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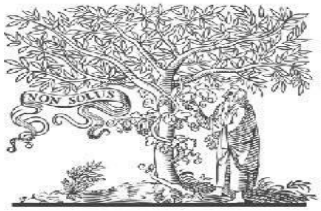

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Paper Authors
Kokom Komariah, Siti Hamidah, Badraningsih Lastariwati, Tuatul Mahfud

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The impact of the apprenticeship program on the mastery of job skills for culinary students

Kokom Komariah[1], Siti Hamidah[2], Badraningsih Lastariwati[3], Tuatul Mahfud[4.],
[1,2,3]Department of Food and Fashion Education, Yogyakarta State University, Indonesia.
[4]Hospitality Department, Balikpapan State Polytechnic, Indonesia
Corresponding Author:
Kokom Komariah,
Department of Food and Fashion Education
Yogyakarta State University, Indonesia
Jl. Colombo Yogyakarta No.1, Daerah Istimewa Yogyakarta 55281
Email: kokom@uny.ac.id

Apprenticeship programs have an essential role in the success of vocational education, mainly to provide real learning experiences for students. One of the foreign apprenticeship activities that are considered positive to improve student skills is the Japanese apprenticeship program. However, an evaluation of the Japanese apprenticeship program has never been carried out. Therefore, this study aims to reveal the scope of student work experience, mastery of technical skills, employability skills, and applying work principles to the Japanese apprenticeship program. This study uses a mixed-method approach to obtain data to answer the research objectives—data collection using interviews and surveys. There are 30 culinary field students involved in data collection. We used qualitative analysis and descriptive statistics. The results of the study reveal that real work experience that students get through the Japanese apprenticeship program includes an introduction to industry profiles, introduction to work procedures, and introduction to the 5 S work culture (seiri, seiton, seiso, seiketsu, and shitsuke). Besides, the apprenticeship program in Japan provides the transfer of technical skills to students in the form of technical skills in pastry and bakery. The apprenticeship program has a positive impact on the mastery of employability skills such as mastery of the ability of technology elements, communication and information elements, solving problems, working in groups, personal management, adaptation, desire to learn, work awareness. And overall, students gave a positive response to the implementation of work principles in apprenticeship programs in Japan.

Keywords: Job competence, Apprenticeship, Employability skills, ands-on experienc

1. INTRODUCTION

Currently, vocational education is facing the challenges of the 21st century and the era of the industrial revolution 4.0. The age of the industrial revolution 4.0 demands the readiness of the workforce with the presence of manufacturing digitization and big data processing. This condition has an impact on the threat of replacing workers with technology 4.0. Therefore, the world of education must capture this situation as an opportunity to organize and reform vocational education in the face of the 21st century and the 4.0 industrial revolution. There are many strategies to prepare for these conditions; one of the most appropriate approaches is to match the concept of vocational education with the needs of the world of work [1], [2]. Thus, the world of education is not left behind with the development of science and technology in the industrial world.

The concept of vocational education highlights the importance of learning programs that provide real experiences to students. Vocational education and training (VET) education systems in many countries have been reformed to meet the demands of society [3]. Vocational education reform aims to renew the concept of link and match between the world of work and education. A learning approach that provides real work experience and is work-based is known as work-based learning. One form of work-based learning is an apprenticeship program. The apprenticeship program has long been applied in the concept of vocational education learning. The apprenticeship program is a form of investment in human resources and is unique in the education and training model. Apprenticeship not only learn skills in an academic environment but also acquire skills in a workplace setting [4] by combining the concepts of learning outside of work and learning in the workplace [5].

Apprenticeship is a process of introducing the world of work to students who provide real work experience. Students learn various job skills, technical skills, soft skills, work standards, process standards, and results, all of which will develop and develop the meaning of work following professional demands. Learning in the industrial world encourages increasing the relevance of student work competencies with the needs of the world of work. This relevance is related to the development of labor qualification needs, which are relatively continually changing. The involvement of students in apprenticeship programs provides the opportunity to apply the knowledge, attitudes, and skills acquired in education.

The implementation of the apprenticeship program has a positive impact on improving student skills, especially skills related to occupational tasks in the fields they are interested in [6]. Skills improvement

is not only on technical skills or hard skills, but also in soft skills [7]. Student apprenticeship can be carried out in domestic or overseas industries. It is vital to bring students into an international scope of work. International work experience provides added value to students. One of the overseas apprenticeship programs in the culinary field that has a strategic role is in Japan. As a country that is advanced in applied technology, Japan has discovered many food processing technologies. Fooma Japan held a technology exhibition around food such as food processing technology, food safety, and hygiene technology, energy conservation, and environmental technology for increased productivity, greater efficiency, and better quality [8]. The advancement of the invention of food technology has influenced the food and beverage production system in Japan. Therefore, it is very appropriate that Japan is one of the choices for industrial practice for culinary students.

Another important aspect that encourages the implementation of apprenticeships in Japan is the culture of the workforce in Japan. Japanese society is known for a productive work culture known as 5S (seiri, seiton, seiso, seiketsu, and shitsuke). The 5S work culture was first introduced in Japan as a movement of determination to carry out sorting (seiri), structuring (seiton), cleaning (seiso), maintaining a steady condition (seiketsu), and self-awareness of the habits needed to do a job well (shitsuke). There are five working principles of Japanese society, namely (1) bushodo principles (loyalty and high dedication to the company, (2) Makato and Ganbatte Kudasai (namely honesty and sincerity), (3) the concept of keishan, (creative, innovative and productive), (4) the principle of kaizen (punctuality in completing work), (5) there is no trivial job, that is, every worker must be able to do anything, including work on the floor below [9]. These five Japanese-style work principles will make students have a new experience, especially in interpreting work, which is not only mastery of technical aspects but, more importantly, non-technical factors or employability skills.

Based on these conditions, it can be concluded that the implementation of an apprenticeship program for Indonesian students in Japan is critical, especially in the culinary field. However, a study to evaluate the performance of an apprenticeship program in Japan has never been conducted. Therefore, this study aims to reveal the scope of student work experience at the apprenticeship. Besides, this study seeks to identify the mastery of technical skills at the training. Also, evaluate the types of employability skills that students acquire when engaging in an apprenticeship program. This study also reveals student responses to work principles in apprenticeship programs in Japan.

Apprenticeship

The apprenticeship program is a company-based program that combines hands-on experience in the workplace with formal theoretical training. By integrating theory and practice in skills learning, apprenticeship programs are considered as the most efficient type of vocational education and training (VET) to facilitate the transition of students from education to work [10]–[12]. Besides, the apprenticeship program is also believed to develop non-cognitive skills related to work [13]. Actually, the apprenticeship program is a bridging program for students towards the world of work and is the responsibility of entrepreneurs. Apprenticeship programs that develop job skills remain the responsibility of the labor market, while the government takes care of additional education in schools [14].

The introduction of the world of work through an apprenticeship program is considered the right strategy. Apprenticeship programs are designed to attract young people, and trainees develop competencies to practice in the world of work. The apprenticeship program provides several benefits for young workers, including: (1) providing greater returns on human capital investment in the form of an apprenticeship program; (2) the apprenticeship program provides work experience that can improve the work skills of young workers. In addition, the apprenticeship program is also a solution to work productivity problems for young workers.

Skills gap problems in workers will be resolved by involving them in training programs based on real experiences or hands-on experience. However, what needs to be considered is that the success of the apprenticeship program is determined by the quality of guidance and coaches [15]. Candidates should receive regular support and mentoring to ensure they are on the right track with their studies and that they are up to the speed of working in the industry. Poor access to an apprenticeship coach can result in candidates failing part of their course examinations, or becoming exhausted and quitting because they feel too stressed by the experience.

Competences

Workability, or in other terms, often referred to as work competence, is crucial for vocational education. Competence comes from the word "Competence," which means skills or abilities. Competence is knowledge, skills with fundamental values reflected in the habit of thinking, and acting [16]. Competence is the ability to behave, think, and work consistently to manifest the knowledge, attitudes, and skills possessed by students [17]. This definition is similar to the statement of Harris, Simons, and More [18], individual competency components and includes knowledge, understanding, skills, task attitude skills, and roles. Specifically, vocational competence is a

characteristic that underlies a person which results in ineffectiveness and superior performance in a job [18].

Also, Garavan and McGuire [19] explain that competence can be seen from two aspects, namely as an individual attribute and as a result of learning. From the personal qualities, competence can be defined as the knowledge, skills, and abilities of a person that can produce performance. From the aspect of learning outcomes, competence can be interpreted as the extent to which a person's performance has reached the required standards. Competence is seen as an individual attribute that is more flexible, and therefore this competency is more suitable for jobs in more complex industries. Meanwhile, Spencer and Spencer [20] explained that competence is an underlying characteristic of an individual that is causally related to significant and/or superior performance, which refers to the criteria in a job or situation. This definition illustrates to us that competence is a primary characteristic of a person related to a person's best skills in a job or position. This means that these competencies are deep and long-lasting as part of a person's personality so that they can be used to predict changes in a person's behavior when dealing with various situations and problems; competence can cause or predict changes in behavior, and competence can determine and predict whether a person can work. Well or not in specific, specific, or standard sizes.

Competence is not only defined as the ability to perform technical tasks that are performance observable but also involves key competencies which are intellectual and emotional in nature which are indispensable for the development of professional attitudes in work and the development of other aspects. wider life, such as being sensitive and responsive to various things that occur rationally and thinking logically, making decisions, being responsible, independent and able to work together [16].

According to Spencer & Spencer [20], five types of competency characteristics are (1) motives, something that is thought of, and encourages someone to act to achieve goals, (2) traits, characteristics, and consistent responses to situations or information. (3) self-concept; attitudes, values , and self-reflection of a person, (4) knowledge; specific information in the content area, (5) skills; the habit of showing specific performances both physically and mentally. Another term known as competency standards, competency standards are statements regarding the implementation of tasks in the workplace which are described in the form of output results, namely what is expected to be carried out by employees, the level of perfection in work performance expected from employees so that the employee's ability value is at the level expected [21]. Competency standards are statements that describe the skills, knowledge, and attitudes that must be exercised while working and their application, following the requirements set by the workplace or industry. According to Dharma, Pfeffer, and Soetjipto [22], determining the level of competence is needed to determine the expected level of performance. Competency determination is used as the basis for selecting, planning, performance evaluation, and human resource development process.

2. RESEARCH METHOD

This study uses a mix methods research approach, which is a research step by combining two approaches in research including qualitative and quantitative research. A mix method approach is needed to answer the research objectives. A qualitative approach is used to answer the first research objectives, while the second, third, and fourth research objectives use a quantitative approach. This study uses a sequential mixed methods strategy, especially a sequential explanatory strategy. This research step begins with the qualitative data collection stage by means of interviews and continues with the distribution of questionnaires to obtain data about the scope of work experience, mastery of technical skills, employability skills, and work principles in the apprenticeship program in Japan.

This study involved students in the culinary field at one of the state universities in Yogyakarta, Indonesia. There are 30 students involved in collecting data about the experience of joining an apprenticeship program in Japan. At the qualitative data collection stage, students were interviewed to get information about the scope of student work experience and mastery of technical skills at an apprenticeship in Japan. Meanwhile, this study also used a questionnaire to obtain quantitative data about the ability of employability skills and working principles of apprenticeship programs in Japan. Qualitative data analysis used the Analysis Interactive Model [23], and quantitative data analysis used descriptive statistical analysis to measure data centering, such as mean, median, mode, and percentage.

3. RESULTS AND ANALYSIS

3.1. Overview of the Apprenticeship Program in Japan

The international aprenticeship program for culinary students in Indonesia has a positive impact on their work experience. Actually there are many culinary and hospitality industries in Japan, but this program involves culinary companies called Domremy Co., Ltd and Sagami Fresh Co., Ltd. These two companies are large companies in Japan that have collaborated with the culinary arts department at universities in Indonesia. Based on company data, the company was founded in 1975. This company is engaged in manufacturing bakery products, pies, cakes, and various types of bread. The work experience that students get in the apprenticeship

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program in Japan includes introduction to industry profiles, introduction to work procedures, and introduction to work culture. During the interview process, one of the students revealed that:

> *"During my aprenticeship, I got real work experience at work. The instructors accompanied me during the aprenticeship process. I got a lot of work culture from Japan. In addition, the instructors teach how to use the production tools.*

In addition, other students also conveyed similar information from the interview results, namely as follows:

> *"This is an extraordinary experience for me, getting the opportunity to hold a job abroad. Japan has taught me a lot, especially in understanding the world of work. Japanese work culture is unique and seems to need to be followed. During my apprenticeship, I was taught how to do good work behavior, especially understanding the rules of work while working. "*

Referring to several interviews, it can be concluded that the introduction of the world of work in the apprenticeship program includes an introduction to industry profiles, work procedures, and work culture (see Figure 1).

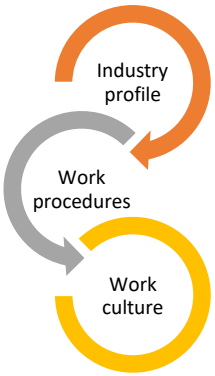

Figure 1. Introduction to the Work World in the Apprenticeship Program

3.2. Industry Profiles

The apprenticeship program has the main objective: to introduce the real world of work to students. In this context, students get the opportunity to know the industry in pastry and bakery work in Japan. Theoretically, the knowledge obtained by students on campus will be applied in real-time in the apprenticeship program. This introduction to the world of work is essential for students because the whole work experience can help them understand and master the occupational field of interest. In the apprenticeship program in Japan, students are given information about industry descriptions, hygiene and sanitation aspects, types of work equipment, self-sterilization procedures before working, work clothes, and work regulations that apprentices need to obey. One of the excerpts from interviews with students stated that:

> *"There, there was an introduction and initial socialization about the industry. We attended a briefing on the introduction to the industry and the work of the apprentices. The instructor in Japan explains what activities should be done and what should not be done during the apprenticeship program. Besides that, they also explained about work uniforms and the importance of maintaining work cleanliness."*

Information on industry profiles supports students' insight in understanding the scope of the world of work in their field of interest, especially in the pastry and bakery fields. In the apprenticeship program, students can understand the organizational structure and job descriptions in the pastry and bakery industry. Job descriptions for each position in the industrial-organizational structure will help students understand their duties as workers in the pastry and bakery industry. The results of interviews with students revealed that:

> *"During the apprenticeship program, my instructor explained the organizational structure and job descriptions for each position. For me, this information helps me in understanding the world of pastry and bakery work. "*

3.3. Work procedures

The introduction of the world of work is not only related to information about the industry, but the most important thing is the introduction of work procedures and culture. Every industry has different systems and cultures for running its business. And practically this information has not been obtained by students in the world of education. Therefore, this apprenticeship program is essential for students to get information about work procedures related to labor assignments in the pastry and bakery fields. Information is acquired from students through their real work experience while participating in an

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apprenticeship program. One of the interviews with students stated that:

> *"During the apprenticeship, the instructor asked that before starting work activities, you must clean yourself, such as washing your hands. The use of tools should also be cleaned with alcohol to sterilize bacteria. I see that the industry in which I have an apprenticeship is very concerned about the aspects of hygiene and food safety."*

Student apprenticeship in Japan pays great attention to health and safety aspects. This makes perfect sense because the food and beverage industry is required to guarantee the safety of consumer food. Thus, the flow of food products starting from the procurement of materials, the production process, to distribution to consumers must pay attention to food hygiene and safety. All staff workers and management must share awareness and understanding of the importance of hygiene and food safety. Some of the activities carried out by students during the apprenticeship program include: (1) spraying alcohol on the production equipment to be used; (2) washing the appliance using warm water and then drying it using a tissue; (3) washcloths are washed at least once every hour; (4) clean the fallen fruit or material around the work area.

Curative control is regularly taken into account by the industry. This is done to monitor work procedures that have been implemented according to predetermined standards. Industry management has a regular plan of briefings before starting work. This activity is carried out for 15 minutes to evaluate work errors that have occurred and the targets to be carried out. Also, company management always provides work motivation before work operations take place.

3.4. Work culture

An essential experience that students get when apprenticing is that they can learn about the culture of the workforce in Japan. Most of the work culture shows a positive culture. In an interview with an intern, he explained that:

> *"I find this apprenticeship useful for me. Because I can learn a lot about the work habits of workers in Japan. And in my opinion, their work habits are very positive and can be used when I work in Indonesia."*

The work culture obtained by students from domremy employees includes (1) someone who can give a good greeting with a smile, (2) those who can convey words of appreciation, (3) people who can continue to work hard, (4) people who work with a sense of responsibility and can be responsive at work, (5) people who can improve the job from a management point of view. Also, the most prominent work culture is the discipline of employees.

Employees and management are very concerned about work discipline because they believe domain will have an impact on the work productivity of the company. One student in the interview stated that:

> *"Discipline is a priority in our apprenticeship; all employees must adhere to predetermined working hours. Typically, working hours start at 9 a.m., but employees must enter the worksite 15 minutes in advance. Fifteen minutes before the work starts, a briefing is conducted, led by the head of the division; the chore briefing will discuss things that will be evaluated on the previous day's production, and there will be exercise or warm-up first. Lunchtime or break time has also been set individually by the head of the subdivision "Rida," where breaks are carried out according to the production target of each line, the rest is carried out for one hour."*

Positive work culture in the form of disciplinary behavior needs to be internalized in students. This disciplinary behavior will affect increasing employee work productivity and, in the end, will influence the work productivity of the company. The findings of this study are similar to the results of a survey conducted by Mahfud, Jati, and Mulyani [7], the results of their study state that one of the positive self-concepts that need to be developed in an apprenticeship program is discipline. According to Mahfud et al. [7], the disciplinary aspect is part of the soft skills obtained by students when participating in an apprenticeship program in the hotel industry. Apprenticeship programs can encourage students to adapt to new environments at work, work ethics, habits of colleagues in a professional setting, and company culture. If students can participate in the apprenticeship program well, they will be ready and able to enter the world of work.

3.5. Overview of Mastery of Technical Skills

One of the objectives of the apprenticeship program is to transfer knowledge from the industrial world to the world of education. In this context, the apprenticeship program provides benefits for students to gain technical skills according to their fields. Because the concept of apprenticeship requires the direct involvement of students in occupational tasks. In general, the types of job skills students acquire when they participate in an apprenticeship program in Japan are technical skills in the pastry and bakery fields. Based on the results of interviews with student activities during their apprenticeship in the Domremy industry. Co. Lcd. can be summed up as follows:

1) Preparation, preparing tools and materials, preparation for work;
2) Operate the existing tools on the krepu / Yoyo;
3) Making: making fashion style pudding, making creap, making mile creap;

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4) Decoration: decorating choco pudding, decorating whipped cream, decorating with whipped cream, decorating with choco sauce, decorating with choco crumb, decorating various desserts, giving toppings to the product;
5) Printing: printing chocolate pudding;
6) Arranging: arranging fruit;
7) Packing, product labeling;
8) Packing: cake packaging;
9) Cleaning, washing patches, cleaning machines, Control;
10) Quality Control;
11) Others: Helping the leader.

These jobs are accompanied by personal responsibility, personal hygiene, and personal responsibility related to discipline, professional responsibility related to the quality and quantity of work, and social responsibility, which includes aspects of cleaning the work environment. Several types of work at Sagami Fresh Co. Ltd include: weighing ingredients, topping, covering food, giving Obi/labels on packages, cleaning the workplace, cleaning the whole work area after finishing production. The work carried out is very specific, focusing on the competence of making certain particular products, namely ready-to-eat food products. The results of the students' reflection, they assumed that there was no "trivial" job because all types of work contributed to the completion of specific jobs.

3.6. Aspects of Employability Skills that are acquired on the job

Work Behavior

The apprenticeship program trains students to work following industry demands. Work behavior that determines work productivity is employability skills. This skill is a set of skills needed to work productively. This study uses a questionnaire to reveal aspects of the employability skills that students acquire when they are apprenticed in Japan. The results of the study showed that students obtained transfer skills in the form of employability skills such as work behavior, application of occupational health, carrying out cleanliness in work areas and work tools, and implementing work discipline provisions. Figure 1 shows that all students have implemented good work behavior. Meanwhile, in the aspect of work hygiene, only about 92% of students can apply during their apprenticeship. Other factors, such as occupational health and work discipline, respectively, 95% and 96% of students can use them in the workplace.

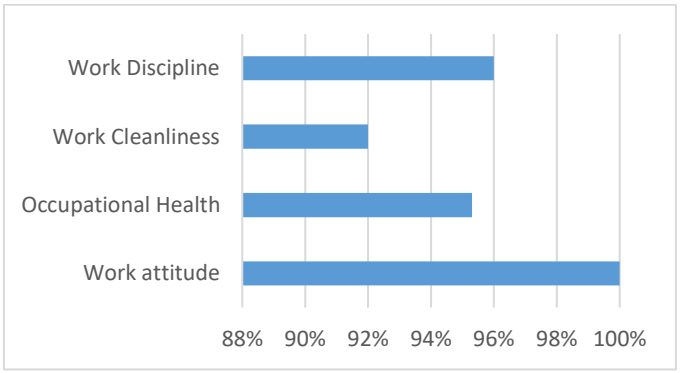

Figure 2. Achievements of the Employability Skills in the Apprenticeship Program

The experience of applying this aspect of employability skills helps students to improve their job skills. Using the knowledge, they acquire in college can be put into practice when participating in an apprenticeship program in the industry. The work culture in Japan and Indonesia is different; therefore, a supportive work environment is needed to maintain and develop a positive work culture when students work in Indonesia.

Impact of Industrial Practice Experience on Various Elements of Employability Skills

Apprenticeship experience influences on increasing the employability of student skills. This study used a questionnaire to obtain information on the achievement of students' employability skills before and after participating in an apprenticeship program in Japan. The study results show that most of the students' employability skills have increased after joining the apprenticeship program (see Table 1). This can happen because when student interns work in a real work environment and have an impact on the formation of work skills following the field of work at the apprenticeship. Sharpe and Gibson [4] stated that apprenticeship programs not only learn skills in an academic environment but also acquire skills in a workplace setting.

The increase in the employability skills of students in the apprenticeship program showed the highest growth in understanding the elements of technology. This finding indicates a good result because the apprenticeship program supports the transfer of technology from the world of work to education. Other aspects are continued by working in groups (teamwork), safety awareness, personal

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management, communication, information, desire to learn, adaptability, and problem-solving (see Table 1).

Table 1. Profile of Impact of Industrial Practice Experience in Various Elements of Job Competency

No	Aspect	Before (Score)	After (Score)	Gain Score	Gain (%)	Rank
1	Technological elements	2,66	3,92	1,66	31,5	I
2	Communication and Information	3,13	3,90	0,77	19,25	V
3	Solve the problem	3,14	3,85	0,71	17,75	VIII
4	Work in groups	3,05	3,96	0,91	22,75	II
5	Personal Management	3,14	3,94	0,8	20,00	IV
6	Adaptability	3,19	3,93	0,74	18,5	VII
7	Desire to Learn	3,22	3,98	0,76	19	VI
8	Awareness of Working according to Safety Standards	3,14	4,0	0,86	21,5	III
	Average	2,95	3,93	0,98	24%	

Principles of work on apprenticeship programs in Japan

Theoretically, the apprenticeship program is beneficial for the development of technical and non-technical skills of students. Students stated in the research questionnaire that, in general, the apprenticeship program had a positive impact on students. Some student responses as apprentices in Japan are shown in Table 2. Based on Table 2, it can be explained that student responses understand that work requires loyalty, devotion, honesty, sincerity, creativity. They also realize that productive work is needed, punctuality, and the most impressive thing is that they recognize that there are no small and trivial jobs because all contribute to a big goal.

Table 2. Work Behavior After Following the Apprenticeship Program

No	Principles of Work	Score	%
1	While doing my job, I feel that work requires loyalty	120	100
2	During labor, I think that work requires dedication	120	100
3	I believe that honesty is very much needed at work	120	100
4	In working, sincerity is required at work	120	100
5	Creativity is highly demanded at work	90	75
6	At work, there is a demand for innovative work	120	100
7	Productive work is required at work	120	100
8	There is a demand for punctuality in work	120	100
9	I feel that whatever work I do is nothing "trivial."	120	100
10	In my company, even the smallest job is very appreciated	120	100
	Average	117	97%

4. CONCLUSION

The apprenticeship program has an essential role in providing real work experience for students. This program also acts as an intermediary or bridging between the world of education and work. The real work experience that students get through the Japanese apprenticeship program includes an introduction to industry profiles, introduction to work procedures, and introduction to the 5 S work culture (seiri, seiton, seiso, seiketsu, and shitsuke). Also, the apprenticeship program in Japan provides the transfer of technical skills to students in the form of technical skills in the pastry and bakery fields such as preparation of materials, use of tools, production of cake and bread,

decorating products, and product packaging. The apprenticeship program is a vital plan to provide real experiences to students about employing employability skills. Some of the employability skills include mastery of the ability of technological elements, communication and information elements, problem-solving, working in groups, personal management, adaptation, desire to learn, work awareness. Real student work experience has a positive impact on increasing student awareness of work, namely (1) that work requires loyalty, (2) that work requires dedication, (3) that honesty is needed at work, (4) that sincerity and sincerity are necessary at work, (5) creativity is highly demanded at work, (6) there is a demand for innovative work, (7) productivity is needed at work, (8) there is a demand for punctuality at work, (9) that "no matter how trivial" work very much appreciated.

This study's results have implications for the design of apprenticeship programs in vocational education in Indonesia, such as apprenticeship programs in vocational schools and colleges. Japanese cultural values such as 5C (seiri, seiton, seiso, seiketsu, and shitsuke) can be adapted to implementing an apprenticeship program in Indonesia. This study has limitations, namely that it is carried out in a small scope of the culinary industry. Future research needs to involve more of the culinary industry so that research results can increasingly represent the culinary industry in Japan.

REFERENCES

[1] T. Mahfud, Pardjono, and B. Lastariwati, "Chef's competency as a key element in food tourism success: A literature review," *Geoj. Tour. Geosites*, vol. 26, no. 3, pp. 1057–1071, 2019, doi: https://doi.org/10.30892/gtg.26329-417.

[2] T. Mahfud, S. Indartono, I. N. Saputro, and I. Utari, "The effect of teaching quality on student career choice: The mediating role of student goal orientation," *Integr. Obraz. = Integr. Educ.*, vol. 23, no. 4, pp. 541–555, 2019, doi: DOI: 10.15507/1991-9468.097.023.201904.541-555.

[3] H. Steedman, "Overview of apprenticeship systems and issues," 2012. [Online]. Available: http://www.ilo.org/wcmsp5/groups/public/@ed_emp/@ifp_skills/documents/genericdocument/wcms_190%0A188.pdf.

[4] A. Sharpe and J. Gibson, "The Apprenticeship System in Canada : Trends and Issues," Ottawa, Ontario, 2005. [Online]. Available: http://www.csls.ca/reports/csls2005-04.PDF.

[5] A. Fuller and L. Unwin, "Learning as Apprentices in the Contemporary UK Workplace : creating and managing expansive and restrictive participation Learning as Apprentices in the Contemporary UK Workplace : creating and managing expansive and restrictive," *J. Educ. Work*, vol. 14, no. 4, pp. 37–41, 2003, doi: 10.1080/1363908032000093012.

[6] BIS, "Evaluation of Apprenticeships : Employers," London, 2012. [Online]. Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/635898/12-813-evaluation-of-apprenticeships-employers.pdf.

[7] T. Mahfud, B. J. Kusuma, and Y. Mulyani, "Soft skill competency map for the apprenticeship programme in the Indonesian balikpapan hospitality industry," *J. Tech. Educ. Train.*, vol. 9, no. 2, 2017.

[8] Asianet, "FOOMA JAPAN 2018, pameran dagang terbesar 'mesin pangan' dan 'teknologi pengolahan pangan,'" 2018. https://www.antaranews.com/berita/700077/fooma-japan-2018-pameran-dagang-terbesar-mesin-pangan-dan-teknologi-pengolahan-pangan-di-asia-akan-digelar-pada-12-15-juni-2018-di-tokyo-jepang (accessed Aug. 28, 2020).

[9] N. D. Wahyuni, "Ini 5 Prinsip Kerja Orang Jepang yang Patut Kamu Tiru," 2017. https://www.liputan6.com/bisnis/read/2901168/ini-5-prinsip-kerja-orang-jepang-yang-patut-kamu-tiru#:~:text=Dalam melakukan pekerjaannya%2C orang Jepang,pantang menyerah sampai tujuan tercapai. (accessed Aug. 28, 2020).

[10] S. Wolter and P. Ryan, "Apprenticeship," in *Handbook of the Economics of Education*, vol. 3, Elsevier, 2011, pp. 521–576.

[11] C. Biavaschi *et al.*, "Youth unemployment and vocational training," *Found. Trends(R) Microeconomics*, vol. 9, no. 1–2, pp. 1–157, 2013.

[12] W. Eichhorst, N. Rodríguez-Planas, R. Schmidl, and K. F. Zimmermann, "A Road Map to Vocational Education and Training in Industrialized Countries," *ILR Rev.*, vol. 68, no. 2, pp. 314–337, Jan. 2015, doi: 10.1177/0019793914564963.

[13] M. Parey, "Vocational Schooling versus Apprenticeship Training: Evidence from Vacancy Data," 2016.

[14] A. Hedman, "I nationens och det praktiska livets tjänst. Det svenska yrkesskolesystemets tillkomst och utveckling 1918 till 1940.," University of Umeå, 2001.

[15] S. Thompson, "Apprenticeships as the answer to closing the cyber skills gap," *Netw. Secur.*, vol. 2019, no. 12, pp. 9–11, 2019, doi:

https://doi.org/10.1016/S1353-4858(19)30143-6.

[16] Depdiknas, *Pengembangan silabus kurikulum berbasis kompetensi*. Jakarta: Pusat Kurikulum, Balitbang Depdiknas, 2002.

[17] Dikmenjur, *Kurikulum SMK tahun 2004*. Jakarta: Direktur Jendral Manajemen Pendidikan Dasar dan Menengah., 2004.

[18] R. Harris, M. Simons, and J. More, *A huge learning Curve TAFE*. Adelaide, Australia: NCVER, 2005.

[19] T. N. Garavan and D. Mcguire, "Competencies and workplace learning: Some reflections on the rhetoric and the reality," *J. Work. Learn.*, vol. 13, no. 4, pp. 144–164, 2001.

[20] L. M. Spencer and S. M. Spencer, *Competence at work: Models for superior performance*. New York: John Wiley & Sons, Inc., 1993.

[21] Mulyasa, *Kurikulum berbasis kompetensi konsep, karakteristik dan implementasi*. Bandung: PT. Remaja Rosdakarya, 2002.

[22] S. Dharma, J. Pfeffer, and B. W. Soetjipto, *Paradigma baru manajemen sumber daya manusia*. Yogyakarta: Amara Book, 2003.

[23] M. B. Miles and M. A. Huberman, *Qualitative data analysis: an expanded sourcebook*, 2rd ed. London: Sage Publication, 1994.