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Employability Skills Assessment (Decision Making) of Vocational High School Students

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***Abstract*—The wave of world industrial and economic progress that is rolling fast have a great impact on the economic and business competition of economies in the world. Indonesia was ranked number 37 in the global competitiveness index during the period 2015-2016 with a score of 4.52 which subsequently decreased during period 2016-2017 to 4. 25 and was ranked 41 out of 138 countries. In 2017-2018, Indonesia is anticipating to be ranked the 36th out of 137 countries in the world with a score of 4.68. Graduates with relevant skills will be able to meet the demands of the world of work. Employability skills are transferable core skills and traits which are indispensable on job. Decision making is an essential employability skill. This study was aimed to examine decision making by bakery students who were trained through teaching factory at Cibadak 1 public Vocational High School and Pacet 1 public Vocational High School. The mixed method of the concurrent triangulation mix design was used. Extracted results showed that decision making improved trainee performances at both Vocational High Schools, with the highest achiever and lowest achiever being found at Cibadak 1 public Vocational High School aand Pacet 1 public Vocational High School respectively.**

Keywords—decision making; employability skills; teaching factory

I. INTRODUCTION

The Global Innovation Index released by the World Bank revealed a year to year variation in ranks, with the exception of Switzerland which maintained the first place from 2011 up to 2017 with a score of 67.69, followed by second placed Sweden (63.82) and third placed Netherlands (63.36) [1]. Before (2016), United Kingdom was ranked third that is before its subsequent fall to the 5th position in 2017. The United States maintained its 4th position in 2016 and 2017.

The innovation rank changes were not only limited to high income economies, but also to lower-middle income group of economies through which South East Asian countries like Indonesia, the Philippines, Cambodia. And Vietnam are part of. According to the World Bank, Indonesia's 2017 innovation rank was 87 and the accompanying score was 35.68. That showed a one step up from the 2016 innovation rank (88) with an accompanying score of 29.07. However it remained low when compared to the 2013 innovation rank (85) [2]. Within the South East Asian and Oceanian countries, Indonesia was ranked the 14th in 2017 [1] after the Philippines (13th), Thailand (10th), Malaysia (8th) and Singapore (1st).

TABLE I. GLOBAL INNOVATION INDEX OF SOUTH EAST ASIA COUNTRIES IN 2017

No.	Countries	Groups	World Rank	SEA-Oceania Rank	Score (0-100)
1.	Singapore	High Income	7	1	58.69
2.	Malaysia	Up-Middle Income	37	8	42.72
3.	Thailand	Up-Middle Income	51	10	37.57
4.	Brunei Darussalam	High Income	71	12	32.89
5.	Philippine	Low-Middle Income	73	13	32.48
6.	Indonesia	Low-Middle Income	87	14	30.10
7.	Cambodia	Low-Middle Income	101	15	27.05

Furthermore, Indonesia was positioned the 37th on the global competitiveness index ranks during the period 2015-2016 with an accompanying score of 4.52 and in 2016-2017 it was ranked 41 out of 138 countries with a score of 4.25. In 2017-2018, Indonesia's rank improved to number 36 out of 137 countries in the world with an associated score of 4.68 [3].

The education institutions should produce graduates who will develop themselves spiritually, who possess indispensable traits such as self-control, admirable personality, intelligent, democratic, and possess skills that are beneficial to the society and government at large [4]. The education system gives learners opportunities to obtain pertinent knowledge and experience before they are gradually assimilated into the society and economy. Through education, they will develop their skills and capabilities in many respects. These skills, qualities and capabilities will ultimately be applied at work places and in life.

Prospective employees must have fine skills and qualities that are demanded at the work place. Employability skills are made up of work skills and qualities [5]. The attention of

today's entrepreneurs is recruiting employees who are both competent and skillful. Employees with the right employability skills should be recruited as they are easy to manage.

> *Employers need reliable, responsible workers who can solve problems and who have the social skills and attitudes to work together with other workers ... high performance workforce is needed for competitiveness in today's marketplace. Employees with these skills are in demand and are considered valuable human capital assets to companies* [6].

In order to meet the demands of employers, all prospective employees should be thoroughly educated and trained at various vocational high schools. Vocational high schools should train (link and match) relevant skills and qualities needed at the work place. In Indonesia there are a lot of unemployed former graduates of the vocational and technical high schools. The vocational education system is therefore challenged to produce marketable graduates with demanded employability skills. Some of the unemployed graduates lack employable skills. Vocational education and training curriculum should therefore be constantly developed and reviewed in order for it to be an indispensable input in the production of graduates who possess skills and qualities demanded in the world of work. These includes academic skills, higher-order thinking skills and personal qualities. Vocational high school graduates should be equipped with adequate manual and professional skills during training.

In order to meet the work place demands, relevant learning strategies that equip students with marketable skills and qualities should be employed. Work based learning is one of the most suitable methods which enable students to be comfortable with several task or duties at the work place. Work based learned is also commonly known as On the Job training in Indonesia because trainees are placed on the real job [7]. The employability skills under consideration which is of immense value is decision making and it will be considered in terms various sub-indicators. Indicators of each aspects were derived from employability skills assessment [8]. They are outcomes of an employability skills assessment that is advanced [9]. In this study, identified indicators are subsets of students' decision making skills practiced on the job.

II. METHOD

A. Research Design

This study used the concurrent triangulation mix research design whereby quantitative and qualitative data collection is done simultaneously, and then comparison will be done on it so as to determine convergence, differentiation and combinations. Data analysis involved data integration and comparisons.

B. Participant, Population and Sample

The qualitative data was collected through interviewing management staffs responsible with on the job training. Furthermore, qualitative data was collected through the use of questionnaires. Questionnaires were administered on "on the job teachers". Quantitative data was collected using the single-group interrupted time series design, a type of the quasi-experimental design.

C. Research Instrument

Questionnaires, tests and interviews were used to collect data. Employability skills aspects that were measured were explained in the form of some indicators. Indicators of each aspects were derived from employability skills assessment [8] and employability skills assessment was done in advanced [9]. Employability skills indicators were described on the basis of given description [9]. They were explained in analytic rubrics as a manual of students' employability skills assessment and were adjusted to the needs of the study. Tests were also administered as per Indonesia Work Competency Standards (SKKNI) No. KEP. 45/ MEN II/ 2009 for food and drink industries sector.

D. Data Analysis

Data was analyzed descriptively. The quantitative method was used to assess the development of employability skills aspects of decision making in the students. Qualitative data were analyzed using descriptive data analysis technique. As for the quantitative, the analysis was using quantitative approach of employability skill aspects during the following 3 stages: at beginning, on-going, and at the end of on the job training activities.

III. RESULTS AND DISCUSSION

The assessment of decision making aspects of employability skills at Cibadak 1 public vocational high school and Pacet 1 public vocational high school showed that the students' decision making abilities were developed from first step to third step. Students' employability skills (decision making) improved following on the job training process. The quality of the learning process is very critical for the student to obtain technical skills and generic skills (employability skills) [6,10,11]. Employability skills includes personal skills, interpersonal skills, attitudes, habits and behaviors which enable employees to work with minimum mistakes. Employability skills are core skills which are transferable and are required in 21st century work place [12]. Employability skills can be classified as: (1) basic academic skills, (2) higher-order thinking skills, dan (3) personal qualities [5].

The employability skills assessment (decision making aspect) at Cibadak 1 public school and Pacet 1 public school was done in three steps: step 1, onset of on the job training process, step 2, middle of on the job training process, and lastly step 3, end of on the job training process. Measurement in each step was done through the use of the same questionnaire. The indicators that were used, is the analytic rubric of 1-4 scale, that is: (1) for not good, (2) for medium, (3) for good, and (4) for perfect. Same questionnaire was applied at each step so as to determine possible increases or decreases of employability skills brought about by on the job training process.

The problem solving indicator was part of the decision making aspect of employability skills. Problem solving skills have potential to contribute to productivity and better relations which are essential for optimum results. Decision making skills

are defined as abilities to see something as either right or wrong, and abilities to try to fix the errors in a complex situation. Decision making also involves problems identification, generation of solutions to mention a few. The results of decision making skills measured at Cibadak 1 public vocational high school and Pacet 1 public vocational high school are shown below:

- The result of students' employability skills measurement of the decision making aspect at Cibadak 1 public vocational high school were as follows; In step 1, 30 % of the students were in good category, 30 % were in perfect category and 40 % were in medium category. In step 2, 45 % of the students were in perfect category, 50 % were in good category and 5 % were in medium category. The students' skills peaked up in step 3 that is, 90 % of the students were found to be in perfect category and the remainder (10 %) were in good category. This is presented in figure 1 below.

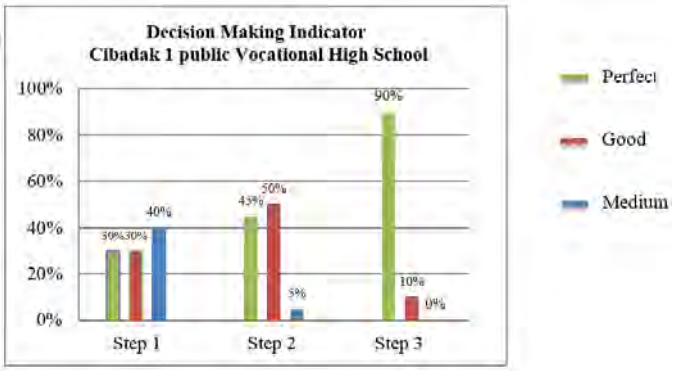

Fig. 1. Decision making skills indicator at Cibadak 1 vocational high school.

- The result of students' employability skills measurement of the decision making aspect at Pacet 1 Vocational High School were as follows: In step 1, 30 % of the students were in good category, 25 % were in perfect category and 45 % were in medium category. In step 2, some increments were seen, 40 % of the students were in perfect category, 35 % were in good category and 25 % were in medium category. The students' skills peaked up in step 3, 85 % of the students were in perfect category and the remainder (15 %) were in good category. This is illustrated in figure 2 below.

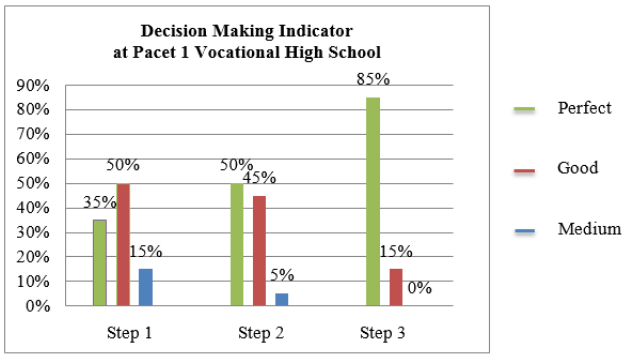

Fig. 2. Decision making Pacet 1 vocational high school.

The results of students' employability skills measurement of the decision making aspect were influenced by on the job training processes. Students' decision-making skills can be fine-tuned through industrial practice. Furthermore, managers in various training enterprises or institutions shape students to make an pre-analysis of actions and the impact thereof [13]. They should train the students to solve the problem in workplace.

Work based learned is also commonly known as On the Job training in Indonesia because trainees are placed on the real job [7]. WBL involves a lot of students who are actively doing the things they're learning about (and actively learning from this doing). Trainees or students learn in their workplace and/or the classroom and are further supported by ubiquitous electronic and mobile technologies. Communication between trainee, respective tutors and or respective peers will be done online. The university or college will offer the trainee introductory support and skills sessions to make sure s/he get the most out of these new and developing technologies [7].

The adoption of work-based learning in students learning process, especially in vocational high school is of immense importance because learners will get valuable skills applicable to the work place. A cooperative work environment has an incremental effect on trainees' own productivity. On the job training or learning develops trainees and improve existing employees in terms of decision-making skills.

IV. Conclusion

On the job training processes have potential to develop in students employability skills like decision making. The results showed that decision making skills improved significantly in students enrolled at both Vocational High Schools. Figures for students enrolled at Cibadak 1 public Vocational School were comparatively higher to those of the students enrolled at Pacet 1 public Vocational High School.

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