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Impact of Facilities, Infrastructure, and Competence on Vocational Readiness at SMKN 1 Rejotangan

Achmad Ardiansah[1], Yelma Dianastiti [2]

[1, 2] Vocational education of automotive technology, Bhinneka PGRI University

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***Correspondence Address:**
aariansah441@gmail.com[1],
dianastityelmai@ubhi.ac.id[2]

Abstract: This research aims to analyze the influence of facilities and infrastructure and competence on the work readiness of 75 eleventh-grade students majoring in Light Automotive Engineering at SMK Negeri 1 Rejotangan in the academic year 2022/2023. The research method used is quantitative, with data collection through questionnaires and documentation. Data analysis is conducted using simple linear regression and multiple linear regression with SPSS v.26 statistical software. The results of the research show that facilities and infrastructure have a significant influence on the work readiness of eleventh-grade students majoring in Light Automotive Engineering at SMK Negeri 1 Rejotangan in the academic year 2022/2023, with an influence of 20.0% of R^2. Furthermore, professional competence also has a significant influence on the work readiness of the students, with an influence of 39.0% of R^2. The F-test results indicate that facilities and infrastructure and professional competence together have a significant influence on the work readiness of eleventh-grade students majoring in Light Automotive Engineering at SMK Negeri 1 Rejotangan in the academic year 2022/2023, with an influence of 41.2% of R^2.

INTRODUCTION

In the scope of education in schools, there are three interconnected variables: curriculum, teachers, and the learning process. The learning process, as the realization of curriculum implementation, is the heart of formal education in schools and the interaction between teachers and students. In the Teaching-Learning Process, teachers are expected to play an active role in providing knowledge to students, thus producing successful, useful, and ready-to-continue-higher-education students. To improve the quality of the teaching-learning process and enhance the motivation and learning outcomes of students, educational institutions, especially school practicum facilities, need to be supported. All practicum facilities are means that directly or indirectly support the educational process (Saifulloh & Darwis, 2020).

Vocational High Schools (SMK) as vocational education play a

strategic

role in preparing a skilled national workforce. This is in line with the objectives of Vocational High Schools (SMK) stated in Government Regulation Number 32 of 2013 concerning National Education Standards, Article 26 paragraph 3, which aims to improve intelligence, personality, noble character, and encourage further education according to their expertise.

SMK has a crucial role in preparing human resources (Gusni, 2019). Accessible facilities for preparing human resources as talented job applicants can be through vocational schools. SMK is an educational foundation that plans to prepare human resources ready to work according to their respective strengths and competencies. The existence of SMK educational institutions in preparing students to become skilled workers still needs improvement, as not all SMK graduates are fully absorbed into the workforce. This phenomenon is indicated by data obtained from the Central Statistics Agency, which shows that SMK graduates contribute significantly to the unemployment rate (Seriana, Machmud, & Santoso, 2021).

The incomplete absorption of students by the job market can be caused by several factors, one of which is the availability of practicum facilities for students during the teaching-learning process. In reality, SMK graduates may not possess the required competencies needed by businesses and industries. This might be because vocational education has not yet adopted the standards applied by the business and industrial world. The unilateral provision of education like this leaves students lagging behind the progress of the business/industrial world, unclear about the competencies achieved, and unrecognized for skills acquired outside of school. This indicates that SMK graduates are not fully ready to enter the workforce.

Recent data from BPS (Central Statistics Agency) for February 2022 shows that the number of open unemployment in Indonesia reached 8.4 million people. Although the unemployment rate has decreased compared to the previous year, the highest unemployment rate still belongs to vocational high school graduates, accounting for 22.34% of the total unemployed. Based on this data, SMK is the second-largest contributor to open unemployment (Badan Pusat

Statistik, 2022).

Observations conducted by the researchers at SMK Negeri 1 Rejotangan indicate that there are still some shortcomings in the Special Job Market for each specific expertise program, limited cooperation between the school and the industrial world, and the lack of accurate data about the absorption of SMK Negeri 1 Rejotangan graduates by the industry in the Light Automotive Engineering program. This suggests that many students have not found work relevant to their expertise after graduating from school, indicating that their work readiness for employment in companies/industries is still not optimal.

According to the Labor Law No. 13/2003: Article 1 (10), "Competence is the work ability of each individual that includes knowledge, skills, and work attitudes in accordance with the established standards." Based on this, competency does not emerge by itself. Essentially, competency is an ability, while skills are a learned ability. Knowledge alone does not provide skills, but it can create competencies, although this is not always the case. To have competence, one must have both knowledge and skills. One way to produce professionals capable of keeping up with advancements in science and technology is by improving educational practicum facilities.

The need for suitable workshop facilities for practice is intended to anticipate curriculum dynamics and prepare for the increasing demands of the industrial world in terms of the quality of SMK graduates. The workshop facility that is not up to standard can disrupt the learning process since an SMK must produce students with adequate expertise competencies, one of which is the Light Automotive Engineering program at SMK Negeri 1 Rejotangan. Based on preliminary observations, many students still lack adequate competencies, especially in that expertise.

This condition might be influenced by the inadequacy of the workshop facilities, particularly for the electrical installation subject, as well as the low achievement of students in that subject.

A. Discussion of Research Variables:

1) Student Work Readiness

Work readiness refers to the abilities and skills possessed by individuals to enter and adapt to the work-force. In the context of vocational education, work readiness encompasses technical aspects, practical skills, and professional attitudes required in specific job fields. A strong work readiness allows graduates to directly enter the industry and be productive in their jobs (Anggraini, Patmanthara, & Purnomo, 2017).

Previous research on work readiness shows a positive correlation between work readiness and the success rate in obtaining employment. Students with high work readiness are more likely to secure jobs that match their competencies and have opportunities for career advancement (Wahid, Djaelani, & Sarsetyono, 2020). There-fore, it is crucial for vocational education to focus on developing students' work readiness to produce graduates ready to contribute to the workforce.

2) Professional Competence

Professional competence refers to specific abilities and knowledge required in a particular job field. In the context of Automotive Light Vehicle Engineering, professional competence includes understanding automotive systems and technology, the ability to perform vehicle maintenance and repair, and the application of workplace safety procedures in automotive workshops (W. C. W., Sutikno, & Herwanto, 2019). High professional competence is an essential indicator in determining the quality of vocational graduates in meeting industry demands.

Vocational education that emphasizes the development of professional competence will help students acquire knowledge and skills relevant to the job market. Good professional competence will empower graduates to face work challenges and adapt to technological changes in the automotive industry (Noris, 2019). Therefore, it is important for vocational schools to ensure that the curriculum and learning activities align with the relevant professional competence standards in the industry.

3) Facilities and Infrastructure

Facilities and infrastructure encompass the facilities, equipment, and learning environment provided by schools. In the context of vocational education in Automotive Light Vehicle Engineering, facilities and infrastructure include automotive laboratories, workshops, vehicle repair equipment, and up-to- date technology supporting the learning process (Wahid, Djaelani, & Sarsetyono, 2020). Adequate facilities and infrastructure will enhance the quality of students' learning, allowing them to develop practical skills more effectively.

Previous research shows that complete and modern facilities and infrastructure positively contribute to students' work readiness. Laboratories and workshops equipped with sophisticated tools enable students to practice with current technology, making them better prepared for the challenges of the workforce (Saifulloh & Darwis, 2020). Additionally, a conducive learning environment also influences students' motivation and interest in learning (Jeli, 2020).

RESEARCH METHODS

This research is quantitative in nature and falls under ex-post facto research, utilizing a survey method with a questionnaire as the data collection tool. The survey method is employed to efficiently collect data from respondents and represent a larger population. In this case, the research population comprises 11th-grade students in the Automotive Light Vehicle Engineering program at SMKN 1 Rejotangan

A. Population and Sample

The research population consists of all 11th-grade students in the Automotive Light Vehicle Engineering program at SMKN 1 Rejotangan. From this population, a sample of 164 students is taken as research respondents. The sample is selected using the proportional random sampling technique to ensure data representativeness from the entire population. Based on the number of students, the minimum sample size is determined by selecting 20 students from

each class, resulting in a total sample size of 60 students. The research process is outlined in the following steps.

B. Research Instrument

The research instrument used in this study is a questionnaire. The questionnaire is designed with relevant questions related to the research variables: facilities and infrastructure, professional competence, and work readiness of students. The questionnaire is used to measure students' perceptions of the school's facilities and infrastructure, the level of teachers' professional competence, and their work readiness.

The Likert scale is utilized, with respondents providing scores from 1 to 4 for each statement or question, and there are four answer options for respondents to state their responses clearly. The answer alternatives are Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). The scoring explanation for the Likert scale is as follows:

Table 1. Likert rating scale

Alternative Answer	Score
Strongly Agree (SS)	4
Agree (S)	3
Disagree (TS)	2
Strongly Disagree (STS)	1

Before collecting the questionnaire data used as the research instrument, validity and reliability tests are conducted. If the calculated r is greater than or equal to the table r (0.361) at a 5% significance level, then the statement is considered valid. Based on the indicators of the Work Readiness variable, which is developed into 25 statements, 17 statements are found to be valid, and 8 statements are not valid. Similarly, for the Professional Competence variable, which is developed into 15 statements, 12 statements are found to be valid, and 3 statements are not valid. Lastly, for the Facilities and Infrastructure variable, which is developed into 15 statements, 14 statements are valid, and 1 statement is not valid.

Reliability, according to Purwanto in Sukendra (2020), is the accuracy of a measuring tool in conducting measurements. The Cronbach's Alpha formula is

used to test the reliability of the questionnaire. The results obtained from this calculation are then interpreted with a guideline table to interpret the correlation coefficient. According to Sugiyono (2012), the guideline for interpreting the correlation coefficient can be seen in Table 2 as follows:

Table 2. Interpretation of correlation coefficient

Coefficient Interval	Interpretation
0,000 - 0,199	Very Low
0,200 - 0,399	Low
0,400 - 0,599	Medium
0,600 - 0,799	High
0,800 - 1,000	Very High

(Sugiyono 2012)

The instrument is considered reliable if the calculated r is greater than or equal to the table r. If the calculated r is smaller than the table r, the instrument is considered not reliable, or the calculated r is consulted with the interpretation table with a criterion that it is considered reliable if $r \geq 0.600$. The reliability analysis results using IBM SPSS Statistics 26 software are as follows:

Table 3. Questionnaire reliability test results

Variable instruments	*Cronbach's Alpha* Coefficient	Reliability Description
Student Work Readiness	0,817	Very High
Professional Competence	0,841	Very High
Facilities and Infrastructure	0,812	Very High

After interpretation with the correlation coefficient interpretation table, both variables have a very high level of correlation coefficient. The data analysis techniques used in this study include tests for normality, linearity, multicollinearity, and heteroskedasticity. For hypothesis testing, t-test and F-test are used, as well as the effective contribution and relative contribution of each independent variable to the dependent variable

RESULTS AND DISCUSSION

After the data has been collected from the questionnaire filled out by 70 respondents of 11th-grade students in the Automotive Light Vehicle Engineering program at SMKN 1 Rejotangan, the results of this research will be presented using descriptive statistical analysis and inferential statistics with the assistance

of IBM SPSS Statistics 26 software.

A. RESEARCH RESULTS

1) Descriptive statistics

a) Variable Infrastructure Facilities

From the results of the calculation of descriptive statistics of the variable data on infrastructure facilities, presented in the table above, it can be depicted in the Pie Chart as follows.

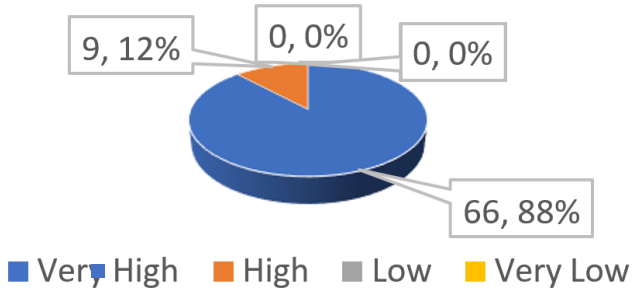


Figure 1. Pie Chart Infrastructure Facilities

Based on the Pie Chart above, it can be seen that the variable workshop infrastructure facilities in the very high category were 66 respondents or 88%, in the high category were 9 respondents or 12%, in the low category were 0 respondents or 0%, and in the very low category were 0 respondents or 0%. The average value obtained is 48.67 so it can be concluded that the workshop infrastructure facilities at SMKN 1 Rejotangan are included in the very high category.

b) Expertise Competency Variable

From the results of the calculation of descriptive statistics of the expertise competency variable data, presented in the table above, it can be depicted in a Pie Chart as follows.

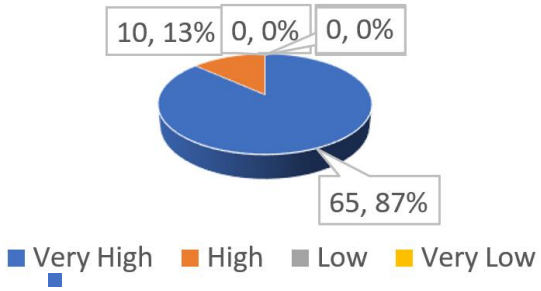
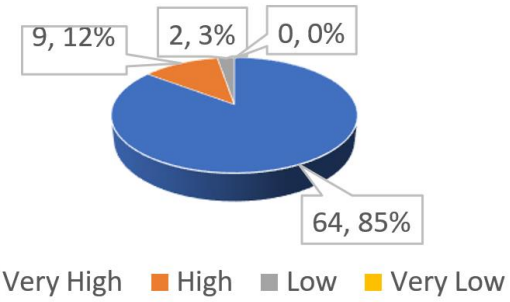


Figure 2. Pie Chart of Expertise Competency

Based on the Pie Chart above, it can be seen that the workshop expertise competency variable in the very high category is 65 respondents or 87%, in the high category is 10 respondents or 13%, in the low category is 0 respondents or 0%, and in the very low category is 0 respondents or 0%. The average value obtained is 41.59 so it can be concluded that the competence of workshop expertise at SMKN 1 Rejotangan is included in the very high category.

c) Description of Work Readiness Variable Data

From the results of the calculation of descriptive statistics of the work readiness variable data, presented in the table above, it can be depicted in the Pie Chart as follows.



Based on the Pie Chart above, it can be seen that the workshop work readiness variable in the very high category is 64 respondents or 85%, in the high category is 9 respondents or 12%, in the low category is 2 respondents or 3%, and in the very low category is 0 respondents or 0%. The average value obtained is 57.76 so that it can be concluded that the workshop work readiness at SMKN 1 Rejotangan is in a very high category.

B. Data Analysis and Hypothesis Testing

1) Prerequisite test

a) Normality Test

The results of the Kolmogorov-Smirnov Test table data normality test, as follows.

Table 4. Normality test results

No.	Variables	Asymp. Sig. (2-tailed)	Conclusion
1	X1 to Y	0,200	Linear
2	X2 to Y	0,193	Linear
3	X1 & X2 to Y	0,200	Linear

In table 4 above, it is known that the data with the Normal Kolmogorov-Smirnov Test on variables X1, X2 on Y is declared normally distributed. This is because both X1 to Y and X2 to Y with a value of Asymp. Sig. 0.200> 0.05, and X1, X2 against Y the value of Asymp. Sig. 0.193 > 0,05.

b) Linearity Test

The results of the linearity test output of this study can be seen in Table 5 below.

Table 5. Linearity test results

No	Variables	Provision	Linearity	Sig. Deviation from Linearity	Conclusion
1	X1 to Y	0,05	0,000	0, 631	Linier
2	X2 to Y	0,05	0,000	0, 525	Linier

Table 5 above shows that the significance value of each relationship between variables is 0.000 less than 0.05 and the significance value of deviation is more than 0.05, it can be concluded that the relationship between the independent variable and the dependent variable in this study is linear.

c) Multicollinearity Test

The results of the first and second substructure multicollinearity tests can be seen in Table 6 below.

Table 6. Multicollinearity test results

No.	Variables	Tolerance	VIF
1	X1 to Y	0,737	1.356
2	X2 to Y	0,737	1.356

Table 4.15 above shows that the results of the multicollinearity test process on all variables have a Tolerance value greater than 0.1 and a VIF value smaller than 10, so it can be concluded that there is no multicollinearity problem in this study.

d) Heteroscedasticity Test

The results of the heteroscedasticity test can be seen in Table 7 below.

Table 7. Heteroscedasticity test results

Variables	Results	Conclusion
X1 to Y	0,600	No symptoms of heteroscedasticity
X2 to Y	0,546	No symptoms of heteroscedasticity

The table above shows that the value of the heteroscedasticity test results is greater than 0.05, so it can be concluded that there is no heteroscedasticity between the independent variable and the dependent variable.

2) Research Hypothesis Test

a) First Hypothesis Testing

The first hypothesis tested in this study is the t test of Infrastructure Facilities on Students' Work Readiness. A summary of the results of simple regression analysis is as follows.

Table 8. Summary of the first hypothesis test results

r	r^2	Value of t		Koef	Concert	Sig
0,447	0,200	Count	table	0,556	30,688	0,000
		4,268	1,993			

The results of the calculations that have been carried out using the help of SPSS IBM Statistic 26 software obtained the t count of 4.268 is greater than the T table which is 1.993, and the sig. value of 0.000 <0.05, it can be concluded that field work practice has a positive and significant effect on work readiness, so H0 is rejected and H1 is accepted.

a) Second Hypothesis Testing

The second hypothesis tested in this study is the t test of Expertise Competence on Students' Work Readiness. A summary of the results of the simple regression analysis is as follows.

Table 9. Summary of the results of the second hypothesis test

r	r^2	Value t		Koef	Concert	Sig
0,624	0,390	Count	Table	0,918	19.594	0,000
		6,829	1,993			

The results of the calculations that have been carried out using the help of SPSS IBM Statistic 26 software obtained the t count of 6.829 is greater than the

T table which is 1.993, and the sig. value of 0.000 <0.05, it can be concluded that the practice of field work has a positive and significant effect on work readiness, so H0 is rejected and H2 is accepted.

b) Third Hypothesis Testing

The third hypothesis tested in this study is the f test of Infrastructure Facilities and Expertise Competencies on Students' Work Readiness.

Summary of simple regression analysis results as follows.

Table 10. Third hypothesis test results

The values of r and r^2		Price f		Sig	Koef	Concert
r	r^2	F count	F table	0,000	0,214 (X1)	14,562
0,642	0,412	25,186	3,976		0, 788 (X2)	

The results of calculations that have been carried out using the help of SPSS IBM Statistic 26 software obtained the f count result of 25.186 is greater than the T table which is 3.976, and the sig. value of 0.000 <0.05, it can be concluded that infrastructure facilities and expertise competencies have a positive and significant effect on work readiness, so H0 is rejected and H3 is accepted.

3) Discussion

The results of partial testing using the t test between Infrastructure Facilities have a positive effect on the Work Readiness of students with a significance value of 0.000. The significance value is smaller than 0.05, then the hypothesis is accepted, the conclusion is that there is a significant influence between the Infrastructure Facilities variable has a contribution to the influence on the work readiness of class XI students of the Automotive Light Vehicle Engineering Department of SMK Negeri 1 Rejotangan Academic Year 2022/2023 by 20.0%, this shows that there are still 80.0% other factors or variables that contribute to student work readiness.

The results of partial testing using the t test Expertise Competency has a positive effect on students' work readiness with a significance value of 0.000. The significance value is smaller than 0.05, then the hypothesis is accepted, the conclusion is that there is a significant influence between the Expertise

Competency variable has a contribution to the influence on the work readiness of class XI students of the Automotive Light Vehicle Engineering Department of SMK Negeri 1 Rejotangan Academic Year 2022/2023 by 39.0%, this shows that there are still 61.0% other factors or variables that contribute to student work readiness.

In testing the hypothesis simultaneously using the f test, namely infrastructure facilities and Expertise competence have a positive effect on students' work readiness with a significance value of 0.000. The significance value is smaller than 0.05, then the hypothesis is accepted, the conclusion is that there is a significant influence between the variables Infrastructure facilities and Expertise competencies have a contribution to the influence on the work readiness of class XI students of the Automotive Light Vehicle Engineering Department of SMK Negeri 1 Rejotangan Academic Year 2022/2023 by 41.2%, this shows that there are still 58.8% other factors or variables that contribute to student work readiness.

CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

1) Facilities and Infrastructure has a positive influence on the Work Readiness of 11th-grade students majoring in Light Automotive Engineering at SMK Negeri 1 Rejotangan in the Academic Year 2022/2023. This is evidenced by the regression coefficient (rx1y) of 0.447 and the determination coefficient (r2x1y) of 0.200, indicating that this variable contributes 20.0% to students' work readiness.

2) Competence in Expertise has a positive influence on the Work Readiness of 11th-grade students majoring in Light Automotive Engineering at SMK Negeri 1 Rejotangan in the Academic Year 2022/2023. This is evidenced by the regression coefficient (rx2y) of 0.624 and the determination coefficient (r2x2y) of 0.390, indicating that this variable contributes 39.0% to students' work readiness.

3) Facilities and Infrastructure and Competence in Expertise together have a positive influence on the Work Readiness of 11th-grade students majoring in Light Automotive Engineering at SMK Negeri 1 Rejotangan in the Academic Year 2022/2023. In combination, these variables contribute 41.2% to students' work readiness.

B. Recommendations

1) For Schools:

Schools can enhance students' work readiness by monitoring the implementation of facilities and infrastructure and assessing students' abilities during work practicum. The focus should be on applying the theories taught in school to develop students' skills in the field. Providing education to the industry partners (DU/DI) to ensure supervision during work practicum and assigning tasks that align with students' competencies. Schools can also improve students' work readiness by enhancing their professional competencies, particularly in physical activities, through enjoyable vocational training in the automotive field. Moreover, schools are expected to provide students with more information about job nature, working conditions, rewards, requirements, and the relevance of jobs to their expertise.

2) For Students:

Students are expected to wholeheartedly engage in facilities and infrastructure activities to enhance their skills and capabilities in the automotive field during work practicum. Taking vocational training or learning sessions seriously and diligently completing tasks and exercises related to automotive expertise. Students are also encouraged to proactively seek information about the automotive industry through mass media, school, and the community to broaden their knowledge and insight.

3) For Other Researchers:

This research examines the work readiness of students in SMK's Automotive Engineering department involving two independent variables: facilities and infrastructure and students' career interest. However, there are still

many other variables that influence students' work readiness. Hence, it is highly possible for other researchers to conduct studies on other variables related to students' work readiness.

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