

Hard Skills and Soft Skills as a Result of Industrial Practices and Their Impact on Graduates Job Performance

Yatti Sugiarti*, Ginggi Khansa Julyanidar, Dwi Lestari Rahayu, Indah Khoerunnisa
 Agro-Industry Technology Education Study Program
 Universitas Pendidikan Indonesia
 Bandung, Indonesia
 *attisugiarti5@upi.edu

Abstract—Industrial practice is a real learning process carried out in industry. Educational institutions collaborate with industry to foster students to have soft skills and hard skills according to the needs of the job market. This study aims to determine the effect of graduate perceptions on student soft skills and hard skills as a result of industrial practice learning and their effects on job performance. The research sample is graduates of agro-industrial technology education study programs who have been and are currently working in the industry. The research method uses descriptive methods with a quantitative approach. Hard skills and soft skills are independent variables, while job performance is the dependent variable. The results showed a high category for hard skills and a very high category for soft skills as a result of industrial practice learning on job performance. The general perception of graduates about hard skills and soft skills as a result of industrial practice learning towards graduate job performance is in the very high category. The components of hard skills and soft skills are discussed in this study.

Keywords—hard skills, soft skills, job performance, vocational education

I. INTRODUCTION

The transformation that occurs in the 21st century causes human life to change very rapidly [1]. The times are shown by the development of the industrial sector [2]. This condition requires human resources to have the ability to work from the aspects of hard skills and soft skills [3]. Quality and competent human resources are produced by professional educational institutions [4]. The agro-industrial technology education study program is one of the study programs which aim to produce graduates who are able to apply agro-industrial technology and are able to compete nationally and globally in their fields. To realize this, an industrial practice program was implemented.

Industrial practice aims to provide students with learning experiences in real situations in the industry, so that they can integrate their experiences into personal behavior as effective and productive individuals. Industrial practice can have a positive impact on graduates to develop individual character

and affect work performance in industry. Therefore, further research is still needed to determine the impact of the application of industrial practices. Is industrial practice really able to shape and improve the hard skills and soft skills of graduates in the industrial world or not? Based on the results of a preliminary survey of 19% of the random sample, the perceived benefits of industrial practice by graduates can increase knowledge, experience, skills, interest in working in industry, and increase their adaptability in the real world of work. Industrial practice can provide knowledge and experience in the real world of work. Regarding how much influence the implementation of industrial practice has on the hard skills and soft skills of graduates of agro-industrial technology education study programs in the world of work is still unknown.

This study aims to determine the perceptions of graduates of agro-industrial technology education study programs about hard skills and soft skills, and the effect of hard skills and soft skills as a result of industrial practice on work performance in the industry.

II. RESEARCH METHOD

This research is descriptive quantitative. This research is also a correlational study which aims to determine the closeness of the relationship between the variables in question [5]. The variables used in this study are the independent variables and the dependent variable. The independent variable is hard skills and soft skills resulting from industrial practice, and the dependent variable is work performance. Respondents of this research are graduates of agro-industrial technology education study programs who have been and are currently working in industry.

The study population was 272 graduates in 2008-2014. The sample that was willing to become respondents was 44 graduates. The data collection technique used a closed questionnaire that was distributed online. The questionnaire was divided into several hard skill parameters, namely the ability to understand the company's standard operating procedures, technical knowledge and procedures in the field

and work competence. Meanwhile, soft skill parameters are communication, leadership, discipline and collaboration. These parameters are formulated into a grid to be used as a research instrument. The questionnaire sheet uses a Likert scale, namely through a list of questions and each statement submitted as a measuring tool.

The data analysis used was instrument validation and research data analysis. Analysis of theoretical trials or instrument validity was carried out using the CVR (Content Validity Ratio) technique. This validation is carried out by an expert or subject measuring expert to obtain information about the suitability of items and indicators that have been compiled [6]. The number of experts validating the instrument was three. The assessment of all items uses the Content Validity Index (CVI). CVI is simply the average CVR value for an item that is considered important. The results of CVR and CVI calculations are in the form of numbers 0-1.

III. RESULTS AND DISCUSSION

A. Hard Skills as a Result of Industrial Practice

Hard skills have a very important role as provisions in entering the world of work. The ability of hard skills is the mastery of technical skills from learning outcomes related to a field of science [7]. The results of the assessment of graduates' perceptions of the benefits of industrial practice experience obtained on the hard skill parameters are shown in Fig 1.

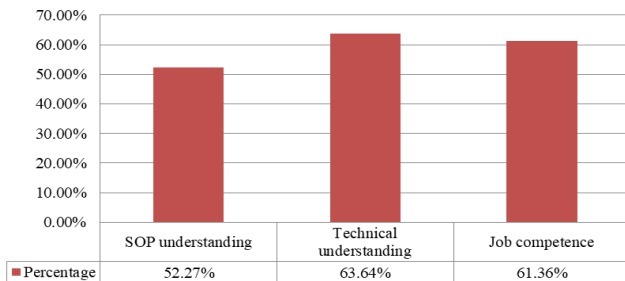


Fig. 1. Hard skills parameter.

1) *Understanding standard operating procedures:* Based on the perceptions of graduates, most of the respondents' agree that industry practice helps in understanding standard operating procedures. Hard skills can be demonstrated by the academic ability of each individual being able to read, understand, design rules for each element in a standard operating procedure format, so that they can apply elements of work instructions which in turn can develop rules according to changes.

The ability to understand standard operating procedures may or may not affect the performance of graduates in the industry based on positive and negative perceptions given by respondents. Positive perceptions are generally caused by a linear workplace so experience in applying industrial practices helps to provide an overview of the world of work. This negative perception is caused by the experience of industrial

practice that does not really study SOPs so that they cannot develop hard skills to become a provision for skills in the world of work. Understanding and skills are a unity that must be supported by training, requiring a stable adjustment between emotions and the environment. Based on the results of the calculation of the interpretation of scores, it shows that the assessment of graduates' perceptions of the competency variable in understanding standard operating procedures gets the highest percentage of 52.27% in the high category.

2) *Technical understanding:* Based on the perceptions of graduates, most of the respondents' agreed that industrial practice helps in understanding technical knowledge and procedures in the field. Technical matters in the work environment, such as each individual being able to adapt to the environment and work, show the academic ability of each individual, where each individual can complete tasks skillfully and precisely according to the workflow [8].

The ability to understand technical knowledge and procedures in the field can affect or not affect the performance of graduates in the industry based on positive and negative perceptions given by respondents. Positive perceptions due to industrial practices help provide experience in knowing environmental conditions, social life to management and workflow in the industry [8]. Negative perceptions due to emotional conditions include a sense of satisfaction and job dissatisfaction. Based on the results of the calculation of the interpretation of the score, it shows that the assessment of graduates' perceptions of the variables of technical knowledge and procedures in the field gets the highest percentage of 63.64% with the very high category.

3) *Job competence:* Based on the results of the respondents' perceptions assessment, most of the respondents agreed that practical work experience helped shape job competencies. This work competency shows the academic ability of each individual to improve professionalism, management, quality, performance and work success [9].

Job competence may or may not affect the work performance of graduates in the industry based on positive and negative perceptions given by respondents. Positive perceptions because industrial practice experience helps mastery of the field of knowledge will affect work performance, work performance based on actions and expertise. Negative perceptions are caused by differences in individual satisfaction with certain jobs. Based on the results of the calculation of the interpretation of the score, it shows that the assessment of graduates' perceptions of work competency variables gets the highest percentage of 61.36% in the very high category.

B. Soft Skills as a Result of Industrial Practice

Soft skills are affective abilities that a person has, in addition to the ability to master formal intellectual technical mastery of a field of science that makes it easier for someone to be accepted in the social and work environment [10]. Soft

skills are needed in the world of work. The results of the assessment of graduates' perceptions of the benefits of industrial practice experience obtained on the soft skill parameters are shown in Fig 2.

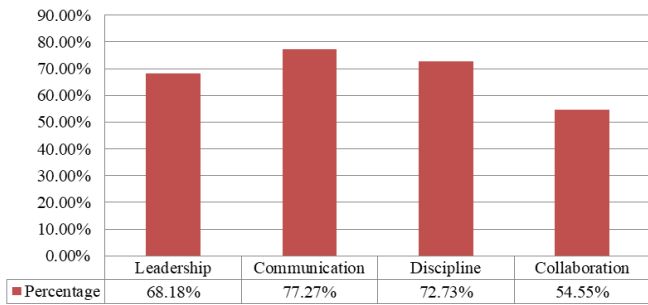


Fig. 2. Soft skills parameter.

1) *Leadership*: Based on the results of the respondents' perceptions assessment, most respondents agreed that industrial practice helps to grow and develop leadership abilities. Leadership is how the person concerned has the ability to build relationships between people which is the core of developing a spirit of motivation, innovation, creativity, inspiration, dynamism, mutual respect, support and responsibility [11].

Leadership may or may not affect the performance of graduates in the industry based on the positive and negative perceptions given by the respondents. Positive perception is because leadership is shown as a factor that shows the spirit of leadership obtained from the application of industrial practices which can then be applied when already working in the industry [11]. Negative perceptions are caused by limited space to explore and develop this ability. The development of the spirit of leadership that is not optimal can be caused by changes in the work environment and changes in the emotional and mental nature of each individual in the work environment. Based on the results of the calculation of the interpretation of the score, it shows that the perception of the respondent's assessment of the leadership variable gets the highest percentage of 68.18% with a very high category.

2) *Communication*: Based on the results of the respondents' perceptions assessment, most respondents agreed that the industrial practice experience helped improve communication skills. Communication can also include the exchange of information between humans and machines [12]. Communication is an important process in organizations because communication is needed for effective planning and coordination [13].

Communication can affect or not affect the performance of graduates in the industry based on positive and negative perceptions given by respondents. Positive perceptions are caused by industrial practices that provide experience to improve the ability to express new thoughts, ideas, knowledge or information, both in writing and orally [12]. Negative

perceptions are caused by a lack of communication with various groups that only communicate with part of the team. High job satisfaction among group members is if they have close communication. Based on the results of the calculation of the interpretation of the score, it shows that the postgraduate perception of the communication variable gets the highest percentage of 77.27% in the very high category.

3) *Discipline*: Based on the results of the respondents' perceptions assessment, most respondents agreed that industrial practice helps improve discipline. Discipline skills are exercises in memory and character to create self-control, or the habit of obeying rules and orders [14].

Discipline can affect the work performance of industrial graduates based on positive and negative perceptions given by respondents. Positive perceptions are caused by industrial practices that provide experiences to increase awareness in doing things in an orderly and orderly manner according to the rules with full responsibility without coercion from anyone [14]. Negative perceptions due to changes in job characteristic factors are important to meet individual needs [15]. Based on the results of the calculation of the interpretation of the score, it shows that the perceptions of graduates on the discipline variable get the highest percentage of 72.73% in the very high category.

4) *Collaboration*: Based on the results of the respondents' perceptions assessment, most respondents agreed that industrial practice experience helps improve collaboration skills. Collaboration skills are skills to work together effectively and show respect to diverse team members, exercising fluency and willingness to make decisions needed to achieve common goals [16].

Collaboration may or may not affect the performance of graduates in the industry based on the positive and negative perceptions given by the respondents. Positive perceptions are caused because industry practices provide experiences to collaborate with others. Meanwhile, negative perceptions are caused because they are only placed in the field. The experience of working in groups has important benefits for meeting interpersonal needs and being a source of job satisfaction [16]. Based on the results of the calculation of the interpretation of the score, it shows that the perception assessment of the collaboration variable gets a percentage of 54.55% in the very high category. This means that the collaboration variable has a high influence on work performance.

IV. CONCLUSION

Graduates' perceptions about the ability of hard skills resulting from industrial practice on work performance in the industry are in the high category based on the calculation of score interpretation and have a strong relationship to influence work performance. Increasing the ability of hard skills will be followed by work performance. Graduates' perceptions of soft skills resulting from industrial practice on work performance in the industry are in the very high category based on the

calculation of score interpretation and have a very strong relationship to affect work performance. Increasing the ability of soft skills will be followed by work performance

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