

Perception towards Transferable Skills in Indonesian Universities

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Abstract—Having transferable skills is very important in the 21-st century. However, there is limited information about the perceptions of which transferable skills are needed in the workplace. This study aims to explore the transferable skills among students and lecturers in universities in Indonesia. Transferable skills include communication skills, collaboration skills, problem-solving skills, entrepreneurship, and learning to learn skills. The five Likert scale questionnaire was given to lecturers and students from several Indonesian universities who provide bachelor program in engineering. The results showed that significantly the lecturers had a higher mean score of perception on all aspects of transferable skills compared with the students. For both the students and the lecturers, the highest score is collaborative skills and the lowest score is entrepreneurship skills. Overall results indicate the need to improve transferable skills of both lecturers and students:

Keywords—*transferable skills, TVET, higher institution*

I. INTRODUCTION

Indonesia is the fourth most populous country in the world (after China, India and the United States) with a total population of about 262 million people. Indonesia also has a young population because approximately half of Indonesia's population aged less than 30 years. Therefore, Indonesia is a country that has a large and potential labor force in the future. Indonesia will have a demographic bonus in 2045. It implies the need for development of human capital quality as well as providing job opportunity in the largest economy market in The Southeast Asia.

Currently, to compete in the workplace, students must learn the high-level technical skills in their field as well as the transferable skills [1]. At present, the term skill refers to any practice, form of knowledge, or way of constituting productive labor [2], while hard skills are the technical and administrative skills required in the workplace [3]. Transferable skills are necessary for university bound students and for those seeking a position in the working world directly out of TVET providers. Hard skills and soft skills are important skills in the working work.

Transferable skills are the skills individuals have which are relevant to jobs and occupations other than the ones they currently have or have recently had [4]. These skills may also have been acquired through non-work or leisure activities or through participation in education or training. Transferable skills are generics and directly linked to basic knowledge, to behavioral skills, cognitive skills, and organizational skills

[4]. More generally, transferable skills are skills learned in one context that can be transferred to another context. In general, transferable skill is a wide variety of basic knowledge, values, and life skills [5]. In working world, soft skills complement hard skills which including capabilities, competencies, and learning outcomes of technical procedures or practical tasks [6]. Transferable skills found in the majority of national policy documents include communication, collaboration, problem solving, entrepreneurship s and learning to learn skills [7]. This scope of transferable skills was used in this research.

Unemployment among fresh graduates had become increases as employers expected them to become good in their area and also have positive attitudes with good transferable skills. In order to solve this issue, an improvement of pedagogy in teaching and learning process should be made. Therefore, students and lecturers perception on transferable skills should be known for improvement [8].

II. METHOD

This study explores perception of the transferable skills of lecturers and students in Indonesian universities and addresses the gaps between lecturers and students in transferable skills. Therefore, the objective of this study is to explore the perception and the differences of transferable skills among students and lecturers in Indonesian TVET higher learning institutions. This research was conducted using survey [9]. The five Likert scale questionnaire was given to students and lecturers from five Indonesian State Universities (former teacher education institution) who provide bachelor degree in engineering including Universitas Pendidikan Indonesia (UPI), Universitas Negeri Malang (UM), Universitas Negeri Semarang (UNNES), Universitas Negeri Surabaya (UNESA) and Universitas Negeri Gorontalo (UNG). The focus of this research was the perception of students and lecturers on transferable skills from pedagogy aspect.

III. RESULT AND DISCUSSION

Descriptive statistics include mean, standard deviation and rank are used to analyze the research findings. Explanation on mean score is based on five Likert scale questionnaire from strongly disagree to strongly agree. Total mean score analysis on the five aspects of the measured transferable skills is provided in Table 1 to Table 6. In general, the results showed high mean scores that were close to each other. The low deviation standards reflect the

distribution of responses is not deviating away from the mean value [8].

A. Problem Solving Skills

Table 1 shows data on perception of problem solving skills. For students, the highest mean (3.67) is to identify what information is needed to solve a problem and to clarify the problem that needs to be solved. While the item which on revise problem solving process by sustaining the strength and re-plan the process to improve weaknesses is in the lowest mean (3.54). For lecturers, the perception on clarify the problem that needs to be solved shows the highest mean (4.31). While revise problem solving process by sustaining the strength and re-plan the process to improve weaknesses is the lowest mean (3.90).

TABLE I. PERCEPTION ON PROBLEM SOLVING SKILLS

No	Item	Students		Lecturers	
		M	SD	M	SD
1	Clarify the problem that needs to be solved	3.67	0.77	4.31	0.67
2	Identify what information is needed to solve a problem	3.67	0.82	4.06	0.69
3	Choose appropriate approach and technique to solve a problem	3.58	0.83	4.23	0.65
4	Plan strategically to solve a problem that is feasible and acceptable to those who involve in the process	3.66	0.76	3.96	0.73
5	Develop an effective process to solve a problem	3.65	0.88	4.03	0.68
6	Implement an effective and efficient process to solve a problem	3.66	0.81	4.02	0.71
7	Evaluate the implemented process in solving a problem	3.61	0.78	4.03	0.68
8	Revise problem solving process by sustaining the strength and re-plan the process to improve weaknesses	3.54	0.81	3.90	0.78
	Total	3.63	0.60	4.07	0.52

B. Communication Skills

Perception of communication skills are provided in Table 2. For students, the highest mean (3.78) is for item of providing clear explanations on the topic that they are familiar with and the lowest mean (4.32) is item of presenting ideas orally. While for lecturers, the highest mean (4.23) shows that respondents agreed that communication skills can present ideas orally. While the item which states provide clear explanations on the topic that you are familiar with is in the lowest mean (3.88). The findings confirm the important of communication skill development in teaching and learning process.

C. Collaboration Skills

In Table 3 presents perception on collaboration skills. It is found that the students agreed to work on collaborative projects as a team member and to aware of feelings of other member in a group (both items have highest mean score of 4.02). While the item which confirm listen to ideas of others with an open mind before make a decision is in the lowest mean score (3.66). Furthermore, for lecturers, the highest mean score (4.35) is for the item all group members should

aware to other member in a group. While affirm treat group member with respect shows the lowest mean score (3.83). Collaboration skills are the specific ways in which peoples are expected to act to reach their objective.

TABLE II. PERCEPTION ON COMMUNICATION SKILLS

No	Item	Students		Lecturers	
		M	SD	M	SD
1	Communicate efficiently with others	3.64	0.86	4.13	0.80
2	Produce written documents with the right style	3.73	0.89	4.17	0.68
3	Provide clear explanations on the topic that you are familiar with	3.78	0.93	3.88	0.81
4	Comprehend verbal message accurately	3.73	0.88	4.05	0.80
5	Present ideas orally	3.53	0.88	4.23	0.75
	Total	3.68	0.71	4.09	0.64

TABLE III. PERCEPTION ON COLLABORATION SKILLS

No	Item	Students		Lecturers	
		M	SD	M	SD
1	Develop ways to resolve conflict and reach agreement in a group	3.82	0.88	4.27	0.72
2	Aware of feelings of other member of a group	4.02	0.83	4.35	0.68
3	Work on collaborative projects as a team member	4.02	0.82	4.10	0.77
4	Listen to ideas of others with an open mind before make a decision	3.66	0.85	3.90	0.86
5	Treat group member with respect	3.75	0.95	3.83	0.76
6	Get straight to the point in discussion group	3.92	0.83	4.18	0.76
7	Tell other group members when you think they are doing a good job	3.92	0.83	4.18	0.74
8	Focus on problem solving rather than who is to be blame	3.97	0.82	4.10	0.79
	Total	3.88	0.62	4.11	0.56

D. Entrepreneurship skills

Perception on entrepreneurship skills are provided in Table 4. Here, the analysis shows the students agreed brainstorm ideas after goes through some options are important in entrepreneurship skills. This item got the highest mean (3.64). While the item about choosing own resources shows the lowest mean (3.48). Meanwhile, for lecturers, the item about the important of brainstorm ideas after goes through some options shows the highest mean (4.06). The item for identify new business-related opportunities are the lowest mean (3.79). The different between highest mean and the lowest mean are slightly small for both students and lecturers which means that respondents perception on entrepreneurship skills are important.

E. Learning to learn Skills

Considering Table 5, the highest mean in the aspect learning to learn skills for students reveals that the students agreed that always maintain concentration is the highest mean (3.80). While start working out how to apply in practice when hear the new idea has obtained the lowest mean (3.60). Lecturers perception seem to be similar result

that always maintain concentration has got the highest mean (4.25) while think deeply to apply important facts is the lowest mean (3.91).

TABLE IV. PERCEPTION ON ENTREPRENEURSHIP SKILLS

No	Item	Students		Lecturers	
		M	SD	M	SD
1	Brainstorm ideas after goes through some options	3.64	0.83	4.06	0.76
2	Choose right and written the information to the proposal	3.58	0.77	4.03	0.71
3	Choose own resources	3.48	0.84	3.91	0.78
4	Evaluate proposal and planning	3.55	0.82	3.92	0.72
5	Identify new business-related opportunities	3.51	0.81	3.79	0.83
	Total	3.56	0.64	3.94	0.61

TABLE V. PERCEPTION ON LEARNING TO LEARN SKILLS

No	Item	Students		Lecturers	
		M	SD	M	SD
1	Think deeply to apply important facts	3.71	0.82	3.91	0.65
2	Produce mind maps or other summary	3.74	0.82	4.11	0.75
3	Self-test your own ability to recall important facts	3.62	0.85	4.04	0.78
4	Always maintain concentration	3.80	0.81	4.25	0.79
5	Always learning how to improve your learning skills	3.61	0.87	4.11	0.66
6	Start working out how to apply in practice when hear the new idea	3.60	0.85	3.96	0.80
7	Reach a decision carefully after weighing up many alternatives	3.66	0.80	4.01	0.73
	Total	3.68	0.62	4.05	0.57

The overall analysis of the transferable skills is provided in Table 6. Based on the table 6, it is found that students perceived the collaboration skills are an aspect that obtain the highest agreement from the respondents (3.88). However, there are only 0.32 mean differences in between the highest and lowest domains which is the entrepreneurship skills domain (3.56). This study revealed transferable skills are important to ensure TVET graduates meet the need of working environment and workforce demand. Table 6 shows the finding summary of imparting transferable skills in teaching and learning process and also the overall mean and standard deviation domain for each of transferable skills among academic staff and students in Indonesian Technical University of Education. In line with student perception, instructor also perceived the collaboration skills (4.11) is aspect that obtains the highest agreement from the respondents.

Entrepreneurship skills showed the lowest score both for students and lecturers. This is due to the lack of facilitation to develop entrepreneurship skills. The development of entrepreneurship skills has been carried out, for example through 2 credits entrepreneurship course in bachelor program. However, the entrepreneurship course tends to more theoretical and this course is taught, by lecturers who do not have experience in practical entrepreneurship [8]. In addition, entrepreneurial activities are also less demand by the students. Meanwhile, the acquisition of entrepreneurship skills will affect student’s employability [10]. Therefore, it is important to develop innovation in pedagogy and assessment

to improve entrepreneurship skills both for students and lecturers. The lack of Indonesian entrepreneurship skills also can be caused by cultural factors in which Indonesian people in general are less prepared to compete and are not prepared to accept the risk of failure in business [11].

The findings are in line with other report that the Indonesian university students did not have high competency level in transferable skills from the supervisors’ perspective [12]. Likewise, a research conducted by Gribble has also reported that there is a huge room for improvement in terms of transferable skill of Indonesian workforce [13].

TABLE VI. OVERALL PERCEPTION ON TRANSFERABLE SKILLS

No	Item	Students		Lecturers	
		M	SD	M	SD
1	Problem solving skills	3.63	0.60	4.07	0.52
2	Communication skills	3.68	0.71	4.09	0.64
3	Collaboration skills	3.88	0.62	4.11	0.56
4	Entrepreneurship skills	3.56	0.64	3.94	0.61
5	Learning to learn skills	3.68	0.62	4.05	0.57
	Total	3.68	0.65	4.06	0.58

IV. CONCLUSION

A survey of the perceptions of engineering students and lecturers at universities in Indonesia has been carried out. Based on the research findings, it can be concluded the lecturers gained significantly higher scores on the perceptions of transferable skills acquisition in the five measured components of transferable skills compared to the students. We also found that similar patterns of data distribution. For both for the students and the lecturers, the highest score is collaborative skills and the lowest score is entrepreneurship skills. The findings indicate the need to improve transferable skills for both the lecturers and the students.

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