

Universitas Negeri Semarang's Readiness In Carrying Out Vocational Education

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Abstract---This study aims to analyze: (1) the support system in carrying out vocational education, (2) the readiness of faculties and departments to administer vocational education, and (3) the suitable implementation model of vocational education for UNNES. The research objective was attained by undertaking policy research with research and development (R&D) methods. The data sources and research respondents were the deputy dean of academic affairs of UNNES, the study program coordinators in three faculties, and the Universitas Pendidikan Indonesia (UPI)'s vocational education administrators. The research data was collected through interviews, observations, and focus group discussions (FGD). The data analysis was obtained in a qualitative interactive manner using data reduction methods, data presentation and drawing conclusions as well as verification. The results showed: (1) the implementation of vocational education has internal support system, namely the leadership commitment of UNNES, faculties and departments, the availability of learning facilities and infrastructure, the availability of curriculum, the availability of lecturers and educational staffs, and the availability of budget. The external support systems are the link and match policy, for example opening 100 polytechnics and accepting civil servants from the diploma program, (2) Universitas Negeri Semarang, faculties and departments are quite ready to administer vocational education, (3) the implementation of vocational education at Universitas Negeri Semarang is more effectively managed by a separate institution centralized under the rector, namely in the form of a Vocational School.

Keywords: education, diploma, UNNES, vocational.

I. INTRODUCTION

The opportunity for a country to have high and sustainable economic growth will be even greater if the country is supported by human resources who have the basic knowledge and ability to adjust to the demands and dynamics of ongoing development as well as have the skills or expertise needed by the working world (Anwar, 2017). To produce qualified human resources, good education is needed (Prasetyoning Tyas & Wicak Ikhsani, 2015).

Based on data from the National Statistics Agency (BPS) in 2011, there are 82.1 million Indonesian workers filled by groups of workers who do not have the skills or competencies in their fields. In 2016, employment is dominated by workers with junior high school educational background and below, the number of workers with low education reach up to 72.70 million people (Afrina, Eka, 2018). While skilled and competence workers in their fields are 20.4 million people and the expert workers were only 4.8 million people. In 2018, until February 2018, Indonesian employment is still dominated by working people with low education (junior high and below) as many as 75.99 million people or 59.80% (BPS, 2018). Meanwhile, the working populations who have a secondary education (high school equivalent) are 35.87 million people (28.33%). High-educated working population is 15.21 million people (11.97%) including 3.50 million with a diploma education and 11.71 million with university education.

The predominance of a low-educated workforce influences the level of human resources competitiveness. In 2019, the Global Talent Competitiveness Index released the position of human resources in ASEAN. In the GTCI, Indonesia ranked sixth with a score of 38.61 (Gerintya, 2019). The Indonesian workers is predicted to have hard time to compete with workers from other countries in this global era, which facilitates the inflow and outflow of foreign workers. The liberalization of the labor market also threatens Indonesian workers, because Indonesian workers' competitiveness is still below Singapore, Malaysia and Thailand (Apresian, 2016). Adawiyah's research revealed that education in Indonesia has not been able to make the human resources well compete with other countries that have already advanced through their education (Adawiyah, Wibowo, & Kartika, 2017). This happens because the educational background of Indonesian workers is still dominated by basic education. Low education also causes limited opportunities to get a job. Limited opportunities to get work cause inequality (Afrina, Eka, 2018).

To overcome this labor problem, vocational education is present. In accordance with the regulation of National Education System, vocational education is higher education that prepares students to have jobs with certain applied skills (Wibawa, 2017). Vocational education has a very strategic role in preparing the young generation to have superior knowledge, skills and characters. Thus, vocational school graduate will be well qualified to enter the world of industry and business and even entrepreneurs. Vocational education is designed to prepare individuals for specific jobs that have a direct relation to the productivity and nation's competitiveness (Cedefop, 2011).

In designing and implementing vocational curriculum, the institutions need to pay attention to the applicable provision in Indonesia so that it is always relevant to the Indonesian National context, but with a global perspective. Competencies that will be developed through the learning process must refer to the competencies needed by the industrial world.

In accordance with the 2018 Academic Guidelines, UNNES administers three types of education, namely academic education (S1, S2 and S3), professional education, and vocational education (diploma). Almost all faculties have implemented vocational education and now only three faculties are going to organize vocational education. Those are Faculty Language and Arts, Faculty of Social Science and Faculty of Math and Science.

In line with government policies that give great attention to vocational education, especially polytechnics, UNNES intends to continue the existing diploma programs and open four diploma programs in accordance with market demands and community needs.

This paper will solve three problems: namely (1) how are the internal and external support systems of vocational education?, (2) how are the readiness of faculties and departments in carrying out vocational education?, and (3) what is the right model in conducting vocational education?

II. LITERATURE REVIEW

2.1 Provision of Worker

The government has a policy to develop an employment system that is able to provide proper employment for workers. Employment development which is oriented towards the creation and expansion of productive employment can be strived to be well implemented in line with the economic growth. For this reason, the government try to develop qualified human resources which are expected to have professional, productive, independent, high work ethics, and entrepreneurial spirits, so that they can fill, create and expand employment and business opportunities, both domestically and abroad.

Provision of workers in Indonesia is performed through education, training, and

development in the workplace. The educational pathway is pursued through formal (elementary, junior high, high school, vocational, and university), non-formal and informal (early childhood education, child care, play groups, kindergartens, and community education) education. The training pathway is taken through vocational training centers, vocational skills courses, training by training institutions other than the two. The development path in the workplace is taken through apprenticeship or training at work (Slamet, 2011).

Based on analysis of the workforce, it is found that many workers do not meet the qualifications and are not suitable for their jobs based on the employment and the latest education that has been completed. Many workers have a level of education that is too high or too low than what is required by a particular job. Positions like managers, professional staffs and professional technicians are appointed as jobs that require high skills and college educational background but many of these positions are filled by those who are not well qualified. Whereas jobs such as clerks, service and sales workers, skilled workers in the agricultural sector, traders and production workers who need secondary education are also filled by unqualified workers, except for clerks, many of whom have college education. Therefore, this case can be considered as exceeding the requirements and the statistic of this type of case reaches up to 39 percent. Whereas basic work which can be considered as work that requires low skills can be filled by those who have elementary school background or less. About 22 percent of workers in basic work are considered to be exceeding qualifications (Handayani, 2015).

The mismatch or gap between labor demand and supply can also be seen from the open unemployment rate, especially among young people who have more serious problems in Indonesia. The open unemployment rate of the young population (15-24 years) in Indonesia is high, especially young people with secondary and higher education level. The number of unemployed young people reaches more than 50 percent and most of them have never worked before. It might also be related to job vacancies that require "work experience", so young people who have just graduated are relatively difficult to find work. The opportunities for educated youth in Indonesia to be unemployed are greater than those who are less educated (Handayani, 2015). However, young people with higher educational backgrounds tend to look for work actively, and this may be related to their greater likelihood of meeting job vacancy criteria set by employers in the future. In comparison, in February 2015 around 17.9 percent of unemployed youth is included in the category and at the same time they are also categorized as desperate job seekers. Most unemployed who are in despair have junior high school education or lower. This shows the important role of education for the unemployed population. In

general, this situation emphasizes the importance of efforts to delay the entry of youth into the labor market and support their participation in the world of education and training that is responsive to the needs of the labor market.

2.2 Vocational Education as a Solution

According to Law Number 20 of 2003 concerning National Education System article 15, the type of education includes general, vocational, academic, professional, religious and special education. Colleges can be in the form of academies, polytechnics, high schools, institutes, or universities. Higher education can organize academic, professional and/ or vocational programs.

Compared to academic education, vocational education is growing so fast because the type of works also changes rapidly. As said by Winangun (2017) vocational education is an education level that is always dynamic in making changes to the education curriculum in accordance with the growth of the labor market and adapting to the development of science and technology.

In developed countries such as Japan, China, Germany, Austria and the Netherlands, vocational education is significantly developed. In Austria, the number of vocational majors is 78% and in the Netherlands reaches 70% (Kemristekdikti, 2017). This is reasonable because vocational education is basically education that is more oriented to the application of science and practically solve problems in systematic and measurable way.

In England, vocational education is divided into two forms, namely vocational education within educational institutions and vocational education which is oriented towards practical learning (Utami, 2018). First is vocational education that focuses on learning in institutions, both vocational schools and professional institutions. Through this pathway, students learn more in an educational institution. Second, vocational education that focuses on practical learning through an apprenticeship program. Through the apprenticeship program students do more practical learning in the company while taking more theoretical classes at local educational institutions. Through this pathway, students receive work wages from companies. Students usually spend one day per week in college studying technical certificates and their remaining time in training or work.

As a country that currently has the blessing of demographics, the largest population of productive age in the world, Indonesia has begun to realize the important role and strategic position of vocational education in responding to the challenges of globalization, particularly in the field of employment. This is realized by the government's policy in changing the composition number of vocational secondary education (SMK) to general secondary education (SMU) or high

school from 40% to 60% to 70% compared to 30%. At university level, the government also plans to open 100 new polytechnics of various types of science.

Vocational education is a higher education that is intended for practical purposes, starting from Diploma I, Diploma II, Diploma III, Applied Bachelor, Applied Masters and Applied Doctorate which functions to develop students to have certain applied expertise jobs through vocational programs in order to achieve national education goals. Vocational education is education that directs students to develop applied skills, adapt to certain occupations and create job opportunities. Vocational education is designed to prepare individuals to obtain employment or specific jobs that are directly related to the productivity and competition of a country (Lettmayr, 2011).

Vocational education adheres to an open system (multi-entry-exit system) and multi-meaning which is oriented to culture, empowerment, character formation, and personality, as well as various life skills. Vocational education is oriented to work skills in accordance with the development of applied science and technology and the demands of employment needs. Vocational education is an applied expertise education held in colleges in the form of academies, polytechnics, colleges, institutes and universities. The form of organizing vocational education consists of Diploma 1, Diploma 2, Diploma 3, and Diploma 4. The national standard of vocational education is developed based on national and / or international competency standards.

Vocational education in Indonesia is expected to actualize the link and match of universities and industry (Sartono, 2018). Therefore, the vocational education curriculum is expected to contain 30% theory and 70% practice. However, vocational education in Indonesia faces the following challenges and issues. First, vocational education programs seem to be rigid and less flexible in changing employment needs. Types of study programs, educational materials, teaching method, learning media, evaluation and certification are more determined by the Government; (2) the number and capacity of vocational education in the industrial sector is relatively small compared to the total capacity of the type of education; (3) the quality of industrial vocational education still needs to be improved, especially related to the quality, quantity of practice equipment, lecturers and other supporting infrastructure; (4) industrial vocational education needs to be more adapted to the real needs of the industrial world and oriented to the changing needs of the job market (Nurwardani, Paristiyanti, 2016).

III. METHODS

This research is a policy research, and it relates to the policy formulation process (Nugroho,

2013). This year, the rector of UNNES set the target of UNNES as an independent year. To welcome the independent year, UNNES conducts academic studies on programs that can be prepared so that UNNES is substantively ready as an independent higher education. One of them is by reviewing the diploma program that is being implemented by UNNES. This research is designed to produce a guidebook which later is expected to be a guideline for faculties, departments, and study programs that will be assigned by the leadership of UNNES to organize vocational education. In connection with this policy, this research is also designed as a research and development (R&D) whose final goal is to validate and develop products (Sugiyono, 2015; Sugiyono, 2019).

The focus of this research is the things that will be described and analyzed, namely:

1. The support system of the implementation of vocational education which includes curriculum, human resources, laboratories, educational facilities and infrastructure, and cooperation with the industrial world and the business world;
2. Faculties and Departments at UNNES that have the potential and readiness to organize vocational education, both concerning on human resources (lecturers and students), laboratories, educational facilities and infrastructure (workshops and showrooms), and cooperation that has been built with the industrial world and the world business;
3. An effective model of vocational education that is able to produce highly competitive graduates who are ready to work and can create jobs.

Data was collected by questionnaire, interview, observation, documentation, and focus group discussion. The collected data were analyzed qualitatively to answer the first, second, and third problems. The process of qualitative analysis was adapted from Miles & Huberman (1992) which followed the cycle of data reduction, data presentation, drawing conclusions and verification. This qualitative data analysis is carried out on an ongoing basis by continually reflecting on the data, asking analytical questions, and writing brief notes throughout the course of the study (Creswell, 2010).

IV. RESULTS AND DISCUSSION

4.1 The Support System of Vocational Education

The implementation of vocational education at UNNES is supported by two factors, namely internal and external factors. Internal factors include the commitment of UNNES leaders, as well as faculties and departments leaders, the availability of learning facilities and infrastructure, the availability of curriculum, the availability of lecturers and educational staff, the availability of budget, and the policies of the leadership of UNNES in supporting vocational education programs. In addition, the three diploma study programs held by the faculty have been

accredited, namely 2 study programs accredited A and 1 study program accredited B. The following is an overview of the accreditation profiles of the three study programs.

Table 1. Accreditation Grades of the UNNES Diploma Program

| No. | Study Program | Accreditation |
|-----|--------------------------------------|---------------|
| 1. | Visual Communication Design | A |
| 2. | Survey and Mapping | B |
| 3. | Applied and Computational Statistics | A |

Other supporting system is the uptake capacity of graduates from the three diploma programs. The uptake of graduates of the three diploma programs is quite high at 75% and above. Data on job market uptake of diploma program graduates can be seen in the following figure.

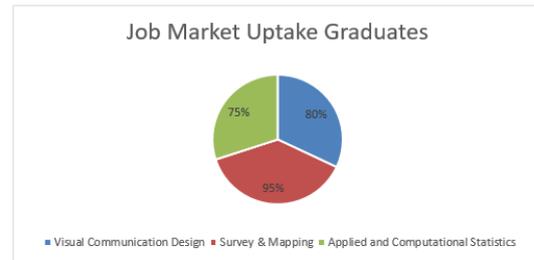


Figure 1. Number of Graduates absorbed by the Labor Market

While external factors are the government's policy to open 100 new polytechnics, policies to support link and match activities, as well as the existence of civil servant quota for diploma graduates. The issuance of Permenristekdikti Number 54 Year 2018 regarding the Implementation of the Diploma Program in the Open System at Higher Education establishes the importance of vocational/ diploma education. Likewise, the issuance of Decree of the Director General of Learning and Student Affairs Number 46 / B / HK / 2019 dated February 22, 2019 on the Name of Study Programs in Higher Education also shows the government's support for the existence of diploma and applied bachelor programs.

4.2 Faculty and Department Readiness

At present, the faculties that carry out vocational education program or diploma are the Faculty of Languages and Arts, the Faculty of Social Sciences, and the Faculty of Mathematics and Natural Sciences. From year to year, the three faculties accept students from the UNNES Independent Selection track (SM-UNNES). Public interest in sending their children to study in the diploma program is still quite high.

In addition to the three faculties, the other five faculties also managed diploma programs in the 2000s, and some faculties even held a diploma education program in the 1990s, namely Faculty of Education and Faculty of Sport Science.

Judging from the experience of UNNES especially faculties that have organized vocational or diploma education, it can be stated that UNNES, in this case the faculty itself, is relatively ready to administer vocational education both 3-years diploma programs and 4-years diploma programs. This readiness is supported by the commitment of the deans and the vice deans of academic affairs when they are assigned by the rector of UNNES to open a diploma program. Other readiness is the existing curriculum since several diploma programs have been administered before and its establishment licence are still valid. Infrastructure, especially classrooms, can still accommodate at least one student in a single class. Laboratories are also available to facilitate teaching and learning activities as well as student practical activities.

Three diploma programs that are still active, namely Visual Communication Design in the Faculty Language and Arts, Survey and Mapping in the Faculty of Social Science and Applied and Computational Statistics in the Faculty of Math and Science. Those programs have pretty good enthusiasts, even if it is compared to undergraduate programs, they are still below. The number of students in the three programs can be seen in the figure below.

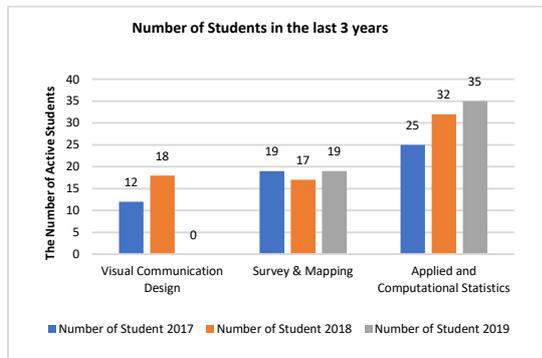


Figure 2. Number of students in the last 3 years

High uptake from the working world in a relatively short period of time justifies that diploma programs in three faculties are worth maintaining and continuing. The program's sustainability is not only to meet market demands, but also to implement government policies in producing skilled workers needed by the industrial world, the business world, and government agencies.

Visual Communication Design diploma graduates can be accepted to work in advertising, publishing, television stations, SOEs, and ministries (Kemenkumham and Kemenpar). There are also those who work in NGOs, freelancers, such as making logos and web designers, freelance

illustrators, cover designs, animators, video makers using fiverr applications, upwork, and others. The waiting period for Visual Communication Design graduates is relatively short, ie 2-3 months. Survey and Mapping diploma graduates can work as mapping consultants, surveyors at BPN / ATR, and at PT Perkebunan Kelapa Sawit. Like Visual Communication Design graduates, intermediate experts from Survey and Mapping have a waiting period of 2 to 3 months. Applied and Computational Statistics diploma graduates can work in statistical offices, PT KAI, Gramedia, Suara Merdeka, Animation Studies, Industry and Trade Services, and others. The maximum waiting period for Applied and Computational Statistics graduates is 5 months.

The collaboration between the faculties and DUDI gives an indication that the existing vocational education is feasible to be continued and the diploma program that has already been opened can still be reopened, considering that in the next few years the government has great attention to the vocational program.

4.3 The Implementation of Vocational Education Model

Based on data obtained from focused discussions with diploma program managers and faculty managers as well as benchmarking to UPI Bandung, the implementation of vocational education or diploma at UNNES is more appropriate if it is not held at the faculty, but is managed by a separate institution directly responsible to the rector, namely in Vocational School.

Most respondents who were asked to give opinions about the need for vocational schools to manage vocational education said that the diploma/ vocational program should be handled separately by an institution called the Vocational School. The figure below shows that 84.62% of respondents agreed that the provision of vocational education was specifically managed by a separate institution, the Vocational School.

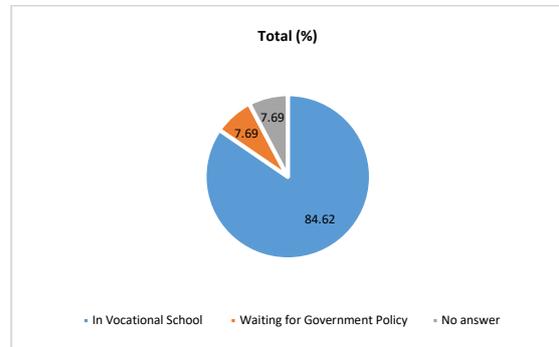


Figure 3. Opinion of Respondents on the Implementation of Vocational Education

Furthermore, from the results of the FGD with the stakeholders of vocational education at UNNES and benchmarking at UPI, the model of

organizing vocational education at UNNES can be done centrally by an institution called the Vocational School. The model of organizing vocational education at UNNES can be seen visually in the following chart.

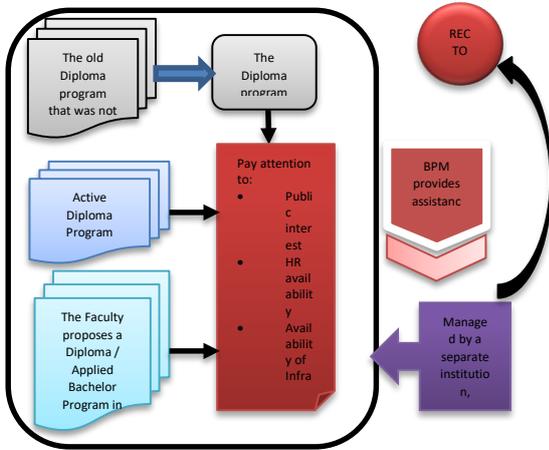


Figure 4. Vocational Education Implementation Model

Vocational education becomes a necessity for UNNES in particular and the government in general, because in the next few years, Indonesia needs skilled workers to fill the job market in the industrial and business world, even some government agencies still need diploma program graduates for technical jobs. For this reason, the government through Ristekdikti gives great attention to vocational education which is expected to produce skilled graduates who are needed by working world. Patdono, director general of the Institute of Science and Technology, Kemenristekdikti said that Polytechnic graduates at the end of 2019 should not be unemployed (Neneng, 2017). To achieve this goal, the government cooperates with the industrial world to develop vocational education. Patdono explained, for companies that are already large-scale, they will be encouraged to establish a Polytechnic (Neneng, 2017). Kemenristekdikti will also intervene by helping to develop curriculum, providing lecturers through Recognition Prior Learning (RPL) and mentoring when preparing proposals.

In order to get skilled workers, the government also empowers 10 state polytechnics by facilitating the polytechnics to collaborate with industry partners. As a concrete manifestation of the implementation of the vocational higher education revitalization program, 10 state polytechnics signed cooperation with industrial partners in the fields of energy, food security, and transportation. The signing of the collaboration was conducted in conjunction with the National Work Meeting of Kemenristekdikti in 2017 at UGM Yogyakarta. Some cooperation with the industrial partners, for example in the energy sector cooperation was signed an agreement between Surabaya State Electronics Polytechnic (PENS) with PT LEN Industri (Persero) and Banjarmasin State

Polytechnic with PT Trakindo Utama. In the field of food security the cooperation agreement was signed between the Pangkep State Agricultural Polytechnic with PT Nusa Indah Kalimantan Plantations, the State Polytechnic of Jember with PT Benih Citra Asia, and the Malang State Polytechnic with PT Labtech International LTD.

The focus of the policy directed by the government on vocational education can be considered as appropriate from the perspective of policy theory since the vocational education policy is employed with the aim of meeting the interests of the people, namely the need for skilled workers that can be immediately absorbed by working world (Hamdi, 2014). Government way to strengthen vocational education by giving great attention to polytechnics and diploma programs organized by universities in the perspective of an institutionalism approach is appropriate because all policies that have a major impact on society must be taken up by the government. This is in line with the statism model in public policy, that the state is an autonomous actor who has the capacity to plan and carry out his own goals and does not always have to respond to pressures or demands from dominant groups in society (Hamdi, 2014).

Vocational education with a focus on practical learning and internships in industry will provide great benefits for graduates. They will be quickly and easily accepted by the job market. Employment for vocational education graduates is the main focus, not the diploma certificate. Work is important and becomes the main target for most people's lives. Work not only gives people the means to meet basic needs, such as food, clothing and shelter, but also the type of work done by individuals and groups has a large impact on their self-confidence, social status and standard of living (Mulder, 2017). Vocational education (vocational) is related to 'applied learning', with the acquisition of knowledge and skills for the working world to increase productive employment opportunities, sustainable livelihoods, personal empowerment, and socioeconomic development (Mulder, 2017).

V. CONCLUSION

5.1 Conclusions

Based on the results of research and discussion, it can be concluded:

1. The implementation of vocational education had internal and external support system. Internal support system from UNNES which had experience implementing vocational education and external support system related to government policies that focused on vocational education as a means of producing workers who are ready to work.
2. All faculties at UNNES are ready to organize vocational education. The readiness is marked by

commitment from the faculty leaders, availability of curriculum, infrastructure, laboratories, and collaboration with DUDI.

3. The implementation of vocational education at Semarang State University should be managed by a separate institution which is centralized under the rector, that is in the form of a vocational school.

5.2 Suggestions

Based on the results and discussion of research, it can be suggested the following matters:

1. Universitas Negeri Semarang needs to prepare thoroughly in carrying out Vocational Schools, including reformulating the UNNES Statute that accommodates Vocational Schools, preparing practice-based vocational education curricula, lecturer and educational staff resources, vocational school building infrastructure, laboratory / workshop / studio, the availability of library books and work practice manuals, as well as collaboration with the industrial and the business world.
2. Universitas Negeri Semarang needs to immediately establish an LSP and TUK to equip graduates of diploma or applied undergraduate programs with certificates of competence needed by graduates to enter the workforce.

REFERENCES

- [1] Adawiyah, R., Wibowo, Y. S., & Kartika, Y. (2017). Pendidikan yang berdaya saing. *Prosiding Seminar Nasional Pendidikan FKIP UNTIRTA*, 325–332.
- [2] Afrina, Eka, dkk. (2018). *Vokasi di Era Revolusi Industri: Kajian Ketenagakerjaan di Daerah*. Jakarta: infid dan Prakarsa.
- [3] Anwar, A. (2017). Peran Modal Manusia terhadap Pertumbuhan Ekonomi Regional di Jawa. *Jurnal Economia*, Vol 13(No. 1), 79–94.
- [4] Apresian, S. R. (2016). Arus Bebas Tenaga Kerja dalam Era Masyarakat Ekonomi ASEAN: Ancaman bagi Indonesia? *Indonesian Perspective*, Vol. 1, No. 1, Juli-Desember 2016, 15–29.
- [5] BPS. (2018). *Keadaan Ketenagakerjaan Indonesia Februari 2018, Berita Resmi Statistik No. 42/05/Th. XXI, 07 Mei 2018*. Jakarta.
- [6] Cedefop. (2011). *The benefits of vocational education and training* (No. 10). Luxembourg.
- [7] Creswell, J. (2010). *Research Design Pendekatan Kualitatif, Kuantitatif dan Mixed*. Yogyakarta: Pustaka Pelajar.
- [8] Gerintya, S. (2019). Indeks pendidikan Indonesia kalah dari negara Asean lain, hanya unggul dari Kamboja, Laos, dan Myanmar. Retrieved November 16, 2019, from <https://tirto.id/indeks-pendidikan-indonesia-rendah-daya-saing-pun-lemah-dnvR>
- [9] Hamdi, M. (2014). *Kebijakan Publik Proses, Analisis, dan Partisipasi*. Bogor: Ghalia Indonesia.
- [10] Handayani, T. (2015). Relevansi Lulusan Perguruan Tinggi di Indonesia dengan Kebutuhan Tenaga Kerja di Era Global. *Jurnal Kependudukan Indonesia*, Vol. 10, No. 1 Juni 2015, 53–64.
- [11] Kemristekdikti, S. (2017). *Ristekdikti Vol. 7 No. 1*. 60.
- [12] Lettmayr, C. F. (2011). *The Benefit of Vocational Education and Training. European Centre for the Development of Vocational Training*. Luxembourg.
- [13] Miles, M. B., & Huberman, A. M. (1992). *Analisis Data Kualitatif*. Jakarta: UI Press.
- [14] Mulder, M. (ed). (2017). *Competence-based Vocational and Professional Education*. Wageningen, the Netherlands: Springer.
- [15] Neneng. (2017). Tidak Boleh Ada Lulusan Politeknik Yang Menganggur. *Ristekdikti, Volume VII Nomor 1, Tahun 2017*, hlm. 11.
- [16] Nugroho, R. (2013). *Metode Penelitian Kebijakan*. Yogyakarta: Pustaka Pelajar.
- [17] Nurwardani, Paristiyanti, dkk. (2016). *Buku Panduan Teknologi Pembelajaran Pendidikan Tinggi Vokasi*. Jakarta: Direktorat Jenderal Pembelajaran dan Kemahasiswaan, Kemristekdikti.
- [18] Prasetyoning Tyas, A. A. W., & Wicak Ikhsani, K. T. (2015). Sumber Daya Alam dan Sumber Daya Manusia untuk Pembangunan Ekonomi Indonesia. *Forum Ilmiah Volume 12 Nomor 1, Januari 2015*, 1–15.
- [19] Sartono, R. A. (2018). *Kebijakan Standar Pendidikan untuk Peningkatan Kualitas SDM Indonesia*. Jakarta.
- [20] Slamet, P. (2011). Peran Pendidikan Vokasi Dalam Pembangunan Ekonomi. *Cakrawala Pendidikan, Juni 2011, Th. XXX, No. 2*.
- [21] Sugiyono. (2015). *Metode Penelitian Manajemen*. Bandung: Alfabeta.
- [22] Sugiyono. (2019). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D* (Kedua). Bandung: Alfabeta.
- [23] Utami, A. D. (2018). *Sistem Pendidikan Vokasi di Inggris*. London: Kantor Atase Pendidikan dan Kebudayaan, KBRI London.
- [24] Wibawa, B. (2017). *Manajemen Pendidikan Teknologi Kejuruan dan Vokasi*. Jakarta: Bumi Aksara.
- [25] Winangun, K. (2017). Pendidikan Vokasi sebagai Pondasi Bangsa menghadapi Globalisasi. *Jurnal Taman Vokasi Vol. 5, No. 1, Juni 2017*.