

Analysis of Industrial Practice Problems in Automotive Students

Suyitno¹, Bambang Sudarsono², Dwi Jatmoko³

¹Universitas Muhammadiyah Purworejo; ²Universitas Muhammadiyah Purworejo; ³Universitas Muhammadiyah Purworejo

E-mail: ¹yitno@umpwr.ac.id; ²bamz_salam.yahoo.com; ³dwijatmoko@umpwr.ac.id

Abstracts. The objectives of this study include 1) analyzing the problems of industrial practice by students, and 2) strategies to improve the quality of industrial practice of students with educational autonomy techniques. The method in this research is descriptive research with cluster random sampling technique. The selection of this population is the entire University in Central Java, namely the Veterans University of Semarang and Muhammadiyah Purworejo University and Yogyakarta namely the Sarjanawiyata Tamansiswa Yogyakarta University. From the results of the questionnaire distributed, it turns out that 53% stated that the study program in general did not prepare the practice first before leaving for Industrial Practice. There are 18% of students who are not serious in carrying out industrial practices in industrial sites, and there are 24% of disciplines that are reduced after industrial practices. In addition there are 12% who do not understand the flow of industry practice and 6% of difficulties in making reports. From the questionnaire above stated that 57% of the shortcomings of managing industrial practices is the absence of an agreement between the competencies that must be studied in the study program and those that will be learned in the industry. There are a number of steps that must be taken in improving the quality of industrial practices, he said, by 75% stating that there must be an update in learning in the industry, 83% should have guidelines for learning industrial practices, for 67% there are guidance for guidance for instructors in the field, amounting to 75% there are guidance guidelines for supervisors who conduct guidance to the industry.

Keywords: analysis, problems, industrial practices, students

Introduction

The progress of a nation is influenced by quality education. Quality education will bring a change in human mindset. Changes in mindset will bring a change in various aspects of human life. These aspects can be seen from social, cultural, economic, and political [1] [2] [3]. It can be said that when one or the four aspects of the quality decline, it means that something is lacking in the quality of education. Education is an important thing in human life. Basically education is a process to help humans develop their potential [4].

Education is believed to be able to instill knowledge, skills, and values with which, humans can increase their ability in life [5]. Education has an important role in preparing quality human resources for a nation [6]. By instilling knowledge, humans will find out the true meaning of their life problems. Furthermore, from the skills will provide

provisions for economic change for themselves and society. Knowledge education provides provision to know the science and science in it. While the skills to provide provisions to work later in life. So, it can be said that education is indeed an absolute necessity in human life. Vocational education (vocational) [7], has a distinctive value that is the relationship between the acquisition of knowledge, skills and attitudes with the value of work (position), especially related to the expertise needed by the world of work. Of the three aspects are obtained together and mutually reinforcing one another. If one of these is ignored it will affect the success of vocational education [8]. Vocational education is education that is oriented towards the development of learning processes and outcomes (Djojonegoro 1998). Not only the need to learn in school, but the quality of graduates becomes a benchmark for the success of vocational education [9].

Vocational education is education that is oriented towards developing the process and learning outcomes. The process will forge students to achieve the expected competence. The quality of graduates becomes a benchmark for the success of vocational education [10] [11].

Method

Methods in research this is the research descriptive. Research is housed at the University of Veteran Semarang, University of Taman Siswa Yogyakarta, and the University of Muhammadiyah Purworejo . Time of execution of the month of June -September 2019. The population in the study of this is the University in Java, Central and Yogyakarta Program Study Education Engineering Automotive . Mechanical taking samples in research is to *cluster random sampling method* with consideration of Program Study penyenggara program education techniques automotive . Data collection techniques are done through documentation and using a questionnaire . Questionnaire on the use to gather information about the evaluation of the implementation practices of the industry that during this run . Questionnaires in the spread to the lecturers and students of the program of study education technique automobile. The data analysis technique used is to use quantitative descriptive , describing the results of a questionnaire in the form of weaknesses and strengths of industry practices that have been running so far . Furthermore, the data that is communicative processed with a number that is expected and obtained percentage [12], or may be written with the formula as follows .

The collected data were analyzed using quantitative descriptive analysis techniques revealed in the distribution of scores and percentages against the specified rating scale categories. After serving as a percentage, the next step is to describe and draw conclusions about each indicator and question.

Result and Discussion

From the results of the research conducted there are a number of things that have become a lack of industry practice so far, including factors from students, study programs, management, and learning in the industry. For a more complete explanation, see the following diagram:

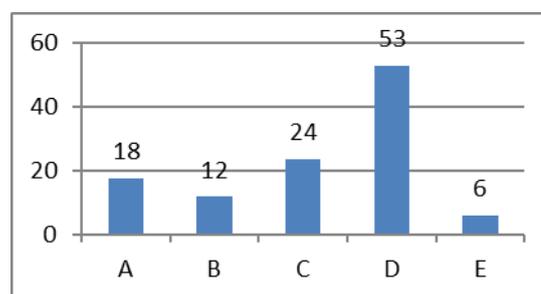


Figure 1. Lack of industrial practice from students

Note: A. Less serious in carrying out industrial practices, B. Does not understand the flow of implementation of industrial practices, C. Discipline is reduced after from industrial practice, D. Does not prepare practice before industrial practice, E. Difficulties in preparing reports

From the results of the questionnaire distributed, it turns out that 53% stated that the study program in general did not prepare the practice first before leaving for Industrial Practices. There are 18% of students less serious in carrying out industrial practices, and there are 24% of disciplines reduced after the existence of industrial practice. In addition there are 12% who do not understand the flow of industry practice and 6% of difficulties in making reports.

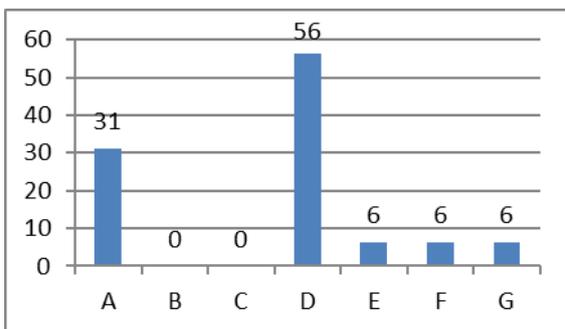


Figure 2. Lack of industry practices from the study program

Note: A. Does not establish cooperation with the business world and the industrial world , B. Does not conduct monitoring to industry, C. Does not make guidelines for the implementation of PI, D. Does not make learning programs preparation for PI, E. Does not facilitate computers in making PI, F. Cooperation exists but there are not enough industries to collaborate with. Especially the sole agent of the vehicle brand holder , G. Lack of communication

From the results of the instrument in the spread shortage of course the most dominant is not cooperating with the business world industrial world automotive 31%, this shows that indeed the majority of the course is less cooperation, there is a 56% stated that the program's tуди not make a practice report industry, this can be a constraint that can lead to lack of orderly administration. 6% is less facilitating industrial practices, and lack of communication between lecturers and students.

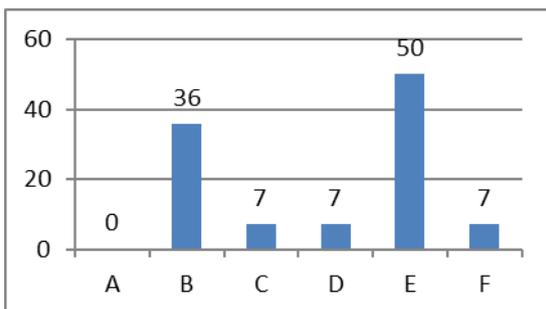


Figure 3. Lack of industry practices from industry

Note: A. Does not want to accept PI students , B. Does not provide clear guidance to students, C. Only asks students to look in the industry , D. Some industries only allow students to help mechanics pick up tools or wash vehicles/spareparts without looking student ability, E. Does not offer industrial practice programs to study programs, F. In work sometimes exceeds what they should

From the results of the questionnaire about the lack of industry practice from all industries it can be seen that 50% stated that the industry does not offer programs to the industry, meaning that the industry does not explain to the study program the activities that will be carried out by students in the industry. This can also be triggered because most of the study programs do not follow up on the acceptance of participants, what will industry practices be like [9] [13]. This can cause many students to change the place of PI because it does not fit into the situation, or the activities carried out by Industry Practices participants. In addition there are 36% of the industry does not provide clear guidance to students.

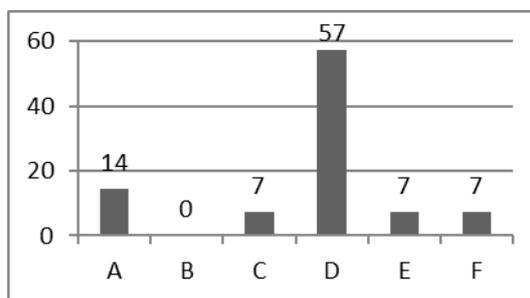


Figure 4. Lack of industrial practice from management elements

Note: A. Does not know the procedures for placing PI students in industry , B. There are no committees in PI, C. There is no clearly documented administration of PI, D. There is no competency agreement that must be studied at school and what they want to learn in industry, E . there is no clarity location / garage which is used as the minimum condition where

PI students , F. Making the certificate does not finish soon

From the questionnaire above stated that 57% of the lack of management is the absence of an agreement between the competencies that must be learned in the study program and those to be learned in the industry [14]. Here it is clearly seen that between study programs and industry running independently, study programs ignore competencies in the industry, as well as industry without offering what they should learn later in the industry. It is the responsibility of the study program coordinator to revitalize industry practices, that the study program must ask what should be learned in the industry or the industry offers competencies that must be learned in the industry.

Strategies to improve learning in Islamic practice

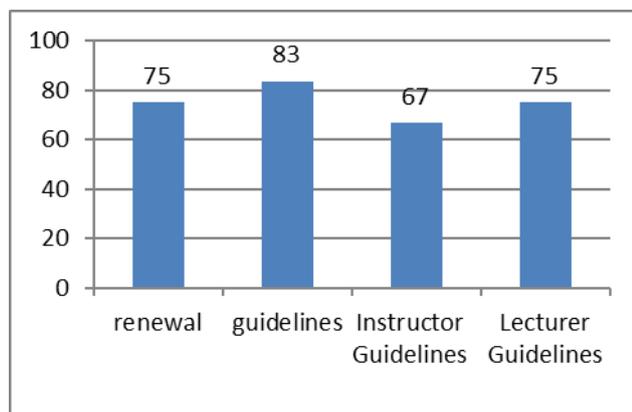


Figure 5. Strategies to improve learning industry practices

There are a number of steps that must be taken in improving the quality of industrial practices, he said, by 75% stating that there must be an update in learning in industry, 83% should have guidelines for learning industrial practices, for 67% there are guidance for guidance for instructors in the field, amounting to 75% there are guidance guidelines for supervisors.

Conclusions

From the results of this study the results include: 1) Lack of industrial practice 53% stated that the study program in general did not prepare practice before leaving Industrial Practice. There are 18% of students less serious in carrying out industrial practices, and there are 24% of disciplines reduced after the existence of industrial practice. In addition there are 12% who do not understand the flow of industry practice and 6% of difficulties in making reports. 2) There are several steps that must be done in improving the quality pembelajaran prakti industry he ntaranya, by 75% expressed THAT there should be pemb a Haruan in learning in industry, As much as 83% should be a guideline that good in practice learning the industry, amounting to 67% no guidelines pembim Bingan for instructors in the field early, at 75% no coaching guidelines for lecturers in the industry .

References

- [1] M. Fjellström, "Vocational Education in Practice: A Study of Work-Based Learning in a Construction Programme at a Swedish Upper Secondary School," *Empir. Res. Vocat. Educ. Train.*, vol. 6, no. 1, p. 2, 2014.
- [2] S. Hof and M. S. Leiser, "Teaching in Vocational Education as a Second Career," *Empir. Res. Vocat. Educ. Train.*, vol. 6, no. 1, p. 8, 2014.
- [3] S. Suyitno, "Increasing Activities and Results of Student Learning Chassis Lesson Through PBL (Problem Based Learning) Learning Model in Vocational School," *VANOS J. Mech. Eng. Educ.*, vol. 4, no. 1, pp. 11–18, 2019.
- [4] D. Setiawan and S. Suparmin, "Meningkatkan Keaktifan dan Hasil Belajar Materi Sistem Stater pada Mata Pelajaran Pemeliharaan Kelistrikan Kendaraan Ringan dengan Metode Penemuan Terbimbing pada Siswa Kelas XI TKR SMK Tamansiswa Jetis Tahun Pelajaran 2015/2016," *J. Taman Vokasi*, vol. 4, no. 2, p. 271, 2016.

- [5] S. Suyitno, "Design of Hydraulic Operated Clutch on Typical Motorcycle," *Automot. Exp.*, vol. 2, no. 2, pp. 41–46, 2019. Audio Video Pada Motor Bakar 4 Langkah untuk Meningkatkan Prestasi Belajar."
- [6] A. Y. Utomo and D. Ratnawati, "Pengembangan Video Tutorial dalam Pembelajaran Sistem Pengapian di SMK," *J. Taman Vokasi*, vol. 6, no. 1, p. 68, 2018.
- [7] D. Allan, "Dealing with Disaffection: The Influence of Work-Based Learning on 14–16-Year-Old Students' Attitudes to School," *Empir. Res. Vocat. Educ. Train.*, vol. 6, no. 1, p. 10, 2014.
- [8] S. Suyitno and P. Pardjono, "Integrated Work-Based Learning (I-WBL) Model Development in Light Vehicle Engineering Competency of Vocational High School," *J. Pendidik. Vokasi*, vol. 8, no. 1, p. 1, 2018.
- [9] E. Winther and V. K. Klotz, "Measurement of Vocational Competences: An Analysis of the Structure and Reliability of Current Assessment Practices in Economic Domains," *Empir. Res. Vocat. Educ. Train.*, vol. 5, no. 1, p. 2, 2013.
- [10] Schellenberg, Claudia, A. Krauss, A. Hättich, and K. Häfeli, "Occupational Career Patterns over 30 Years: Predictors and Outcomes," *Empir. Res. Vocat. Educ. Train.*, vol. 8, no. 1, p. 15, 2016.
- [11] M. dkk Grill, "Supervisors and Teachers' Influence on Expectations on Empowering Leadership among Students in Vocational Education and Training.," *Empir. Res. Vocat. Educ. Train.*, vol. 9, no. 1, p. 2, 2017.
- [12] S. Suyitno, *Metodologi Penelitian Tindakan Kelas, Eksperimen, dan R & D*. Bandung: Alfabeta, 2018.
- [13] J. Sangmeister, "Commercial Competence: Comparing Test Results of Paper-and-Pencil versus Computer-Based Assessments," *Empir. Res. Vocat. Educ. Train.*, vol. 9, no. 1, p. 3, 2017.
- [14] S. Suyitno and S. Syakirun, "Pengembangan Media Pembelajaran