

Navigating the Trajectory of Vocational Education in Indonesia: Histories, Opportunities and Challenge.

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1. Introduction

Historical and conceptual misconceptions have adversely impacted the progression of vocational education in Indonesia. The utilization of historical perspectives aids in identifying opportunities and challenges, as emphasized by Scott (1974), while conceptual frameworks guide innovation and development were posited (Forster et al. 2017). Noteworthy issues have been considered to be elevated, such as; unemployment rates among vocational school graduates, inconsistent policies, insufficient teacher competencies, and the existing of inadequate support have been critically scrutinized (Suharno, 2018). Industries employing the graduates of vocational education demand not only academic competencies but also practical workplace skills (Russell, 2018). This study presents a comprehensive inquiry into the fluctuations experienced by vocational education in Indonesia. A critical investigation is imperative to empower policymakers and implementers with insights that can drive a steadfast commitment to innovate and advance this form of education, which demands substantial expertise (Watson, 1954). Vocational education, with its emphasis on skill mastery, has been identified by Malley and Keating (2000) which is directly correlated with heightened industrial growth in a country.

According to Wardiman (1998), the establishment of more vocational schools in regions contributes to the enhanced welfare of local communities. The concept of investing increased attention in the improvement of vocational education is underscored, and stakeholders must comprehend the nature of this education. The lack of a unified understanding among stakeholders in Indonesia, coupled with organizational structure gaps, theory-dominated learning, and ineffective planning, hinders its successful implementation. While vocational higher education plays a significant role, its contribution remains limited, with a curriculum structured primarily for academic purposes. Academic success for students, as emphasized by Moira Cachia, Lynam, and Stock (2018), necessitates not only pointing out of theoretical values but also the processing, reasoning, and skill development.

Government and higher education entities have not adequately guided the public regarding vocational opportunities, resulting in the perception of vocational education as a secondary choice. Therefore, this could be challenges emanate from stakeholders'

misunderstanding of the concept, history, and development of vocational education. This study aims to address questions concerning the government's utilization of historical records for vocational education alignment with existing opportunities and challenges of vocational education in Indonesia. The contribution of this study might lie in offering critical insights and proposing corrections for Indonesian stakeholders involved in vocational education development, specifically in policymaking and refining learning content to better alignment with industrial requirements. Additionally, this study highlights the need for a comprehensive regulation regarding to the role of industry in vocational education enhancement. Recognizing education as a marketable service, marketing efforts become crucial for student recruitment, requiring an understanding of students' attitudes and fostering positive perceptions of vocational education.

2. Literature review

The evolution and Perception of Vocational Education based on a Comprehensive Survey, historical roots play an important role in shaping an organization's vision (Abdullah & Surjomihardjo, 1985; Frederick & Soeroto, 1984), and this principle, it also applies to the establishment of education. It also emerged in responding to industry demand for skilled labor (Finlay et al., 1999). In the relation with the main objective, aim is to strengthen a country's economic growth by increasing labor independence (Finlay et al., 1999), and vocational training also aims to prepare participants for the world of work. The conceptualization could be aligned with a preparatory education (Suharno, 2018).

In the Indonesian context, the historical basis of vocational training is considered to be in meeting the labor demands of the Dutch heritage industry (DTVE, 1976). Linguistically speaking, the term "Vokasi" is derived from "Berufung", which means occupation, emphasizing its professional meaning. The English equivalent "Vocational" has the same root meaning as the verb "Juru" and emphasizes the role of education in developing professionals skilled in specific tasks (Djohar, 2007).

Conceptually, vocational education, is also known as vocational education and training (VET) or technical and vocational education, that includes a variety of courses and skills aimed at preparing students for employment (Ireland, 2008). Clarke and Winch (2007) characterize it as an objective of individuals' preparation for professional life, with an emphasis on practical and technical aspects. Furthermore, Byram and Wenrich (1956) argue that from a school perspective, vocational training provides

effective work skills. The relationship between a country's level of vocational education and economic growth is clear (Finlay et al., 1999). Countries with higher levels of vocational education tend to have more experience to achieve a better economic growth. As a result, countries are investing significant effort in developing robust vocational training systems. However, overcoming deep-rooted public perceptions remains a challenge, as vocational training is often considered a second-class option (Kurniawan, 2016).

The Indonesian Ministry of National Education briefly defines vocational education as formal education implemented at the secondary level through technical schools, it is so-called “sekolah menengah kejuruan” (SMKs) and offering various professional programs such as mechanical engineering, automotive engineering, electrical engineering, etc. (Ministry of National Education, 2003). This form of training also significantly applies to higher education institutions such as vocational schools and diploma courses. Additionally, this model shows the relationship between educational level and employment and highlights the difference between vocational schools and vocational training (Ministry of National Education and Culture, 2016).

To understand the complexity and dynamics of perceptions of vocational education requires examining the image of the institution, branding, quality of teaching, financial support, location, support facilities, academic and administrative issues, admission requirements, and the nature of university life. In this case, some factors such as quality (Quality of college Life, QCL) should be considered (Ivy, 2001., Russell, 2005., Jager & du Plooy, 2006., Yu & Lee, 2008., Pillay, 2010). However, this study only sheds light on historical background, challenges, and opportunities of the vocational education in the context of Indonesia.

3. Research questions

The primary objective of this study is a preliminary analysis to navigating the implementation of vocational education development in Indonesia context. Therefore, this study aims particularly observed histories, challenges and opportunities of the vocational education development in Indonesia context. Therefore, this study concerns with certain research questions as follows;

1. What are the historical records of vocational education development in Indonesia?
2. What are the opportunities of implementing vocational education in Indonesia?
3. What are the challenges found in the application of vocational education in Indonesia?

4. Method

This study utilized a qualitative approach by employing scoping research. The analysis is conducted by synthesizing several existing literatures as a secondary data which are obtained from big data bases (e.g., Google scholar, Science Hub, Scopus), other documents, and websites which are relevant to the topic in both of conceptual and practical of vocational education frameworks. The option of employing this particular method is to clearly outline the scope of the research, specifying what are included and excluded and setting boundaries to define the limits of the study and considering factor of short-time of preliminary analysis.

5. Findings

(1) The historical records of vocational education in Indonesia

The historical trajectory of vocational education in Indonesia reflects the complex interplay of favorable and difficult circumstances that emerged during the pre-independence period, especially the introduction of the Ethics Policy in 1901 (Kurniawan, 2016). Under Dutch colonial rule, vocational education was primarily implemented to meet the needs of the colonial government, with less emphasis on educating local communities (Scott, 1974). Nevertheless, certain specialized schools with roots in religion and the struggle for independence were established, and their student numbers have steadily increased since the Ethic-Political era.

This study considers the delicate historical situation and shows that vocational training was not completely ignored during the Dutch colonial period. In-depth interviews with high school principals highlight the Dutch government's recognition of the importance of life skills through vocational education, albeit driven by subjective European interests. Due to the lack of qualified engineers, vocational schools were established in Java, and in 1919, the Institute of Technology Bandung (ITB) was established. During the Japanese colonial period, vocational schools were classified into girls' schools, technical schools, and agricultural schools. Changes occurred, and eventually the name of vocational training was changed to Intermediate Technical School (STM), a name it retained until 1998. Japanese influence rendered the established system in the Netherlands obsolete, forced education in Japanese, and led to a period of collapse in which specialized and technical terms were replaced with Japanese equivalents, causing widespread confusion.

After independence of Indonesia, vocational education went through two distinct phases, namely, the reform period (1945-1998) and the post-reform period (1998-present). During the reform era, the government prioritized both primary and general education, and resource constraints limited the expansion of vocational education. The ratio of higher education to vocational education remains skewed at 70%: 30%. However, since the reform era, the government has recognized the importance of vocational education, shifted its focus, and adjusted the ratio of high school (SMA) to vocational school (SMK) to 30%, 4,444 students:70%. The Long-Term National Educational Development Strategic Plan describes changes in the target ratio of high schools to vocational schools, reflecting a strategic shift towards an emphasis on vocational education. By 2015, vocational training programs had become an important pillar of national development, leading to the establishment of new schools. This trend continued in 2018, with the ratios approaching parity. However, this progress also comes with challenges.

Despite the emerging of positive trends, the rapid establishment of new school units is outpacing the availability of infrastructure, qualified teachers, and industry support. As in developing countries, there remains a general perception that vocational training is so-called a second-class option of schooling. The increasing number of graduates has led to a decline in the quality of vocational education in Indonesia, as theoretical knowledge does not meet the needs of the workforce. In contrast, other countries have successfully implemented vocational training despite facing labor shortages (Reys-Nickel & Lasonen, 2018). This comprehensive analysis addresses historical complexities and current challenges and reveals the complex journey of vocational education in Indonesia.

(2) The Opportunities of vocational education in Indonesia

This study provides convincing evidence for the practicality of Finley's theory in the Indonesian context. The results show that there is a positive relationship between cities with a higher proportion of professional students compared to high school students and cities with more economic development and higher regional gross domestic product. Contrary to initial skepticism, the government's policy of changing the ratio of secondary schools to vocational schools from 70% to schools 30% to 30% to schools 70% in the 2008/2009 academic year is supported by research evidence. and shows rationality. About 72% of teachers said they were optimistic about Indonesia's ability to improve the quality of vocational education. The results of a survey of Indonesian high school students are noteworthy, showing that 83% of vocational

students choose this path with the intention of pursuing a career after graduation. In contrast, 64% of middle school students choose their high school primarily because of the influence of their classmates.

Additionally, only 27% of high school graduates pursue higher education, and the majority enter the job market without acquiring specific skills. This provides empirical support for the government's rationale for reversing the ratio of secondary schools to vocational schools. According to his 2018 data from the Directorate General of Vocational Education, the ratio of secondary schools to vocational schools is 49%: 51%, highlighting opportunities for further development of vocational education in Indonesia. The inducing effects of this system are reflected in the competition between local governments and private companies to establish vocational schools, and society's interest is increasing. This increased interest can be attributed to the idea that vocational schools produce skilled workers and contribute significantly to reducing unemployment. According to data from the General Directorate of Vocational Training.

In 2016, 85% of vocational school graduates found employment within an average of three months after graduation, highlighting the important role of vocational training in improving the economic well-being of society. In response to these positive trends, the President issued his Directive No. 9 of 2016 on the revitalization of vocational schools. This policy combines the efforts of his four ministries to support the regeneration process. As a result, vocational schools began to actively seek to improve their performance, and the government introduced regulations that benefited vocational school graduates. Upon completion of their education, these graduates have the opportunity to work, pursue higher education, or start their own businesses, giving them a distinct advantage over high school students who do not have similar opportunities. According to his 2018 data from the Directorate General of Vocational Education, the ratio of secondary schools to vocational schools is 49%: 51%, highlighting opportunities for further development of vocational education in Indonesia. The inducing effects of this system are reflected in the competition between local governments and private companies to establish vocational schools, and society's interest is increasing. This increased interest can be attributed to the idea that vocational schools produce skilled workers and contribute significantly to reducing unemployment.

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(3) The Challenges of vocational education in Indonesia

The central concern revolves around the efficacy of the government's oversight of vocational schools and its commitment to addressing the challenges faced by graduates, presenting a critical and formidable inquiry. The current state of affairs sees the government grappling with impediments that range from the inadequate quality and practical relevance of graduates to a shortage of highly skilled teachers within these educational institutions. Despite an impressive employment absorption rate of 85%, various industrial sectors voice discontent regarding the graduates' readiness for the professional realm. Insights from interviews with six distinct company managers underscore a prevailing issue: vocational graduates presently demonstrate skill levels below the desired standard, highlighting deficiencies in their skill sets. Although these graduates are sought after and embraced by industries, persistent complaints persist regarding their perceived lack of competence (Russell, 2018).

The World Economic Forum's 2016 report from Sweden emphasizes a significant unease about the global competitiveness of vocational graduates, with a concerning rating of 35% at the ASEAN level and a mere 10% at the global level (Schwab, 2016). Without collaborative efforts by the government, working in tandem with all stakeholders to address this critical matter, Indonesian vocational school graduates stand to lose a substantial 65% of employment opportunities in the ASEAN Economic Society Era. Consequently, despite the current growth and development of vocational education evoking a sense of pride, the enduring concerns over the consistently low quality and relevance of graduates persist as substantial issues that demand urgent attention and resolution.

6. Discussion

Historically rooted in the Dutch Colonial era, vocational education in Indonesia has undergone significant phases and challenges. Despite the Dutch objective to educate Indonesians about life skills through vocational schools, contemporary issues such as insufficient facilities, teacher competence, and industry involvement have hindered its progress. Critics have raised concerns about government policies, yet optimism persists among teachers and students, with 72% believing in the resurgence of vocational education. The Presidential Instruction No. 9 of 2016 on the Revitalization of Vocational High Schools presents an opportunity for improvement, outlining clear responsibilities for ministries, institutions, and governors. The government has successfully shifted public perception of vocational education, dispelling the notion that it is solely for the underprivileged. Vocational schools now produce outstanding graduates, attracting interest from junior high school graduates. However, challenges persist, requiring careful management and collaboration with industry leaders.

The advent of Industry 4.0 poses a real challenge, particularly in light of the significant number of unemployed individuals in Indonesia. The mismatch between the skills of vocational school graduates and industry demands, unnecessary social learning in the curriculum, contributes to high unemployment rates. The establishment of vocational schools must consider regional potentials to avoid overlapping skill competencies. Communication gaps between schools and industries hinder link-and-match programs, requiring intensive collaboration. The scarcity of productive teachers, attributed to budget limitations and a lack of study programs for specific competencies, necessitates creative solutions such as mentoring programs and university partnerships. Additionally, industries should be actively involved in vocational education development, mirroring practices in developed countries where strict sanctions encourage contributions to vocational schools. Considering both hard and soft skills, it is crucial to enhance the absorption of vocational school graduates in industries.

7. Recommendation

The study is recommending a compulsory need for informed policy and comprehensive reforms and conceptual framework to vocational education in Indonesia for deeper understanding in terms of implementation and outcome to achieve. Additionally, the persistent challenges, such as infrastructure limitations and a shortage of qualified teachers, emphasize the necessity for scaffolding educational reforms in

the future, it could be potentially including in the basis of improvements to infrastructure and teacher training programs.

Therefore, resource allocation within the education sector is crucial, indicating a potential need for increased investment to support vocational education development. The positive correlation between cities with more vocational students and economic development implies a strategic role for vocational education in broader economic growth. The study encourages policymakers and business leaders to consider vocational education as a vital component in regional development plans and targeted teacher training programs to enhance the overall quality of vocational education.

8. Implication

The study also obviously underscores the crucial dimension to enhancing the global competitiveness of vocational graduates, emphasizing curriculum development and alignment with industry needs. On the other hand, efforts to change public perceptions of vocational training as a secondary option require implementing a strategic awareness campaigns and advocacy initiatives. Continuous monitoring and evaluation of vocational education initiatives are advocated to track in terms of effectiveness policy shifts, evaluation of education quality, and measuring the capability of graduates in the workforce.

In summary, the study calls for a multifaceted and collaborative approach involving policy changes, resource allocation, public-private partnerships, and continual evaluation to enhance the overall landscape of vocational education in Indonesia. From the study, it can also imply that a new conceptual framework of vocational education in Indonesia has a mandatory homework for policy makers, practitioners, teacher education, scholars, and other stakeholders to design the more effective strategy to develop vocational education in terms of practical and out-put in Indonesia in particularly in the future and hopefully would be a model in the regional and international base.

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