

The influence of the socialization of society 4.0 skills on students' understanding of careers at SMK Muhammadiyah 2 Malang

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Abstract

Career understanding is a depiction of students' mastery of various career and world of work information to support career decision making. This study is a service that aims to see the influence of the socialization of society 4.0 skills on students' understanding of careers at SMK Muhammadiyah 2 Malang. The research design uses a quantitative design in the form of a Quasi-experimental one-group pretest-posttest design using the normality test (Kolmogorov-Smirnov and Shapiro-Wilk) and the Wilcoxon test to compare the average of two variables in one group involving 79 class XI students as research subjects. The research subjects are class XI spread across five departments, the departments in question are Visual Communication Design (DKV), Computer and Network Engineering (TKJ), marketing, Retail Business (BR), and accounting. Seminars are given for 4-5 hours on the same day. The results of the analysis of the normality test using both Kolmogorov-Smirnov and Shapiro-Wilk show a non-zero normal distribution ($p = 0.000$) because p (Sig.) < 0.05 . Therefore, another test is needed using the Wilcoxon test with the analysis results showing a sig value. p -value = 0.000 ($p < 0.05$). This shows that career seminars have an influence in increasing students' knowledge regarding career understanding. So it can be concluded that the delivery of career material has provided students with a better understanding of SMK 2 Muhammadiyah Malang City.

Keywords: Career Understanding; Vocational School; Society 4.0 Skills

1. Introduction

Vocational Schools are formal educational institutions whose aim is to provide competence in the world of work so that graduates immediately become qualified job seekers. However, vocational school graduates are the graduates with the highest percentage of open unemployment (BPS, 2023) at 9.42%. Data from the National Labor Force Survey (Sakernas) (2023) also states the same thing, the open unemployment rate for vocational school graduates is the second largest after high school graduates with 1,780,095 graduates. The high number of open unemployment among vocational school graduates indicates that there is still something that needs to be improved for vocational school graduates to be ready to become a quality workforce (Mukhlason et al., 2020).

Suharno (2020) explains that there are at least several reasons why vocational schools in Indonesia have not been able to provide job graduate characteristics that are in line with employment needs. These causes are (1) new vocational school departments do not pay

attention to the needs of the job market, (2) the quality and quantity of teachers who still lacking, (3) inadequate infrastructure, and (4) poor school management. Another weakness of vocational school graduates is low literacy skills (Choi et al., 2019; Fajriati Fauzi & Usmeldi, 2022; Wafa & Wardi, 2019) where this causes them to excel in the job market in the short term after graduating while in the long term they have difficulty to show their quality. Karyaningsih et al. (2020) also stated that the mindset of vocational school graduates was still not fully formed during their school years. A number of challenges for vocational school graduates are also faced by Muhammadiyah Vocational School 2, Malang City.

From the results of observations and interviews with Mrs. Fitri as the person in charge of the Special Job Exchange (BKK), Muhammadiyah Vocational School 2 Malang City at least annually graduates around one hundred students, where the job absorption rate with school partners is Bank BRI, Royal ATK, PT. Cipta Sarana Scholar, Ramayana, Awesam Printing, and Maspion IT still account for less than 30% of the total students who graduated in that academic year. As a school with A accreditation, this number is certainly still considered insufficient. A number of alumni also sometimes still return to school to consult with guidance and counseling teachers about their condition and ask about employment information. Muhammadiyah Vocational Schools can actually still compete with other Vocational Schools in the field of non-academic achievements, but only certain students tend to make the school's name proud. This condition indicates that students' equal distribution of abilities and willingness to continue learning and improving their abilities is still not optimal. Increasing students' skills and abilities is also the responsibility of the guidance and counseling group at the school (Fitriani et al., 2022).

Guidance and counseling in schools has the function of helping students to be able to develop themselves to the maximum (Karneli, 2021), providing motivation and support to students (Thorifah et al., 2020), being able to overcome the problems they face independently (Laia et al., 2022) , as well as straightening out students' poor understanding. These roles are also important to be implemented optimally at the vocational school level, especially in career guidance. Guidance and counseling teachers need to provide services that are able to present a picture of the career that students will face (Nurdianah & Maq, 2021), what they need to prepare, provide space to improve interpersonal skills, and improve the quality of individuals in the class. The important role of guidance and counseling teachers in vocational schools certainly increases the tendency that the readiness of vocational school graduates to enter employment is in the lap of guidance and counseling teachers (Cahyaningrum & Herdi, 2023).

Guidance and guidance teachers should be able to support students in designing careers according to their abilities, talents and interests. Career guidance does not only focus on solving problems, but also helps individuals acquire the knowledge, attitudes and skills needed in the world of work (Sari et al., 2023). Getting information about a particular career, job or profession, as well as being able to plan and choose an appropriate career is the goal of career guidance services (Rosdiana et al., 2022). Providing continuous guidance using interesting and creative methods can help students understand careers better.

Understanding careers is very crucial because it helps individuals build identity and understanding of themselves and their role in the world of work (Pratiwi et al., 2024). This understanding includes knowledge of the development of various occupational fields, allowing a person to evaluate the suitability of his or her self-concept. Moreover, career information also includes the psychological ability to process and integrate this information in the context of future life choices and goals.

The skills needed today also need to continue to be updated and developed. Suyitno (2022) said that technological advances in the 4.0 era have brought significant changes in various aspects, including work in corporations. It is predicted that in the future, technological innovation will yield major benefits in terms of long-term efficiency and productivity. Suyitno (2022) also added that many jobs were lost because they were replaced by technology. Therefore, to face a future that is increasingly focused on information and technology, vocational school students need to adapt and receive training as early as possible regarding what skills need to be prepared to face the challenges of the world of work today and in the future (Muslihati, Prihatiningsih, et al., 2023; Muslihati, Sobri, et al., 2023)ss.

The conditions that exist in the field and the main role of school guidance and counseling in providing preparation that makes students independent become the basis for the AM group which carries out service at SMK Muhammadiyah 2 Malang city to design career seminars. This career seminar aims to provide an understanding of what skills students need to have. Subjects who understand the skills that the workforce in society 4.0 need to have are expected to be able to learn and find ways independently to improve their personal abilities. Apart from that, service subjects are expected to be able to obtain clear information regarding the competencies of society 4.0 so that they can adapt their abilities to the needs of the job market.

2. Method

1.1. Research design

The research design used is a type of quantitative research that uses the Quasi-experimental one-group pretest-posttest design method. The one-group pretest-posttest design form is a quasi-experimental research in which the dependent variable (in this case career understanding) is measured in the same group of research subjects before and after a treatment (giving a career seminar) is carried out (Rogers & Révész, 2019).

1.1.1. Research Subjects & Sampling Techniques

The subjects of service are students of class 11 at SMK Muhammadiyah 2 Malang, spread across five departments. The research subjects were selected using Purposive Sampling techniques, the criteria for research subjects were: 1) class XI vocational school students or students; 2) students and students of SMK Muhammadiyah 2 Malang; 3) take part in experimental activities in the form of career seminars. The target number is 80% of the total number of class XI, namely 79 subjects.

1.1.1.1. Place & time of research

This research was carried out at Muhammadiyah Vocational School 2, Malang City, located Jl. Baiduri Sepah, No 27, Tlogomas Village, Lowokwaru District, Malang City. Muhammadiyah Vocational School 2 was chosen because the students of this vocational school still have a low understanding and career outlook after they finish their studies. The research was carried out for 1 month in the field to prepare all research needs and provide treatment to the subject and measure the subject's understanding.

1.1.1.2. Research procedure

The research was carried out in preparation stages, giving a pretest, taking action on the subject in the form of giving a career seminar, and giving a posttest after giving the action. At the

preparatory stage, research instruments are prepared and preparation is carried out for the actions that will be given to the subject. Preparation is also carried out by preparing the research subject to occupy the room. After the preparatory stages were completed, the researcher carried out the core procedures in this research by giving a pretest for a limited period of time to the subjects. After giving a pretest, the subjects were given treatment in the form of a seminar presentation with 2 materials that attempted to provide an understanding of society 4.0 skills. After giving treatment to the subject, the researcher then gave another test to the same subject in the same group to measure how the treatment affected the subject's understanding of the skills needed by the workforce in the era of society 4.0.



Figure 1. Planning Process

1.1.1.3. Data analysis technique

In this study, the research design used was a quasi-experimental pre and post test design which aimed to determine the level of understanding of class XI students at SMK Muhammadiyah 2 Malang regarding career planning. Data analysis used the SPSS program by carrying out normality tests and non-parametric (Wilcoxon) tests to find out whether there were differences in respondents' understanding before and after attending career seminar activities. Contains the type of research, time and place of research, targets / targets, research subjects, procedures, instruments and data analysis techniques and other things related to the way of research that can be written in sub-subchapters, with sub-subheadings.

3. Results and Discussion

3.1 Results

3.1.1 Respondent Characteristics

Based on the characteristics of the 79 research respondents, students from 6 classes participated in filling out this questionnaire, namely 10.13% from the AKL major, 21.52% from BR 1, 12.66% from BR 2, 26.58% from DKV, 12.66% from MPLB, and 16.46% from TKJ. Some students also did not participate in this activity because they had taken part in Field Work Practices (PKL).

Table 1 Sociodemographic characteristics

Characteristics	Number (n)	Percent (%)
Age (years)		
16-17 years old	79	100%
Class/Institution		

XI/SMK Muhammadiyah 2 Malang	79	100%
Major		
AKL	8	10.13%
BR 1	17	21.52%
BR 2	10	12.66%
DKV	21	26.58%
MPLB	10	12.66%

3.1.2 Characteristics of Correct Answers for each Pretest and Posttest question

Before the seminar, the second question regarding technology influencing changes in competencies needed in workforce 4.0 was answered correctly by most respondents (100%). After the seminar, there was 1 question that the participants managed to answer correctly, namely the seventh question. The largest increase in correct answers was in the sixth question regarding The main objective of the Job Training Center (BLK) program, where there was an increase from 31.65% to 87.34% of respondents who answered correctly. Apart from that, the largest increase in correct answers was in the tenth question regarding mThe main benefits of participating in the Job Fair for job seekers, where there was an increase from 35.44% to 86.08% of respondents who answered correctly.

Table 2. Characteristics of Correct Answers for each Pretest and Posttest question

Question	Pre(%) n=79	Post(%) n=70
The most important competencies for the workforce in facing the Industrial Revolution 4.0 (1)	81.01%	89.87%
Technology influences changes in competencies needed in workforce 4.0 (2)	100%	97.47%
Ability to adapt to new technology for the workforce in the 4.0 era (3)	77.22%	88.61%
Mastery of data and analytics on workforce performance in the 4.0 era (4)	63.29%	89.87%
Important 'soft skills' skills in the 4.0 era (5)	46.84%	91.14%
The main objective of the Job Training Center (BLK) program (6)	31.65%	87.34%
Purpose of Pre-Employment Card (7)	79.75%	100%
Main benefits of the Pre-Employment Card program (8)	58.23%	89.87%
Services provided by Job Exchange (9)	89.87%	97.47%
Main benefits of participating in the Job Fair for job seekers (10)	35.44%	86.08%

3.1.3 Normality Test

Normality test results used the Kolmogorov-Smirnov test and the Shapiro-Wilk test. The results of the Kolmogorov-Smirnov test obtained that the knowledge variable before being given treatment showed that the data was not normally distributed ($p=0.000$) because p (Sig.) < 0.05 , but knowledge after being given treatment still showed that the data was not normally distributed ($p=0.000$) because p (Sig.) < 0.05 . Apart from that, the results of the Shapiro-Wilk test showed that the knowledge variable before being given treatment showed that the data was

not normally distributed ($p=0.001$) because p (Sig.) < 0.05 , but knowledge after being given treatment still showed that the data was not normally distributed ($p=0.000$). because p (Sig.) < 0.05 . So it can be stated that the Kolmogorov-Smirnov and Shapiro-Wilk normality tests are not normally distributed, but the data can still be used in analysis using non-parametric tests. Therefore, it is necessary to use the Wilcoxon test to analyze the comparison of respondents' knowledge before and after attending the online seminar and obtain valid results.

Table 3. Normality test

Knowledge	Kolmogorov-Sminorv			Shapiro-Wilk		
	Statistics	Df	Sig.	Statistics	Df	Sig.
Pretest	0.174	79	0,000	0.937	79	0.001
Post-test	0.244	79	0,000	0.798	79	0,000

3.1. Wilcoxon test

The results of the analysis use the test *Wilcoxon* shows a p value = 0.000 ($p < 0.05$) which means there is a significant change in the average understanding of respondents' knowledge regarding career planning before and after attending the career seminar. This shows that career seminars have an influence in increasing students' knowledge regarding career understanding.

Table 4. Wilcoxon test

Knowledge		n	Mean Rank	p-Value*
Before the seminar	Negative Ranks	2a	6.00	0,000
	Positive Ranks	74b	39.38	
After the seminar	Ties	3c		
	Total	79		

*Wilcoxon test p -value < 0.05 ; a Posttest $<$ Pretest; b Posttest $>$ Pretest; c Posttest = Pretest

3.2 Discussion

Based on the research results, seminars given to subjects can positively influence understanding regarding the career needs of society 4.0. This effect can be seen from the Wilcoxon test result value of 0.000 (p -value < 0.05), which indicates a significant difference in the assessment before the action and after the action.

The study was attended by 55.5% female subjects while the remaining 44.5% were male subjects. All participants participated in the pretest activity and the results showed that there were 2 question items that received low scores. Question number 6 regarding the main objective of the Job Training Center (BLK) received a completion percentage of 31.65% and question number 10 regarding the benefits of participating in the job fair only received a percentage of correct answers of 35.44%. This can mean that the seminar participants' knowledge of these 2 topics is still low. After providing the seminar material, it was continued with posttest activities and it resulted that the percentage of correct answers to each question had increased. The 2 items that received low scores in the pretest experienced a fairly rapid increase in the posttest with results of 87.34% for item number 6 and 86.08% for item number 10. This shows that the

seminar was successful in increasing students' understanding of the importance of BLK in increasing job competency and job market benefits for job seekers.

Career seminar activities as a means of guidance and counseling services in the career field have a crucial role and influence on career understanding which can support students' career decision making (Rabiudin, 2024). Vocational school students who have entered adolescence have developed a mindset to be economically independent, this can encourage their career aspirations both in the realm of work, entrepreneurship and further education (Perwath, 2024). Therefore, to support students in exploring their career aspirations, it is appropriate to use this career seminar activity which discusses these three career domains.

4. Conclusion

Providing career seminars to class XI students of SMK Muhammadiyah 2 Malang City has been carried out well. The implementation time is carried out according to initial planning. The speakers involved also provide new understanding for students. The school as a partner has provided good support and is very cooperative. The aim of providing new understanding for students has been achieved as seen from the results of statistical analysis comparing the students' pretest and posttest. Students also looked active and interested in the career seminar presentation. The number of participants did not reach the target because a number of students had carried out practical field work during the seminar. Thus, it can be concluded that providing career seminars can increase students' understanding of appropriate career planning from an early age. It is also hoped that BK teachers can provide similar services with more interesting activities to students so that the goals of career guidance are achieved.

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