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The Contribution of Teaching Factory Program Implementation on Work Readiness of Vocational High School Students In Makassar

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ABSTRACT
This study aims to reveal the contribution of teaching factory program implementation on work readiness of Vocational High School (VHS) students in Makassar. The research method used is quantitative approach with causal comparative. The population in this research is the students of VHS class XII in Makassar of academic year 2017/2018 who have carried out the work practice in teaching factory. The sample of 140 students is determined by proportional random sampling technique. Data analysis technique used is descriptive and inferential statistic analysis. The results showed that there is a significant influence between the contribution of teaching factory program implementation on work readiness of vocational high school students in Makassar with a contribution of 34.6%. These results indicate that the implementation of the teaching factory program of vocational high schools should be optimized to improve the work readiness of vocational high school students so that the level of employment of vocational graduates is increasing.

Keywords**:** *work readiness, teaching factory, vocational high school*

INTRODUCTION

Vocational High School (VHS) is one of the vocational education institutions that play an important role in producing quality human resources (HR). VHS is designed to equip learners with the knowledge, skills and basic attitude needed as a candidate for workforce, either to start work in a particular field of work or to open their own business field. The increasing global competition that occurs today requires VHS to improve the quality of graduates in order to produce a quality, productive and ready to work workforce. Graduates of qualified vocational education are expected to increase the level of employment and able to compete in the midst of the current rapid of labor competition.

In order to improve the quality and competitiveness of human resources especially for vocational graduates, the President issued Presidential Instruction No. 9 of 2016 on the revitalization of VHS. The purpose of this revitalization of VHS includes link and match between VHS and industry through curriculum alignment; improvement of cooperation with Ministry/Institution, Local Government and Business World / Industrial World (BW/IW); increased number and competence of VHS educators and teachers; and increased access to certification of VHS graduates and VHS accreditation. The link and match policy is basically an effort to build cooperation between VHS and industry in determining and developing

learning programs for education and training in VHS. The planning and organizing of learning and training in vocational school is done by noticing the tendency of labour market needs and focused on graduate's quality. The expected result is the increasing graduation rate of vocational graduates who accepted by industry and the increasing interest of graduates to work independently.

The problems faced by VHS today is the lack of VHS graduates who work. Data from the BPS (Central Bureau of Statistics) of Indonesia in 2017 quoted from the page CNN Indonesia states that the largest contributor to the unemployment rate in Indonesia comes from VHS graduates which is 11.41 percent or 1.6 million. The number of graduates of S VHS each year has not been matched by the increasing quality of graduates. This is because VHS graduates are not ready to work according to the job demand and also have not been able to create their own employment yet. This of course should be the attention of the VHS as a provider of middle-level workers to further accelerate the development of student competence so that graduation rate can be increased. Therefore, the concept of learning in VHS should be aimed at providing real-work learning experiences and learning practices with setting that is appropriate to the workplace. This is in line with one of the principles of vocational education by Charles Prosser in Sudira (2016: 30) which states "Vocational education will be efficient in proportion as the environment in which he must subsequently work (work environment)". Through learning in the work environment, the development of student competence can be realized intact so it is expected to impact on the work readiness of VHS students.

The government through the policy of improving the quality of vocational education has launched Teaching Factory program. The Directorate of PSMK (2016) explains that the teaching factory is the development of the production unit that is the application of partner industry system in the existing production unit in VHS. The production unit is a means of expanding the field of school business in addition to supplementing school income that can be used in equipment maintenance, human resources improvement, etc. as well as to provide real work experience to their students. Sofyan (2008) states that teaching factory is one of the efforts to bring real world of industry/work in school environment. In practice, teaching factory has several objectives, namely: 1) Increasing the competency of VHS graduates, 2) Increasing entrepreneurship spirit of VHS graduates, 3) Producing products in the form of goods or services that have value added; 4) Increase sources of school income, and 5) Increase cooperation with industry or relevant business entities.

Learning through teaching factory not only equip competency-based students, but also to develop the character and work attitude (discipline, responsibility, honest, cooperation, leadership, etc.) needed by Business World/Industrial World (BW / IW); and improve the quality learning outcomes with the ability to produce goods / services (production based training). According to (Ganefri, 2013), "production-based learning model is defined as the procedures or steps that need to be performed by the educator to facilitate learners to actively learn, participate and interact, with a competency-orientation to produce a product of goods or services required ". Pardjono and Murdianto (2011: 3), explained that the objectives of production-based learning are: 1) to equip students with competencies in accordance with the demands of the world of work, as well as to produce products or services that are worth-selling 2) inculcate productive experience and develop entrepreneurial attitudes, through direct experience producing goods or services that are market oriented. It is intended that students are able to start a business independently, train themselves to work productively and develop interest in entrepreneurship. After implementing the activities of the school production unit, it is expected that student's readiness to enter the workforce can increase, either in creating an independent business or entering opportunities or vacancies.

The Ministry of Education and Culture has expanded the teaching factory in VHS to encourage innovation and productivity. Minister of Education and Culture, Muhajir Effendi stated that with the teaching factory, students are not only required to master technical skills, but also to the concept of business development. Thus, the implementation of optimal teaching factory will improve student's ability to work and grow student interest in work independently (entrepreneurship). However, in fact not all majors in VHS have a teaching factory, especially in Makassar.

Based on the results of a survey of 14 vocational referral researchers in the city of

Makassar, only 4 vocational schools have implemented a teaching factory program in the production unit in VHS. While the other 10 VHS have a school production unit but not yet operating optimally. This is reinforced by the study of Hasanah (2015) which stated that there are 53% of VHS from 40 VHS in Makassar have not implemented production unit program based on operational standard. Based on research by Hasanah and Purnamawati (2015: 577) about the readiness of Production Unit in implementing teaching factory in Makassar, it showed that the productivity and creativity of VHS students in the production of goods and services are not optimal because the use of production units in VHS is also not optimal. In addition, students who are actively involved in school production unit activities are only students who are considered competent according to the teacher. It causes not all students can channel their ability and gain experience to produce products and services.

This study aims to reveal the significance level and the contribution of the implementation of teaching factory program on the work readiness of vocational high school students in Makassar.

METHOD

The type of research used is quantitative research with causal comparative. The data collected in this research is quantitative data. This research was conducted in 4 vocational schools in Makassar that implement teaching factory program. The population in this research is the students of VHS class XII in Makassar of academic year 2017/2018 who have carried out the work practice in teaching factory. The selection of student population of class XII is based on the assumption that the students of class XII have practical experience in teaching factory. The sample of 140 students is determined by proportional random sampling technique.

Variable in this research consist of independent variable that is implementation of teaching factory program (X) and dependent variable that is work readiness (Y). Data collection using instrument in the form of questionnaire with Likert scale model with four alternative answers, that is: Strongly Agree (SA) / Always (AL), Agree (A) / Often (O), Disagree (D) / Sometimes (S) and Strongly Disagree (SD) / Never (N). Data analysis used is descriptive and inferential statistical analysis. Descriptive statistical analysis is used to analyze the data generated from the questionnaire. While inferential statistical analysis focus on hypothesis testing to prove the contribution of teaching factory program implementation to the readiness of VHS students through regression analysis. The prerequisite analysis test consists of normality test and linearity test with a significance level of 0.05 (5%).

RESULT AND DISCUSSION

Result

Descriptive Analysis of Teaching Factory Program Implementation in Makassar. The variable of teaching factory program was measured by using a questionnaire consisting of 21 items. The result of descriptive analysis using SPSS 21.0 program obtained the calculation of the mean 70.52; median 70, and mode 70. The maximum score is 84 and the minimum score is 52, so that the range is 32 with a standard deviation of 7.33.

Descriptive Analysis of VHS Students Work Readiness in Makassar. The variable of vocational students' readiness activity was measured by using questionnaire consisting of 20 items. The result of descriptive analysis using SPSS 21.0 program obtained the calculation of mean 70.25; median 71 and mode 72. The maximum score is 80 and the minimum score is 57, so that the range is 23 with a standard deviation of 5.98.

Normality test was performed by using One Sample Kolmogorov-Smirnov test with significance level of 5% (0,05). Data stated normal distribution of significance value greater than 0,05. Normality test results are shown in Table 1.

Table 3.1. Normality Test

Variabel	Significance	Significance Level	Description
Teaching Factory Program	0,200	0,05	Normal
Work Readiness	0,075	0,05	Normal

Normality test results shows that the significance of the implementation of the factory teaching program is 0.200 and work readiness 0.075. These results indicate that all research

variables have a significance value greater than 0.05 so it can be concluded that each variable is normally distributed.

Linearity test is used to determine the relationship between independent variables with the dependent variable is linear or not. By looking at the deviation from linearity column, if the significance value is <0.05 then the relationship is not linear, whereas if the significance value ≥ 0.05 then the relationship is linear. The linearity test results are shown in Table 2.

Table 3.2. Linierity Test

Variabel	Deviation From Linearity	Significance Level	Description
Teaching Factory Program to Work Readiness	0,263	0,05	Linier

The result of linearity test shows that the significance value of Deviation From Linearity is 0,263> 0,05, so variable of teaching factory with variable of work readiness have linear correlation. Based on the results of normality test and linearity test, it can be concluded that the prerequisite analysis is met.

Hypothesis testing was done using correlation and linear regression analysis with SPSS 21.0 with significance level 0,05 (5%). The results of the correlation analysis are presented in Table 3.

Table 3.3. Correlation Analysis

		Teaching Factory	**Work Readiness**
Pearson Correlation	Work Readiness	1,000	0.629
	Teaching Factory	0.629	1,000
Sig. (1-tailed)	Work Readiness	.	0,000
	Teaching Factory	0,000	.
N	Work Readiness	140	140
	Teaching Factory	140	140

Based on the results of correlation analysis, it can be seen that the value of r arithmetic is 0.629. This shows a strong correlation relationship between the variables of the implementation of teaching factory program and variable of work readiness. Sig value. (1-tailed) = 0,000 indicates a significant relationship because 0.000 <0.05 where 0.05 is a significant level. 1-tailed shows a one-way relationship, not the alternating relationship between variables. While N shows the amount of data from each variable. Regression analysis results are shown in Table 4.

Table 3.4. Linear Regression Analysis

Model	*R*	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,629	0,346	0,392	4,66921

Based on the results of linear regression analysis, it can be seen that the value of correlation coefficient (R) is 0.629 and the coefficient of determination (R Square), 0.346 = 34.6%. It means that the there is a big influence of teaching factory program variable (X) to work readiness variable (Y) which is 34,6% and the rest equal to 65,4% is influenced by other factors than variable X and Y.

Table 3.5. Anova

	Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	1974,127	1	1974,127	90,550	.000
	Residual	3008,616	138	21,802		
	Total	4982,743	139			

Anova test shows that the value of F is 90,550 with a significant level of 0.000 smaller than 0.05. This means that the regression model can be used to predict the contribution of the implementation of the teaching factory program to work readiness.

Table 3.6. Coefficients Analysis

Model		Unstandardized Coefficients		Standardiezed Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	34,036	3,827	0,629	8,894	.000
	Teaching Factory	0,514	0,054		9,516	.000

The result of simple regression analysis obtained by regression equation Y = 34,036 + 0,514X indicates that if there is no increase of value from variable X, then the value of variable Y is 34,036. Regression coefficient of 0.831 shows that each addition of one value on the variable X will give a score of 0.514. To test the validity of simple linear regression equation, sig = 0,000 <α = 0,05 then Ho is rejected which means that the implementation of teaching factory program significantly influences the work readiness of vocational students. The result of linear regression analysis of implementation of teaching factory program variable toward work readiness variable obtained regression coefficient having significance value, so it can be concluded that the implementation of teaching factory program significantly influences the work readiness of vocational students in Makassar.

Discussion

The result of regression analysis shows that teaching factory program implementation the variable had significant effect to work readiness variable with contribution of 34,6% and the rest equal to 65,4% influenced by other factors besides the variable studied in this research. The results of this study are in line with the research conducted by Khoiron (2016: 128) on The Influence of Teaching Factory Learning Model Implementation to the Students' Occupational of Students on the Study Program of Automotive Engineering Education, Faculty Of Engineering, State University Of Semarang. The findings showed the implementation of teaching factory learning models contributes significantly with the percentage of 22.80% to the occupational-readiness. These results suggested that the implementation of teaching factory in the learning process is strongly recommended for the vocational education. The implementation can be adjusted to suit the conditions and the learning resources available in the educational institution.

The implementation of the teaching factory program trains students to learn and work to produce goods/services. Martawijaya (2012: 47) explains that adopting the teaching factory learning model into integrated learning in the form of production based learning (PBL) will equip students with valuable experience from learning by doing, relevant to a worker's roles in a factory/industry. The experience gained whether in hard (vocational and academic) or soft (personal and social) skills will develop their competencies in these four aspects. The results of Zinuddin's study (2013) concluded that teaching factory implementation contributes in improving students' knowledge, skills, experience, and discipline as well as fostering professional attitude of students in work. While Gozali et al (2018) concluded in his research that teaching factory can be the means of enough effective learning to increase student interest in entrepreneurs VHS students. Based on some of the results of this study, it can be concluded that the implementation of the teaching program is quite instrumental in improving the competence of students which is needed in work and foster the interest of students in entrepreneurship.

Readiness of vocational school students to enter the work world becomes one of the factors that must be considered by the school. Mason (2009: 1) argues that work readiness is possession of the skills, knowledge, attitudes and commercial understanding that will enable new graduates to make productive contributions to organizational objectives soon after commencing employment. Students who have high competence and productivity will have an impact on their work readiness. Putri et al (2017: 243) explained that school has a role in preparing the readiness of vocational students with attention to the competence of appropriate skills. With the implementation of teaching factory is very helpful for students to have the character, ability and appropriate knowledge of competence. Armed with learning in the teaching factory is

expected to foster students' work readiness so that later when students have entered the workforce, they will be ready to work.

CONCLUSIONS AND SUGGESTIONS

Based on the results of research and discussion, it can be concluded that there is a significant influence between the implementation of the teaching program to the vocational students' work readiness in Makassar with a contribution of 34.6%. Therefore, the vocational school, government and Business World/Industrial World (BW/IW) should continue to develop and optimize the implementation of teaching factory program in VHS by improving the theory and practice learning and supported by facilities in accordance with current technological developments so that students' readiness can be increased so that VHS graduation rate is getting higher.

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