The Relationship Between Learning Outcomes of Industrial Work Practices with Work Readiness of Students

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Abstract. This study aims to determine 1) how is the description of students' industrial practice learning outcomes, 2) how is the description of students' work readiness, and 3) is there a relationship between industrial practice learning outcomes and students' work readiness. This research is descriptive correlational research. The population is class XII students of Light Vehicle Engineering SMK Kartika XXI Makassar totaling 64 people. Using the Slovin formula, the sample size was 40 students through random sampling. Data collection techniques through documentation and questionnaire distribution. The results of learning industrial work practice showed 62% as a good category with an average score of 80 and 38% fairly good category. Furthermore, work readiness shows 38% fairly good with an average score of 104, 30% good category, 20% very good category, and 12% poor category. Finally, there is a relationship between the learning outcome of industrial practice and students' work readiness with a correlation value of 0.599 and can be considered moderately correlated.

Keywords: Learning Outcomes; Work Readiness; Vocational Students.

1 Introduction

Vocational High School is substantially one of the vocational education institutions organized to prepare prospective middle-class workers to develop a professional attitude in entering the world of work [1]. As part of the National Education System, Vocational High School (SMK) is an education that prioritizes the development of student's abilities to be able to work in certain fields [2], adapt to the work environment, see work opportunities, and develop themselves in the future.

Based on BPS data [3] shown in Table 1, the open unemployment rate by education level in February 2022 and February 2024. Alumni from SMK ranked first at 8.62%. SMK alumni make the largest contribution to unemployment in Indonesia, which is not in line with its purpose as a school that can create graduates who are ready to work by being equipped with the skills and expertise provided [4].

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Table 1. The Open Unemployment Rate by Education

Education Level	2022	2024
Elementary school and below	3,09%	2,38%
Junior High School	5,61%	4,28%
Senior High School	8,35%	6,73%
Vocational High School	10,38%	8,62%
Diploma	6,09%	4,87%
Bachelor	6,17%	5,63%

Source: BPS [3]

Part of the curriculum to improve student work readiness carried out by SMK is by collaborating through a partnership [5] with the business world and the industrial world by requiring students to take part in industrial work practices. In essence, industrial work practice is an exercise program held in the field or outside the classroom, in a series of learning activities to train students' skills and introduction to work culture in the industrial world.

An innovation in vocational education, industrial work practice is a component of dual system education, where students do apprenticeships in industries that are relevant to their skill programs for a certain period. The dual system education model is a system that is effective enough to educate and prepare a person to deepen and master complex skills that are impossible or never done at school [6]. It is very beneficial for students, allowing them to adapt and prepare themselves for the industry [7][8]. In the Merdeka curriculum Field Work Practice (PKL) is intended to provide opportunities for students to internalize and apply character skills and work culture (soft skills) as well as apply, improve, and develop mastery of technical competencies (hard skills) in accordance with their concentration of expertise and the needs of the world of work, as well as entrepreneurial independence [9].

Work readiness is the state of being physically, mentally, and experientially mature enough to perform a task or perform a job. Sugihartono [10] reveals that work readiness is a condition that shows a harmony between physical maturity, mental maturity, and learning experience so that individuals have the ability to carry out certain activities, attitudes, and characteristics necessary in the workplace [11]. This will have implications for students' ability to match their knowledge and skills with the work required by the industry and realize their chances of success [12].

Considering the findings of the teacher's interviews in charge of industrial work practice in SMK Kartika XXI Makassar explained that based on his observations regarding student work readiness, the percentage of students who graduated, 50% were ready to work, 30% continued to a higher education level, and 20% still had not made a choice.

The description above shows a gap related to the contribution of SMK graduates in the world of work, even from the school has been maximized so that students can work after they graduate. However, a large number of SMK graduates are not prepared to

enter the workforce. Based on this, the authors want to research the relationship between the learning outcomes of industrial practice and the work readiness of class XII students of Light Vehicle Engineering at SMK Kartika XXI Makassar.

This study aims to determine the description of students' industrial practice learning outcomes, and the description of students' work readiness. Hypotheses: there is a relationship between industrial practice learning outcomes and students' work readiness.

2 Method

The kind of study that was descriptive research with an associative quantitative method approach. According to [13] associative quantitative research aims to determine the effect or relationship between two or more variables. There were two variables in this study, independent variable (X) the learning outcomes of industrial work practice, and dependent variable (Y) students' work readiness.

The operational definitions of variables are as follows 1)The learning outcomes of industrial work practice is industrial work practice learning outcomes are the abilities achieved by students after following the industrial work practice process; 2) Work readiness is a condition of physical maturity, mental maturity, and a person's learning experience that is suitable for doing a job that he has chosen.

The population is class XII students of Light Vehicle Engineering SMK Kartika XXI Makassar totaling 64 people. Using the Slovin formula [14, 15], the sample size was 40 students through random sampling. The study was conducted in December 2023. Data collection techniques using documentation to find data on the score of industrial work practice. Furthermore, the distribution of questionnaires to measure student work readiness. The data analysis method in this study are descriptive and inferential analysis. Hypotheses were tested using the correlation coefficient test.

3 Result and Discussion

3.1 Result

The information gleaned from industrial work practice learning outcomes and work readiness were analyzed descriptively. The learning outcomes of industrial work practice in Table 2. show that out of 40 students, 25 students are presented with 62% good learning outcomes with an average score of 80 which lies in the 80-85 interval. This can be categorized as the average student having good industrial work practice learning outcomes.

Table 2. Learning outcome of Industrial work practice

Interval	Category	Frequency	Percentage
75-79	Quite good	15	38%
80-85	Good	25	62%
90-95	Very good	0	0%
	Total	40	100%

The description of industrial practice grades provides information for schools that efforts are needed to improve student grades by evaluating assessment standards, preparation, implementation, and monitoring of industrial practice. This will be a guide for students while participating in industrial work practice. It will also be a reference for mentor teachers and the industry in providing guidance and assessment to students.

Furthermore, Table 3 displays the students' work readiness. The findings indicate that out of 40 students, 88% have quite good, good, and very good work readiness. On the other side, 12% do not have good work readiness. This can be categorized as the average student having good work readiness after they graduate.

Table 3. Student work readiness

Student work readiness	Frequency	Percentage
Quite good	15	38%
Good	12	30%
Very good	8	20%
Not Good	5	12%

There are still 12% of students whose work readiness is in the unfavorable category, indicating the need for evaluation from schools periodically or before the completion of studies to strengthen students' work readiness before entering the world of work through seminars or training. This will have an impact on student's confidence with the knowledge and skills they have while studying at school and practicing in the industry.

Inferential analysis is used to analyze the relationship between two variables. Based on Figure 1 below, the Pearson correlation of the industrial work practice learning outcomes variable and students' work readiness is 0.599 with a significance value of 0.001. Moderately associated variables are indicated by correlation coefficients with magnitude between 0.5 and 0.7. We can conclude that accepted hypotheses.

Correlations

		HASIL BELAJAR	KESIAPAN KERJA
HASIL BELAJAR	Pearson Correlation	1	-.599**
	Sig. (2-tailed)		<.001
	N	40	40
KESIAPAN KERJA	Pearson Correlation	-.599**	1
	Sig. (2-tailed)	<.001	
	N	40	40

**. Correlation is significant at the 0.01 level (2-tailed).

Fig 1. Correlation coefficient test.

The results that show a correlation with a value of 0.599 illustrate that there are still other factors that can contribute to improving work readiness. This will provide information for future researchers to identify factors that affect the work readiness of vocational students.

3.2 Discussion

The students' learning outcomes of industrial work practice showed that they were in the good and quite good category. There are still 38% of students who are quite good at giving an idea that students' knowledge and skills after participating in industrial practice still need a more comprehensive evaluation. The competencies taught in schools do not fully fulfill the needs of the industry [16]. Students' readiness before going to the industry is in the form of minimal knowledge and skills, as a provision to adjust to the needs of the industry. Furthermore, initial knowledge of programs implemented in the industry. It is hoped that schools and industries will have the same reference starting from the preparation, implementation, and evaluation of student's knowledge and skills during industrial practice. Thus, students' learning outcomes can meet the minimum assessment standards well [9].

Students' work readiness shows that some students are ready to work in the industry, but others are in the good enough category (38%) and not good (12%). It indicates that the knowledge and skills of some students obtained at school and industrial work practices have not made them confident enough to face the industrial field. The readiness consists of what students know, can do, and value that together mediate what they experience [17]. A formula is needed to improve students' knowledge and skills to match industry needs through periodic curriculum revision involving stakeholders. So that students feel confident after participating in industrial work practices and are more confident in their work readiness [12].

The correlation within the learning outcome of industrial practice and students' work readiness has a positive dan significant effect with a value of 0.599 and is considered moderately correlated. This result is in line with the results of research [18] which shows the effect of industrial working practices have a positive impact on student work readiness in SMK 1 Sedaya. Furthermore, study [19] implementation effect of industrial work practice has a significant influence on student work readiness at SMK Negeri 1 Jeneponto. Finally, research [20] describes result positive influence of industrial work practices on students' work readiness in SMK Negeri Cilaku.

4 Conclusion

The data and analysis led us to the conclusion that: 1) the learning outcomes of industrial work practice can be categorized as the average student having good industrial work practice learning outcomes; 2) Student work readiness can be categorized as the average student having good work readiness; 3) There is a relationship between the learning outcome of industrial practice and students' work readiness can be considered moderately correlated.

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