

## Employability skills and self-perception of diploma 3 graduates in the world of work

Rina Febriana \*<sup>1</sup> , Ivan Hanafi<sup>1</sup> , Annis Kandriasari<sup>1</sup> , Apri Nuryanto<sup>2</sup> , Soeprijanto<sup>1</sup> , Muksin<sup>1</sup> , Su Jo Ching<sup>3</sup>, Abu Bakar Mamat<sup>4</sup>

<sup>1</sup> Universitas Negeri Jakarta, Indonesia.

<sup>2</sup> Universitas Negeri Yogyakarta, Indonesia.

<sup>3</sup> Pusan National University, South Korea.

<sup>4</sup> Universiti Pendidikan Sultan Idris, Malaysia.

\* Corresponding Author. Email: [rinafebriana@unj.ac.id](mailto:rinafebriana@unj.ac.id)

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### ABSTRACT

This study aims to determine the world's perception of Diploma 3 graduates regarding work skills. The research used a questionnaire survey method on Diploma 3 graduates who had worked for 2-5 years. Measurement of work aspects includes individual qualities, basic skills, interpersonal skills, thinking skills, resource management, systems and technology, and information skills. The instrument's validity in each aspect ranges from 0.416 to 0.683, with a reliability of 0.882. The research technique used simple random sampling with 109 respondents in this study. The results of the study stated that the self-perception of graduates are (1) an individual quality score of 85.5 with a very high interpretation; (2) basic skills get a score of 81.8 with a high interpretation; (3) an interpersonal score of 84.8 with a very high interpretation; (4) thinking skills get a score of 83.1 with a very high interpretation; (5) resource management obtained a score of 88.6 with a very high interpretation; (6) systems and technology got a score of 92.4 with a very high interpretation, and (7) information skills got a score of 85.1 with a very high interpretation. Thus, the average worldwide employment of Diploma 3 graduates is 85.9, with a high interpretation. This finding implies that the higher graduates' employability skills, the higher their self-perception at work.



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## INTRODUCTION

Vocational education has unique characteristics, so it requires special handling as well. These characteristics include education and training oriented towards preparing students to work in specific fields as assistant technicians, technicians, or supervisors in the industry. The Diploma 3 program is part of vocational education; of course, it pays attention to the needs and situations of the industrial world of work to meet the demands of a dynamic and rapidly growing job market. In the industrial era, the demands for skills in the field of work, the world of work, and industry demand employability skills that prospective workers must possess to the characteristics of the current work climate. Several studies on employability skills have been carried out by Australian trade and

industry associations involving several industries, and private and government institutions, including the Ministry of Education, Science, and Training (DEST). The results of the study identified two essential things, namely (1) the determining factors in facing the changing world of work; and (2) employability skills for the future (McLeish, 2002).

The first study's results identify six essential things that impact a worker's skills demands: customer-based service, the role of technology, warehousing, and financial requirements, learning and training approaches, emphasis on innovation, and project-based work improvement. While the results of the second study indicate a change in the demands of the world of work on the skills possessed by workers, the world of work emphasizes employability skills. The demands on the employability skills of new workers or prospective workers by the business world and industry in Malaysia can be sorted as follows, have communication skills, interpersonal skills, can use of computers, can work in teams, can work alone, leadership potential, logical thinking analysis, and self-motivated, honest, and highly committed (Bakar & Hanafi, 2007).

Employability skills as a kind of non-technical ability that every single person who works in the industrial field should acquire as it is vital as technical skills (Ju et al., 2012). Employers are generally looking for graduates who possess employability skills, especially communication and interpersonal skills, skills in problem-solving, and the ability to adapt to all kinds of situations in the workplace. Employability skills are essential because every job requires initiative, flexibility, and a person's ability to handle different tasks. Employability skills mean that the skills possessed by a person in the workforce do not have to be specific but should be more service-oriented and, more importantly, have high social skills.

Chan's et al., (2018) research shows that employers' perceptions of the essential work skills in the manufacturing industry are communication skills. The independent variables chosen were gender, company size, and the type of manufacturing sector. In contrast, the dependent variable was the manufacturing industry's perception of essential work skills. The results show no significant difference in the perception of critical work skills in the manufacturing industry according to the sex of the entrepreneur and the type of manufacturing sector. However, there is a significant difference in company size (Chan et al., 2018).

From research with Australian employers, the Australian Chamber of Commerce and Industry (ACCI) and Business Council Australia (BCA) provide a report on a set of job skills relevant to the Australian industry for the future. The Employability Skills Framework establishes eight skill groupings to describe and define employability Skills. The eight skill groupings are (1) communication skills that contribute to productive and harmonious relationships among employees and customers; (2) teamwork skills that contribute to productive work relationships and outcomes; (3) problem-solving skills that contribute to productive results; (4) corporate initiatives and skills that contribute to innovative results; (5) planning and organizational skills that contribute to long-term and short-term strategic planning; (6) self-management skills that contribute to employee satisfaction and growth; (7) learning skills that contribute in employee and company operations and outcomes; and (8) technology skills that contribute to the effective execution of tasks (Cates et al., 2008).

Lankard (1990) identified five skills that are needed in the world of work and must be possessed by a worker to work and achieve success, namely basic academic skills consisting of communication skills, mathematics, and science. Meanwhile, to enter the world of work, skills that are appropriate to the job (occupational skills) are needed. However, according to him, these four skills contain risks and are critical to improving careers because they do not guarantee success in work. Based on the results of his study, Lankard (1990) said that employers believe that employability skills-skills that can make a person survive and keep up with changes in the workplace - are critical.

Employability skills are ranked fifth, and workers must adapt quickly to various work situations. The Secretary's Commission on Achieving Necessary Skills (SCANS) conducted a study to identify and describe the skills needed in the workplace (employability skills) to improve the performance of workers to be more effective. Initially, SCANS found seven functional skills, namely skills that are important for a worker: resource management, information management, social interaction, systems behaviour and performance, human and technology interaction, and affective skills (Kane et al., 1990). Then, based on an in-depth review and verification, SCANS created two

groups of skills education graduates need to possess, namely foundation skills and workplace competencies, as shown in Table 1.

Table 1. Employability Skills by SCANS

No.	Aspect	Indicator
1	Foundation Skills	Basic skills, thinking skills, personal qualities
2	Workplace Competencies	Resources, interpersonal, information, systems, technology

Rasul et al. (2014) pointed out that employers emphasize different job skill levels. Employers need employees with strong interpersonal skills such as communication skills, problem-solving skills, teamwork, and entrepreneurial skills related to the context of the work environment. Employers also suggest that project-oriented and work-process-oriented are the best methods for imparting these skills (Rasul et al., 2014). However, Sing's findings suggest no significant difference in the relationship between job skills and employer gender. That leads to the conclusion by the authors that the work skills of graduates are almost the same for groups of men and women (Singh & Singh, 2017).

A study conducted by Buntat (2004) has identified five essential elements needed by entrepreneurs in the industry: (1) Have honesty, integrity, and personality ethics; (2) Cooperate with other parties; (3) Make use of technology, instruments, and information systems effectively; (4) Decision making; and (5) Time management. The research results by Husain show that employers value the importance of work skills at a high level (Husain et al., 2010). Self-perception is a person's view of himself or any mental or physical attributes that make up the self; such views may involve true self-knowledge or varying degrees of distortion (APA Dictionary of Psychology). The application of self-efficacy theory to vocational behavior was first suggested by Betz and Hackett (1981). Briefly, as originally proposed by Bandura expected self-efficacy refers to a person's beliefs regarding his ability to successfully perform a given task or behavior (Dittmer, 1977).

The self-concept theory concerns individuals' perceptions of themselves, such as their self-knowledge and attitudes or emotions related to themselves (Greenwald & Farnham, 2000). Self-efficacy relates to the belief that one can deal with the expected actions. Betz and Klein (1995) state that self-efficacy results from a person's cognitive processes in the form of decisions. The individual's belief or expectation is how he estimates his ability to carry out a task or an action needed to get the desired result (Betz & Klein, 1995). In the study Basito et.al stated that there was a relationship between self-efficacy and students' higher-order thinking skills as evidenced by the t-value greater than t-table of  $2.395 > 1.671$  (Basito et al., 2018).

Measurement of work aspects includes; individual qualities, basic skills, interpersonal, thinking skills, resource management, systems and technology, and utilization of information. Interpersonal skills are required to work well with others, such as peers, subordinates, and superiors, or understand and sympathize with their needs (Rocco, 2000). Teamwork is defined as the ability to function well in various situations, be a disciplined team, work effectively with others, show flexibility, power, and adaptability, and understand and contribute to the goals of an organization (Cates et al., 2008). In the contemporary workplace, teams, committees, and working groups are elements for making deals and contributing to the success of every routine assignment, initiative, and project (Dunne & Rawlins, 2000).

Furthermore, information, communication, and Technological skills are defined as those skills and competencies facilitating the use of computers and related information on technology to meet the personal, educational, and workforce needs of a target market (Chidike et al., 2020). Plus, Casner-Lotto and Barrington described information, communication, and technology skills as the ability to select and practice applicable technologies to obtain given tasks complete successfully and apply computational skills for troubleshooting (Barrington et al., 2006).

In Indonesia, the Diploma 3 program is part of vocational education. Vocational education defined by Wenrich and Wenrich (1974) that vocational education might be described as specialized education organized to prepare the learner for entrance into a particular occupation or family of

disciplines or to upgrade employed workers. In this sense, vocational education is carried out to train someone to become a worker in various fields of work. [Cantor \(1991\)](#) says that vocational education has an understanding as education that has programs related to work and aims to provide students with skills that are by the demands of the world of work.

Currently, vocational education is needed to develop knowledge and skills that can help a worker become more flexible and sensitive to the needs of the labour market, especially to face competition in the era of globalization. The objectives of vocational education are broader and related to the individual expectations of students, namely: (1) permit the harmonious development of personality and character, and foster spiritual and human values, the capacity for understanding, judgment, critical thinking and self-expressing; (2) prepare the individual for lifelong learning by developing the necessary mental tools, technical and entrepreneurial skills and attitudes; (3) develop capacities for decision-making and the qualities necessary for active and intelligent participation, teamwork and leadership at work and in the community as a whole; (4) enable an individual to cope with the rapid advances in information and communication technology ([Shirley, 2015](#)).

The Presidential Regulation of the Republic of Indonesia No. 8 of 2012 concerning the Indonesian National Qualifications Framework (KKNI) stated, "Diploma 3 graduates are at least equivalent to level 5". Competencies of Graduates of the D3 Catering Program graduate qualifications are intermediate experts equivalent to KKNI level 5. The level 5 qualification level has the following graduate competencies: (1) Able to complete a wide range of work, choose the appropriate method from a variety of already or not standardized options by analyzing data, and show performance with measurable quality and quantity; (2) Mastering the theoretical concepts of specific fields of knowledge in general and able to formulate procedural problem solving; (3) Able to manage working groups and compose written reports comprehensively; (4) Responsible for own work and can be given responsibility for the achievement of group work results ([Direktorat Jendral Pembelajaran dan Kemahasiswaan Republik Indonesia, 2015](#)).

Vocational education graduates must have various skills needed in work and industry because the nature of education prepares graduates to work. For this reason, vocational education should prepare graduates with various appropriate skills, both technical skills according to certain areas of expertise and non-technical skills, for their readiness to work and survive in their jobs. In addition to the demands for basic skills and technical skills in the field of expertise they are engaged in, the world of work and industry requires non-technical abilities and skills or so-called employability skills for prospective workers to the characteristics of the current work climate.

Therefore, vocational education graduates who work in the industry and have various abilities and high skills, including employability skills according to work demands, are expected to contribute more to work efficiency and production quality. Efficient work results with quality production results will positively impact industrial growth and implications for industrial performance and competitiveness. Based on various theoretical studies on employability skills, this study measured employability skills, including individual quality, basic, interpersonal, thinking, resource management, system and technology, and information skills.

## RESEARCH METHOD

This study used a descriptive research design with a quantitative approach. This study aims to determine the world's perception of diploma 3 graduates regarding work skills. Quantitative data for this study were obtained through questionnaires adapted from the ([Husain et al., 2010](#)). Research with this survey method aims to explain and simplify various conditions, situations, or variables using data. The respondent data are 109 graduates of the Diploma 3 program from various majors. This study analyzed 109 valid responses to achieve the research objectives, with 37 men and 72 women. Another attribute is the working period with an active period of 2 - 5 years and position at work with a choice of work position as the owner has a particular place and ordinary staff. Respondents completed the employability skills questionnaire with indicators of individual quality, basic skills, interpersonal skills, thinking skills, resource management, systems and technology, and information skills. This study analyzed 109 valid responses with descriptions as shown in [Table 2](#).

Table 2. Graduate Working Time

Number of Graduates	Years of Work
99 graduates	2-2.9 years
5 graduates	3-3.9 years
1 graduates	4-4.9 years
4 graduates	more than 5 years

Content chose questions or statements to measure respondents' perceptions of employability skills with indicators of individual quality, basic skills, interpersonal skills, thinking skills, resource management, systems and technology, and information skills. Table 3 describes the questions and statements selected from the employability skills instrument.

Table 3. Employability Skills Questionnaire

No.	Indicators	Ability	Item
1	Individual Quality	Have an honest nature, have a commitment to work, responsible, have a social attitude / sensitive to social conditions, care about work safety, high self-confidence, manage yourself, work without supervision	P1, P2, P3, P4, P5, P6*, P7, P8
2	Basic Skills	Read the manual, listen to the conversation in the discussion, expressing opinion/talking, counting fast, writing activity reports	P9, P10, P11*, P12, P13
3	Interpersonal Skills	Serve customers, working with different cultures, teaching friends/colleagues, active as a group member (inclusion), lead the group, negotiating with customers	P14, P15, P16, P17, P18, P19
4	Thinking Skills	Creative and innovative thinking, solve the problem properly, have strong reasoning, seeing with the mind's eye (stereo map), make decisions, knowing how to learn	P20, P21, P22, P23, P24, P25
5	Resource Management	Manage time, manage facilities, facilities and infrastructure managing risk, managing human resources in the work environment, manage funds	P26, P27, P28, P29, P30
6	Systems And Technology	Understanding the system, using technology and work equipment, maintaining technology and work equipment, choosing the right technology	P31, P32, P33, P34
7	Information Skills	Assess information, using information and communication technology, delivering the right information	P35, P36, P37

Questionnaires conducted validity analysis to measure the instrument's validity in each aspect and reliability testing using Cronbach's alpha. With a total of 109 respondents with a significance level of 5%, rtable of 0.1882 was obtained. Of the 37 statement items, there were 2 invalid items, namely items number P6 and number P11. The reliability result obtained was a value of 0.910 which stated that the instrument had consistency requirements as a measuring tool. Variable tendency category conversions can be seen in Table 4.

Table 4. Variable Trend Category

Rating Category	Value Range	Percentage (%)
Very High	5	81-100%
High	4	61-80%
Moderate	3	41-60%
Not high enough	2	21-40%
Low	1	0-20%

### FINDINGS AND DISCUSSION

Overall, in the analysis of the impact of the independent variables on participation in assessing self-perception of employability skills, the results show that most of the coefficients are significant, with p-values lower than 0.05. Analysis of participatory answers on each aspect of employability skills is presented in Figure 1.

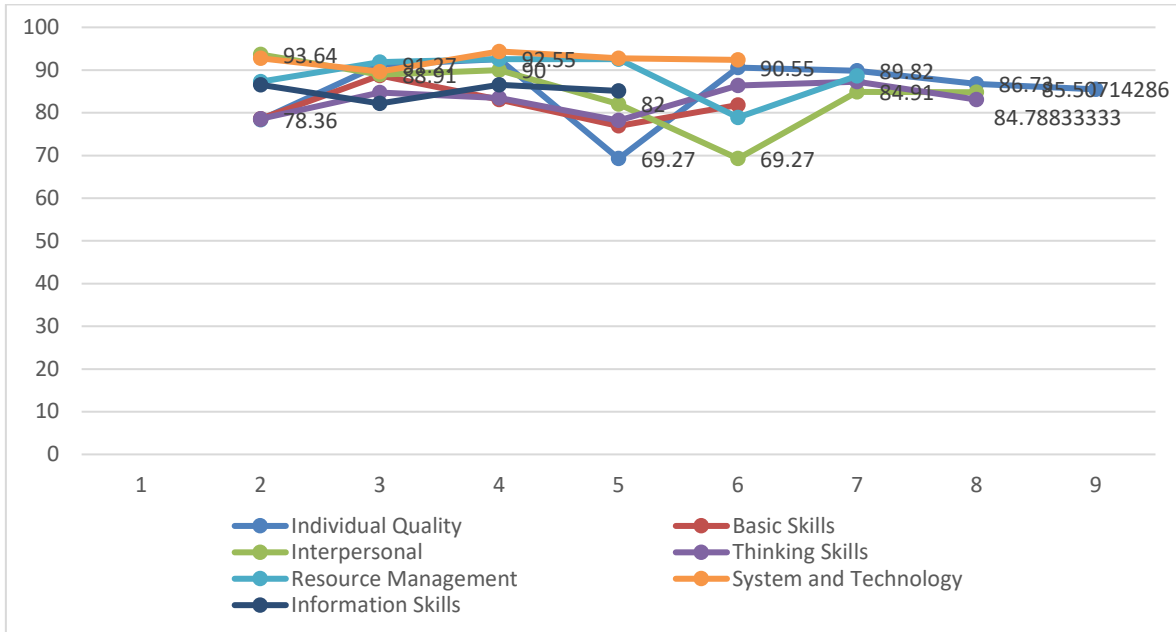


Figure 1. Percentage Level of Each Aspect of Employability Skills

Figure 1 shows the results for each aspect of employability skills. An explanation of the score can be seen in Figure 2. Individual quality indicators include honesty, commitment to work, responsibility, social/sensitivity to social conditions, concern about work safety, high self-confidence, self-management, and work without supervision. Of the eight abilities, only one was declared invalid, namely high self-confidence, with a validity value of  $0.1512 < 0.1882$ . So that high self-confidence granules are not used. Basic skills include reading manuals, listening to conversations in discussions, expressing opinions/speaking, counting fast, and writing activity reports. Based on the calculation of the validity of the ability to express opinions/speak, it was declared invalid with a value of  $0.0521 < 0.1882$ , so it was excluded from the instrument.

Interpersonal skills include the ability to serve customers, work with different cultures, teach friends/colleagues, be active as a group member (inclusion), lead a group, and negotiate with customers. All six abilities meet the validity requirements, so the interpersonal skills indicator still contains six abilities. Thinking skills include thinking creatively and innovatively, solving problems well, having strong reasoning, seeing with the inner eye (stereo map), making decisions, and learning. All ability statements from indicators of thinking skills are valid so that they are used in the instrument. The resource management indicator contains the ability to manage time, facilities, infrastructure, risks, human resources in the work environment, and funds. This indicator consists of five questions.

Table 5. Employability Skills Indicator Values and Averages

No.	Indicators	Ability	Score	Average
1	Individual Quality	Have an honest nature	78,36	85,5
		Have a commitment to work	91,27	
		Responsible	92,55	
		Have a social attitude / sensitive to social conditions	69,27	
		Care about work safety	90,55	
		Manage yourself	89,82	
2	Basic Skills	Work without supervision	86,73	81,8
		Read the manual	78,55	
		Listen to the conversation in the discussion,	88,73	
		Counting fast	83,09	
3	Interpersonal Skills	Writing activity reports	76,91	84,8
		Serve customers	93,64	
		Working with different cultures	88,91	
		Teaching friends/colleagues	90,00	
		Active as a group member (inclusion)	82,00	
		Lead the group	69,27	
4	Thinking Skills	Negotiating with customers	84,91	83,1
		Creative and innovative thinking	78,55	
		Solve the problem properly	84,73	
		Have strong reasoning	83,45	
		Seeing with the mind's eye	78,18	
		Make Decisions	86,36	
5	Resource Management	Knowing how to learn	87,27	88,6
		Manage time	87,27	
		Manage facilities	91,82	
		Facilities and infrastructure managing risk	92,55	
		Managing human resources in the work environment	92,55	
6	Systems And Technology	Manage funds	78,91	92,4
		Understanding the system	92,73	
		Using technology and work equipment	89,64	
		Maintaining technology and work equipment	94,36	
7	Information Skills	Choosing the right technology	92,73	85,1
		Assess information	86,55	
		Using information and communication technology	82,18	
		Delivering the right information	92,73	

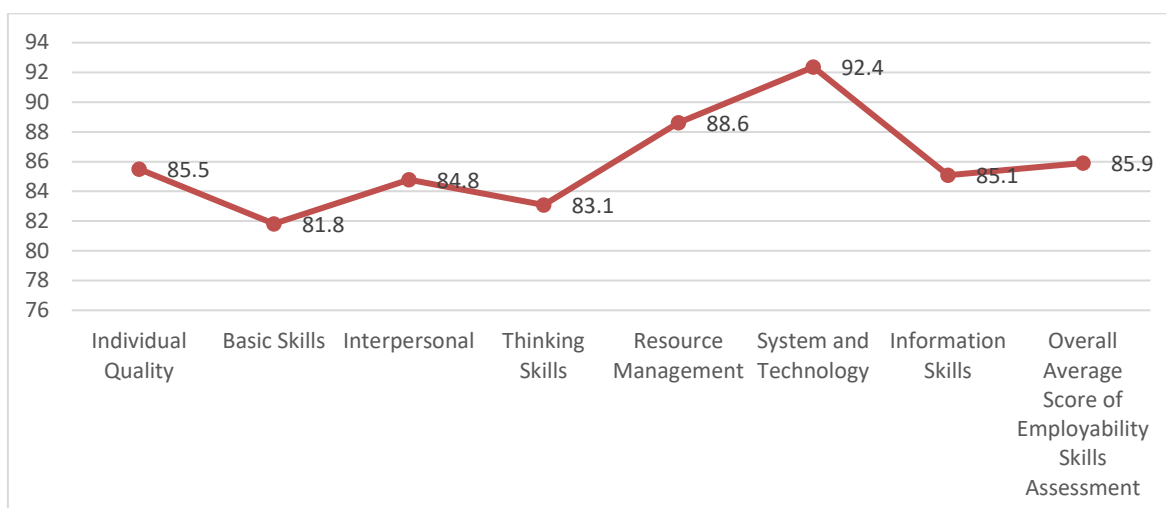
Interpersonal skills include the ability to serve customers, work with different cultures, teach friends/colleagues, be active as a group member (inclusion), lead a group, and negotiate with customers. All six abilities meet the validity requirements, so the interpersonal skills indicator still contains six abilities. Thinking skills include thinking creatively and innovatively, solving problems well, having strong reasoning, seeing with the inner eye (stereo map), making decisions, and learning. All ability statements from indicators of thinking skills are valid so that they are used in the instrument. The resource management indicator contains the ability to manage time, facilities, infrastructure, risks, human resources in the work environment, and funds. This indicator consists of five questions.

System and technology contain four abilities with four valid questions: understanding the system, using work technology and equipment, maintaining work technology and equipment, and choosing the right technology. Information skills include assessing information, using information and communication technology, and conveying the right information. This indicator consists of three questions: the ability to assess information, use information and communication technology, and convey the right information.

Based on [Table 5](#), the statement of having a social attitude/sensitivity to social conditions and leading the group has the lowest score of 69.27. This low factor is probably caused by learning patterns that have yet to be maximized in developing students' work abilities. Employers/industries, besides demanding extraordinary expertise in certain fields of work, also expect workers to have academic skills and other skills, including essential skills in reading, writing, and arithmetic; communication skills, oral and written; problem-solving skills; ability to work; reasoning skills; leadership skills; computer skill; interpersonal skills; learning skills (learning-how-to-learn); and teamwork skills.

Employers value the importance of job skills at a high level. The employers show that all employers place the eligibility skills that all graduates must have in order to be able to compete in the global market. Authority from Educational institutions must improve the workability of their students either through professional channels, development of lecturers, curriculum, and co-curriculum ([Husain et al., 2010](#)). Employers need employees with strong interpersonal skills such as communication skills, problems solving skills, teamwork, and entrepreneurial skills related to the context of the work environment. Employers also suggest that project-oriented and work-process-oriented are the best methods for imparting these skills ([Rasul et al., 2014](#)).

[Jaafar et al. \(2018\)](#) research shows that the relationship between work skills and career choice is high, with an ETA of 0.742, which proves that the variable has a strong correlation. In conclusion, employability skills affect students in such a way that they tend to choose careers based on the courses they take. [Chan's et al., \(2018\)](#) research provides key insights that will enable future employees to better understand job demands in today's manufacturing industry and for employees to develop their job skills before preparing to enter the job market.



**Figure 2.** Average Overall Self-Perception of Employability Skills

The percentage related to self-perception and system and technology offers the highest magnitude (92,4%). The lowest self-perception of employability skills related to basic skills was 81,8%. Overall aspects of employability skills have presented in [Figure 2](#). This study states that the highest perception of graduates on employability skills in the world of work is the use of systems and technology.

The system and technology aspect occupies the highest rating because the three diploma graduates in this study belong to the millennial generation category, which is very attached to technology in everyday life. The high perception of diploma 3 graduates is in line with the research results on the assessment of the work skills industry, which can be identified through indicators of managerial ability and personality/personality with 87.1 with a very high interpretation ([Febriana et al., 2018](#)).



## CONCLUSION

This study found that the self-perception of graduates of the Diploma 3 program regarding work skills was very high, with a score of 85.9 in the range of 5 (percentage 81 - 100%). The highest average self-perceptions of graduates are systems and technology, resource management, individual quality, information skills, interpersonal skills, thinking skills, and basic skills. The lowest self-perception of work skills on basic skills is 81.8%. Therefore, basic skills need to be improved, and several indicators of basic skills need to be looked for strategies. Furthermore, it is necessary to integrate aspects of Employability skills into the curriculum and learning tools. Thus, it is hoped that graduates of the diploma three program will have a high self-perception of their ability to work in the world of work.

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