**The Influence of the World of Work Knowledge, Work Attitudes and Skills Gained from Industrial Practices on Work Readiness of Students *Bridging Competency Gap of TVET***

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**Abstract.** The development of technology is increasingly advanced, one of which is in the industrial sector which encourages more professional competence of human resources as a form of work readiness obtained from formal education including vocational education which has a TVET (Technical and Vocational Education Training) strategy as a certified education of ability or standardized Skills in the world of work, competence is recognized. The role of TVET as education and training is required to be able to face the changing challenges in the world to changes in industry 4.0 to create graduates who have good work readiness from knowledge of the world of work, work attitudes, skills. The research population was students of class XII SMK Negeri 4 Yogyakarta, the number of samples taken for this study were 60 respondents. The analysis method uses multiple linear regression using SPSS software version 20. Simultaneously, knowledge of the world of work, work attitudes, and skills have a positive and significant effect on student work readiness. The results of the determination test using SPSS, the effect of knowledge of the world of work, work attitudes, and skills have a positive and significant effect on job readiness which has a contribution of 29.2%.

1. **Introduction**

In the era of globalization and the current industrial era 4.0, where industrial growth is increasingly advanced, industry (Kemenperin) continues to encourage increased competence in industrial human resources (HR) so that they can keep up with the latest technological developments, especially in the Industrial 4.0 era to be ready to work. With good quality human resources, they can compete in the current era of free competition, "said Minister of Industry (Menperin) AirlanggaHartarto in a written statement, in Jakarta, Tuesday, May 1 2018. Demands for a need for resources to work must have work experience. and good knowledge is also fast and alert. All individuals must have something to be smart, skilled and creative in their fields of expertise, have concern for the environment around them and be able to choose the type of work in line with their expertise to be ready to work, especially in the Education section who are able to print a work-ready workforce. A person's expertise or skills to become a good workforce can be obtained from formal education or non-formal education The implementation of education 4.0 currently requires new skills so that the preparation of human resources as graduates from vocational and vocational studies must have knowledge work, work attitude da n skills as a readiness to work according to the chosen major. Competence in technological development is a must. With the existence of TVET as education and training, you must be able to face these changing challenges through the basis of learning in the XXI century that can adapt to changes in the industrial era 4.0 in forming superior and quality human resources. The role of the Education Sector in preparing human resources cannot be ignored in supporting the progress of the nation. The level of national progress can be seen from the quality of the education system used [1].

* 1. *Vocational education and TVET issues*

Vocational Technology Education has several terms in various countries. However, based on the results of the second congress on 26-29 April 1999 with the theme Technical and Vocational Education and Training: A Vision for the Twenty-first Century. Produce Technical and Vocational Education and Training (TVET) terminology including vocational education including formal, non-formal and informal education and training. This result is the achievement of a collective agreement through deligations which were attended by representatives of UNESCO, the International Labor Organization (ILO), and UNEVOC. Therefore, in TVET, education and training go hand in hand where TVET is education and training whose purpose is to prepare the workforce according to the needs and demands of employment, in this case, the link and match business and industry. To support this goal, Dual System Education (PSG) was designed, as the embodiment of wisdom and Link and Match. SMK is a formal institution that provides education and training. Education that is carried out for students includes the provision of knowledge and skills in certain skills to enter the world of work in accordance with the SMK curriculum used.

The expected target for SMK graduates after graduation is to be ready to work in the industrial world and to be ready to compete in a larger work industry. The success of SMK in preparing middle-level workers who are professional and skilled in facing the 4.0 revolution era also needs to be improved properly. According to data from the Central Statistics Agency (BPS), there is a very large number of unemployed people in Indonesia. In the period of August 2017, the number of unemployed people in Indonesia was approximately 7 million people. Nationally, the data obtained from the Central Statistics Agency (BPS) shows that the number of unemployed graduates of SMK and SMA is the highest number of unemployed. Labor data from the Central Statistics Agency (BPS) in the August 2017 period states that the national open unemployment rate (TPT) has increased, especially 3 levels of graduates, namely: SMA 9.74%, third is Junior High School (SMP) 7.60%, and lastly Diploma I / II / III 6.01%, University 5.50%. (source: National Labor Force survey (SAKEMAS) No. 78/11 / Th. XVI(May 29 2018). Readiness must have the skills necessary to complete developmental tasks, and theoretically it occurs in late adolescence and early adulthood where vocational choices should be initiated. "The factors that affect the mental readiness of work are learning achievement, parents' economic condition, social guidance, and student work experience [2]*.* Work readiness for SMK graduates in Yogyakarta, especially in SMK 4, is still not optimal. Based on the results of observations and surveys from the search for graduates, especially the culinary and patiseri service expertise program, it is stated that not all graduates are absorbed by the world of work and some graduates of the Catering Service Expertise Program are one of the superior expertise programs at SMK Negeri 4 Yogyakarta.

Traceability data for graduates, especially food and patisserie service expertise programs, state that not all graduates are absorbed into the world of work, there are some graduates who work not according to their competency skills. Tracing data for alumni of SMK Negeri 4 Yogyakarta for the 2016/2017 academic year can be seen in table 1 below.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Table 1**. Job graduates of SMK Negeri 4 Yogyakarta   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | No | Skills program | Work Linear | Work Is Not Linear | Entrepreneur | Lecture | Not traceable | Total  student | | 1. | catering services | 11  (9%) | 86  (70%) | 0  (0%) | 13  (11%) | 16  (10%) | 126 | | 2. | Patisari | 7  (20%) | 16  (52%) | 0  (0%) | 3  (10%) | 5  (18%) | 31 |   Source: BKK SMK N 4 Yogyakarta |

From the results of a survey conducted through interviews with industrial work practice supervisors, the problem that occurs when implementing industrial practice is that some students are returned to school because they are unable to participate in every activity in the industry, the work attitude of students is sometimes still not as expected at work, the industry lacks confidence in students in giving responsibility for completing work which causes students not to get experience from the industrial world both in terms of work knowledge, work attitudes needed in the world of work, skills that are not in accordance with students' expertise.

Another factor that causes student work readiness is the work attitude obtained by students who most shape work attitudes, namely from the implementation of industrial work practices. Work attitude is the result of assessment or evaluation of people, or events in the workplace - whether satisfying, good, fun, profitable or vice versa [3]. The last factor is job skills. Job skills are the skills to do a job in accordance with the area of ​​expertise that is only obtained through practice, either through practical training or through experience [4]. Skills in student work are things they have learned in accordance with their fields so that activities or work that are the responsibility of students can be completed properly in accordance with predetermined conditions.

1. **Methods**

This type of research is ex post faccto or survey research is a study conducted to examine events that have occurred and then trace back to find out what factors can cause these events to be used to conduct an intensive analysis of an event to be studied [5]. This research uses a quantitative approach or a count of statistical data. The population in this study were students of class XII majoring in Culinary Services and Patisari, totaling 60 students. The sampling technique used total sampling with a total sample size of 60 [6]. The data collection technique used a questionnaire. The scale used in the use of questionnaire answers is the Likert scale using 1 to 5. With interpretation 1 = Strongly disagree, 2 = Disagree, 3 = Doubt, 4 = Agree, and 5 = Strongly agree. The data analysis technique uses multiple linear regression analysis which is used to determine how the influence of each independent variable on the dependent variable in this study is Knowledge of the world of work (X1), Attitude of Apes (X2), Skills (x3), readiness of work (Y).

To find out the validity of the research instrument, the researcher conducted a validity test using SPSS Version 20.0. The results of the analysis for the knowledge variable from the 10 statement items tested with values ​​above 0.361 were 9 statements. So that 9 items are declared valid and 1 item is declared invalid. For the attitude variable, the analysis results from 10 statement items tested with a value above 0.361 as many as 8 statements. So that 8 points of statement are declared vaild and 2 items are declared invalid. For the skill variable, the analysis results from the 10 statement items tested with values ​​above 0.361 as many as 9 statements. So that 9 points of statement are declared vaild and 1 item is declared invalid. For the Readiness variable, the analysis results from 10 statement items tested with values ​​above 0.361 as many as 10 statements. So that 10 items are declared vaild and 0 items are declared invalid. This study uses the effect test using a hypothesis that uses partial testing or individually, each variable is tested by the t test. Hypothesis testing is done by using the t statistical test (partial test) showing how far the influence of a dependent or dependent variable on the independent or independent variable assuming a constant variable. Decision making with a level of confidence or a significant level of 5%. Calculation of research data using SPSS version 20.00 software for windows and statistical data [7].

To determine the effect between variables, the hypothesis in this study is as follows:

1. Hypothesis of the influence of Knowledge of the World of Work on job readiness:

Ho: There is no influence of knowledge on job readiness.

Ha: There is an influence of knowledge on job readiness.

1. Hypothesis The effect of work attitudes on job readiness:

Ho: There is no influence of work attitude on work readiness.

Ha: There is an effect of work attitude on work readiness.

1. Hypothesis of the Effect of Skills on Work Readiness:

Ho: There is no effect of skills on work readiness.

Ha: There is an effect of skills on job readiness.

1. Hypothesis the Influence of Knowledge of the world of work, work attitudes and skills on job readiness:

Ho: There is no influence of knowledge of the world of work, work attitudes and skills on job readiness.

Ha:There is an influence of knowledge of the world of work, work attitudes and skills on job readiness.

1. **Result**

To determine the degree of consistency of the research instrument, the researchers conducted an instrument reliability test, the results of which are in the table below:

**Table 2**. Reliability statistic.

|  |  |  |  |
| --- | --- | --- | --- |
| Nama Variabel | Cronbach’Alpa | Standar reliabilitas | Keterangan |
| Knowledge  Work attitude  Skills  Working readiness | 0,736  0,421  0,719  0,696 | 0,60  0,60  0,60  0,60 | Reliabel  Reliabel  Reliabel  Reliabel |

Source: Data processing results, 2019.

The reliability test results showed that the Cronbach's alpha value for each variable was greater than 0.60. This shows that the questionnaire of knowledge, work attitudes, skills, work readiness is proven reliable.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 26.800 | 9.903 |  | 2.706 | .009 |
| Knowledge (X1) | .530 | .117 | .521 | 4.516 | .000 |
| Attitude (X2) | -.094 | .143 | .776 | 6.659 | .000 |
| Skills (X3) | -.063 | .113 | .464 | 6.558 | .000 |
| 1. Dependent Variable: Readiness (Y) | | | | | | |

To determine the significance of the influence of the variable knowledge, work attitude, skills on job readiness with the tulta method as a partial control, it can be seen in the following table:

**Table 3**. Coefficients

Based on table 3, it is known that the Sig value of the knowledge variable is 0.00 <0.05, this means that there is a significant influence between knowledge on work readiness, then it is known that the Sig value of the work attitude variable is 0.00 <0.05, This means that there is an effect of work attitudes on job readiness, for the promotional skills variable is 0.00 <0.05, this means that there is a significant influence between the skills variable on job readiness.

To determine the significance of the effect as a control variable simultaneously, it can be seen in the ANOVA table below:

**Table 4**. ANOVA

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
| 1 | Regression | 243.891 | 3 | 81.297 | 7.578 | .000b |
| Residual | 590.041 | 55 | 10.728 |  |  |
| Total | 833.932 | 58 |  |  |  |
| 1. Dependent Variable: Readiness (Y) | | | | | | |

Based on the table above, it is known that the Sig value is 0.00 <0.05, so we can conclude that simultaneously there is a significant influence between knowledge of the world of work, work attitudes and skills on student work readiness.

To find out how much (%) the contribution of the influence of knowledge of the world of work, work attitudes and skills to work readiness can be seen in the table using the determination test (R2) in the following table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 5. Model Summary** | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .541a | .292 | .254 | 3.275 |
| 1. Predictors: (Constant), Skills(X3), Knowledge(X1), Attitude(X2) | | | | |

Based on the table above, it is known that the correlation coefficient value of knowledge of the world of work, work attitudes and skills towards work readiness is 0.541, this means that the degree of closeness of the relationship between the variables of knowledge of the world of work, work attitudes and skills to work readiness.

The coefficient of determination of the variable knowledge of the world of work, work attitudes and skills on job readiness is 0.292, this means that the influence of the variables of knowledge of the world of work, work attitudes and skills on job readiness is 29.2%.

1. **Discussion**

Findings In the variable of the influence of knowledge of the world of work on work readiness, this is evidenced by research conducted by [8] in 2018 which showed that the research results obtained that industrial work practice experience including work knowledge, work attitudes and skills made a high contribution of 80% to readiness for student work. Based on the results of research conducted by researchers, it was known that the benefits of implementing industrial work practices were very large for students. With the experience gained from the implementation of industrial work practices by students, they increase knowledge about the new world of work, skills, good work attitudes and creativity in accordance with the demands of the world of work where students can be more ready to work after graduating from SMK.

The finding is that there is an effect of work attitudes on work readiness, this is also evidenced by research conducted by [9] in 2018 industrial work practice experience includes work attitudes, skills contribute as high as 7.7% to student work readiness. Therefore students must continue to strive to improve work attitudes from within to complete the work given properly. There is a significant effect of skills on work readiness. This is evidenced by research conducted by [10] in 2016 which proved that the industrial revolution and globalization wanted all graduates who had graduated from education to have skills before entering the world of work.

1. **Conclusion**

Based on the research results, it is concluded as follows:

1. There is a positive and significant effect of knowledge of the world of work on work readiness of students of SMK Negeri 4 Yogyakarta.
2. There is a positive and significant effect of work attitudes on work readiness of students of SMK Negeri 4 Yogyakarta.
3. There is a positive and significant effect of skills with learning outcome data on productive subjects on work readiness of students of SMK Negeri 4 Yogyakarta.
4. There is a positive and significant influence together, namely knowledge of the world of work, work attitudes, skills on work readiness of students of SMK Negeri 4 Yogyakarta, by having an effective contribution or contribution to student work readiness by 39.2% and the rest is influenced by other factors which can further improve student work readiness.

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