



Vocational High School Prospective Graduates' Employability via Dual Vocational Certification (DVC)



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ABSTRACT

Objective - VHS are educational institutions aiming to prepare ready-to-employ graduates by prioritizing their skills and expertise according to their areas of expertise. This study attempts to reveal the newness strategy for intensifying Vocational High School prospective graduates' employability through Dual Vocational Competency, which covers areas of expertise and supplementary certification (DVC) such as Occupational Safety and Health (OSH) certification.

Methodology/Technique - A non-experimental quantitative research design was implemented in this study using ex post facto. The data collected in this study through Likert-scale questionnaires were competency certification, OSH certification, and prospective graduates' employability.

Findings - The findings showed that each variable denoted that all variables were in the adequate category. It denoted that competency and Occupational Safety and Health (OSH) certification correlated to the employability rate of Vocational High School prospective graduates.

Novelty - This article denotes the new strategy implemented called dual certification, which combines expertise and OSH certification. This certification model is held during the study period of the prospective graduates, and each variable denotes that all variables are in a good category.

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Keywords: Dual certification; vocational high school; employability

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1. Introduction

Indonesia is one of the very high population countries in the world, which means the availability of abundant human resources, but these human resources are not sufficient to be said to have good quality (Bawono, 2021; Saragih, Pradana, Azis, Driana, & Ramadhana, 2021).

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The data from the Directorate of Population and Civil Registration of the Ministry of Home Affairs shows that Indonesia's population was 272,23 million in June 2021. This number comprises 1.63 million Vocational High School (VHS) graduates in Indonesia in the 2020/2021 academic year. The details are 702,517 people from public schools and 929,755 from private schools. This number has continued to increase since the previous two academic years. In 2018/2019, VHS graduates reached 1.47 million people, 629,873 from state schools, and 842,130 from private schools. Then, this number rose to 1.58 million people in 2019/2020, consisting of 717,286 from public schools and 867,572 from private schools. VHS is an educational institution aiming to prepare ready-to-employ graduates by prioritizing their skills and expertise according to their areas of expertise. This means that VHS is expected to play an important role in holistic human development and community development in Indonesia and reduce the number of early school leavers (Diwangkoro & Soenarto, 2020; Farrugia & Martina, 2021). While the growth of employment in the industrial sector is growing slowly, the number of graduates of VHS is increasing. Still, the rate of joblessness among VHS graduates has become a critical issue in Indonesia. As a result, these VHS graduates are not accommodated in the industrial sector, becoming job seekers or open to unemployment (Azman, Ambiyar, Simatupang, Karudin, & Dakhi, 2020). The Central Statistics Agency (BPS) reported that in August 2021, the most unemployed people in Indonesia were dominated by 11.13% or 9.77 million graduates from VHS (BPS, 2021). Most VHS graduates intend to work immediately but are not employed in the industry or business sector. This is due to the increase of VHS graduates mismatched by job opportunities.

VHS is expected to produce graduates ready to work in their respective fields (Misbah, Gulikers, Dharma, & Mulder, 2020). However, graduating students by completing the subjects in schools contained in the nationally standardized curriculum is only sufficient with balancing it with the mastery of topics, skills, expertise competencies, internships as work experience, and professionalism. One of the methods to measure the indicators of whether VHS graduates have met the competency criteria in the business and industry sector is the competency test and certification (Rais, 2018; Wahyuni, 2021). One of the most critical aspects concerns certification for VHS graduates; currently, many job vacancies require a certificate. Unfortunately, less than half of the number of VHS in Indonesia implement certification. Certification as part of the revitalization of VHS is considered necessary as part of their graduates (Santosa & Muchlas, 2017) to compete in responding to the free market era in the Southeast Asian region. Meanwhile, the competency skills possessed by every VHS graduate must be proven professionally by having a professional certificate officially issued by either the National or the official International Professional Standards Agency. This professional certificate is officially obtained through a competency test held by a school certified by Professional Certification Institute and professional institutions outside the school.

The government has made various efforts to reduce the unemployment rate. The Ministry of Education and Culture 2021 has boosted the link and match program between VHS and the business and industrial sectors. This is intended so VHS graduates can be maximally employed in the business and industrial sectors. One of the efforts that have been made was competency certification which put its basis on competency observed to be successful in the labor market (Sobotka, 2016). This certification is carried out systematically and objectively with a competency test that refers to national, international, and other standards. Its purpose is to ensure that the workforce is guaranteed credibility in carrying out an activity that is their duty and responsibility. In Indonesia, the National Professional Certification Agency oversees the credibility of the Professional Certification Institute, which provides certificates for competency or profession. The certification is regulated by law so that the standardization of the workforce will be a benchmark for the needs of industries. The standard reference used by the government will be adjusted to the needs of the industry globally. However, this system was carried out outside the formal education system. Despite the previous studies related to competency certification for vocational education related to employability (Fletcher, Edward, Warren, & Hernández-Gantes, 2018; Venkatraman, Souza-Daw, & Kaspi, 2018; Maryanti, Rohana, & Kristiawan, 2020; Prikshat, Montague, Connell, & Burgess, 2020), there has not been found the competency certification carried out before the graduation of VHS students. This paper attempts to reveal the newness strategy for intensifying

VHS prospective graduates' employability through Dual Vocational Competency, which covers areas of expertise and additional certification (DVC) such as Occupational Safety and Health (OSH) certification. The future advantage of this study is expected to disclose how to escalate the employability rate of prospective graduates from VHS in Indonesia.

2. Literature Review

VHS is one of the implementations of vocational high school education in Indonesia, where students are directed to master certain areas of expertise which are the objectives of the vocational school itself, which is to prepare students to be ready to work. Students from VHS will always be in touch with Occupational Safety, and Health (OSH) issues both in workshops during practical learning and in the industrial world (Tureková, Hrmo, Marková, & Kordošová, 2021). Due to digitization, economic pressures, reforms in VHS, and a decline in the number of students in future age groups, VHS are currently dealing with significant problems. Among other difficulties, VHS, their staff, and students should receive assistance in managing OSH certification both proactively and reactively. OSH is historically established in VHS in Indonesia through initiatives with limited resources and expertise. It is mostly seen from the perspective of students during on-the-job learning (Şenkal, Kanık, Sezgin, & Şenkal, Occupational Health and Safety Education at Inclusive Vocational Schools in Turkey, 2021). However, the VHS must create OSH for both industry and students systematically.

For OSH operations to be improved in VHS, it is crucial to comprehend the organization's current safety culture (in this case, that of the VHS). When it comes to operations, safety culture has been defined as a combination of frequently unconscious thought patterns, fundamental presumptions, attitudes, and values that ultimately decide how employees behave at work and whether their work practices promote or jeopardize safety (Andersson, Gunnarsson, & Rosèn, 2015). According to most definitions, OSH certification as part of safety culture is the aspect of corporate culture that places a premium on safety (Yilmaz, 2022).

To support the achievement of Indonesia's Grand Master Development Plan, academic education programs, vocational education programs, professional education programs, VHS development, job training, and professional certification institutions are needed. For efficiency, these programs can be integrated, and existing resources can be used jointly between these programs (resource sharing). This can be carried out through the development of VHS, namely VHS that are developed from a single function (preparing students to enter employment in specific fields) into VHS that organizes multifunctional (multiple positions) on the basis of the principles of expediency, integration, resource integration, resource sharing, and maximum utilization of information and communication technology (Sa-Nguanmanasak & Khampirat, 2019).

3. Research Methodology

This research population consisted of which consisted of 38 VHS in North Sumatera, which had the areas of expertise of Software Engineering (4 schools), Computer Network and Engineering (5 schools), Building Construction, Sanitation, and Maintenance (5 schools), Construction and Property Business (5 schools), Electrical Power Network Engineering (5 schools), Electrical Power Installation Engineering (5 schools), Aircraft Electricity (4 schools), and Mechatronics Engineering (5 schools). These schools were allowed to implement dual certification, i.e., competency certification based on areas of expertise, and the other one was Occupational Safety and Health (OSH) certification. The schools and companies involved in this study were 38 as the sample and the population was from March to August 2022.

A non-experimental quantitative research design was implemented in this study using ex post facto. The ex post facto is the method used in studies examining causal relationships which is not manipulated by the researcher (Edmonds & Kennedy, 2017; Cohen, Manion, & Morrison, 2018). A causal relationship is based on a theoretical study of specific variable results in certain variables. The data collected in this study through Likert-scale questionnaires were competency certification, Occupational Safety and Health (OSH) certification, and prospective graduates' employability. The measurement items as the indicators of

competency certification were student competency test results and student competency test products, while Occupational Safety and Health (OSH) certification was measured through some indicators such as accidents, cause of the accident, and losses due to accidents. The employability was measured via indicators such as link and match of prospective graduates' competency, partners in the business and industrial sector (prospective employers), and certificate of competence.

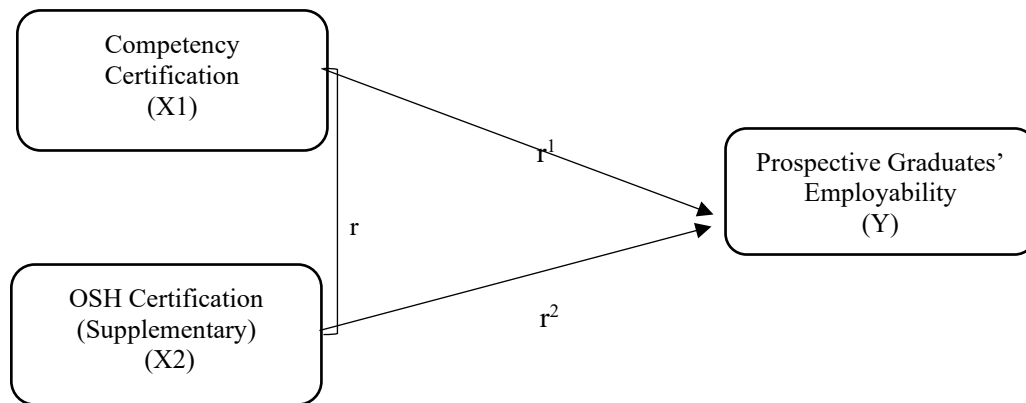


Figure 1. Research Model

The obtained data were then analyzed using tests that included descriptive statistical and inferential analysis. Residual normality tests SPSS, linearity tests, and multicollinearity tests were carried out after testing hypotheses. Karl Pearson's product-moment correlation analysis test was performed to test the first and second hypotheses, while the third one was tested using the multiple correlation analysis.

4. Results

Table 1 shows that the competency certification average is 115.2, categorized as good, while the standard of OSH certification is 119.45, which ranks very good. The average prospective graduates' employability is 85.82, which is categorized as good.

Table 1. Result of Descriptive Statistics

Statistics	Variables		
	Competency Certification	OSH Certification	Prospective Graduates' Employability
N	38	38	38
Max. Score	132	136	91.07
Min. Score	105	105	78.12
Mean	118.5	120.5	85.82
Variance	60.7	94.95	14.23
Deviation Standard	7.79	9.74	3.77

Table 2. Result of multicollinearity test

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Competency Certification	0.90	1.115
OSH Certification	0.90	1.115

Based on the results of the multicollinearity test, competency certification, and OSH certification, it was found that the VIF value was 1.115, which was less than 10, with a tolerance value of 0.90, which is more significant than 0.1. In short, multicollinearity is not found in these variables.

5. Discussion

The primary purpose of this research is to disclose how to increase the employability of the prospective graduates of VHS. The new strategy was implemented called dual certification, which combined certification in expertise and Occupational Safety and Health (OSH) certification. This certification model was held during the study period of the prospective graduates, and each variable denoted that all variables were in a good category. It interprets that dual certification consisting of competency and OSH certification has a nexus to the employability rate of VHS prospective graduates. The data analyzed empirically rebuilds the model of certification on employability rates meets the data.

On certification, the secondary school certificate accepted by the graduates does not guarantee work readiness (Aldinucci, Valiente, Hurrell, & Zancajo, 2021). Therefore, the VHS prospective graduates should be prepared with another certification. There are some advantages of competency certification for VHS Graduates, such as increasing credibility and confidence. In this case, those with competency certification will get a good perception from other employers, especially companies, which will increase their credibility and self-confidence. VHS graduates need increased credibility and confidence to develop better and always have a positive attitude (Graf, 2015; Imdorf, 2017). The second advantage is that competency certification can prove that government agencies have recognized the capabilities. This evidence has also been standardized according to industry needs so that it gains more trust from companies that will recruit. It is essential for VHS graduates to have clear evidence of their expertise and knowledge, which can be used as parameters of ability (Tigelaar & Sins, 2021).

The third advantage is enhancing added value in the recruitment process. This means that competency certification can increase prospective graduates' opportunity to accept a deal in participating in the workforce recruitment process. This competency certification is essential for VHS graduates to increase their competitiveness in getting jobs and have a competitive advantage over other candidates without a certificate (Persson & Hermelin, 2018; Hiim, 2020; Clarke, Westerhuis, & Winch, 2021). The last advantage is that competency certification can be helpful for better career opportunities. It is also essential for VHS graduates to have a promising career, such as accelerating their career path, getting a promotion in a company, or getting a more significant income.

The most formidable challenge in finding work is the limited number of available job opportunities compared to the number of job seekers, so there is a potential for VHS graduates to become unemployed due to very tight job search competition. The competency certification program for VHS students aims to increase the capacity and capability of human resources so that they have standardized knowledge and skills relevant to the learning process in VHS and the needs of the business and industry sectors. By having a competency certificate, it is expected that VHS graduates will have a greater chance of being accepted for work based on the consideration that they are skilled workers who are ready to work so that the employer company will also

benefit (Li & Pilz, 2021; Maurer, 2021). Job-seeking companies will consider accepting VHS graduates with competency certificates in areas of expertise as needed. Companies benefit by increasing efficiency and effectiveness in the selection process for new employees and reducing technical training to save the company's time and costs in recruiting new employees.

For companies the existence of competency certification will make it easier for companies to choose skilled workers to employ. The companies need to polish the employee with the prevailing corporate climate and culture; then, the individual is ready to contribute to the company (Köpsén, 2022; Maitra, Maitra, & Thakur, 2022). Competency certificates for VHS graduates do not guarantee being accepted for work in a company, but they can increase the opportunity to be considered during the employee selection process (Friedrich, 2021; Achatz, Jahn, & Schels, 2022). In addition, of course, it is a source of pride for Vocational High School graduates holding competency certificates because it is evidence that knowledge, skills, and attitudes have been ensured to meet competency standards by an independent third party.

OSH certification is one of the topics written in the curriculum of VHS in Indonesia. Nonetheless, this topic needs to be thoughtfully implemented into practice and only studied theoretically. Educational institutions such as VHS are the primary targets for the importance of knowledge and understanding of workplace safety. VHS students will always be in direct contact with work safety issues both in practical workshops and in the industry later so that in practical activities in workshops, students are accustomed to applying occupational health and safety guidelines (SivaRajaprasad & Chalapathi, 2015; Terwoert, KoenVerbist, & Heussen, 2016; Amponsah-Tawiah & Mensah, 2016). OSH must be considered by all people who work to prevent the risk of work accidents safely and productively, so it must be maintained so that work accidents do not occur by applying the correct OSH.

There are still many prospective workers who still need to become more familiar with the term and the function of the OSH Certificate itself. It is part of the OSH certificate and the conditions in which in the workplace, a person must use equipment that is safe and supports the work (Şen, et al., 2019; Ivaz, Stojadinović, Petrović, & Stojković, 2021). Every worker is obliged and has the right to safety and health guarantees (Felstead & Jewson, 2014; Johansson, 2020; Alla-Mensah & McGrath, 2021). The benefits of an OSH Certificate for workers are stated in law no. 1 of 1970 on occupational safety, law no. 23 of 1992 on health and law no. 13 of 2003 on employment and government regulations on occupational safety and health, which have been regulated in Indonesia. All these regulations are intended for all workers from the land, sea, and air sectors.

Every VHS must implement OSH as VHS learning is not only theory but also practical learning. When students practice, they are faced with equipment, materials, and work equipment that have potential hazards, so the implementation of OSH must be considered. The proportion of accidents begins with a lack of efficiency in OSH management, and when OSH regulations are ignored, the rate of accidents will increase (Acakpov & Dзамikumah, 2016). As an educational institution, the school, in this case, is the Vocational School, which is responsible for implementing OSH in the school environment by statutory orders. Therefore, it is necessary to prepare the world of education to implement OSH in the educational environment (Hanvold, et al., 2019). Various factors that cause work accidents pose a threat to every activity. Knowledge of OSH to prevent work accidents is very important for VHS graduates.

6. Conclusion

Dual vocational certifications, such as expertise certification and a second OSH certification, are desirable for future VHS graduates regarding job placement. As a result, graduates who subsequently hold a certificate will feel more confident because the government, other employers, or businesses have acknowledged their ability. In light of this, participation in labor recruiting has value-added points. If graduates are accepted successfully into the business world or industry, they can advance their careers and earn a higher income.

Even so, this research has some limitations, such as the locus of the study being only in one province in Indonesia. Therefore, the upcoming research should consider more locations throughout Indonesia by

participating in more VHS with more areas of expertise. In addition, another certification besides OSH can be explored. The consideration of costs related to certificates can be associated with the allocation of the School Operational Assistance budget to provide meaningful and appropriate certifications for prospective VHS graduates to reduce the unemployment rate of VHS graduates and increase the absorption of future VHS graduates into the business and industry sector.

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