

Outcomes of Vocational High Schools in Machining Expertise in the Labor Market in Yogyakarta, Indonesia

Khamdi Afandi*, Bernardus Sentot Wijanarka

Department of Mechanical Engineering Education, Graduate School Yogyakarta State University, Yogyakarta, Indonesia

*Corresponding author: khamdi_afandi.2017@student.uny.ac.id

Received July 16, 2019; Revised August 20, 2019; Accepted September 02, 2019

Abstract The objectives of this study were: (1) to describe the outcome of the Vocational High Schools (VHSs) in the field of machining expertise in the labor market, and (2) the efforts of VHSs in increasing the distribution of graduates. The location of this study was in four VHSs in the field of nationally accredited machining expertise in the Yogyakarta. The technique of data collecting used interviews and documentation. The data analysis of this study used descriptive statistics. The results of this study are: (1) Outcomes of VHSs in machining expertise in the category of work with an average of 66% (unsuccessful), in the category of entrepreneurship with an average of 9% (above standard), in the category of continuous studies with an average of 14.5% (stable), and graduates work according to expertise with 45% (good), (2) The efforts of VHSs in increasing the distribution of graduates include workshop activities, collaboration in the business and world industry, strengthen alumni associations, counseling guidance, jobs vacancies in schools, and Professional Certification Institutions. Constraints faced by VHSs in the distribution of graduates, namely: the low work motivation of graduates to work, the amount of labor needed by the labor was small compared to the number of prospective workers, and personal ability in the office of school work market was still lacking in graduate management.

Keywords: *outcome, distribution of graduates, machining expertise*

Cite This Article: Khamdi Afandi, and Bernardus Sentot Wijanarka, "Outcomes of Vocational High Schools in Machining Expertise in the Labor Market in Yogyakarta, Indonesia." *American Journal of Educational Research*, vol. 7, no. 9 (2019): 599-603. doi: 10.12691/education-7-9-1.

1. Introduction

Indonesia faces unemployment problems every year caused by an unbalanced supply and demand for labor. The labor data recorded that 133 workers were dominated by primary and junior high school graduates at 59% and the unemployment rate was dominated by VHSs graduates at 6.87% [1]. It shows that the low level of education for workers and VHSs graduates are not absorbed in the labor market. The problem of unemployment is a barrier to the rate of economic growth of a country.

A country's economic growth is an indicator of the government's success for the welfare of society. Economic development is related to the creation of many jobs. It provides big employment opportunities for prospective workers so they can be absorbed in the working world. Three educational indicators are used to improve the economy of the Indonesian people in the future, namely: (1) the number of graduates, (2) unemployment, and (3) the level of employment absorption with the criteria of the type of educational institution [2]. The large number of educated workers who are not easily absorbed in the working world is a problem for the education world, especially VHSs. The experimental results that underutilized skills have a negative impact on increasing the unemployment

rate and the results of the experimental survey show that entrepreneurs' perceptions about workers' competencies and commitment mediate the problems that occur [3]. Lack of skills and work experiences in employment give a negative signal when recruiting in the future. Therefore, VHSs graduates are expected to be absorbed in the working world in an effort to utilize their competencies and reduce unemployment.

VHSs is an intermediate educational institution that gives students the competence to work. VHSs make quality human resources, productive, innovative, and skilled to be ready to work. Students drop out without vocational qualifications, only 35% that get a job within 48 months, 50% drop out of school with vocational qualifications to get a job after leaving college [4]. This shows that graduates with vocational qualifications are easier to find employment than graduates without vocational qualifications. References [5] show that vocational education has a strong positive effect on the labor market. VHSs is a basic for developing students' knowledge and skills before entering the working world. The VHSs program gives a high score that is 61% in developing students' knowledge and skills to enter the labor market [6]. The working world has an important role in recruiting workers according to their needs. Basically, the working world has two choices to meet the demands of the labor, namely: training in internships or recruiting

through the labor market. Internships training and recruitment of workers with initial qualifications of Vocational Education and Training (IVET) from the labor market illustrates the company's alternative strategies to meet labor demand [7].

VHS in machining expertise is a vocational expertise program to develop students' potential in producing engineering's components using various production machines. The purpose of this expertise program refers to Article 3 of the National Education System Act to develop students' potential [8]. It is expected that graduates can work according to the potential or capability of machining in the industry. References [9] show that competencies of vocational high school graduates in machining expertise in Yogyakarta based on the National Practice Examination are in the competent category with 88.49%. Competent graduates are the basis for doing specific work according to their expertise. Specific work is a barrier to the number of available job vacancies, so there are many differences between graduate ability and employment. Jobs that require more specific competencies increase the risk of inconsistencies between education and the working world for graduates of vocational education [10]. In line with that, graduates from specific education programs have a disadvantageous labor market position compared to general education programs [11]. This provides a greater opportunity for graduates to become unemployed and unsuitable for work. This problem affects the success of VHSs' graduates in the absorption and relevance of the working world.

The Ministry of National Education expects vocational high school graduates to succeed if: (a) graduates work according to their expertise, (b) grace period gets a job after graduating a maximum of one year, (c) absorption of graduates reach at least 75%, and (d) 5 % of graduates create employment or entrepreneurship [12]. In addition, in the Minimum Service Standards (MSS) in the field of vocational education, 20% of vocational school graduates are accepted into the working word according to their expertise [13]. VHSs graduates get jobs according to their expertise of less than 50% in the automotive industry, Bandung city [14]. In addition, the absorption of VHSs graduates in building engineering expertise in the world of construction services is relatively low, namely 23.14% and competency relevance 8.86% in the bad category [15]. This shows that the absorption of graduates and the relevance of the competence of Vocational High Schools have not been successful. Factors supporting VHSs in planning development in an area include (a) the quality of VHSs graduates can compete in the labor market, and (b) the world of work can absorb VHSs graduates in the labor market [16].

The problem faced is the absorption of graduates in the labor market because of the high unemployment rate in VHSs graduates. Information is needed about the absorption and relevance of vocational high school graduates in the field of machining expertise in the working world. What are the VHSs efforts to improve the distribution of graduates?

2. Research Methodology

The design of this study is a quantitative descriptive. Three stages were carried out in this study, namely:

conceptualization, data collection, data analysis, and final report. This research was conducted at VHSs in Yogyakarta in the field of machining expertise, namely: SMK Negeri 2 Yogyakarta, SMK Negeri 3 Yogyakarta, SMK Muhammadiyah 3 Yogyakarta, and SMK Piri 1 Yogyakarta. The subject of this study was the chairperson of the Special Employment Exchange each VHSs. The object of this study was the data of VHSs graduates in machining expertise in 2017-2018. Data collection techniques of this study were in-depth interview techniques and documentation. The data analysis technique was descriptive statistics. Descriptive statistics are statistics used to analyze the data by describing data that was collected as it is without intending to make conclusions that apply to the public [17]. Data is presented with tables, graphs and percentage calculations.

3. Results and Discussion

3.1. Data description about the Number and Standards of VHSs' Graduates

The absorption of graduates can be seen from the number of graduates that are working. The relevance of graduates can be identified by the competencies possessed by graduates according to their jobs. Success standard for VHS graduates if the absorption of graduates is in the two-year period after graduating at least 75% and the number of graduates are able to create employment (entrepreneurship) of 5%. The standard of VHSs' graduates accepted in the labor market according to their expertise reach 20%.

The data that is used in this study is the data for 2017-2018 graduates from four VHSs, namely: SMK Negeri 2 Yogyakarta, SMK Negeri 3 Yogyakarta, SMK Muhammadiyah 3 Yogyakarta, and SMK Piri 1 Yogyakarta.

Table 1. Data of VHSs' Graduates in Machining Expertise in Yogyakarta

No	Name of Vocational High School	Number of Graduates	
		2017	2018
1	SMKN 2 Yogyakarta	114	111
2	SMKN 3 Yogyakarta	112	99
3	SMK Muh.3 Yogyakarta	76	85
4	SMK Piri 1 Yogyakarta	31	20

Table 1 shows data about graduates from four VHSs in the field of machining expertise in the city of Yogyakarta. Data is obtained from the Chairperson of the Special Employment Exchange of each VHSs. The number of VHSs graduates in machining expertise in 2017-2018 is 648 people. Data about graduates are classified into three categories, namely: work, entrepreneurship, and continuing studies.

3.1.1. Results description of VHSs' Graduates in Machining Expertise in 2017-2018

Statistics of VHSs graduates in machining expertise are classified into three categories, namely: work, entrepreneurship, and continuing studies. The first category is working in the working world both based on expertise and not according

to their expertise. The second category is opening jobs based on their expertise. The third category is continuing studies and others not tracked. Table 2 shows in 2017 the number of graduates worked with 213 people, entrepreneurs with 24 people, continued studies with 49 people, and others who were not tracked. In 2018, the number of graduates worked with 213 people, entrepreneurs with 36 people, continued studies with 42 people, and others don't have data.

Figure 1 shows the number of VHSs' graduates in machining expertise distributed into three categories in the form of percentages (%). Data analysis found that absorption of working graduates was 64% in 2017 and 67% in 2018. It increases 3%. Absorption of the average graduate working is 66%. These results indicate that the absorption of graduates who work based on the standards of success of Vocational Schools has not been maximized. The success of graduates is achieved if absorption is in two-year period after graduating at least 75%. Graduates in the entrepreneurship category increased 4% with an

average of 9%, including good (more than 5%). Graduates of VHSs for entrepreneurship are the Indonesian government's efforts to achieve the revitalization target [18]. Graduates in the continuous study category are relatively stable.

Figure 2 shows the relevance of graduates with the working world from 2017-2018 in terms of working according to their expertise. In 2017, graduates work according to their expertise 52% and 37% in 2018, a decline 15%. So that, the average graduates who works according to their expertise are 44.5%. Based on the Minimum Service Standards of vocational education, graduates can be accepted to work according to their expertise by 20%. It shows that the relevance of graduates with their jobs are good (more than 20%). Graduates who does not work according to their field of expertise is increasing 18%. The aim of the VHSs is to prepare students to work according to their expertise [19]. The aim of VHSs has not been achieved because many graduates who are not working according with their expertise.

Table 2. Statistics of VHSs' Graduates in Machining Expertise in The City of Yogyakarta

No	Name of Vocational High School	Category	Number of Graduates	
			2017	2018
1	SMK Negeri 2 Yogyakarta	Work	91	101
		Entrepreneurship	6	3
		Continuing Studies	8	4
		No Data	9	3
2	SMK Negeri 3 Yogyakarta	Work	72	64
		Entrepreneurship	9	13
		Continuing Studies	15	17
		No Data	16	5
3	SMK Muhammadiyah 3 Yogyakarta	Work	32	35
		Entrepreneurship	1	14
		Continuing Studies	21	23
		No Data	22	13
4	SMK Piri 1 Yogyakarta	Work	18	13
		Entrepreneurship	8	6
		Continuing Studies	5	1
		No Data	-	-

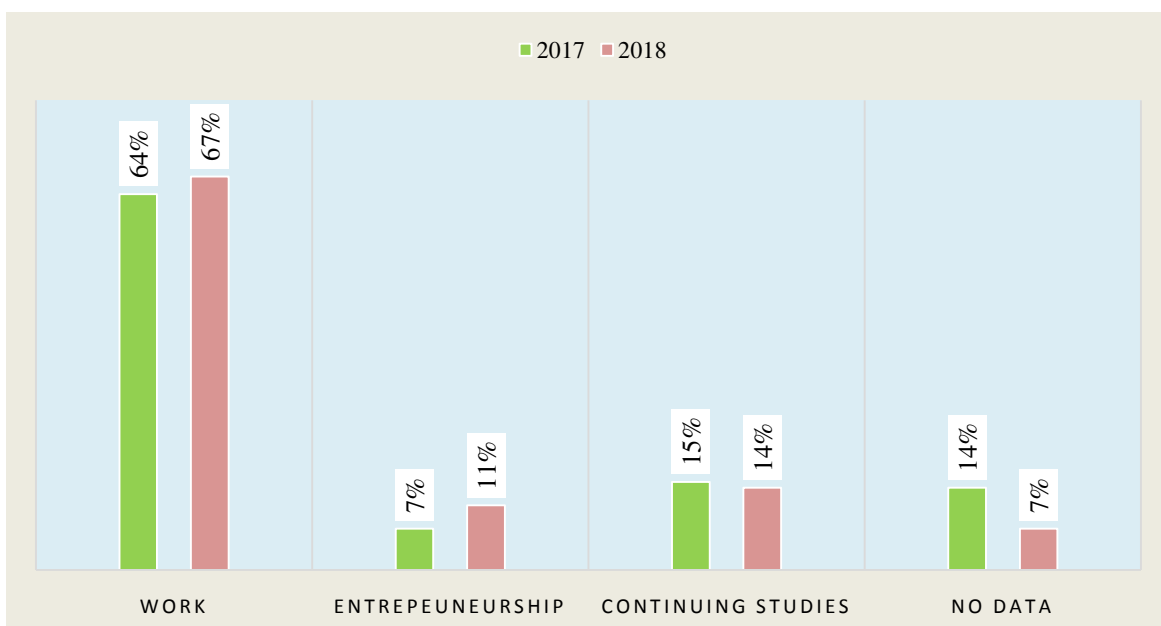


Figure 1. Percentage of VHSs' Graduates in the Graduates Category

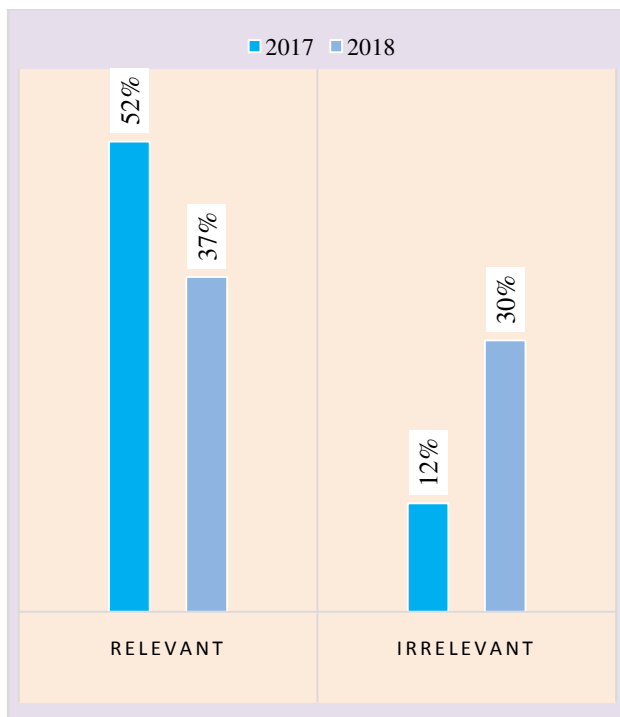


Figure 2. Percentage of Relevance Level of Graduates with jobs

3.1.2. Efforts and Constraints in Increasing Graduate Outcome

The efforts that have been carried out by schools in improving the absorption and relevance of graduates are as follows:

1. Workshop Activities

The workshop activities are held by the school by inviting the Manpower Office to provide briefing to the students. Briefing to the students as prospective workers is very important, such as forming a labor with a good character, high competitiveness, productive, and competent. Moreover, it is hoped that later they will be able to create jobs independently with the innovation and competence that they have. School also invites entrepreneurs and industry leaders to recruit graduates. Thus, it will open up opportunities as much as possible for graduates to: offer their competencies to the business world and the industry world, improve graduates' insights about employment opportunities, and increase the absorption of graduates in the labor.

2. Collaboration with the World of Business and Industry

Collaboration between schools and several business worlds or many industries are very important for increasing the absorption of graduates. The form of cooperation carried out includes conducting graduate competency training. They are trained to do various jobs in the industry to improve the work competencies. This is a step to convince the industry of the suitability of graduate competencies. Those who have completed competency improvement training can be directly recruited by the industry after school graduation. That is why the absorption of graduates can increase.

3. Strengthening Alumni Association

Alumni are graduates of a school that has worked in a company. All schools strive to take advantage from the role of alumni associations as an assets in school

progress. The alumni association can improve the reputation of the school, especially in the working world. Schools create alumni groups on social media as a place to share information about job vacancies from alumni. Alumni also provide motivation and a description of the working world to graduates. This can open the way to help graduates who are looking for work.

4. Career Guidance

The new graduated students are in transition from school to work. After graduating, they are still confused to find a suitable job. The Role of Career Guidance is needed by the new graduated students in understanding themselves and having the ability to make decisions for their future. Career guidance officers also help the graduates to prepare themselves to enter the labor, starting from preparation for work tests to developing career skills in the labor according to their competencies.

5. Job Vacancies in schools

The school job market is a work unit formed by schools that has a role to optimize the distribution of graduates to the working world. The school through the work unit communicates with employers and industry who will recruit workers and provide information directly to graduates. The school job market owned by each vocational high school that works together in serving graduates as job seekers. In addition, the school job fair unit needs to collaborate with career guidance units so the distribution process is in accordance with the interests, talents, and competencies of the graduates.

6. Professional Certification Institution

Professional Certification Institutions in schools is an effort to improve the quality of human resources to be able to work based on competency certificates. The institution is expected to be able to improve the relevance of graduates' competencies with work competencies needed by the labor. So the graduates are truly ready to enter the labor because they have sufficient competence.

Various efforts carried out by the school to optimize the distribution of graduates to the working world have not run optimally. Schools face many obstacles during the process of channeling graduates. The obstacles faced by schools in the process of channeling graduates include: (1) The low work motivation of graduates to work. Many of the graduates are not active in seeking job information, while the school tries to provide a lot of job information. This is because the graduates are lack of self-confidence; (2) The amount of labor needed by the labor is small compared to the number of prospective workers. So, some industries are very selective in seeking employment. That is why the competition for prospective workers is very high; and (3) Personal abilities in the school job market office are lacking in graduate management. The personal role of the school job market in facilitating graduates to work according to their competency skills is inadequate. Many industries that work with schools are less relevant to machining expertise.

4. Conclusion

Outcomes of VHSs in machining expertise are indicated by the number of graduates absorbed in the labor market according to their expertise. The number of graduates is

divided into three categories, namely: employment, entrepreneurship, and continuous study. Vocational High Schools have sought to distribute graduates in the labor market.

Based on the results and discussion, it was found that: (1) Outcomes of VHSs in machining expertise in the category of work with an average of 66% (unsuccessful), in the category of entrepreneurship with an average of 9% (above standard), in the category of continuing studies with an average of 14.5% (stable), and graduates work according to expertise with 45% (good), (2) The efforts of VHSs in increasing the distribution of graduates include: workshop activities, collaboration with the business and industry world, strengthening alumni association, counseling guidance, jobs vacancies in schools, and Professional Certification Institutions. Constraints faced by VHSs in the distribution of graduates, namely: the low work motivation of graduates to work, the amount of labor needed by the labor is small compared to the number of prospective workers, and personal abilities in the school job market office are lacking in graduate management.

References

- [1] Widayanti, N., "Keadaan Ketenagakerjaan Indonesia Februari 2018", Badan Pusat Statistik, Jakarta, Indonesia, No.42/05/Th XXI, May 07, 2018. Retrieved from: http://www.turc.or.id/wp-content/uploads/2018/06/BPS_Berita-Resmi-Statistik_Keadaan-Ketenagakerjaan-Indonesia-Februari-2018.pdf.
- [2] Lyau, N.M., Zahro, S., and Nurhadi, D., "Labor Market Outcomes for Senior Secondary School Graduates in Indonesia," in *Proc. 2nd International Conference on Vocational Education and Training (ICOVET 2018)*, 2019, pp. 147-149.
- [3] Pedulla, D.S., "Penalized or Protected? Gender and the Consequences of Nonstandard and Mismatched Employment Histories," *American Sociological Review*, 81(2), 262-289, March 2016.
- [4] Scholten, M., and Tieben, N., "Vocational qualification as safety-net? Education-to-work transitions of higher education dropouts in Germany," *Empirical Research in Vocational Education and Training*, 9, 1-17, March 2017.
- [5] Riphahn, R.T., and Zibrowius, M., "Apprenticeship, vocational training, and early labor market outcomes – evidence from East and West Germany" *Education Economics*, Vol 24, pp. 33-57, March 2015.
- [6] Meng, C.M., Huijgen, T.G., Sijbers, E.M., and Verhagen, A.M.C., "Schoolverlaters tussen onderwijs en arbeidsmarkt 2014," *Researchcentrum voor Onderwijs en Arbeidsmarkt (ROA)*, ROA-R-2015/3, Maastricht, Netherlands, 2015.
- [7] Bellmann, L., Grunau, P., Troltsch, K., and Walden, G., "Make or buy: train in-company or recruit from the labour market?," *Empirical Research in Vocational Education and Training*, 6:9, Nov. 2014.
- [8] Republic of Indonesia, Undang-Undang No. 20 Tahun 2003 tentang Sistem Pendidikan Nasional. Lembaran Negara RI Tahun 2003 No. 20, Sekretariat Negara, Jakarta, 2003. Retrieved from: https://kelembagaan.ristekdikti.go.id/wp-content/uploads/2016/08/UU_no_20_th_2003.pdf.
- [9] Habanabakize, T., and Pardjono, "The Competence of Graduates in Machining Technology Vocational High Schools Based on National Practical Exam in Yogyakarta, Indonesia," *American Journal of Educational Research*, Vol. 6, No. 6, 840-844, June 2018.
- [10] Buchs, H., and Helbling, L.A., "Job opportunities and school-to-work transitions in occupational labour markets. Are occupational change and unskilled employment after vocational education interrelated?," *Empirical Research in Vocational Education and Training*, 8:17, Dec. 2016.
- [11] Coenen, J., Heijke, H., and Meng, C., "The labour market position of narrow versus broad vocational education programmes," *Empirical Research in Vocational Education Training*, 7:9, Aug. 2015.
- [12] Departemen Pendidikan Nasional, *Konsep Pendidikan Kecakapan Hidup*, Jakarta, Indonesia, p. 3, 2003.
- [13] Republic of Indonesia, Keputusan Menteri Pendidikan Nasional Republik Indonesia tentang Standar Pelayanan Minimal Bidang Pendidikan, Lembaran Negara RI Tahun 2004, No. 129a/U/2004, Sekretariat Negara, Jakarta, 2004. Retrieved from: <https://luk.staff.ugm.ac.id/atur/bsnp/Kepmendiknas129a-U-2004StandarPelayananMinimal.pdf>.
- [14] Mutaqin, M.K.A., Kusnawa, W.S., and Sriyono, "Studi Eksplorasi Keterserapan Lulusan Sekolah Menengah Kejuruan Negeri Di Kota Bandung Pada Industri Otomotif," *Journal of Mechanical Engineering Education*, Vol. 2, No. 2, pp. 247-252, Dec. 2015.
- [15] Carina, A., "Analisis Keterserapan dan Relevansi Kompetensi dengan Kebutuhan Dunia Kerja Lulusan SMK Program Studi Keahlian Teknik Bangunan (Studi Kasus di Perusahaan Jasa Konstruksi)," M.Pd., thesis, *Dept. Vocational Education*, Universitas Negeri Malang, Malang, Indonesia, 2015.
- [16] Amalia, F., "Analisis Lulusan Pendidikan Menengah kejuruan Dikaitkan dengan Pengembangan Wilayah Kota Medan," M.S., thesis, *Magister Perancangan Wilayah dan Pedesaan*, Universitas Sumatra Utara, Medan, Indonesia, 2018. [Online] Available: <http://repositori.usu.ac.id/handle/123456789/12291>
- [17] Sugiyono, "Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif, dan R&D)," Alfabeta, Bandung, 2017, 207-210.
- [18] President of the Republic of Indonesia, Instruksi Presiden Republik Indonesia No. 9 Tahun 2016 tentang Revitalisasi Sekolah Menengah Kejuruan dalam Rangka Peningkatan Kualitas dan Daya Saing Sumber Daya Manusia Indonesia, Sekretariat Kabinet Republik Indonesia: Jakarta, 2016. Retrieved from: <https://www.kemdikbud.go.id/main/index.php/files/download/e451d9ec3a0412>.
- [19] Republic of Indonesia, Penjelasan Undang-Undang No. 20 Tahun 2003 tentang Sistem Pendidikan Nasional, Tambahan Lembaran Negara RI Tahun 2003 No. 4301, Sekretariat Negara, Jakarta, 2003. Retrieved from: <http://keuda.kemendagri.go.id/produk hukum/download/477/penjelasan-uu-no-20-tahun-2003>

