtered, and the researcher matched the topics with the issues to be used as reading material and references in this journal review. This Systematic Literature Review (SLR) method also provides conclusions regarding the number of research compilations used as references for the focus of this study.

Critical Appraisal

The implementation of a competency-based curriculum requires more than just curriculum changes; there is a need for infrastructure transformation, professional training for teachers, and appropriate assessment systems. In this regard, the Merdeka curriculum in Indonesia offers a relevant solution, but consistent and coordinated implementation is

necessary to address the existing barriers. The discussion of each article can be seen in Table 1. Literature Review Results. The following are eight collections of references used as literature to focus on the material in this article:

Table 1. Data Analysis Matrix in Literature Review Articles

No	Author, Title, Journal, Book	Methods	Results
1	Hosnan, M. (2014). <i>Pendekatan Saintifik dan Kontekstual dalam Pembelajaran Abad 21</i> . Ghalia Indonesia: Surabaya	Experimental Study	This matrix can illustrate the relationship between the implementation of a skills-based curriculum and the improvement of students' practical skills, with variables such as type of training, location (urban vs rural), and competency assessment results.
2	Yahya, I. H. M., & Mahande, I. R. D. (2023). <i>Belajar dan Pembelajaran Kejuruan</i> . Bandung: Indonesia Emas Group.	Experimental Study	This matrix can assess how effective constructivist theory is in influencing students' learning outcomes in skills-based curricula, considering factors such as duration of training and types of skills taught.
3	Hastuti, K. P., Aristin, N. F., & Fani, A. I. M. (2022). Improvement of six competency skills through the development of the flipped-case project in the era of education 4.0. <i>Education Quarterly Reviews</i> , 5(4). https://doi.org/10.31014/aior.1993.05.04.579	Experimental Study	This matrix can be used to measure the relationship between the integration of 21st-century skills in the Curriculum and the success rate of students in securing jobs after graduation.
4	Susanti, M., Rahmadona, T., & Fitria, Y. (2023). Studi Literatur: Perbedaan Penilaian Kurikulum 2013 dengan Kurikulum Merdeka. <i>Jurnal Basicedu</i> , 7(1), 339-350. https://doi.org/10.31004/basicedu.v7i1.4444	Experimental Study	This matrix can correlate the implementation of the Merdeka Curriculum with improvements in students' technical and non-technical skills, noting the differences between schools with better access to resources and those without.
5	Zubaidah, S. (2016). Keterampilan abad ke-21: Keterampilan yang diajarkan melalui pembelajaran. In <i>Seminar Nasional Pendidikan</i> , 2(2), 1-17.	Experimental Study	This matrix could include variables such as the number of teacher training facilities and school infrastructure, as well as their impact on the effectiveness of the skills-based curriculum implementation.
6	Zubaidah, S. (2016). Keterampilan abad ke-21: Keterampilan yang diajarkan melalui pembelajaran. In <i>Seminar Nasional Pendidikan</i> , 2(2), 1-17.	Experimental Study	This matrix can illustrate the relationship between the type of skills-based learning and students' motivation levels and their career achievements after graduation.

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|---|--|---|
| 7 | Sumantri, B. A. (2019). Pengembangan Kurikulum di Indonesia Menghadapi Tuntutan Kompetensi Abad 21. <i>At-Ta'lim: Media Informasi Pendidikan Islam</i> , 18(1), 27-50. http://dx.doi.org/10.29300/attalim.v18i1.1614 | Experiment al Study
This matrix can analyze the relationship between the type of skills taught and the success rate of students in securing employment after completing the program. |
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The matrix provides a clear overview of how the skills-based Curriculum draws from various educational theories and practices and how its implementation can lead to positive student outcomes. It also highlights the challenges and best practices for effective implementation. However, challenges arise when assessing both technical and soft skills, as traditional academic evaluations may not fully capture students' competencies. Literature review findings support the relevance of such a curriculum, which strengthens both cognitive and non-cognitive skills, enhancing students' adaptability in the global labour market.

Discussion

The increasing importance of preparing the younger generation with a broad set of competencies, not just academic knowledge, has led to a growing shift in Indonesia's education system towards implementing a skill-based curriculum. This approach is becoming more significant as Indonesia recognizes the urgent need to equip its youth with practical skills that are highly relevant to the ever-evolving demands of the job market. The traditional academic-centric Curriculum has often been criticized for not sufficiently preparing students for the challenges of the professional world (Jaya et al., 2023). Therefore, shifting toward a curriculum that focuses on developing technical, practical, and soft skills is seen as an essential step in bridging the gap between education and the real-world workforce needs. A skill-based curriculum emphasizes experiential learning, where students actively engage in acquiring knowledge through practical application, problem-solving, and real-world tasks that they are likely to encounter in their future careers.

The concept of a skill-based curriculum in Indonesia is designed to be more than just theoretical learning. Instead, it aims to foster a dynamic learning environment where students are encouraged to be more hands-on in acquiring both vocational skills and academic knowledge. This approach includes methods such as project-based learning, contextual learning, and other student-centred teaching strategies that help students build a well-rounded skill set. By incorporating these strategies, students gain a deeper understanding of how academic concepts can be applied in real-world scenarios. The success of a skill-based curriculum is not only dependent on the Curriculum itself but also on the readiness of educators to adopt and implement these innovative teaching methods.

Teacher readiness is crucial in ensuring the successful implementation of a skill-based curriculum. Educators need to be well-prepared to deliver the Curriculum effectively, using appropriate pedagogical approaches that align with the principles of competency-

based learning (Rwigema & Andala, 2022). This is where continuous professional development comes into play. Teachers must receive regular training in modern pedagogical techniques, especially those that emphasize student-centred learning. The ability to guide students through project-based learning and provide meaningful, hands-on experiences is essential for developing practical skills. Furthermore, teachers should also be proficient in assessing students' competencies through methods that go beyond traditional exams. Instead of solely relying on written tests, educators should incorporate practical evaluations, portfolios, and performance-based assessments to gauge students' progress in acquiring specific skills.

One of the cornerstones of a skill-based curriculum is its focus on competency-based learning. This theory stresses the importance of measuring specific competencies, which are often evaluated through more practical methods rather than conventional exams (Winterton, 2017). Competency-based assessments allow students to demonstrate their abilities in a more applied setting, offering a clear picture of their technical, creative, and interpersonal skills. In the context of vocational education, such assessments are efficient in gauging whether students have mastered the relevant skills they need for their chosen careers. Skills such as problem-solving, teamwork, and critical thinking are vital for success in the modern workplace, and these competencies are often best assessed through practical tasks and real-world challenges.

In Indonesia, several schools have already begun to implement this skill-based Curriculum successfully. One exemplary case is SMA Negeri 10 Tasikmalaya, which has adopted a double-track curriculum model. This model provides students with the opportunity to choose between an academic track and a vocational track, allowing them to tailor their education based on their interests and future career goals. This dual pathway system ensures that students can pursue higher education or directly enter the workforce with a set of practical, job-ready skills. The vocational programs offered at SMA Negeri 10 Tasikmalaya include various fields such as automotive repair, sewing, online business, food processing, and beauty services. Each of these programs equips students with both the academic knowledge and practical expertise needed to succeed in their respective industries.

The vocational programs at SMA Negeri 10 Tasikmalaya not only provide students with academic knowledge but also immerse them in hands-on training that is directly applicable to the workforce. For example, students pursuing automotive repair skills receive real-world experience working with industry-standard equipment, allowing them to refine their technical expertise. Similarly, those involved in food processing or beauty services receive training that prepares them for immediate entry into the workforce. This integration of vocational education with academic learning creates a more balanced educational experience that helps students transition smoothly into their chosen career paths. It also ensures that they acquire a diverse skill set that can be applied to a variety of professional environments.

Moreover, SMA Negeri 10 Tasikmalaya's success in implementing a skill-based curriculum is further supported by strong partnerships with various stakeholders, including the industrial sector and the government. One key example of such collaboration is the partnership with PT. Theodore Pan Garmino is a company in the garment industry. This partnership provides students with valuable internship opportunities and even direct job placements upon graduation. By working closely with industry partners, the school ensures that its vocational programs remain relevant to the needs of the job market. These collaborations bridge the gap between education and industry, ensuring that students graduate with skills that are directly applicable to their chosen fields. This approach also helps students gain practical experience while still in school, enhancing their employability and giving them a competitive edge in the job market (Kaye, 2012).

The integration of vocational programs into the broader educational Curriculum at SMA Negeri 10 Tasikmalaya offers an essential model for other schools in Indonesia to follow. The double-track system allows students to specialize in areas that align with their passions and career aspirations while also equipping them with academic knowledge that can be further developed in higher education. Furthermore, the close partnership with industry stakeholders ensures that the vocational programs offered remain up-to-date with current market demands (Kaye, 2012). This combination of academic and vocational learning prepares students not only for higher education but also for immediate entry into the workforce. As a result, SMA Negeri 10 Tasikmalaya is effectively preparing students for the challenges of the modern workforce, where both technical expertise and soft skills are highly valued.

The success of SMA Negeri 10 Tasikmalaya is a testament to the potential of skill-based curricula to revolutionize the education system in Indonesia. The school's approach offers a comprehensive and balanced learning experience that integrates academic knowledge with practical, career-oriented skills. By focusing on student-centred, competency-based learning, the school provides students with the tools they need to succeed in both higher education and the job market. Partnerships with industry stakeholders, such as PT. Theodore Pan Garmino further enhances the relevance of the Curriculum, ensuring that students graduate with the practical skills necessary for employment. As more schools in Indonesia adopt similar approaches, the potential for skill-based curricula to transform the nation's education system becomes increasingly apparent.

The application of a skill-based curriculum in Indonesia, particularly in schools like SMA Negeri 10 Tasikmalaya, demonstrates how an education system can be better aligned with the needs of the job market. By combining vocational training with academic education, the country's youth are better prepared to enter the workforce with the skills and knowledge required to thrive. The collaboration between schools, industry partners, and the government is crucial in ensuring the success of such programs, as it ensures that the skills taught are relevant and that students have access to real-world opportunities upon graduation. This model of education is a promising step toward equipping Indonesian students with the skills they need to succeed in a rapidly changing global economy.

D. Conclusion

The implementation of a skills-based curriculum in Indonesia is becoming increasingly important in facing the challenges of the evolving job market. This curriculum emphasizes the development of practical skills relevant to industry needs while enhancing students' ability to navigate the dynamics of everyday life. One significant effort in realizing a skills-based curriculum is the introduction of the Merdeka Curriculum by the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek, 2024). This Curriculum provides students with the opportunity to develop 21st-century skills, such as critical thinking, creativity, and collaboration, which are essential in the workforce.

However, challenges remain in the implementation of a skills-based curriculum. Limited educational facilities, teachers' readiness to adapt to new teaching methods, and the need for more relevant assessment systems are some of the obstacles that need to be addressed.

A successful example of implementation can be seen at SMA Negeri 10 Tasikmalaya, which developed a vocational program based on skills. The school adopted a double-track curriculum, combining academic and vocational tracks to provide a more relevant educational experience in line with the needs of the job market. This vocational program includes training in fields such as automotive, online business, food processing, and beauty services and allows students to obtain industry-recognized skills certifications.

By involving the business world and various related parties, such as the government and the community, SMA Negeri 10 Tasikmalaya successfully provides more applicable education, ensuring that students are not only equipped with academic knowledge but also prepared for the workforce with the practical skills required. This vocational program demonstrates how a skills-based curriculum can better prepare students to face future challenges.

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