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The Relationship between World of Work Insights and Vocational Skills with Readiness to Enter the 21st Century World of Work in Electrical Power Installation Engineering Vocational Students in Jombang Regency

Aiza Rahman*, Gunawan Irianto, Yuni Rahmawati

Universitas Negeri Malang, Jl. Cakrawala No.5, Sumbersari, Kec. Lowokwaru, Kota Malang, Jawa Timur 65145, Indonesia

*Email: aizarahman98@gmail.com

Abstract

The objectives of this study are: (1) to describe the insights of the world of work owned by students of class XII (X_1); (2) describe vocational skills mastered by students to get involved in the world of work in the 21st century (X_2); (3) describe the readiness to enter the 21st century workforce as students as candidates for labor in the 21st century era (Y); (4) reveal the significance of the relationship between (X_1) and (Y); (5) reveal the significance of the relationships (X_2) and (Y); (6) revealing the significance of the simultaneous relationship between (X_1) and (X_2) with (Y); the 107 students of Department of Electrical Power Installation Engineering Program at vocational higj school regional Jombang. The data collection method is the questionnaire method. The questionnaire used has met the validity test and reliability test. Data analysis techniques used are partial correlation analysis and multiple regression, prerequisite test analysis, and analysis of relative-relative contributions. The regression equation Y = 30,215 + 0.035X1 + 0.481X2 with a significance of 0,000 indicates a positive and significant relationship between insight into the world of work and vocational skills with readiness to enter the 21st century work world.

Keywords: insight into the world of work, readiness to enter the 21st century work world, vocational skill

Introduction

Education has the aim of educating the nation's life and developing the potential possessed by each individual and devoted to God Almighty, having a virtuous personality (Cattaneo & Motta, 2021). SMK unemployment in East Java in October 2019, according to data from BPS, there were 16,820 unemployed people, as many as 6.84 percent were SMK graduates, this is reinforced by research conducted by Sasmito in Sisco, (2017) which states that the deviation in the absorption of SMK graduates is the lack of competence and mentality of SMK graduates, causing unpreparedness to enter the world of work, plus the high competitiveness in entering work in industry also makes one of the reasons for the lack of absorption of SMK graduates.

According to (Ma et al., 2024), states that vocational skills are defined as a person's ability to develop his knowledge through experience in carrying out skill tasks. Rausch et al. (2024), state that

vocational skills are the capacity or ability of individuals to carry out a task that develops from the results of training and experience. The development of students' knowledge and abilities can be improved in learning according to Poizat et al. (2024) suggests that the student learning process now uses the Scientific Approach, namely the learning process with its application students can conceptualize, find or identify problems, propose or formulate hypotheses from the problems at hand, collect data from various techniques, analyze the data that has been obtained, draw conclusions and communicate concepts from the analysis obtained. The era of the 21st century students are required to have skills according to the needs of the world of work according to Chen (2021), which states that entering the new world of work in the 21st century the skills needed in the industrial world and the world of work require skills (a) creativity, (b) critical thinking, (c) collaboration and (d) communication. So, vocational skills in the 21st century are the abilities and skills that must be mastered by students in order to develop and master a certain field of expertise in accordance with the demands and expertise that develop in the world of work, so that the abilities that have been owned can be used as provisions in entering the world of work.

World of work insight is one of the factors that influence readiness to enter the world of work in the 21st century that world of work insight is the perspective or understanding of each individual towards the world of work based on information obtained and believed to be true with the aim of avoiding mistakes in order to achieve realizing life goals (Weerdt et al., 2024). Supported by Fuertes et al. (2021) state that world of work insight is something knowledge or the ability of each individual to interpret and add thoughts that allow individuals to analyze, namely: (a) the requirements that exist when entering the world of work; (b) world of work information related to the description of a job in order to prepare, choose, and enter the world of work; (c) and labor information which includes the rights and obligations of individuals in entering the world of work.

Therefore, vocational skills and world of work insights are likely to have an influence on readiness to enter the 21st century workforce (Hou et al., 2023). If students have good world of work insights and high vocational skills, it is expected that students can improve their readiness to enter the 21st century workforce (Creed et al., 2019). The objectives of this study are: (1) to prove the relationship between world of work insight and readiness to enter the 21st century workforce; (2) to reveal the significance of the relationship between vocational skills and readiness to enter the 21st century workforce; (3) to reveal the significant relationship between world of work insight and vocational skills with readiness to enter the 21st century workforce in class XII students of SMK Expertise Program in Electrical Power Installation Engineering in Jombang Regency.

Methods

This research uses a correlational quantitative research approach. The respondents or research sample consisted of 107 students. The sampling technique used was saturated sampling. The research instrument uses a questionnaire or survey. Data analysis uses descriptive statistical analysis, followed by prerequisite data analysis tests using normality, linearity, multicollinearity, autocorrelation, and heteroscedasticity tests. Data that have met the prerequisite tests for analysis are continued with multiple regression analysis: (1) revealing the significance of the relationship between variables and (2) examining the contribution of each predictor to the readiness to enter the 21st-century workforce with the help of SPSS version 22.

Result and Discussion

Research data on the variables of work insight, vocational skills, and readiness to enter the 21st-century workforce. The results of the grouping of work insight data in the study showed an average of 124.49; a standard deviation of 13.539; a lowest score of 83; and a highest score of 149. The data distribution is shown in Table 1. The results of the data from the vocational skills of 12th-grade students in the Electrical Power Installation Engineering Program at SMK in Jombang Regency show an average score of 124.49; a standard deviation of 13.066; a lowest score of 56; and a highest score of 135.

The data distribution is shown in Table 2. The readiness to enter the 21st-century workforce of 12th-grade students in the Vocational High School Electrical Installation Engineering Program in Jombang Regency, with an average score of 88.4; a standard deviation of 9.161; a lowest score of 65; and a highest score of 110. The data distribution is shown in Table 3.

Table 1 Distribution of Work World Insights

No	Criteria	Interval(I)	F	(%)
1	Very High	144.1-149	7	6.54%
2	High	131.1-144	28	26.16%
3	Currently	117.1-131	43	40.18%
4	Low	104.1-117	21	19.62%
5	Very Low	83-104	8	7.5%
	Total		107	100%

Table 2 Distribution of vocational skills

No	Criteria	(I)	(F)	(%)
1	Very High	131,1-135	5	4.60%
2	High	118,2-131	31	28.30%
3	Currently	104,1-118	44	41.92%
4	Low	91,1-104	19	17.71%
5	Very Low	56-91	8	7.47%
	Total		107	100%

Table 3 Distribution of Readiness to Enter the 21st Century Workforce

No	Criteria	(I)	(F)	(%)
1	Very High	102,1-110	8	7.47%
2	High	93,02-102	31	22.43%
3	Currently	83,1-93	44	41.13%
4	Low	74.1-83	23	21.50%
5	Very Low	65-74	8	7.47%
	Total		107	100%

The data obtained in the prerequisite analysis tests, namely normality, linearity, multicollinearity, autocorrelation, and heteroscedasticity tests. The results of the normality test on the data from each variable of world of work insight, vocational skill, and readiness to enter the 21st-century world of work are obtained with values (p): 0.200, 0.200, and 0.135. Each variable has (p)>0.05, which means the data is normally distributed. The results of the linearity test show that the value of (p) is 0.000, which means that each independent variable (X) has a linear relationship with the dependent variable (Y) because (p) > 0.05. The results of the multicollinearity test obtained tolerance values of X1 and X2 at 0.597 with a VIF of 1.657. From this data, it can be interpreted that if the VIF value < 10, then the independent variables do not exhibit multicollinearity. The results of the autocorrelation test with a Durbin-Watson value of 2.102 indicate that there is no autocorrelation in the linear regression conducted on X1 and X2 with Y, which can be determined by observing the value dU≤DW≥4-dU. The results of the heteroscedasticity test indicate that the obtained data do not exhibit heteroscedasticity because, in the scatterplot diagram, the points are dispersed in an abstract pattern without a specific arrangement from top to bottom.

The prerequisite analysis test shows that the research data meets the assumption test, so the research data is analyzed using regression analysis. Analysis of the data on work insights (X1) with readiness to enter the 21st-century workforce (Y) shows that Phitung has a value of 0.00, indicating a positive and significant relationship. The results of the second partial correlation analysis, namely vocational skill (X2) with readiness to enter the 21st-century workforce (Y), obtained a Phitung value of 0.00, meaning there is a positive and significant relationship.

The results of the multiple regression analysis can be seen in Table 4, where the significance F value is 0.00, indicating a positive and significant relationship between vocational skills and work insights

simultaneously with readiness to enter the 21st-century workforce. The reliability coefficient value in Table 4 shows a value of 0.72, indicating a strong relationship. The regression equation = 30.215 + 0.035X1 + 0.481X2 can be concluded from this equation that the readiness to enter the workforce is valued at 30.125 when not influenced by the values of work insight and vocational skills.

Table 4. Regression Analysis Results

Sig. F	Coefficient			R	R square
	Const	X_1	X_2		
0.000	30.215	0.035	0.481	0.720	0.519

Simultaneously, it can be interpreted that the understanding of the world of work and vocational skills can significantly influence the readiness to enter the workforce in the 21st century, increasing by 0.035 for each unit increase in the understanding of the world of work, followed by an increase of 0.481 for each unit increase in vocational skills.

Based on the analysis conducted, there is a positive and significant relationship between work insights (X1) and readiness to enter the 21st-century workforce (Y). One of the efforts made to enhance the readiness to enter the 21st-century workforce for 12th-grade students in the TITL vocational program at SMK in Jombang Regency is by providing a well-planned and directed understanding of the working world, with the expectation that 12th-grade students in the TITL vocational program can adapt to the conditions present in the workforce.

In line with Vos et al. (2023), it is explained that readiness to enter the workforce is an essential attribute for graduates in terms of long-term performance and career development. Therefore, it is necessary to improve and build graduates' readiness to enter the workforce by providing an overview or conditions of the working world, making student decision-making more effective and potentially influencing the work capacity and performance of graduates when they enter the workforce.

The ability to provide work world insights to XII-grade students in the TITL vocational program can align their skills with the knowledge and competencies needed when entering the workforce. This enables students to choose jobs that match their expertise in electrical installation engineering and understand the requirements for those positions. Students select jobs that correspond to their abilities and find job openings by utilizing social media or through family and friendship networks. They possess the ability to apply K3 (Occupational Health and Safety) as a safety measure that must be implemented during work processes and understand the risks associated with the jobs they face. They are capable of planning their career development in the current job market. This is in line with Groof et al. (2022), who stated in their research that work world insights can influence students' readiness to enter the workforce and make job selections that match their abilities, as well as plan their career development for the future. Students who possess good vocational skills will be able to influence their ability to become experts in the field of electrical power.

Based on the analysis conducted, there is a vocational skill (X2) with readiness to enter the 21st-century workforce (Y). Vocational skill is the vocational competence to perform a specific job based on knowledge, attitude, and skills in line with the times. According to Dernutte in Famela, et al. (2015), vocational skill is defined as a person's ability to develop their knowledge through the experience of performing skilled tasks.

According to Nykänen et al. (2022), to prepare the workforce for vocational high school graduates, vocational skills are provided to students so they can use them as a foundation and basic abilities when entering the workforce. Students who possess high vocational skills in mastering skills in the 21st century, such as critical thinking, creativity, the ability to collaborate, and communicate, as well as skills in electrical installation according to the KKNI, are well-prepared to enter the workforce in the 21st century. This is because it is not only the competency in electrical installation that must be mastered, but also the skills that are currently in demand, or in other words, having mastery of skills in line with the times.

The presentation of the regression test results indicates that there is a simultaneous and positive relationship between work insights and vocational skills with the readiness to enter the 21st-century workforce among 12th-grade students of the TITL vocational program at SMK in Jombang Regency.

Presentation of the regression test results shows that there is a simultaneous and positive relationship between work insight and vocational skills with readiness to enter the 21st-century workforce among 12th-grade students of the TITL vocational program at SMK in Jombang Regency.

Presti et al. (2021) state that the factors influencing work readiness are internal factors and external factors. Internal factors include intelligence, skills, abilities, work goals, motivation, personality, aspirations, talents, and capabilities, while external factors include family environment, community environment, work environment, opportunities for advancement, and colleagues. Presti et al. (2021) state that the factors influencing job readiness are internal factors and external factors. Internal factors include intelligence, skills, competencies, work goals, motivation, personality, aspirations, talents, and abilities, while external factors include the family environment, community environment, work environment, opportunities for advancement, and colleagues. US-based Apollo Education Group states that the skills students must master to enter the workforce in the 21st century include critical thinking, communication, collaboration, leadership, and productivity (Löfgren et al., 2023).

Demonstrating readiness to enter the 21st-century workforce by providing greater insights into the world of work to vocational high school students in the Electrical Power Installation Engineering program and simultaneously enhancing their vocational skills, thus preparing 12th-grade students in the Electrical Power Installation Engineering program at vocational high schools in Jombang Regency to enter the workforce. Because according to the partial hypothesis test results, work insights and vocational skills have a significant relationship with the readiness to enter the 21st-century workforce among 12th-grade students in the Electrical Power Installation Engineering program at vocational schools in Jombang Regency, it can be confirmed that simultaneously, these two factors have a positive and significant relationship with the 21st-century work readiness of 12th-grade students in the Electrical Power Installation Engineering program at vocational schools in Jombang Regency.

Conclusion

Based on the results of the research conducted, the conclusion is as follows: There is a positive and significant relationship between work insights and the readiness to enter the 21st-century workforce among 12th-grade students of the TITL vocational program in Jombang Regency.There is a positive and significant relationship between vocational skills and the readiness to enter the 21st-century workforce among 12th-grade students in the TITL vocational program in Jombang Regency.There is a positive and significant relationship between work insight and vocational skills towards readiness to enter the 21st-century workforce among XII grade students of the TITL vocational program in Jombang Regency.

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