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Research paper

The Influence of Industrial Work Practices on Student Work Readiness at SMK Negeri 1 Cilaku

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ABSTRACT

Background: Internship is one of the programs implemented to connect vocational schools with the working world. Working readiness is the ability to carry out or complete in accordance with the predetermined conditions. In this case, this research was carried out to: (1) know the description of internships carried out by vocational school students; (2) know the description of the working readiness of students after participating in internship activities; and (3) know the effect of internship on working readiness of final year students in building information modelling design at SMKN 1 Cilaku.
Methods: There are two variables studied in this research, including industrial work practices (X) and work readiness (Y). The research method used in this research is a quantitative method, while in order to answer the problem, the authors used a trend test and simple linear regression analysis. Furthermore, the data collection was done using questionnaires with a Likert scale.
Results: Based on the findings and discussion, (1) internship outcomes have a tendency of quite decent with an average score of 79%, (2) working readiness outcomes have a tendency of quite decent with an average score of 79%, and (3) internship on working readiness have a positive and significant influence and the influence of internship on working readiness by 42%.
Conclusion: It can be concluded that the implementation of industrial work practices in Cilaku State Vocational School 1 students has a tendency to be in the sufficient category, class student work readiness is in the sufficient category, and industrial work practices have a positive influence on student work readiness. In other words, students are quite ready to enter the world of work.

INTRODUCTION

In facing the times, a country needs qualified Human Resources (HR). Improving the quality of education is one of the efforts to improve the quality of human resources. In this case, if the education has high quality, it will produce superior human resources according to their own potential, so that these human resources are able to compete in an increasingly developing era and technology. The goals of education are stated in the Law of the Republic of Indonesia Number 20 of 2003 Article 3 concerning the national education system that "National Education functions to develop abilities and form dignified national character and civilization in the context of educating the nation's life, aiming to develop the potential of students so that become a human being who has faith and is devoted to God Almighty, has noble character, is healthy, knowledgeable, capable, creative, independent, and becomes a democratic and responsible citizen" (Soekarnoputri & Kesowo, 2003).

Most workers will prioritize their work according to what is needed at this time (Liswandi et al., 2022). Indonesia has many forms of formal education, one of which is Vocational High School (SMK). SMK aims to prepare a competent middle-level workforce who master skills and knowledge in accordance with vocational expertise competencies that are ready to fill workforce needs in the business or industrial world and are able to develop professional attitudes in the vocational field. In accordance with the Law of the Republic of Indonesia Number 20 of 2003 Article 15. Vocational Education is secondary education that prepares students specifically to work in certain fields.

In accordance with the objectives of SMK, namely to prepare a competent workforce, the planning and implementation of the education system in SMK is an important point. In this case, the process of implementing education and learning process in SMK does not only rely on the school environment. The learning environment for Vocational High School students is divided into 2 environments, namely the learning environment at school and outside of school. This environment consists of study rooms, workshops, school production units, school training facilities, industrial training centres, and on-job training centres. The combination of these two learning environments is called the Dual System Education (PSG) program. PSG itself is a must in the implementation of vocational education. The learning environment outside the school referred to the business world or the industrial world (DU/DI). It is different from characteristics of the school environment and DU/DI, allowing students to adapt and be better prepared for the future. In addition, it also broadens the students' insight into the world of work both cognitively, affectively, and psychomotor.

As vocational education is closely linked to the workplace or industry, classroom instruction and practical experience are essential to prepare graduates for employment adaptation. Industrial work practices (Prakerin) or Field Work Practices (PKL) are examples of learning activities carried out by students to get a real picture of DU/DI and gain work experience. It will later prepate the students to enter the world of work according to the needs of DU/DI. Internships are conducted in the fourth or fifth semester. The duration of internship activities is adjusted to the policies of each school. In some schools, internships are carried out for three months to two semesters.

Efforts to achieve student work readiness are even better by adding to students' experiences and insights about the world of work that can be obtained through the street vendors program (Sakti, 2020). This is the purpose of field work practice itself, which is to produce graduates who have the knowledge, skills, and work ethic in accordance with the demands of the world of work. Prospective workers in the civil engineering field have a perception regarding the competency certification program in preparing to enter the world of work in the good category (Malik et al., 2023). Improving student work skills can reduce student fatigue when implementing work in the industry (Xing et al., 2023).

Vocational High School graduates who are expected to be able to go directly into the working world are in fact one of the contributors to unemployment in Indonesia with quite high numbers. Based on data obtained from BPS in August 2022, the open unemployment rate for Indonesia's population based on the highest education level reached 8.4 million people (Statistik, 2022). Among them, 22.34% are SMK graduates. However, this figure has decreased compared to the previous year, which was 23.2%. The existing cooperation is still not good between industry and schools, especially in small, medium and large industries, which is quite good, although it is still very limited (Arfandi & Sampebua, 2016).

The high unemployment rate for SMK graduates can be influenced by several things, including the level of students' work readiness. Readiness to change and innovative work behaviour (Sengupta et al., 2023). It can be seen from the aspects of the level of work readiness, it shows that 8% of students are very ready, 55% of students are ready, 27% of students say they are not ready and 10% of students are very unprepared (Anisa et al., 2021). Job readiness will also affect the quality of work. Students' work readiness is influenced by various factors, both from within the student (internal) and from outside the student (external), all of which are interconnected with one another. In this case, the internal factors that influence students' work readiness are both physical and mental maturity, pressure, creativity, interest, talent, intelligence, independence, mastery of knowledge, and motivation. Meanwhile, the external

factors that influence student work readiness include, factors that come from outside the student's self, including the role of the community, family, school facilities and infrastructure, information on the world of work, and work experience. The work experience includes work skills, work discipline and work discipline, one of which can be obtained through internships. The implementation of internships is expected to improve the students' work readiness so that after graduation students can go directly into the world of work in accordance with their respective areas of expertise as the initial goal of SMK.

METHODS

This study applied a quantitative approach. Quantitative approach is research that uses quantitative data, namely data in the form of numbers (Abdullah, 2015). Furthermore associative method was also used, of which, associative research is one of the research problem formulations that asks about the relationship between two or more variables (Sugiyono., 2018).

The population in this study were all class XII students majoring in Building Information Modelling Design at SMK Negeri 1 Cilaku consisting of 2 classes as shown in the table below:

Table 1.
Research Population

Class	Many Students
XII DPIB I	34 students
XII DPIB II	30 students
Total	64 students

In addition, the sampling technique employed in this research is non-probability sampling, so the samples involved were determined using certain considerations. Since the total population is less than 100, the entire population was used as research sample, with details of 20 people being the trial sample and 44 people being the research sample.

Furthermore, the instrument used in this study is questionnaire. In this case, questionnaires were used to measure the experience of industrial work practices of the students and their work readiness. The indicators on the industrial work practice questionnaire are the suitability of the placement with the student's field of study, the suitability of the subject matter with the industrial work practice material and monitoring carried out by the supervisor. Meanwhile, the indicators on the job readiness questionnaire are having logical and objective considerations, having the ability and willingness to cooperate with others, having a critical attitude, having the courage to accept individual responsibilities, having the ability to adapt to the environment and having the ambition to move forward and try to follow skill competency development.

After testing the instrument using the product moment correlation coefficient, 3 of 21 questions on the industrial work practice questionnaire were found invalid out with a reliability

value of 0.794 which was tested using the Cronbach alpha coefficient. Meanwhile, in the case of job readiness questionnaire 4 of 35 questions were found invalid with a reliability value of 0.897.

Research data that have been collected were analyzed through descriptive data analysis, simple linear regression, and hypothesis testing. Descriptive statistical analysis provides a description or picture or trend of the variables by analyzing the trends of the variables. This analysis includes determining the maximum value, minimum value, average (mean), standard deviation and the amount of research data. In this case, the analysis procedure was referred to (Sugiyono., 2018).

Table 2.
Tendency Criteria

Formula	Category
X ≥ M + 1.5 SD	Very good
M + 0.5 SD ≤ X < M + 1.5 SD	Good
M – 0.5 SD ≤ X < M + 0.5 SD	Pretty good
M – 0.5 SD ≤ X < M – 0.5 SD	Not good
X ≤ M – 1.5 SD	Very less

Furthermore, the frequency of achievements of each research instrument indicator was compared in order to. Describe the research findings on research variables. In this case, in order to determine the level of achievement, the criteria in Table 3 were applied.

Table 3.
Criteria for Respondents Achievement Level

No	Percentage range	Category
1	90% ≤ x	Very good
2	80% ≤ x < 90%	Good
3	65% ≤ x < 80%	sufficient
4	55% ≤ x < 65%	poor
5	x < 55%	Very poor

Simple linear regression is an equation that describes the relationship between the independent variable and the dependent variable. This equation is usually a straight line. The equation of simple linear regression equation is shown below:

$$\bar{Y} = a + bx$$

In order to find out the influence of variable x on variable y, it can be seen from the coefficient of determination (R Square). R square is the result of the rank of the correlation coefficient (R).

Meanwhile, hypothesis testing is a test conducted to test whether the hypothesis that has been previously proposed is accepted or rejected. In this study, hypothesis testing was carried out using the F test. The criterion is that if the Fcount value is greater than the F table value, the hypothesis is accepted.

RESULTS AND DISCUSSION

This study describes the findings that have been carried out based on the results of data analysis from research questionnaires that have been distributed directly to respondents using Google Form in January 2023. The respondents of this study were class XII students of Building Information Modelling Design at SMK Negeri 1 Cilaku Cianjur, Academic Year 2022/2023.

In the industrial work practice variable (X) there are 3 indicators with 18 questions. The indicators are the suitability of the placement with the student's field of study, the suitability of the subject matter with the industrial work practice material and monitoring by the supervisor. The results of the trend of data on variable X are as follows:

Table 4.
The results of the Industrial Work Practices Trend Test

Conversion Table	Category	Frequency	percentage
X ≤ 61.56	Very poor	2	5%
61.56 < X ≤ 67.82	poor	12	27%
67.28 < X ≤ 74.09	Sufficient	17	39%
74.09 < X ≤ 80.35	Good	10	23%
80.35 < X	Very good	3	7%
	Total	44	100%

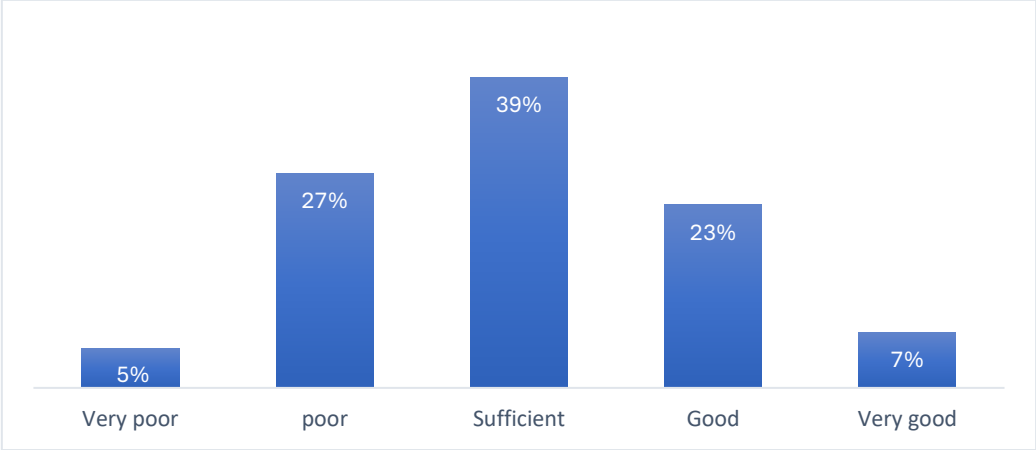

Figure 1. Histogram of Variable X

Based on the trend test of respondents' answers on industrial work practices on, class XII students of SMK Negeri 1 Cilaku, 17 students have a percentage of 39%, and categorized as, moderate.

After conducting an analysis of industrial work practice questionnaire scores for students at SMK Negeri 1 Cilaku for the 2022/2023 academic year, an analysis was then carried out by comparing the frequency of each question indicator. The following results were obtained:

Table 5.
Percentage of general description of industrial work practices per indicator

No	Indicator	Score appears	Total score	Percentage	Category
1	The suitability of the placement with the student's field of study	931	1100	85	Good
2	Conformity of subject matter with industrial work practice material	1048	1320	79	Sufficient
3	Monitoring by supervisor	1143	1540	74	Sufficient
			Total	79%	Sufficient

The suitability of the placement with the student's field of study has the highest percentage, of 85% of the ideal score. Meanwhile, other indicators have percentages between 74% - 79% of the ideal score. The average of all indicators obtained is 79% of the ideal score, so it is categorized as sufficient.

In the case of work readiness variable (Y), there are 6 indicators with 31 questions. The indicators are having logical and objective considerations, having the ability and willingness to work with others, having a critical attitude, having the courage to accept individual responsibilities, having the ability to adapt to the environment, and having the ambition to move forward and trying to keep up with developments in competency skills. The results of the trend of data on variable Y are as follows:

Table 6.
Results of the Work Readiness Tendency Test

Conversion Table	Category	Frequency	Percentage
$X \leq 107.11$	Very poor	11	25%
$107.11 < X \leq 117.64$	Poor	3	7%
$117.64 < X \leq 128.18$	Sufficient	16	36%
$128.18 < X \leq 138.71$	Good	12	27%
$138.71 < X$	Very good	2	5%
	Total	44	100%

Based on the trend test of the respondents' answers on the work readiness of class XII students at SMK Negeri 1 Cilaku, 16 students have a percentage of 36%, so they are categorized as sufficient.

After conducting an analysis of industrial work practice questionnaire scores for students at SMK Negeri 1 Cilaku for the 2022/2023 school year, an analysis was then carried out by comparing the frequency of each question indicator. The following results were obtained (Table 7)

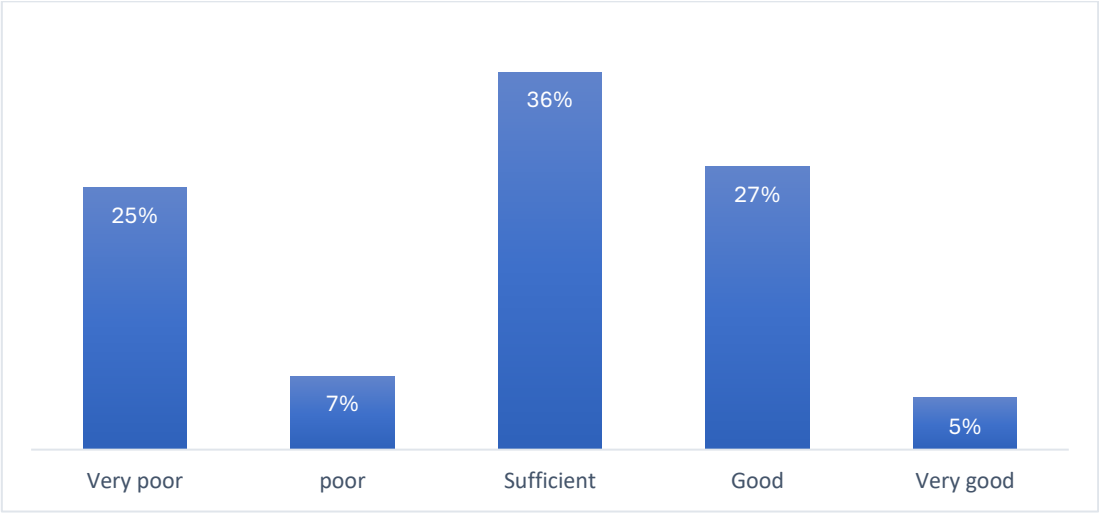

Figure 2. Histogram of Variable Y

Table 7.
Percentage of general description of work readiness per indicator

No	Indicator	Score appears	Total score	Percentage	Category
1	Having logical and objective considerations	1049	1320	79%	Sufficient
2	Having the ability and willingness to work with others	874	1100	79%	Sufficient
3	Having a critical attitude	700	880	80%	Sufficient
4	Having the courage to accept responsibility individually	902	1100	82%	Good
5	Having the ability to adapt to the environment	833	1100	76%	Sufficient
6	Having the ambition to move forward and try to keep up with the development of skills competencies	1050	1320	80%	Sufficient
			Average	79%	Sufficient

The indicator of having the courage to accept responsibility individually has the highest percentage of, 82% of the ideal score. Meanwhile, other indicators have percentages between 76% - 80% of the ideal score. The average of all indicators obtained is 79% of the ideal score, so it is categorized as sufficient.

Furthermore, linear regression analysis was conducted to determine the effect of industrial work practices on work readiness. The value of a and b in the linear regression equation, can be seen from the table 8.

Table 8.
Results of Simple Linear Regression Analysis

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	45.569	14.064		3.240	0.002
	Industrial Work Practices	1.090	0.197	0.648	5.520	0.000

So, the regression equation is obtained as follows:

$$\hat{Y} = 45.569 + 1.090X$$

Base on the equation it can be seen that the constant value (a) obtained is 45.569 and the regression coefficient (b) is 1.090 which can be interpreted as follows:

1. The value of the constant (a) is 45.569 which means that if industrial work practices are equal to zero or there is no change, then the work readiness of students at SMK Negeri 1 Cilaku is 45.569 Therefore, without industrial work practices, student work readiness has been formed with a score of 45,569.
2. The value of the regression coefficient (b) is 1.090 which means that if industrial work practices increase by one unit, then the work readiness of students at SMK Negeri 1 Cilaku will also increase by 1.090 units. The value of the regression coefficient in this study is positive, which means that the direction of the influence of industrial work practices on the work readiness of students at SMK Negeri 1 Cilaku is positive or unidirectional. The purpose of the unidirectional regression coefficient value is that if the implementation of industrial work practices is getting better, the work readiness of students at SMK Negeri 1 Cilaku will also increase.

Table 9.
Calculation of the Coefficient of Determination

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.648a	.420	.407	8.113

a. Predictors: (Constant), Industrial Work Practices
b. Dependent Variable: Working readiness

The R-square value indicates the magnitude of the influence of industrial work practices on work readiness when viewed from the r-square value. The r-square value in this study is 0.420 or 42%. it means that industrial work practices have an influence of 42% on student work readiness. Meanwhile, the remaining 58% is influenced by other factors that were not examined in this study such as learning motivation, interests and talents, job prospects, knowledge and insight and environmental factors.

Table 10.
Linearity Test Results

ANOVA Table							
			Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Working readiness * Industrial Work Practices	Between Groups	(Combined)	3433.186	22	156.054	2.452	0.022
		Linearity	2005.399	1	2005.399	31.511	0.000
		Deviation from Linearity	1427.788	21	67.990	1.068	0.441
	Within Groups		1336.450	21	63.640		
	Total		4769.636	43			

Linearity test was conducted to determine whether two variables have a linear relationship or not. Based on table 4.9. it can be seen that the Significance value for the Deviation of Linearity is 0.441, which is greater than 0.05. So, it can be concluded that variable X and variable Y have a linear relationship.

Furthermore, hypothesis testing uses the F test with the following conditions:

If the value of Fcount > Ftable then H0 is rejected and, Ha is accepted.

If the value of Fcount <Ftable then H0 is accepted and, Ha is rejected.

Table 11.
F count value

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	2005.399	1	2005.399	30.470	.000[b]
	Regression	2764.238	42	65.815		
	Total	4769.636	43			

Table 12.
FTable value

Table F	**CONTENT**
Probability	0.05
Numerator	1
Denumerator	42
Results	4.073

Based on the test conditions, it can be concluded that if Fcount > Ftable and significance value > 0.05. then H0 is rejected and Ha is accepted.

Table 13.
Fcount > Ftable

Fcount > Ftable	**significance value <0.05**
30.470 > 4.073	0.000 < 0.05

CONCLUSION

Based on the research that has been carried out along with the results of data analysis, it can be concluded that the general description of the implementation of industrial work practices in students of SMK Negeri 1 Cilaku has a tendency to be in the sufficient category. In addition, the general description of the work readiness of class XII students at SMK Negeri 1 Cilaku has the sufficient category. In other words, students are quite ready to enter the world of work. furthermore, the influence of industrial work practices on student work readiness showing a positive influence with a value of 42%.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

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