

# Evaluation of the Center of Excellence Vocational High School Partnership Model in Increasing Resilience and Competitiveness

Faris Fanani\*, Rusdarti Rusdarti, Dwi Yuwono Puji Sugiharto, Arief Yulianto

Universitas Negeri Semarang, Indonesia

Corresponding Author: farisfanani@students.unnes.ac.id

**Abstract.** Education is experiencing very rapid and complex changes in science and technology as a result of the industrial era 4.0 and society 5.0 which requires life skills consisting of four types of skills. Center of Excellence Vocational School as a vocational education institution based on the independent learning program has an obligation to produce graduates who are resilient and competitive in the global era. The purpose of this research is to find out how the implementation of the partnership model used by Vocational High School centers of excellence can be evaluated to prepare graduates who are resilient and globally competitive. This study uses a qualitative descriptive method to collect information from primary sources, namely the management of the Center for Excellence Vocational High School in Semarang City, Central Java, Business and Industry Sector partners and other supporting sources in the form of documents. The results of this study indicate that the Center for Excellence Vocational High School conducts a partnership pattern with business and industry to improve the quality of graduates. tough and competitive. This research will benefit the Center of Excellence Vocational High Schools to carry out partnership innovations with Business and Industry Sector which have a positive impact on the quality of tough and competitive graduates, thereby affecting the level of absorption of graduates in the world of work in the era of society 5.0

**Keywords:** Partnership Model; Evaluation; Business and Industry Sector; Quality of Graduates; the Center of Excellence Vocational High School

## INTRODUCTION

Indonesia's demographic condition as a superior potential for resources is predicted to reach a climax in 2030–2040, with indicators of the productive age population at that time reaching 64% of the total population of Indonesia, which is projected to reach 297 million people, which is a demographic bonus for Indonesia. One way to fully explore this demographic bonus is to make it a potential advantage for improving the economy and people's welfare by improving the quality and competitiveness of human resources (HR) as an important and urgent matter in increasing development in Indonesia.

The Center of Excellence Vocational High School, as one of the secondary education levels that prepares industrial workers, must be the main focus of efforts to improve the quality of human resources at this time. Efforts to improve the quality of human resources through the Vocational High School Center of Excellence Program and the implementation of the Strengthening Character Education Program, as outlined in Presidential Regulation Number 87 of 2017, This character-strengthening education aims to strengthen the values of religious character, nationalism, independence, and good integrity in schools, families, and society. The

implementation of learning at the Center for Excellence Vocational High School is required to implement character values.

The Vocational High School revitalization program, which later developed into a vocational education revitalization, is intended to improve the quality of human resources that are prepared as a workforce so that they have productivity and innovation so as to encourage economic improvement and the nation's competitiveness. Increasing human resources is one of the priorities in making Indonesia 4.0. The Making Indonesia 4.0 agenda further emphasizes the need for quality human resources in line with the objectives of the vocational high school revitalization. Commitment and active participation from various stakeholders, including ministries and other government agencies, partnerships with the private sector and leading industry players, investors, educational institutions, and research institutions, so that Making Indonesia 4.0 can be implemented successfully (Siswantoyo et al., 2019).

The government's effort to improve the quality of human resources is to establish National Standards for Vocational High School Education through Minister of Education Regulation Number 34 of 2018 as a concrete and positive policy step in responding to future

challenges. Based on the National Education Standards for Vocational High School in 2018, the competency standards for Vocational High School graduates include nine competency areas, namely: faith and devotion, nationality and love for the motherland, personal and social character, physical and spiritual health, literacy, creativity, aesthetics, technical competence, and entrepreneurship. Vocational high school competency standards are a benchmark that states that students, after graduation, must have at least nine of these competencies.

In implementing character values, the learning process at the Center of Excellence Vocational High School in the future is expected to be able to: (1) improve digital skills, which include skills in using and working digital technology, skills in making digital products, and skills in doing business with technology; (2) Develop integrated learning based on STEM (science, technology, engineering, and mathematics); (3) Strengthen certified technical capabilities; (4) Instill strong character and industrial culture; (5) Develop foreign language skills to communicate and collaborate with global society; (6) Develop self-capacity to be able to quickly adapt through lifelong learning skills; (7) Developing high-level thinking skills to solve various life problems and produce innovations; (8) Develop business owner management skills (leadership, creativity, taking risks, creativity, innovation, self-development).

Statistically, the data shows that the total open unemployment rate for 2017–2019 interprets a negative view of the learning system in Vocational High School, the ability of Vocational High School graduates, Vocational High School management and development policies. This statistical information also indicates that the competitiveness and bargaining position of Vocational High School graduates in the job market have not met the target of fulfilling the quality of human resources in Making Indonesia 4.0. This indicates that the industrial world and the industrial world still has and chooses other alternatives as labor suppliers for the Vocational High School level, which can be obtained from higher levels (college) or equivalent levels (Senior High School) or below levels (Elementary/Junior High School). This was further strengthened by the issuance of Presidential Regulation No. 8 of 2012 concerning the Indonesian National Work Qualifications Framework, which leveled Vocational High Schools at Levels II and III.

Problems related to the quality and competitiveness of Vocational High Schools in absorbing Vocational High School workforce, one of which is caused by the spread of Vocational High Schools according to competency skills that are in accordance with the needs in industrial areas and the potential of an area, which also causes the industry to look for alternative workers from other levels and educational pathways. In addition to the disparity in the minimum wage between regions, it often causes Vocational High School graduates to choose alternative jobs that are considered lighter and have the same wage value, even though they are not in accordance with their competency skills. The second actual and factual problem includes the demands of the business world and industry for the quality of work competencies required for Vocational High School graduates, however, they still accept high school and junior high school graduates without the appropriate work competencies to be placed at the same position level as vocational graduates, such as level operators, after going through on-the-job training. This condition becomes paradoxical with the high rate of Vocational High School unemployment. However, in the world of business and industry, it is often difficult to find competent Vocational High School graduates, so they accept Senior High School, Junior High School, and Elementary School graduates to fill their workforce needs. This condition shows that the competitiveness and bargaining position of Vocational High School graduates in the industry can be equated or equated with the competencies of Senior High School, Junior High School, and Elementary School graduates with the provision of on-the-job training. This should be a challenge for Vocational High Schools to be able to produce graduates if they can be leaders from an equivalent level of education or below, have a higher level of income because of recognition of their competence, show more productive and innovative performance and attitudes, and if entrepreneurship is able to produce products and services that provide a financial advantage and their business grows and develops in a sustainable manner.

Pasternack et al. (2006) suggest that *"the major developments in education can be identified as expansion, differentiation, greater flexibility, quality orientation, standardization, employability, internalization, and lifelong learning"*. Education that is developing, especially vocational high school education, can

be seen and identified through school expansion, differentiation, flexibility in all aspects, prioritizing quality, quality standards, graduate employability, learning globally, being able to create lifelong learning, and having *bargaining power* for high quality in creating competitive quality of work for Vocational High School graduates. According to Pasternack in Siswantoyo (2019), that Vocational High School must provide an education system with *good school governance* that is able to create Vocational High School graduates with the work competencies expected by the business and industrial sectors. The trend in the labor market in the era of industry 4.0 and society 5.0 is the trend of freelancers, or gig workers, or the gig economy, including online freelancers as workers who are ready to work whenever needed, such as writers, online marketers, graphic designers, or order drivers. In 2019, the existence of online freelancers became common and changed the outlook of the labor market. The trend of the 4.0 job market, as stated by the Bankwest Curtin Economics Center (2018) in its findings, is as follows: freelance and contract workers, working from home, High Technology, Manufacturing Sector has decreased, reduced working hours, High Skills, and the emergence of new jobs. Meanwhile, the skills needed in this trend in 2020 are skills in complex problem solving, critical thinking, creativity, individual management, service, problem solving, emotional intelligence, and coordination (Rolan Beger 2015: 35). Improved public policies and institutional arrangements are needed to stimulate employment, facilitate structural change, increase labor productivity, eradicate labor market segmentation, and reduce unemployment.

The challenges for Vocational High Schools and industries related to the 4.0 labor market will be more complex. With the emergence of industry 4.0, especially Vocational High Schools, they are not only facing challenges in producing graduates who are able to compete, but also a number of emerging challenges and several other competitors, as follows: Up-skilling; re-skilling; continuous learning technology that will become obsolete at a faster rate; and changes in mindset (Rolan Beger, 2015: 35).

The Center of Excellence Vocational School Program is a Vocational High School development program with certain expertise competencies in quality and performance improvement, which are strengthened through partnerships and alignment with the business

world, the industrial world, and the world of work. It eventually becomes a reference Vocational High School that can function as a driving school and center for quality improvement and other Vocational High School performance. In addition, there is a mentoring program designed to assist the Center of Excellence Vocational School in achieving output. The mentoring is carried out by universities that have met the criteria. This is reinforced by the matching program. The Center of Excellence Vocational School Matching Support Scheme Program is a program that provides the widest possible support for The Center of Excellence Vocational School to realize independent learning through collaboration that is integrated internally and externally in a collaborative way in which all parties move together to align The Center of Excellence Vocational High School learning with industry. Vocational High Schools, Industry, Society, Related institutions, and the Government move together in a collaboration concept so as to realize Link & Match for Sustainability or Collaboration that is Link & Match and the program is sustainable.

Interpretation of the problem of the need for vocational high school graduates' workforce, labor trends, inequality in the use of vocational graduates and other graduates, as well as the actual and factual condition of competency equalization of vocational graduates and other graduates above, identifies the knowledge *gap* and the need for an evaluation model of the Center of Excellence Vocational High School Partnership to increase resilience and competitiveness and fulfill the needs and requirements for the quality of work competence of vocational high school graduates by the business and industrial sector in the era of industry 4.0 and society 5.0. This study aims to find out how the implementation of the partnership model used by the Center for Excellence Vocational High School can be evaluated to prepare graduates who are resilient and globally competitive in an evaluative way related to the national policy priority program from the ministry of education and culture, namely equal distribution of quality education services and having productivity and competitiveness with a high global competitiveness index consisting of four components, namely: 1) Human Resources (HR); 2) Markets; 3) Innovation; and 4) Environment (World Economic Forum, 2018).

## METHODS

This research is qualitative descriptive research. The research uses a qualitative descriptive method through the method of gathering information from primary sources, namely literature searches that have relevance as evidence. related, consisting of: empirical research (published articles, conference papers, books, research, and government reports and policies) and selected theoretical papers that corroborate evidence relevant to this research. The object of this research is the Center for Excellence Vocational High School in Semarang City, Central Java, which is the research population. The research sample is the population in the study and uses a sampling technique, namely *total sampling*.

The method of data collection was carried out with the following stages of activity: identification of related research literature, selection of literature that has a level of relevance and meets the main key research criteria, and then conducting an analysis of the literature review as the main material or primary research data source. The second primary data source in this study was a survey questionnaire on the implementation of the Center for Excellence Vocational High School Support Matching Program in Semarang City, Central Java (students, schools, and business and industrial sector partners).

Meanwhile, this study used an analysis technique of selected literature reviews and a survey questionnaire on the implementation of the matching program of the Center for Excellence Vocational High School with the business and industrial sectors, with the following stages: type and model of partnership between the Center for Excellence Vocational High School and business and industrial sectors; impact of the Center for Excellence Vocational High School Partnership with business and industrial sectors; challenges and support of the Center for Excellence Vocational High School Partnership Model with business and industrial sector; Continuity of the Center for Excellence Vocational High School Partnership model with business and industrial sector; as well as the Evaluation of the Center for Excellence Vocational High School Partnership Model with business and industrial sector.

## RESULTS AND DISCUSSION

The types and models of SMK partnerships

that are determined, developed, and implemented by the government through the Ministry of Education and Culture are the Centers of Excellence Vocational High School program and the program of matching relations with the business and industrial sectors. The Center of Excellence Vocational High School program focuses on developing Vocational High Schools with specific expertise and competencies in quality and performance improvement, which are strengthened through partnerships and alignment with the world of work and eventually become reference Vocational High Schools that have an inspiring spirit as well as centers for quality and performance improvement for other Vocational High Schools.

Its implementation is through cooperation and harmony with the world of work, as the implementation of Link & Match (8+i) is deep and comprehensive, namely the curriculum is compiled together; Real project-based learning from the world of work; the number and role of teachers/instructors from industry and experts from the world of work; field and industrial work practices; competency certification; technology updates and training for teachers/instructors; Applied research supports teaching factories, absorption commitment; and various possible collaborations with the world of work. And the most important thing is the collaboration and coordination between the central and regional governments, which are carried out intensively to create support for the implementation of a continuous Center of Excellence Vocational High School. The Center for Excellence Vocational High School program is focused on expertise that supports the industrial sector with a positive growth trend, so that it has high potential in the future according to the trend of the 4.0 labor market.

The second program is the Matching Support Scheme to increase tangible collaboration with the world of work in building very good-quality Vocational High School so that they become performance beacons and learning centers for other Vocational High School. The Matching Support Scheme is a Center of Excellence Vocational Development Program based on partnership and alignment with the world of work. The support expected from the World of Work is at least in the form of curriculum alignment interventions, World of Work practitioners, and infrastructure facilities whose matching process is carried out by the Ministry of Education and Culture. The

government in carrying out the ratio of support matching schemes adjusts the availability of the Ministry of Education and Culture's budget. In addition to matching the support of the Ministry of Education and Culture, it also provides basic assistance related to the development of the Center for Excellence Vocational High School. Minimum or mandatory interventions that must be carried out by the industry to ensure the achievement of the Key Performance Indicator

for the Center for Excellence Vocational High School Support Matching Program Scheme through: curriculum alignment, industry practitioners, and infrastructure.

The Center for Excellence Vocational High School and the development of a matching scheme for Vocational High School Support with the Business and Industrial Sectors have impacts and benefits, including:

**Table 1.** Impacts and Benefits of Vocational High School Matching Support with the Business and Industrial Sectors

Matching Support Scheme	Center of Excellence Vocational High School
Get talent	Accelerating the achievement of Pancasila student profiles and world-standard graduates
Efficiency of training costs for prospective employees	Improving the results of the quality of education and link & match with the world of work/business/industry
Support <i>supply chain</i>	Increasing the competence of school principals and teachers so they can lead changes in SMK
Strengthen the company's image	Get incentive assistance for the transformation of education units and the acceleration of digitalization
Get incentives <i>Tax Education</i>	Obtain support for student practice infrastructure in accordance with industry standards and the completeness of books for holistic competency learning; and
Part <i>Project Cost</i> are subsidized by the Government	Opportunity as a catalyst for change for other educational units.
Efficiency of training costs for prospective employees	-

The challenges for Vocational High School and industries related to the 4.0 labor market will be more complex. With the emergence of industry 4.0, especially Vocational High Schools, they are not only facing challenges in producing graduates who are able to compete, but also a number of emerging challenges and several other competitors, as follows: Up-skilling; re-skilling; continuous learning technology will become obsolete at a faster rate; and changes in mindset (Rolan Beger, 2015: 35). The trend of the labor market in the era of industry 4.0 and society 5.0 is the trend of freelancers, or gig workers, or the gig economy, including online freelancers as workers who are ready to work whenever needed, such as writers, online marketers, graphic designers, or order drivers (Rolan Beger 2015 : 35).

Aswandi (Khurniawan, 2019) says that the skills and competencies of vocational students at this time must focus on: *association skills*,

*questioning skills*, *observing skills*, *experiment skills*, and *networking skills*. Strengthening new competencies for vocational students needs to be adjusted to developments in technological changes and skills needed in each sector so as to increase the productivity of the national industry and be able to compete in the global job market.

One of the competencies of the Center for Excellence Vocational High School graduates that must be owned in facing the trend of Job Birs 4.0 is that Vocational High School graduates must have the potential and skills *to bargain*. For this reason, a strategy is needed to fulfill the competition *bargaining power* as required in the trend of the 4.0 job market, which includes: multi-tasking, strong work character, digital skills, foreign language skills, certificates of expertise, personal brand, 4C skills, productivity, and work resilience. This is in line with the support matching scheme program. Thus, it is hoped that every human resource (HR),

especially Vocational High School graduates, is expected to have high bargaining power so that they have high quality work competence and global competitiveness.

The problems and analysis of the problems above provide descriptive implementation of the Center of Excellence Vocational High School Program and the Matching Support Scheme of the Vocational High School Program in dealing with the problems as described above. For this reason, the results of the analysis are used as evaluation results related to the implementation of the Center of Excellence Vocational School Program and the Matching Support Scheme Vocational High School Program in improving the quality of global resilience and competitiveness with the Business and Industrial Sectors in an implementable manner. Evaluation of the Center of Excellence Vocational School Partnership Model and the Matching Support Scheme in dealing with future skills and job market trends 4.0 in accordance with the needs of the Business and Industrial sectors, including strategy evaluation: workers, Vocational High School students, Education and Training Providers, and Makers of Policy. Programmatically and systematically by taking into account the above strategy, the government as the policy maker related to this problem makes breakthroughs, including: Improving the quality of teaching and learning, needs to be aligned with the place where students will work (industry) and updating existing learning; Affirmation of access, by meeting the needs of school practice facilities and infrastructure; Improving the management and placement of educators and education staff, through revitalizing education personnel and institute, professional teacher education and improving the qualifications of educators, as well as supplying and distributing teaching staff based on needs; Assurance of education quality, by strengthening capacity and accelerating accreditation, expanding the culture of education quality; and Improving education governance, through strengthening the governance of minimum service standards of education fulfillment, strengthening financing strategies and effectiveness of the use of the education budget, increasing the synchronization of basic education data. In addition, strategies to increase the competitiveness of Vocational High School graduates need to be encouraged so that they are able to compete not only nationally but also globally.

## CONCLUSION

In increasing resilience and global competitiveness as an indicator of the quality of work competence of the Center of Excellence Vocational High School graduates, fulfilling the skills needed in the trend of the 4.0 job market, issues of equality of Vocational High School graduates and other things in the quality of work competencies carried out by bussiness and industry sectors in consideration of labor recruitment; skill fulfillment *bargaining power*, related to fulfilling the criteria for manpower requirements by bussiness and industry sectors, the evaluation of the the Center of Excellence Vocational High School program and the Scheme of Matching Support as the conclusion of this study, includes: the Center of Excellence Vocational High School, and steps to face the future for Vocational High School graduates intensively. The results of this evaluation can be used as reference material in revitalizing SMKs, especially by optimizing the Center of Excellence Vocational School Program and the Support Matching Scheme to improve the quality of work competence of Vocational High School graduates and their resilience and global competitiveness. The Center of Excellence Vocational High School in Semarang City, Central Java comprehensively.

## REFERENCES

- Amstrong, P. (2015). Effective school partnerships and collaboration for school improvement: a review of the evidence. English: Departement of Education.
- Arie Wibowo Khurniawan, S.Si., M. A. (2015). SMK Dari Masa ke Masa. *Direktur Jenderal Pendidikan Dasar Dan Menengah Kementerian Pendidikan Dan Kebudayaan Republik Indonesia*, 7–11.
- Baporikar, N. (2017). Strategies for Successful Implementation of Innovation. *Nternational Journal of Innovation in the Digital Economy (IJIDE)*, 8(2). <https://doi.org/10.4018/IJIDE.2017040102>
- Drucker, P. F. (1985). Innovation and Entrepreneurship Practice and Principles. In *Columbia Business School*. Harper. <https://doi.org/10.7312/thom17402-008>
- Dwi Nuraini. (2021). *Menyiapkan Pendidik Profesional Di Era Society 5.0*. Direktorat Sekolah Dasar. <http://ditpsd.kemdikbud.go.id/artikel/detail/>

- menyiapkan-pendidik-profesional-di-era-society-50
- Indarta, Y., Jalinus, N., Waskito, Samala, A. D., Riyanda, A. R., Adi, & Hendri, N. (2022). Relevansi Kurikulum Merdeka Belajar dengan Model Pembelajaran Abad 21 dalam Perkembangan Era Society 5.0. *Edukatif: Jurnal Ilmu Pendidikan, Volume 4 N*, 3011–3024.  
<https://doi.org/https://doi.org/10.31004/edukatif.v4i2.2589>
- Kemdikbud RI. (2016). Buku saku smk pusat keunggulan. *Http://Kemdikbud.Go.Id/*, 57946100(Mei).  
<http://kemdikbud.go.id/main/?lang=id>
- Kim, J. S., & Chung, G. H. (2017). Implementing innovations within organizations: a systematic review and research agenda. *Innovation Organization & Management, Volume 19*,  
<https://doi.org/https://doi.org/10.1080/14479338.2017.1335943>
- Kresdiana, H. (2013). *Transfer Pengetahuan, Kemampuan Berinovasi dan Kinerja Organisasi (Suatu Kajian Empiris)*. UB Press.
- Lengnick-Hall, C. A. (1992). Innovation and Competitive Advantage: What We Know and What We Need to Learn. *Sage Journal, Volume 18*,  
<https://doi.org/https://doi.org/10.1177/014920639201800209>.
- Mansyur, Tumpu, M., Antarissubhi, H., Putra, Dana, Syafar, A., Muhammad, A., Gusty, S., Yoana, Monoarfa, M., & Masdiana. (2019). *Teknologi Pendidikan Era Industri 4.0*. CV. Tohar Media.
- Sijabat, R., Syamsuri, Pratiwi, R., Amruddin, Hasan, Chadhiq, U., Hartati, A., Irhamni, M. R., Wardhana, (Cand) Aditya, Haryono, A. T., Sudirman, A., & Faizal, M. (2022). *Bisnis Digital*. CV Media Sains Indonesia.
- Siwantoyo, Suyanta, Noor Fitrihana, Khusni Syauqi, Faranita Surwi, Arie Wibowo Khurniawan, (2019). Daya Saing SMK Dalam Bursa Tenaga Kerja 4.0. Direktorat Pembinaan Sekolah Menengah Kejuruan. Direktorat Jenderal Pendidikan Dasar dan Menengah, Kementerian Pendidikan dan Kebudayaan.
- Siswoyo, D. (2013). Kesesuaian Kurikulum SMK Dengan Kompetensi Yang Dibutuhkan Dunia Kerja ( Agribisnis Pengolahan Hasil Pertanian-Agribisnis/Agroteknologi ). *Journal of Chemical Information and Modeling*, 53(9), 1689–1699.
- Subijanto, Sumantri, D., Murdiyaningrum, A. I. D. M. Y., & Soroaida, T. (2019). Kesesuaian Kurikulum SMK Dengan Kompetensi Yang Dibutuhkan Dunia Kerja: Kompetensi Keahlian Agribisnis Pengolahan Hasil Pertanian. In *Kementerian Pendidikan dan Kebudayaan*.
- Sumarno. (2019). Pembelajaran Kompetensi Abad 21 Menghadapi Era Society 5.0. *SEMDIKJAR 3*.  
<http://ojs.semdikjar.fkip.unpkediri.ac.id/index.php/SEMDIKJAR/article/view/28/26>
- Suwarno. (2020). *Computer Based Information System Journal Analisa Pengaruh Pemilihan Teknologi Terhadap Strategi Elektronik Di Batam Suwarno. 01*, 35–42.
- Wahyu Suprpti. (2015). *Bahan Ajar Diklat Kepemimpinan Tingkat IV: Agenda Inovasi Berpikir Kreatif dan Inovatif*. LAN RI.
- Zacher, H., & Wilden, R. G. (2014). A daily diary study on ambidextrous leadership and self-reported employee innovation. *Journal of Occupational and Organizational Psychology*.  
<https://doi.org/https://doi.org/10.1111/joop.12070>