Analysis of Vocational Education Needs of the World of Work During the Covid-19 Pandemic

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ABSTRACT
This research uses a method of combining quantitative research and qualitative research, where the purpose of this study is to look at the Competence need by the world of work during the pandemic Covid-19. The results of this study show that there is a significant relationship between one indicator and another indicator. Obtained the highest respondent achievement rate data on the sub-indicator. Based on the results of the analysis, researchers can conclude that the indicator of competence of the world of work in the category is good with a respondent achievement rate of 61.82%. This is reinforced by the description of the needs needed by the world of work that must be owned as a basis in the individual in preparing to enter the field of work in the form of: competence in applying work culture in a company or agency, competence to comply with operational standards of procedures, intrapersonal competence and interpersonal competence.

Keywords: Vocational education competence, world of work competence, pandemic covid-19.

1. INTRODUCTION

The need for competence continues to increase in line with the development of the times and technological developments. Technological progress is certainly inseparable from the progress of a world of work. Such circumstances required vocational education to keep pace to keep up with developments, with all the abilities and obstacles that must be faced, especially at this time, namely with the Pandemic Corona virus Infection Disease 2019 (COVID-19). It has become one of the most feared and recent pandemics impacting diverse global sectors, including education. To control transmission, affected countries ordered the closure of schools or other educational institutions, almost all internet-based learning activities, in sync or asynchronous, online or offline by utilizing digital platforms. This situation certainly has an impact on learning that requires practicum such as in vocational education.

2. VOCATIONAL HIGH SCHOOL COMPETENCIES AND COMPETENCE OF THE WORLD OF WORK

Competency needs are something that must be considered in vocational schools. Because vocational education directs education towards how learners can master the ability and have attitudes, knowledge and skills or expertise in certain applied fields that will direct vocational education students to have a profession in their area of expertise that will direct learners to have a field of work that requires special skills. Vocational education devises a strategy on how to prepare candidates for a competent workforce in their fields of expertise, one of the policy roadmaps in developing Indonesian vocational education 2017-2025 is the improvement of the general curriculum [1]. Learning activities in vocational education in the current era become the center of special attention, because the learning carried out is not entirely carried out through distance learning, this is due to the current situation still in the spread of the covid-19 pandemic outbreak that almost hit the entire region. Significant attention in distance learning or known by the term online is about meeting the number of meetings and not on the quality of the content designed. In addition, the demands of the curriculum on vocational education put more pressure on mastery of aspects of skills [2]. The learning process in education emphasizes that learners have skills and competencies through the development of the world of work [3]. Therefore, the domains of the learning process, especially in

vocational education, should include cognitive (knowledge), psychomotor (skills), and affective (attitudes) [4]. The covid-19 pandemic period is certainly not an obstacle in equipping learners in vocational education in having good enough skills in their areas of expertise, but many things are the cause of the decline in the competence of learners during this pandemic, among the problems that occur resulting in a decrease in the competence of learners' skills during the pandemic, including the existence of distance learning policies or online taken by the government, lack of technology in supporting the distance learning process, lack of practical workshop learning in schools, limited wiggle room of learners and teachers in periodic drilling. In addition, the needs of the world of work continue to grow not stopped just because of the pandemic covid-19 vocational education should be in line with the need the World of Work. This is to encourage the creation of a skilled Indonesian workforce according to the needs of the world of work through vocational education and training. This regulation will be a vocational education in organizing vocational education that link and match the world of work. As for companies to facilitate coaching to vocational schools in producing a skill and competence work force. During learning is necessary for the continuity of the learning process. Online learning with Project-Based Learning (PBL) is a step to solving practical knowledge problems. [5].

As an effort that can be done vocational education in the face of this is to facilitate or continue the learning process without interruption. The level of efficacy can vary from country to country, and even in the same country. However, this goal was not fully achieved because some of the outstanding problems surrounding Online learning are necessary for the continuity of the learning process [6] Online learning with Project-Based Learning (PBL) is a step to solving practical knowledge problems. Processes to reduce learning distractions are hindered by access to the internet and free and quality web-based tools, poor internet performance in some countries, limited available open online resources and online teaching solutions. In order for the process to run well and not be greatly affected by the Covid-19 pandemic, vocational education must remain committed in providing a skill set or competence, where this activity can be achieved through training provide by the company [7]. Planned learning at this time has an important role in improving the ability of learners in vocational education. In COVID-19, part of online learning is very important. Open learning is not only done in theory classes, habituation like this is

cultivated during the covid-19 pandemic, but also in some practical subjects. The education available in the learning process is a modern trend facilitated by technological developments. [8] [9] [10].

3. METHOD

The research is descriptive research using Mixed Methods (combination) research methods where the study combines Quantitative research with Qualitative research. The dominant data used is quantitative data and is corroborated by qualitative data. The strategy used in this research is quantitative and qualitative data collection is done simultaneously and integrated. Quantitative research is done by using questionnaires to collect research results. Questionnaire is a data collection technique that is done by giving a set of questions or written statements to respondents. The questionnaire used in the form of a list of statements related to the competence of learners, while qualitative research is conducted by way of interviews and obesity to respondents.

The stages of this research are in accordance with the stages of development research based on Borg and Gall in [11] which are modified, so that the stages that : The instruments used in this study are questionnaires/ questionnaires, the next step in the analysis of questionnaire data include the following: questionnaires that have been filled out by respondents make administration, each indicator score is calculated, calculation of total score, elaborate with percent analysis. Analysis using the Likert Scale by using the following formulas:

$$\text{Respondent's Level of Achievement} = \frac{Average\ score}{Maximum\ ideal\ score} \times 100\ \% \qquad (1)$$

The criteria that can be used in the assessment of research refer to the following criteria.

Table 1. Research Assessment Criteria

No	Percentage	criteria
1	81%-100%	Excellent
2	61%-80%	Good
3	41%-60%	Enough
4	21%-40%	Less
5	<21%	Less Once

(Suharsimi Arikunto : 2007) [12]

The research instruments used are passed by conducting tests limited to reliability and validity. The test that will be done on this instrument consists of a validity test and reliability test that is used to test each item guided by the grid. The researcher's research instrument trial was conducted on 10 respondents and the researcher also asked for the validity of questionnaires from 3 experts. If the instrument has been declared Valid and reliable by the validator or expert then the instrument can be used for the next research step. Validity is a measure that determines the degree of validity of an instrument. The higher the validity level of an instrument, the more valid an instrument is, which means that the instrument is able to measure or disclose data from the variables examined precisely. The validity test is conducted by the construct validity test and the content validity test. The high low validity of the instrument indicates the extent to which the data collected does not deviate from the picture of the variable in question [13].

3.1 Quantitative Research

This validity data collection uses a questionnaire, each validator will be given a questionnaire to be validated. Questionary that is declared worthy of use in research. To test the validity of person formula formulas are used. [14]

$$r_{ix} = \frac{\Sigma iX - (\Sigma_i).\Sigma X/n}{\sqrt{\{\Sigma i^2 - (\Sigma i)^2\}.\{\Sigma X^2 - (\Sigma X)^2/n\}}} \quad (2)$$

Information:
I = Item score
X = Scale score
n = Number of scores per item

3.2 Qualitative Research

The data analysis technique in this study is using interview techniques, which in this activity is equipped with documentation and recordings of interview results on each respondent who became the main data in this study is interview data and documentation In addition, this study also uses snowball sampling techniques to saturate the results of interviews so that interactive models can be done. This technique is used to identify and select, where the snowball sampling technique is a sampling method obtained through the process of rolling from one respondent to another and then reached and drawn conclusions. The data analysis techniques used in this study are data analysis techniques from Miles and Huberman, named :

3.2.1 Data Collection

In this study was conducted by recording, collecting data through interview results to all respondents who have been determined by researchers and this activity is taken documentation as an accuracy in carrying out research.

3.2.2 Data Reduction

Reducing data means summarizing, choosing the main things, focusing on the things that are important as a process of refinement and focusing the data as a result of research. Thus the reduced data will provide a clearer picture, and make it easier for researchers to collect the next data, and look for it when needed.

3.2.3 Data Presentation

This process is part of the process of presenting research results in groups to be easily understood. In this study the presentation of data in the form of descriptive narratives. Presentation of data or display data to understand what is happened, plan the next work based on what has been understood.

3.2.4 Verify Data

The study, the initial conclusions presented were support by data obtained by researchers in the field. The answer to the results of the study will provide explanations and conclusions to the research problems studied in this study. This process is a process of proof that can be accounted for. Verification of data can be done with written evidence that this investigation has been correctly done. Withdrawal of conclusions and verifications are still temporary, and will change if no strong evidence is found to support the next stage of data collection.

4. RESULT AND DISCUSSION

The research conducted using the mixed method analyze that the needs of competence needed by vocational schools that refer to the needs of the world of work in the era of pandemic covid-19 include the ability to improve the work culture that is in accordance with the new normal culture, how the relationship of link and match between vocational education and the world of work, how intrapersonal abilities or abilities within individuals in responding to the current situation in the future. Pandemic covid-19 teaches all elements of education to learn from problems. In problem-based vocational schools are able to improve the analysis of students' thinking in improving competence. To improve competence,

improvements are needed to the student learning system [15]. Problem-based learning will enhance a complex understanding of students [16]. The world of work in the pandemic period requires workers who have good analysis, for that Iam helps his work, accompanied by interpersonal skills or known as abilities outside the individual self.

The results of the data analysis from the spread of questionnaires to 16 respondents of the world of work competency indicator consisting of 4 (four) sub-indicators and the number of 23 items obtained such results.

Table 2. Respondent Achievement Level Indicator

No	Sub Indicator	Jlh Item	Statement Criteria										Jlh Skor	TPR (%)	Inf
			STS		TS		KS		S		SS				
			F	%	F	%	F	%	F	%	F	%			
1	Application of Work Culture	9	17	85	4	20	19	95	14	70	9	45	**153**	**52.53**	Enough
2	Links and Match with the World of Work	5	3	15	9	45	11	55	7	35	4	20	**103**	**60.12**	Good
3	Intrapersonal capabilities	5	4	20	10	50	6	30	7	35	7	35	**115**	**63.76**	Good
4	Interpersonal Skills	4	4	20	5	25	3	15	8	40	7	35	**98**	**62.34**	Good
		23	**28**	**35**	**28**	**35**	**39**	**48.8**	**36**	**45**	**27**	**33.8**	**469**	**59.69**	Good

Table 3. World Of Work Competency Indicators

No	Sub Indicator	Jlh Item	Jlh Skor	TPR (%) Sub Indicator	Inf
1	Application of Work Culture	*9*	153	*56,83*	Enough
2	Links and Match with the World of Work	*5*	103	*61,14*	Good
3	Intrapersonal capabilities	*5*	115	*62,86*	Good
4	Interpersonal Skills	*4*	98	*66,43*	Good
	Total	*23*	469	61.82	*Good*

Based on the results of the analysis in table 4.4 and figure 4.2 above obtained the highest respondent achievement rate data on the interpersonal skills sub indicator of 66.43% of good categories, Intrapersonal Capability sub indicators of 62.86% of good categories, links and match sub indicator with the world of work by 61.14% of good categories, and sub-indicative of the application of work culture by 56.83% of sufficient categories. Based on the results of the analysis, researchers can conclude that the indicator of competence of the world of work in the

category is good with a respondent achievement rate of 61.82%.

Qualitative research draws conclusions from various elements in this study, where elements of educational institutions argue that the competencies needed by vocational education during the covid-19 period refer to the world of work, namely: competence in the realm of attitudes, knowledge and skills. Equipped with the ability to solve work problems both team and independently accompanied by the application of a good work culture and entrepreneurial spirit in managing work Have independence and innovation in work. Competence that refers to the Indonesian National Qualification Framework and technological developments. On the different side of the world of work explained that the complement that must be owned as a basis in the individual in preparing to enter the field of work in the form of: competence in applying work culture in a company or agency, competence to comply with operational standards of procedure, intrapersonal competence and interpersonal competence.

5. CONCLUSION

This research contains the results that vocational education competencies needed by the world of work at this time are: competence in the application and implementation of Work Culture, Competence to establish human or cooperation with the world of work (Link and Match), intrapersonal competence and interpersonal competence.

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