Lab Work Discipline and The Implementation of The Field Experience Industry as Predictor Factor in Entering the World of Work Readiness of The Mechanical Engineering's Students Faculty of Engineering Universitas Negeri Padang

Rusdi Sahara[1*], Nizwardi Jalinus[1], Giatman[1], Mulianti[1]

[1] Universitas Negeri Padang, Indonesia.

Abstract: This research starts from experience and observation of the researcher from lab work discipline and the student experience in the implementation of Industrial Field Experience (PLI), and also less preparation of the students of Department of Mechanical Engineering in entering the workforce. This research is descriptive correlational. The population in the study consisted of 109 Mechanical Engineering's students which do Industrial Field Experience (PLI). Samples numbered 86 students were taken by proportional random sampling technique. Research data retrieval is done by distributing a questionnaire, Likert scale model. Data analysis technique used is descriptive statistics with percentage calculation and regression aided by a SPSS computer program. The results of this research are: 1) Lab work discipline can be used as a predictor factor of readiness to enter the workforce. 2) the implementation of PLI can be used as a predictor factor of readiness to enter the workforce. 3) Lab work discipline and implementation of PLI can be used as a predictor factor for entering the workforce readiness toward Mechanical Engineering FT-UNP's students. Lab work discipline can predict a better readiness to enter the workforce. And the experience obtained during the PLI can also predict a better readiness to enter the workforce. These results indicate that these two variables should be increased to obtain a better readiness to enter the workforce.

Keyword: Work Discipline, Field Experience Industry, Work Readiness

1. Introduction

Entering the millennial era and industrial revolution 4.0 education plays an important role in improving the quality of resources. In this case the actors of education development to improve the quality of education in the market adjust the development of education itself. PLI is a form of education that involves students who work directly in the World of Business / Industrial World (DU / DI) so that students have the ability or competence that is in accordance with DU / DI expectations and demands, and gain work experience as one thing to improve professional skills.The success achieved by someone in a job, needs to have readiness for the field of work, both physical readiness, mental readiness, cognitive aspects readiness and so on. According to the psychology readiness

dictionary "a favorable level of development for practicing something" (Chaplin, [2]). Then Slameto [5] states that the readiness to enter the world is everything that must be prepared in implementing something to achieve a goal, there are several factors that influence readiness to enter the workforce such as: self-confidence, commitment, initiative / creativity, perseverance in work , work skills, discipline, achievement motivation, ability to work together, and the ability to communicate. lack of work can affect one's initiative and study, and then the workforce will enter the workforce.

One aspect of the strength of HR is reflected in disciplined attitudes and behaviors, because discipline can have a strong impact on the ability to pursue something planned. However, in the implementation of practical learning in the workshop it turns out that there are still many students who work not in accordance with work procedures or appropriate work steps, arriving late, often going in and out, noisy while working, issuing obscenities, etc. From several phenomena and descriptions that have been explained clearly that the factors that greatly influence the readiness of graduates of Mechanical Engineering are closely related to self-confidence, commitment, initiative / creativity, perseverance in work, work skills, discipline, achievement motivation, and the ability to communicate. With this, the authors are interested in conducting research on work discipline and the implementation of Industrial Field Experience (PLI) as a predictor factor for the readiness to enter the workforce of FT-UNP Mechanical Engineering students. Based on the background of the problem, the following problems can be identified: (1) relatively low human resources (HR) are observed from education, (2) various types of industries in applying Industrial Field Experience, (3) Field Industry Experience (4) Lack of attention and supervision of supervisors during the implementation of the Industrial Field Experience, (5) Lack of student discipline with rules that apply to DU / DI during PLI implementation (7) There is a gap between the world of education and the world of work for FT-UNP Mechanical Engineering graduates, (8) The lack of mechanical engineering graduates to enter DU / DI, and (9) Many Mechanical Engineering graduates who work do not fit the knowledge learned in college.

The boundaries of the above problems can be formulated as follows: (1) Is the discipline of practical work can be used as a predictor factor for the readiness to enter the working world of Mechanical Engineering students FT-UNP ?, (2) Is the implementation of Industrial Field Experience can be used as a predictor factor on the readiness to enter the working world of Mechanical Engineering students FT-UNP ?, and (3) Is the discipline of practical work and the implementation of Industrial Field Experience can be used as a predictor factor for the readiness to enter the working world of Mechanical Engineering students FT-UNP ?.

Preparedness in KBBI Prima Pen Team (2001: 531) is stated "as an act related to the design to do something". According to Idris in Matthew (2000) readiness is a competency concerning knowledge, skill and attitude. Sayuti in Matthew (2000) also adds the sense of readiness as the main capital for a person to do the job to get maximum results. Aris Kurniawan [1] also said that there are other factors that also affect the readiness to enter the world of work are: the ability to adapt to work to adapt to the types of work, the ability to adapt to the environment, the ability to communicate properly and correctly, mastery of information about the world of work, where more and more people get information about the world of work will be better, the perception of career prospects is a view of future career predicted from the present in realizing the future of the future. Opportunities for job opportunities, which have high confidence to compete in getting a job and job description available is a picture of work in the business world.

According to Malayu S.P Hasibuan [4] the indicator of work discipline are: (a) Comply with all company regulations, (b) Use of time effectively, (c) Responsibility in work and duties, (d) Attendance level.

According to Chalpin (in Emi Prabawati [3]) "Experience is knowledge or skills gained from practice or from outside the learning effort". Meanwhile, according to Oemar Hamalik (in Emi Prabawati [3]), "Experience is a source of knowledge and experience gained because of the interaction between individuals and their environment". Industrial Field Experience is very useful students, such as can

gain experience in the business / industry and foster self-confidence in the students. The application of knowledge and skills learned in higher education can be sharpened and better trained in industrial practice. In addition, students also can feel and recognize the atmosphere of work environment so that students are ready to work in the business world and the industrial world after finishing Higher Education. In general, the implementation of PLI is aimed to obtain / explore the practical knowledge of the field / industry through direct involvement in various business / industry activities, fostering the attitude and work ethic of students as a candidate for professional workforce, and able to discuss a topic encountered in the field through method of scientific analysis into the form of an Industrial Field Experience report (PLI). Based on the temporary observation and experience of the author at the time of following the course of Industrial Field Experience is still the obstacles obtained by students majoring in Mechanical Engineering FT UNP in the field of Industrial Field Experience is influenced by the readiness of students in facing the industrial world in the field and the mastery of the material to be applied sometimes different when conducting Industrial Field Experience in industry. Based on the description described above, the conceptual framework and relationship model (regression) between independent variables and dependent variables are then proposed. In accordance with the scope or the learning of the research is to see the relationship of work discipline and the implementation of industry field experience as predictor factors preparing to enter the workforce.

2. Method

This research is a quantitative research because this research uses many numbers, ranging from data collection, interpretation of the data, and the appearance of the results of this study was realized in numbers (Suharsimi Arikunto, [7]). In addition, this research is an expost-facto research because the data obtained is the result data from the events that have been going on, so that researchers only reveal facts based on the measurement of symptoms that already exist in the respondent (Suharsimi Arikunto, [7]).

According Sugiyono [6] population is a generalization region consisting of objects or subjects that have certain qualities and characteristics that have been determined by researchers to be studied and then drawn conclusions. The population in this study is a student majoring in Mechanical Engineering who has completed the Field Industry Experience period July-December 2014.

3. Results and Discussion

The data of this research include three variables: work discipline (X1), industrial field experience (X2) and readiness to enter the workplace (Y). Having obtained the description of the data for the practical work discipline it is seen that the mean (mean value) 140.29, Standard Deviation 8.549, Mode 126.00, Median 141,0000, Minimum 125.00, Maximum 155.00, Range 23.00, and Sum 12065.00. The basic statistical calculation of work discipline above work is known that the answer scores spread from the lowest score 123 and the highest score 155, so the range of scattered values in the sample is 155 - 125 = 30 and standard deviation 8.549 and 73.079 variants. The level of respondent achievement in each variable. Descriptive analysis of students' perceptions about the learning process is done with the help of computer through SPSS program version 20.0. The results showed that mean (mean value) 165.2500, Standard Deviation 15.98343, Mode (mode) 160.00, Median 165.0000, Minimun 122.00, Maximun 196.00, Range 74.00, and Sum 12559.00.

$$Tingkat\ pencapaian = \frac{Skor\ rata - rata}{skor\ ideal\ maksimum} \times 100\%$$

$$Tingkat\ pencapaian = \frac{140,29}{5 \times 32} \times 100\% = 87,68\%$$

So it can be concluded that the average level of achievement score practicum work discipline is 87.68% and entered into the good category. From this data it can be said that the discipline of practical work of mechanical engineering students FT UNP in general is Good.

Description of data on the execution of industrial field experience shows that mean (mean) 88,8696, Standard Deviation 9.88514, Mode 90.00 and Median 90,0000, Minimum 100.00, Maximum 178.00, Range 35.00 and Sum 4088.00. The basic statistical calculation of the experience of industrial field experience is known that the answer scores spread from the lowest score of 100 and the highest score 178, so the range of scattered values in the sample is 178- 100 = 78 and the standard deviation of 14.391 and the variant of 207,110. The level of respondent achievement in each variable used formula:

$$Tingkat\ pencapaian = \frac{Skor\ rata-rata}{skor\ ideal\ maksimum} \times 100\%$$

$$Tingkat\ pencapaian = \frac{147,86}{5 \times 38} \times 100\% = 77,82\%$$

So it can be concluded that the average level of achievement score of industrial field experience experience is 77.82% and entered into the category quite well. From this data it can be said that the implementation of field experience of mechanical engineering students FT UNP in general is quite good.

The basic statistical calculation of readiness entering the workforce is known that the answer scores spread from the lowest score of 109 and the highest score 146, so the range of scattered values in the sample is 109 - 146 = 37 and the standard deviation 9.009 and the variant 81.157. The level of respondent achievement in each variable used formula:

$$Tingkat\ pencapaian = \frac{Skor\ rata-rata}{skor\ ideal\ maksimum} \times 100\%$$

$$Tingkat\ pencapaian = \frac{123,83}{5\ X\ 30} \times 100\% = 82,55\%$$

So it can be concluded that the average level of achievement score of readiness to enter the workforce is 82.55% and entered into the good category. From this data can be said that Readiness to enter the working world of engineering students FT UNP in general is Good.

Normality testing of research data was done by using kolmogorov-smirnov test (K-S test). The significance level used as the basis for data distribution is $\alpha = 0.05$. The probability significance score for X1 variable is 0,200, X2 is 0,200 and Y is 0,200. Because the significance for all variables greater than 0.05 it can be concluded that the data on the discipline of practical work and field experience field industry and the readiness to enter the working world of students majoring in Mechanical Engineering FT UNP normal distribution.

Linearity test aims to determine whether two variables have a linear relationship or not significantly. The significance score of work discipline labor - readiness to enter the workforce of 0.004. Score of discipline work practicum significance - readiness to enter the workforce of 0.000. If the value of significance in Deviation from linearity <0.05 then both variables are linearly related. From the results of the above analysis it is known that the discipline of practical work obtained Deviation from linearity with sig. 0.004 <0.05 and the execution of industrial field experience obtained Deviation from linearity with sig. 0,000 <0.05. Thus the discipline of practicum work and the execution of industrial field experience on the readiness to enter the workforce is linear.

Multiple regression analysis is used to measure the influence of more than one independent variable to the dependent variable. Before looking at multiple regression equations, we must first find the value of

R (Multiple Correlation Coefficient) and the value of R2 (Coefficient of determination). R value (correlation coefficient) = 0,550 and R2 (coefficient of determination) = 0,302. Furthermore, the search for multiple regression equation as follows: Y = a + b1X1 + b2 X2, the equation Y = 37.861 + 0.306 X1 + 0.291 X2, meaning that when the work discipline variables (X1) increases one unit, the readiness to enter the work world (Y) will rise by 0.306. Likewise with the implementation of industrial field experience (X2), if there is an increase of one unit, then the readiness to enter the work world (Y) will rise by 0.291. The determination coefficient value of 30.2% is the diversity of preparedness to enter the work world (Y) determined by the variables of the discipline of practical work (X1) and the implementation of industrial field experience (X2), obtained F = 17,985 with significant 0,000. So that it can be said to be significant <0,05 (0,000 <0,05), then Ho is rejected, Ha accepted, meaning the discipline of practicum work (X1) and implementation of industry field experience (X2) together can be used as predictor factor to readiness to enter work world (Y).

This study revealed that of 86 samples answered 32 items in revealing the great correlation of laboratory work discipline to the readiness of entering the workforce, 44 items reveal the large implementation of Industrial Field Experience (PLI) on the readiness to enter the world of work, and disclose the discipline of work practices and Industrial Field Experience PLI) to readiness to enter the world of work together to influence the readiness to enter the workplace significantly. Prior to the experiment, it was conducted an instrument test to 28 respondents to see the validity and reliability of the instrument with 40 variable items of Work Practice Discipline (X1), 44 items of Variables of Field Industry Experience Execution (X2) and 36 items of Readiness to enter the Working (Y) variable. Obtained 32 items valid variable X1, 38 item valid variable X2 and 30 item valid variable Y. For reliability test of variable X1 with real level of 0.05, got price rhitung 0,514 while r11 for X2 equal to 0,925 and rtabel 0,423. So because r11> rtabel, it is concluded that the data of discipline of practicum work and the execution of industry field experience is reliable.

The normal curve of the discipline of work practice tends to increase with the level of respondent achievement of 87.68% and it can be said that the discipline of practical work of students of Mechanical Engineering Department of FT-UNP in the workshop in general is Good. The implementation of Field Industry Experience tends to increase with the level of respondent's achievement of 77, 82% and included in the category is quite good, so it can be said that the implementation of field experience of students majoring in Mechanical Engineering FT-UNP in general is Good Enough. And the normal curve of readiness to enter the workforce tends to increase with the level of respondent's attenuation of 82.55% and into the category of good, and it can be said that the readiness to enter the working field of students majoring in Mechanical Engineering FT-UNP in general is Good. This suggests the presumption of research discussed in the background that a good work discipline is expected to have an effect on the implementation of the student industry field experience, thus increasing the readiness to enter the workforce is correct.

Judging from the normality test, the level of significance used as the basis of data distribution is α = 0.05. This proves that the probability significance score for X1 variable is 0,200, X2 is 0,200 and Y variable is 0,200. Because of the significance for all variables greater than 0.05 it can be concluded that the discipline of student practicum work in the workshop and the implementation of industry field experience and readiness to enter the working world of students majoring in Mechanical Engineering FT UNP has a normal relationship. From result of linearity test analysis known that student work practice discipline in workshop get Deviation from linearity with sig. 0.004 □ 0.05 and the field industry experience acquired Deviation from linearity with sig. 0,000 □ 0.05. Thus the discipline of student practicum work and the implementation of field industry experience of the students to readiness to enter the workforce is linear. And independence test between independent variables (multicolinearity test) shows Variance Inflation Factor (VIF) value for both independent variable that is work discipline and implementation of industrial field experience 1,000. Since the VIF value is less than 5.00 it is concluded that the regression model does not find any multicollinearity problem. Based on the results of the first and second hypothesis analysis proves that Ho is rejected and Ha accepted.

This proves the discipline of practicum work and the execution of industrial field experience can predict or predict readiness to enter the workforce. Discipline of practical work contributed 10.75% and industrial field experience contributed 23.71%. Result of third hypothesis analysis prove Ho rejected and Ha accepted. This means that the discipline of practicum work and the execution of industrial field experience together contribute to the readiness to enter the workforce of 30.20%.

Achievement scores of respondents discussed, discipline work practice and the implementation of industrial field experience 82.55%. The data indicate that the issues raised in the background explain the readiness to enter the workforce of students affected by the discipline of practical work and the implementation of field experience of industry students is true. Discussion about the discipline of practical work there is a significant relationship to the readiness to enter the world of work with a good relationship. Work discipline during the workshop in the workshop is very necessary in the students to gain success and gain readiness to enter the world of good work. The existence of a good work discipline in the lab will show readiness to enter the world of good work. The amount of influence of Industrial Practice Experience on the readiness of students is still relatively small at 21.1%. So based on the results of research reinforced by expert opinion and relevant research experience industry practice berkontstribusi tehadap readiness of student work.

The problem that occurred in the Department of Mechanical Engineering FT-UNP is still the lack of readiness of students in entering the world of work. Based on the background of the problem identified that the cause of not yet optimal readiness to enter the workforce of students is the discipline of student practicum work in the workshop is still low and and the implementation of industrial field experience that has not been optimal. After the research, it can be concluded that the discipline of practicum work in the workshop and the implementation of industry experience gives a significant relationship 0.302. While the rest of 0.69 influenced or explained by other variables that are not included in this research model. Therefore, the discipline of practicum work and the execution of industrial field experience needs to be improved again to improve the readiness to enter the workforce.

4. Conclusions

The results of this research analysis, can be drawn conclusion as follows:1) There is a correlation of work discipline work with the readiness to enter the workforce of 0.306, which defines the discipline of practical work students in the workshop can be used as a predictor factor in the readiness to enter the workforce. This means that the higher the work discipline in the workshop workshop the higher the readiness to enter the working world of students majoring in Mechanical Engineering FT-UNP.; 2) There is a relationship between the implementation of Industrial Field Experience (PLI) to the readiness to enter the workforce of 0.291, which means that the implementation of Field Industry Experience (PLI) can be used as a predictor factor in increasing the readiness to enter the work world. This means the better the implementation of Industrial Field Experience (PLI), the better the readiness to enter the working world of students majoring in Mechanical Engineering FT-UNP; 3) There is a correlation between the discipline of practicum work and the implementation of Industrial Field Experience (PLI) together on the readiness to enter the workforce of 0302, which means that Field Industry Experience (PLI) can be used as a predictor factor in increasing the readiness to enter the working world m. This means the better the discipline of practical work and the implementation of Industrial Field Experience (PLI), the better the readiness to enter the working world of students majoring in Mechanical Engineering FT-UNP.

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