

RECONSIDERATION OF LONG-TERM INTERNSHIPS AND FUTURE PROPOSALS

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Abstract

The purpose of this paper is to examine the benefits and challenges of long-term internships through a comparative analysis of overseas internships, overseas online internships, and domestic internships. The results of the analysis suggest that overseas internships have a positive impact on English language learning and cross-cultural understanding but may pose risks in terms of daily life; while overseas online internships can develop English language and technical skills, they also pose challenges in terms of cross-cultural understanding, maintaining motivation, distance from others, and communication environment; and domestic internships can develop behavior as a member of society and confirm overseas orientation.

Keywords: long-term internships, overseas on-site internships, overseas online internships, domestic on-site internships

JEL Classification: I21

1. Introduction

As internationalization progresses further, the demand for global human resources is increasing. On the other hand, instability in world affairs, such as the novel coronavirus pandemic (hereafter referred to as "COVID-19") and the Ukraine crisis, has led to restrictions on travel to and from overseas. This situation has resulted in restrictions such as the inability to conduct internships at companies located overseas (hereinafter referred to as "overseas on-site internships"). In response to this situation, internships with companies located overseas conducted online (hereinafter referred to as "overseas online internships") have been implemented by using remote meeting tools such as Zoom and chat tools such as Slack to conduct internships in cooperation with the overseas companies while

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the intern remains in Japan. However, there are still communication and other issues to be solved in overseas online internship programs, and overseas on-site internship programs also have some risk-related issues. In addition, the future of internships in Japan (hereafter referred to as "domestic internships"), also affected by the outbreak of the COVID-19 pandemic, needs to be examined. In this paper, we discuss the effects and issues of long-term, overseas, online, and domestic internships as research questions. A long-term internship (practical training) program at Nagaoka University of Technology is used as a case study.

The structure of this paper is as follows. In Part 2, the definition of internship types and previous studies are reviewed. Part 3 describes the research methodology and case selection. Part 4 summarizes the research results. Part 5 presents the results and discussion of the comparative case study analysis. Part 6 serves as the conclusion of this paper.

2. Review of Previous Studies

First, we will review the internship programs discussed in this paper, followed by a review of previous studies of overseas on-site internships and overseas online internships.

2.1 Internships

The basic recognition and promotion measures of internships are presented in the "Basic Approach to the Promotion of Internships and Other Measures to Support Student Career Development" [1], dated June 13, 2022, which is a revision of the three-ministry agreement of September 1997 (between the Ministry of Education, Culture, Sports, Science and Technology, Ministry of International Trade and Industry, and Ministry of Labor). According to the basic concept, by linking academic training at universities and social experiences, internships are expected to deepen academic training, stimulate motivation for learning, and foster vocational awareness, and are important initiatives that can be fully expected to have supportive effects on educational and career development. In particular, "industry-academia cooperative efforts to support students' career development" are organized into four types. Of these, there is Type 3 (internship for general abilities and specialized use), in which work experience is mandatory and the purpose is to "identify one's own abilities" and "obtain evaluation materials", and Type 4 (advanced specialized internship (trial)).

2.2 Length of Internship Period

According to the results of a survey conducted by a study group of the Ministry of Economy, Trade and Industry [2], a questionnaire survey of students indicates that graduate students in the sciences are the most likely to participate in long-term internships, with many of them

focusing on understanding the atmosphere of the workplace and the business of the company as their objectives. Furthermore, the longer the duration of internship, the greater the effect on academic behavior and the greater the interest in society, as interns were exposed to actual work and were influenced by their own aptitudes and strengths. Kofu et al. [3] argue that internships that allow participating students to gain practical work experience are highly effective as career education, not only in providing them with an understanding of their current abilities and the structure of society, but also in enhancing their desire to find employment and improve their own abilities. It is argued that internships are highly effective as career education.

Thus, from the viewpoint of the definitions of "internship" and "career education", we believe that long-term internships are desirable, and the subject of this study is long-term internships.

2.3 Overseas On-site Internships

Yamashita et al. [4] show the educational effects of overseas fieldwork in terms of cross-cultural understanding, cross-cultural communication skills, a sense of daily life, adaptability and experience, and language ability. Noguchi et al. [5] showed improvements not only in cross-cultural understanding, international awareness, and English proficiency, but also in research and learning-related items such as a spirit of challenge, an attitude toward learning what one does not know, teamwork, problem-solving skills, and knowledge application. Nagata et al. [6] noted that not only did they promote understanding of diversity and independent behavior, but also promoted the image of global engineers and overseas orientation, and that after an overseas internship, there was an impact on career paths, job hunting, and English language learning.

Tanaka et al. [7] conducted a questionnaire survey of students who participated in a debriefing session presented by participants in an overseas field study program. Of the 589 responses, 47% indicated that they "want to participate" and 51% indicated that they "do not want to participate". Reasons for wanting to participate included "I want to experience foreign culture and interact with people from other countries" and "I want to improve my English skills", while reasons for not wanting to participate included "I am concerned about living abroad (food, safety, etc.)", "The cost of traveling abroad is high", and "I am worried about my language skills". In the questionnaire regarding the need for English, approximately 400 respondents (about 70% of the total number of respondents) felt that English was necessary. Although they understood the necessity of English, more than half of the students did not want to participate in an overseas field study program.

The effect of overseas study programs is very pronounced in terms of future careers and personal futures, as well as English proficiency and cross-cultural understanding. However, previous studies have not dealt much with the risks associated with overseas study programs. In addition to the recent outbreak of COVID-19, the possibility of being caught

in the Ukraine crisis and other international crises, exposure to danger in developing countries, and the possibility of contracting diseases cannot be denied.

2.4 Overseas Online Internships

Tsujii et al. [8] conceived and implemented an online internship program to solve architectural design problems presented by social entrepreneurs in emerging countries. As a result, Tsujii et al. pointed out that the online internship had several advantages, such as the sequential participation of third-party experts and advisors online, in addition to students and local personnel, and the online internship seemed to have a flat relationship with diverse participants, including host entrepreneurs and professional intermediaries, without any differences in their positions. The online version of the program has advantages, such as the ability to communicate with participants in a face-to-face setting. However, it was also pointed out that in order to communicate online what is difficult to communicate only face-to-face, it is necessary to enhance the means of expression (e.g., video, VR, etc.).

Research Methods and Case Selection

3.1 Research Methods and Nagaoka University of Technology's Long-term Internships (Practical Training)

Case studies will be conducted to examine future long-term internships. Case studies [9] are suitable for dealing with forms of research questions such as "how", and are also suitable for exploratory studies such as this one.

The subject of this paper is students who participated in "practical training", a long-term internship program at Nagaoka University of Technology. The details of the on-the-job training and its effects have already been discussed by Iida [10], Maruyama [11], and Sugimoto [12] in "Engineering Education".

Practical training is a long-term internship program in which fourth-year undergraduate students who plan to continue on to graduate school at Nagaoka University of Technology are dispatched to companies and other institutions for practical training during a five-month period from October to February. The purpose of this program is to cultivate practical and technical sensibility, and it has been conducted since 1979, when the university first opened. About 300 students are dispatched every year, and as of the 2022-23 academic year, a total of 13,937 students had been dispatched, 994 of whom were sent overseas [13].

Before the COVID-19 outbreak, practical training was conducted in person both in Japan and overseas. However, in the 2020-21 and 2021-22 academic years, when the COVID-19 pandemic struck, a change from the previous method was unavoidable. In principle, in-country practical training was conducted face-to-face from November to February (a little

over three months), with measures such as shortening the period by one month and providing vaccinations and health observation. In some cases, the training was conducted remotely from universities or homes. On the other hand, overseas practical training was cancelled in 2020-21 due to overseas travel restrictions, and in 2021-22, a new form of internship was conducted in a fully remote online format.

Thus, internships at Nagaoka University of Technology used to be conducted by actually traveling overseas before the pandemic, but after the pandemic, the internship format was changed to an online one.

The long-term internship program at Nagaoka University of Technology was selected as a case study because it has both overseas on-site and overseas online types, and it has a long history and a proven track record.

For the research method, a comparative case analysis was conducted on three cases, and a case report was prepared and discussed.

The first case is an overseas on-site internship, where the internship is conducted face-to-face; the second case is an overseas online internship, where the internship is conducted online from within Japan, without traveling overseas; and the third case is an on-site internship done in Japan (a domestic company with a high ratio of overseas sales). In this case, it is necessary to compare the overseas on-site type and the overseas online type, and we decided that an international Japanese company would be preferable in this case. The criterion for an international company was defined as "having an overseas sales ratio of 50% or more".

The survey was conducted on Nagaoka University of Technology students and graduates who had participated in internships corresponding to the above three cases. The number of subjects surveyed was seven, and the details of the subjects are shown in Table 1, including the destination country, year of internship, and industry.

Type of internship	Year of internship	Destination (Country)	Industry	Surveyed person
Overseas on-site internship	2019	I (Philippines)	IT education industry	A
		II (Indonesia)	Instrumentation manufacturer	B
Overseas online internship	2021	III (Vietnam)	IT service industry	C
				D

		IV (Romania)	IT service industry	E
				F
Domestic on-site internship	2021	V (Japan)	Industrial material manufacturer	G

Table 1. Details of Surveyed Persons

Semi-structured interviews were conducted online with the internship participants corresponding to the above three cases for one hour each from June to July 2022, and each case was analyzed.

3.2 Questions

The interview questions were developed based on the studies by Kofu et al. [3], Inoue et al. [14], Tan et al. [15], and others. Specifically, the questions were about the company, the content of the internship, communication methods, advantages of the program, problems and issues, and the degree to which they would recommend the company to their juniors. Table 2 shows the questions asked.

No.	Questions
1	About the company to which you were dispatched
2	Content of internship
2-1	Please tell us why you chose the company to which you were dispatched.
2-2	What were your main tasks and practical training during your internship?
2-3	How did you communicate with the company?
2-4	How did you access company resources, security, etc.?
3	Looking back on the internship
3-1	What did you gain from participating in this internship program?
3-2	What were the benefits of this internship program?

3-3	What were your expectations for this internship and how did they differ from your expectations?
3-4	Please tell us about any difficulties or problems you encountered during this internship.
3-5	Please tell us about any issues or challenges you faced during this internship.
3-6	If the same program were offered next year under similar circumstances, to what extent would you recommend it to younger students? Please tell us why you would recommend this program. (Answer in a 5-point scale: 1. Not at all, 2. Not very much, 3. Undecided, 4. Somewhat, 5. Definitely)

Table 2. Questions

4. Survey Results

4.1 Overseas On-site Internships

Semi-structured interviews were conducted with two graduates of Nagaoka University of Technology who participated in the study before the COVID-19 pandemic.

In 2019, Mr. A received on-the-job training at an IT education company in the Philippines, and Mr. B received on-the-job training at an Indonesian manufacturer of measuring instruments. In their opinion, in addition to the basic working experience, they were able to experience cultural differences (religion, climate, food, etc.) through direct life experience (shopping, bus transportation, social gatherings, etc.) and understand different cultures. They also said that it was good that they were able to gain experience abroad without having to take a leave of absence, that they were able to have an experience similar to studying abroad, and that the range of work they were able to engage in expanded in the latter half of the program period, allowing them to do practical training that they had not planned for. However, they also had feelings of confusion and uneasiness in an unfamiliar environment, and they both felt unwell due to the unfamiliarity with the place of residence, water supply, food, etc., and the influence of the social situation. The reasons given were that they thought they would learn more from overseas than in Japan in terms of cross-cultural exchange and English communication, that they felt stronger both mentally and physically as a result of the program, that it would be a good experience for their future, and that being in a tough environment would help them to grow.

4.2 Overseas Online Internships

Due to the impact of COVID-19, the overseas internship program in the 2021-22 academic year was switched to an online internship program conducted from within Japan. The survey was conducted on students who participated in the overseas online internship

program. Four surveys were conducted, including two at Company C (Mr. C and Mr. D) and two at Ding (Mr. E and Mr. F).

The first two interns (Mr. C and Mr. D) were from Company C. Company C is an IT service provider in Vietnam. They commented that the internship provided them with technical learning (system development and back-end fields), experience in team development, a good opportunity to learn business English communication (English chat, daily reports in English, speaking and listening in web meetings), and a chance to participate in an internship without having to change their living environment more than other placements. In addition, they said that it was difficult to maintain motivation because the environment did not change as participation was always done from their laboratory or room (Mr. C), communication was difficult due to connectivity issues, there were no social gatherings or other events, and it was difficult to get a sense of distance from the people in charge at the company. As to whether they would recommend the program to their juniors, Mr. C answered "4. Somewhat" and Mr. D answered "3. Undecided". Mr. C's reasons were that speaking in person is the best way to improve English, that it is a good option for those who do not want to go there, and that overseas development experience is not only for finding a job but also for learning various skills as an engineer (application development, system overview, team development, etc.). Mr. D's reasons were that using English online and being able to work remotely were good experiences, but there were a few times when he found it difficult in terms of communication. He also said that because of the need for autonomy, those who cannot work independently should work on-site.

Next are two interns for Ding (Mr. E and Mr. F). Ding is an IT service provider in Romania. They mentioned that they gained technical knowledge (RPA and software development), confidence from being able to communicate with people from other countries, and understanding of cultural differences (Mr. E). Other opinions included the opportunity to communicate in English with people outside the company (lunch meetings with Romanian people, lectures by Romanian university professors, etc.), and the fact that they enjoyed development and were able to create their own rhythm, which kept their motivation up (Mr. E). However, they also pointed out that they felt uneasy because they had lost contact with the company at times, and that they had few contacts at the internship site, which made them anxious when they were working during the internship. As for Mr. F's reasons, although he experienced a variety of work, he did not feel a sense of fulfillment or accomplishment after the internship, and although he was attracted by the overseas aspect, he was more likely to recommend the program to his juniors if he could get more face-to-face experience in Japan.

In contrast with the other four interns, they were not assigned any work beyond what they had originally planned.

4.3 Domestic Internships

Lastly, we examined internships at domestic companies that have a high ratio of overseas sales. The number of cases studied is one, that is, Mr. G of Bosha. Bosha is a manufacturer of industrial goods, and the ratio of overseas sales exceeds 70%. The opinions obtained were as follows: "I could understand what the company is looking for as a member of society, I deepened my understanding of English (I can listen to English but cannot speak it, and I changed my awareness that it is important to communicate with others even if my pronunciation is not great)", "I was not the type to show interest in foreign countries, but I felt that foreign countries were closer to me (the hurdle was lowered)", and "I learned that I could work in a foreign country". He also had opportunities to communicate with people in overseas offices in English (he was allowed to participate in remote meetings with overseas business partners), overseas elements were incorporated in many places (morning assemblies were held half in English, meetings were held in English, and in some departments, employees studied English in the morning before starting work), and he felt closer to overseas countries (the hurdle was lowered), and the opportunity to interact with people from other departments, overseas branches, and other overseas locations while being involved in the management of events that were not originally planned to connect the various locations. However, he said that he did not have many opportunities to talk with people from overseas. He had a total of three opportunities to speak with people at remote meetings and overseas offices, and there were no English speakers in the department during his internship period (although English speakers were assigned to the department before and after his internship period).

The first question was whether he would recommend the program to his juniors "as a regular internship", and the second is "as an overseas internship program". The reason is that it is important to know the gap between one's position in the university and one's position in the company, because it is not always the same. Next, for "as an overseas internship program", the answer he was selected as "3. Undecided", the reason being that that if someone is interested in overseas, they should go to an overseas internship program, and that it is good as an opportunity to create a global viewpoint because it is difficult to develop a yearning for and interest in overseas countries in ordinary life.

5. Discussion

We have examined three cases so far. Based on these surveys, the items were derived and summarized in Table 3.

Items	Overseas on-site internships	Overseas online internships	Domestic internships
Understanding of English	Highly effective	Medium effect	Small effect
Cross-cultural understanding	Highly effective	Medium effect	Small effect

Feelings of anxiety	Yes	None	None
Maintaining motivation	Easy	Difficult	Easy
Distance from others	Easy	Difficult	Easy

Table 3. Survey Results

The following items were obtained: "understanding of English", "understanding of different cultures", "feelings of anxiety", "maintaining motivation", and "feelings of distance from others". The items are explained one by one.

"Understanding of English" was found to be effective to a certain extent, as in the previous studies [4] and [5]. Mr. G, who was dispatched to a domestic site, did not mention whether he was able to master English conversation, although the hurdle for doing so was lowered. The overseas online program is based on chat tools, while the on-site program is based on face-to-face conversation, so the improvement in speaking, listening, and writing skills may be skewed.

The results for "cross-cultural understanding" were similar to the previous studies [4], [5], and [6], and a certain effect was obtained. However, the effect was not observed in the domestic on-site program, and only one out of four participants in overseas online programs achieved intercultural understanding, indicating that additional verification of the effect is needed.

"Feelings of anxiety" varied from case to case. In the case of overseas on-site programs, anxiety about living conditions was a constant concern; participants had to live in a different culture from that of Japan, and had a sense of anxiety about climate, water, food, safety, and so on. On the other hand, anxiety in overseas online programs came from being unable to grasp the "sense of distance" from their counterparts and see what is going to happen next. Anxiety always follows because they do not know what is happening at the worksite, such as a lack of specific instructions, few actions on daily reports, and few meetings.

"Maintaining motivation" is largely due to the fact that the environment around them does not change. This is why it is not seen in overseas on-site and domestic on-site programs. Many opinions were raised regarding overseas online programs. However, it was not seen in some (Mr. E).

"Distance from others" is not a problem for overseas and domestic on-site programs, but is an issue for overseas online programs. If this issue is not addressed, it will lead directly to "feelings of anxiety".

The first difference is the scope of work assigned to the interns. Both overseas and domestic on-site internships gave the interns a variety of experiences beyond the scope of the internship program they had originally planned. The second difference is the tendency of

the answers to the questions in Table 2. On the other hand, many participants of overseas online programs tended to cite their work experience and knowledge in terms of skills.

The results of these analyses can be summarized in three cases.

The overseas on-site internships were highly effective in terms of English learning and cross-cultural understanding, and there were no problems in maintaining motivation and an understanding one's distance from others. On the other hand, this type of internship program was not suitable for the students who felt uneasy about their daily life.

Overseas online internships enable growth in English language skills and technical aspects. The ability to improve one's English ability and skills in their field of specialty without significantly changing their living environment is a highly attractive feature for students interested in going abroad. On the other hand, it is suggested that the interns have problems in "understanding different cultures", "maintaining motivation", and "feelings of distance from others". It is desirable for participants to actively engage in the internship in terms of "understanding different cultures" and "maintaining motivation". With regard to "distance from others", it is desirable for both the company and the participant to make active efforts. Therefore, it is important to confirm the acceptance system of the company. Examples include whether or not there are efforts to eliminate the sense of distance (e.g., social gatherings) and its track record of accepting internship participants. The communication environment should also be considered. In one case (Mr. C), when participating in monthly meetings, communication was not possible due to the sound quality of the other party, and no improvement was made until the end. Because this depends on the company participating in the internship, it is necessary to check the communication environment (remote meeting tools, chat tools, etc.) when selecting a company. When participating in an overseas online internship, it is advisable to get advice from previous participants or to participate in an internship with prior information from your laboratory if possible.

Domestic internships were suggested to deepen understanding of one's position as a member of society and what is expected of oneself. In addition, through the interview with Mr. G, there were scattered indications of an overseas orientation. Nagata et al. [6] confirmed this in overseas on-site programs, but the results of this survey indicate that it was also confirmed in domestic on-site programs.

6. Conclusion

In this paper, we examined the effects and issues of long-term internships as a research question. The number of online internships increased after COVID-19. The results of the analysis suggest that overseas on-site internships have a positive impact on English language learning and cross-cultural understanding, but pose risks in terms of daily life. While overseas online internship programs can develop English and technical skills, they also presents challenges in terms of cross-cultural understanding, maintaining motivation,

distance from others, and the communication environment. Domestic on-site internships have the potential to cultivate the behavior of a member of society and to confirm overseas orientation.

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