

The Effect of Industrial Work Practices on Students 'Readiness at the High School of Vocational Partners PT. Astra Daihatsu Motor

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Abstract: This study aims to reveal the effect of industrial work practices on job readiness of vocational high school partner PT. Astra Daihatsu Motor.

This research is ex-post-facto research. The population in this study was 1,011 students of class XI competence in automotive engineering expertise in vocational high school partner PT. Astra Daihatsu Motor in Yogyakarta. A sample of 287 students was determined randomly. Data were collected using a questionnaire and analyzed using descriptive statistics in the form of calculating the average percentage. Hypothesis testing uses a regression correlation. The results of this study indicate that industrial work practices affect student work readiness by 18.5%. These results indicate that the independent variable significantly influences the work readiness of students at the Vocational High School partner of PT. Astra Daihatsu Motor in Yogyakarta.

Keywords: industrial work practices, work readiness, vocational high schools, fostered.

I. INTRODUCTION

Education is an essential component in a country, the better the quality of education, the better the level of quality of human resources. One of the characteristics of human resources in the 21st century is more competitive human resources at the global level. Improving the quality of human resources can be done by organizing education that can produce human resources that have complete competence in the 21st century [1].

The quality of education in Indonesia is currently lagging behind those in ASEAN. The problem of private and state schools in Indonesia lags, achieving several minimum service standards. Some of these include class sizes, textbooks, and teaching resources, science laboratories, learning equipment, and specialist teachers. Measurement results on the quality of

Indonesian education conducted by the Asian Development Bank in 2013 showed that the quality of Indonesian human resource development was ranked 108 [2]. With the quality of education still lagging, the resulting quality of human resources is also less competitive, which has an impact on the high number of Open Unemployment Rates in Indonesia.

The number of the workforce in Indonesia in August 2017 was 128.06 million people, as many as 121.02 million people have obtained work, while 7.04 million people have not found work. Viewed from the level of education, the highest number of open unemployment rates is Vocational High School, which is 11.41%, at the Senior High School level, 8.29%, at the junior high school level, with an open unemployment rate of 5.54%, at the level of Diploma in open unemployment rate is 6.68%, and at University level open unemployment rate is 5.18% [3]. Based on these data, it is known that the highest open unemployment rate, when viewed from the level of education, is the level of vocational high school; this is contrary to the aim of vocational high school as education that produces graduates who are ready to work.

The high unemployment rate of Vocational High School graduates, according to the Director-General of Primary and Secondary Education of the Ministry of Education and Culture Hamid Muhammad, is due to many factors, one of which is the quality of Vocational High School graduates who do not comply with industry standards. This is in line with what was stated by the Executive Director of the Indonesian Employers Association Agung Pambudi, who explained that the quality of vocational high school graduates did not meet industry standards. Many of them are less skilled; there are even graduates of Vocational Schools who have never practiced, so graduates do not have functional job readiness [4]. Agung Pambudi's assessment as executive director of the Indonesian employers' association and the directorate general of Primary and Secondary Education of graduates from vocational high schools shows that the quality of graduates from Vocational High Schools does not yet have functional job readiness and is less skilled so that they have not been able to meet the needs of the industry.

Work readiness is influenced by external and internal personal factors of students. External factors are outside the student's personal, and internal factors are inside the student's personality [5]. Student external factors are the school environment and family environment, which gives an influence on student work-readiness,

Revised Manuscript Received on December 30, 2019.

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while the internal factors of students are work motivation, student interest, and ideals [6]. The school environment is a Vocational High School where students learn to have knowledge, skills and are mentally ready for work.

In contrast, a family environment is a place where students from personality, which is also very important in work readiness. Internal factors arising from students' selves are motivation and ideas to encourage students to do work.

Vocational school as a place to learn students need a learning environment that resembles the world of work and adequate equipment according to the needs of work implementation in the world of work [7]. A school environment that resembles the industrial world will familiarize students with the work environment so that it will increase student work readiness.

PT. Astra Daihatsu Motor is a vocational high school that applies an industrial-based school environment. The application of the industrial-based school environment in vocational high schools is carried out by applying the 5s work culture in addition to the application of the 5s work culture in the school environment, PT. Astra Daihatsu Motor also applies a Dual Education System. Through dual system education, students learn to practice in a real work environment.

The vocational high school in Yogyakarta, which is fostered by PT. Astra Daihatsu Motor has implemented 5S work culture as an effort to form a school environment that resembles the industrial world. Work Culture is a culture originating from Japan, which means the work culture of Seiri, Seiton, Seiso, Seiketsu, Shitsuke. The application of the 5S work culture in the vocational high school assisted by PT. Astra Daihatsu Motor is conducted to familiarize students with the prevailing work culture in the industry. While in the family environment of vocational high school students assisted by PT. Astra Daihatsu Motor does not get much experience to face the world of work.

PT. Astra Daihatsu Motor in Yogyakarta implements dual system education through industrial work practices. Industrial work activities are learning done by students directly in the industry. The learning objective is to train students to learn to work in the industry so that after graduating from a vocational high school, they already have work experience — the application of 5S work culture and industrial work practices in PT. Astra Daihatsu Motor in Yogyakarta is part of the school's efforts to prepare graduates who are ready to work knowledge, skills, and mentality.

PT. Astra Daihatsu Motor fosters vocational high schools in automotive engineering expertise competencies to prepare graduates who are ready to work and work in the industry. However, the efforts that have been made have not been able to achieve maximum goals — students majoring in automotive engineering who graduated from PT. Astra Daihatsu Motor in Yogyakarta, there are still many that have not been accepted in the industry. The results of observations made at six vocational high schools assisted by PT. Astra Daihatsu Motor in Yogyakarta shows that the average student who directly works is 53.91%. Students who continue to tertiary education averagely 7.5%. The average student entrepreneurship was 3.4%, and those who had not gotten a job were 35.8%. The observational data shows that the

achievement of graduates directly working still needs to be improved. Observation results also state that students who have worked do not fully work in their field of expertise, many students in automotive engineering expertise competence who work outside the skills they have learned. Based on the description above, I found several problems, namely the lack of work readiness of graduates of vocational high schools. The high unemployment of vocational high school graduates is in contrast to the aim of providing vocational high schools to produce graduates who are ready to work. The implementation of the 5S work culture in schools is not going well; the teacher must still remind students to obey the rules of the 5S work culture. The implementation of industrial work practices by students faces obstacles because of the large number of students who are in excess in one business/industry world so that in industrial work practices, students lack the appropriate working hours.

II. THEORETICAL REVIEW

A. Working readiness

Work readiness is the goal of vocational high schools. Through vocational schools, students are trained to have specific competencies. Work readiness consists of various specifications needed by the industry. Different expertise competencies, then the required specifications, will also be different.

Work readiness, if viewed from the basic competency needs, the graduates are only trained in necessary skills, so further training is needed according to the institution [8]. Job readiness is defined as an individual who is ready to work is someone who has a minimum qualification for a particular job as determined through job analysis or job profile. This report also shows that the skills needed to be ready to work only the necessary skills, while the demands of the business world today are more complex.

The business world and the industrial world need a more specific workforce and have professional expertise in individual competencies. According to Makki, Salleh, Memon, & Harun work readiness are individuals who have the skills, knowledge, attitudes that will enable graduates to contribute productively to the business/industry world [9]. This is certainly very different from what has been stated by ACT institutions, which emphasize the mastery of necessary skills, while Makki et al. convey work readiness on the ownership of skills, knowledge, attitudes, and commercial understanding by prospective workers.

Work readiness is also needed not only to obtain work but also to maintain the work that has been obtained. According to Brady, work readiness is a personal attribute, the nature of workers, and coping mechanisms needed by students not only to get a job but to maintain the job [9]. Work readiness to maintain employment includes the commitment of workers to be able to work well and be loyal to the work they have obtained. Owned commitment will encourage workers to continue to be ready to work and be more productive.

Overall, work readiness is not only in necessary skills,

and also not only in mental readiness. It requires physical and mental readiness. Sugihartono explained that work readiness is a condition of students who show harmony in the physical, mental, and learning experience possessed by vocational high school graduates [9].

The same thing was conveyed by Fitriyanto, who also stated the same thing that works readiness is the condition of graduates who are ready to work are graduates who have physical, mental, and learning experience readiness [10]. It shows that someone's job readiness is very complex and consists of several components.

B. Industrial Work Practices

Learning done in the workplace is a strategy so that each student gets learning through working directly by the actual work. Direct learning activities in the industry carried out by vocational high school students are a dual system education model. The implementation of dual system education is carried out through industrial work practices programs. Djonegoro said that industrial work practices are vocational education programs that connect learning activities in schools with mastery of competencies obtained through the business / industrial world to improve the quality of graduates becoming professionals [11]. Direct practice activities through industrial work practices are activities that are mandatory for vocational high school students. Industrial work practice is a stage in preparing professional vocational high school graduates.

Vocational high school students formally work in the business / industrial world with the assistance of competent people from industry within a specified period. In addition to mentoring from the accompanying business/industry world, students also get mentoring from the teacher. Through mentoring in these industrial work practices, activities students are taught to be responsible for their work [12]. The implementation of industrial work practices will indirectly provide knowledge and experience in working. The experience gained while carrying out industrial practices, in addition to learning how to get a job, also learning how to have jobs that are relevant to the talents and interests possessed by these students. Industrial work practice is an opportunity for vocational high school students to acquire and improve knowledge and skills. Through industrial work practices, students can enrich their experience of their field of expertise. It also can open opportunities to gain knowledge, skills, and technological developments in their fields of expertise.

The term industrial work practices vary. In some industrial work practices, schools are called On The Job Training (OJT). The term OJT is a training model that has aim to equip students with the skills needed for work [12]. Equipping students is not only enough through learning at school; learning is needed in the industry.

Based on the opinions and descriptions above in this study industrial work practices are the implementation of a dual system of education that combines systematically and synchronizes the educational program in schools and the mastery of expertise programs obtained through work activities directly by students in the world of work in accordance with their competency expertise and has its own

concept in its implementation and has the aim to increase the knowledge and experience of students in specific jobs.

III. RESEARCH METHODS

This research is a quantitative study that uses an ex-post-facto approach. The implementation of this research was conducted at a vocational high school in Yogyakarta, which was guided by PT. Astra Daihatsu Motor. When this research was carried out for two months, the population in this study were students of class XI majoring in automotive engineering at the vocational high school assisted by PT. Astra Daihatsu Motor in Yogyakarta. Based on data obtained from the school, the population of class XI automotive engineering students in vocational high schools assisted by PT. Astra Daihatsu Motor is 1011 people. Large population and time constraints, and cost limitations, in this study, research samples will be taken. In this study, the sampling method used is probability sampling with random sampling. The use of random sampling aims to provide equal opportunities for each member of the population to be selected as a sample. In this study, the determination of the size of the number of samples using the Slovin formula. From the calculation of the number of samples obtained, the results that the minimum number of samples to be used in this study were 287 respondents. The research instrument that will be used in this research is to use a questionnaire by developing a Likert scale that refers to the research indicators that have been designed.

IV. RESULTS AND CONCLUSIONS

A. Result

1. Working readiness

The following are research data on the variable work readiness of vocational high school students

Table 1. Distribution of Work Readiness Categorization

Range of scores	Frequency	Percentage (%)	Category
$61,3 > X < 72$	0	0	Very high
$50,5 > X < 61,2$	42	14	High
$39,7 > X < 50,4$	225	80	Enough
$28,9 > X < 39,6$	20	6	Low
$28,8 > X < 28,8$	0	0	Very low
Total	287	100	

Based on Table 1, it is known that most of the work readiness of students at PT. Astra Daihatsu Motor in Yogyakarta is included in the sufficient category, which is equal to 80%. Whereas the high category was 14%, and the low category was 6%. Based on the results of these data analyses, it can be concluded that the work readiness of students in the automotive engineering expertise program at vocational high schools under the guidance of PT. Astra Daihatsu Motor in Yogyakarta is included in the sufficient category.

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2. Industrial work practices

Distribution results regarding industrial work practices of students majoring in automotive engineering at the vocational high school assisted by PT. Astra Daihatsu Motor in Yogyakarta can be seen in Table 2.

Table 2. Distribution of Industrial Work Practices Categorization

Range of scores	Frequency	Percentage (%)	Category
74.9>X<88	57	19.86	Very high
61.7>X<74,8	141	49.13	High
48,5>X61,6	45	15.68	Enough
35,3>X<48,4	44	15.33	Low
22>X>35,2	0	0	Very low
Total	287	100	

Based on Table 11, it is known that most of the industrial

work practices in the vocational high schools assisted by PT. Astra Daihatsu Motor in Yogyakarta in the high category with the achievement of 49.13%. As for the Very High category of 19.86%, 15.68% is sufficient, and a low of 15.3%. Thus based on these data, it can be concluded that industrial work practices implemented by vocational high school students under the guidance of PT. Astra Daihatsu Motor in Yogyakarta is categorized high with the achievement of 49.13%.

3. Hypothesis testing one variable Industrial work practice

Table 3 shows a summary of the results of the t-test on the variables of industrial work practices on work readiness.

Table 3. Hypothesis Test Results 1

Variable	Regression coefficient	Beta	R square	T count	T table	Sig.(p)	Conclusion
Industrial work practices	0,200	0,212	0,185	3,604	1.9683	0,000	Significant

The first hypothesis is that there is a significant influence between industrial work practices on the work readiness of PT. Astra Daihatsu Motor in Yogyakarta. Based on Table 3, the regression coefficient values obtained for industrial work practices are 0.200 with a t-test of 3.604 and a significance value of 0.000. It shows that the value of t-count (3.604) > from t-table (1.9683) and the significance is smaller than the significance level of 0.05, the hypothesis states that "There is a significant influence between industrial work practices on work readiness of high school students PT. Astra Daihatsu Motor in Yogyakarta "is proven.

The value of this regression coefficient (0.200) shows that industrial work practices have a positive effect on student work readiness. Thus the better industrial work practices were undertaken by students, the better work readiness of students will also be. The regression coefficient of 0.200 indicates that each increase of 1 constant industrial work practice variables with $X_2 = X_3 = 0$, the readiness of student work will be able to increase by 0.200 constants. The price of the determinant coefficient (R^2) = 0.185 indicates that the work readiness variable 18.5% is influenced by variables of industrial work practices, while the rest of 81.5% is influenced by other variables not discussed in this study.

B. Discussion

Vocational high schools aim to produce graduates who are skilled and competent so that they become graduates who are ready to work. Many ways can be done to be able to produce skilled and competitive graduates who are ready to work, including by conducting learning programs that comply with operational standards in the industry, applying work culture in the school environment, and students also learn directly in the industry through work practice programs industry. The learning program is in accordance with industry standards and the application of industrial culture in the school environment and the learning process is carried out with the aim to familiarize vocational students accustomed to how to work in the industry so that after graduating and

entering the workforce students already have the knowledge and skills needed by the industry. So to achieve these goals, vocational high schools need to collaborate with the business world or the industrial world. While through the technical work practice program, vocational high school students can learn and get to know about the world of work and learn how to work.

1. The effect of industrial work practices on the work readiness of vocational high school students under the guidance of PT. Astra Daihatsu Motor in Yogyakarta. Based on the results of statistical tests, it is known that the regression coefficient values obtained for industrial work practices are 0.200 with at-count of 3.604 and a significance value of 0.000. This shows that the value of t-count > t-table and the significance is smaller than the significance level of 0.05 so that Hypothesis 1 is accepted. So it can be concluded that there is a significant influence between industrial work practices on the work readiness of vocational high school students under the guidance of PT. Astra Daihatsu Motor in Yogyakarta. The value of the regression coefficient shows that industrial work practices have a positive influence on student work readiness. Thus the better the industrial work practices carried out by students, the better the work readiness of students will be, and vice versa, if industrial work practices are low, the student work-readiness will also below. Industrial work practices in this research are the suitability of students' industrial work practices with expertise competencies, the benefits of industrial work practices for students, technical guidance during industrial work practices, and industrial work practices within three months.

The implementation of industrial work practices must be carried out by the field of expertise being pursued. Thus industrial work practices become one of the stages for students to be able to deepen their knowledge and skills in the field being studied.

In addition, the implementation of industrial work practices requires monitoring from the teacher to be able to control the students who are doing industrial work practices, the supervisor's task is carried out to assist students as long as students undergo work practices and conduct instructions so that students can actually learn to work in the industry, in this research industrial work practices give effect to job readiness by 18.5%. The statistical test shows that this research is also in line with research conducted by Nurjanah, which suggests that industrial work practices influence student work-readiness [10].

V. CONCLUSIONS

Based on data analysis and discussion in this study it can be concluded that industrial work practices affect the work readiness of vocational high school students under the guidance of PT. Astra Daihatsu Motor in Yogyakarta at the Automotive Engineering Department, this is evidenced by the significance value of t -calculation (3.604) > t -table (1.9683) and the significance value (0.000) is smaller than the significance level (0.050). The results of the analysis have been obtained a regression coefficient of 0.200 which indicates that industrial work practices have a positive effect so that when industrial work practices increase the readiness of student work will also increase. Of the three independent variables that were examined industrial work practices are the second factor after work motivation that affects the increase in student work readiness, in this study industrial work practices have an effect on job readiness by 18.5%.

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