A Case Study of Accepting an International Student from Turkey to Japan

- The Trials of Advancing and Improving International Students Exchange Program -

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ABSTRACT

This case study focuses on the establishment of a new cooperative effort to accept a student enrolled at Middle East Technical University, Turkey who was nominated to Kagawa University, Japan under the Erasmus+ International Credit Mobility Program. At the time the student was nominated, Kagawa University did not have a suitable program in which to accept the student, but arrangements were made to be able to host the student. From this particular case, demands for inbound programs for international students became clear including the needs for the flexibility of arranging existing programs, the ability of providing content in English, the strong consideration towards student satisfaction, and the utilization of the Internet resources to share information. Close cooperation from the stakeholders was the key to the success of the initiative.

KEYWORDS

Erasmus+, International exchange programs, Language proficiency, Student mobility, Student satisfaction

1 INTRODUCTION

Kagawa University is a small national university with a student population of approximately 6,400. In keeping with the action plan of the Ministry of Education, Culture, Sports, Science and Technology (MEXT), to globalize university education in Japan, Kagawa University has been increasing international activities such as university agreements, student mobility and research exchange [1].

However, Kagawa University has not been designated as one of the target universities for globalization under the Global 30 [2] initiative of MEXT. As such, Kagawa University has not received additional funding or support from MEXT and therefore, globalization efforts must be carried out through a more effective use of existing networks, and improved faculty collaboration.

Kagawa University joined the Erasmus+ International Credit Mobility Program, the European Union (EU) exchange program (Erasmus+), as a partner of Middle East Technical University (METU) in 2017. Cooperation with METU began with the Faculty of Agriculture, and the Department of Food Engineering of Kagawa University and METU, respectively. METU requested to dispatch a student to other faculties, and this presented an opportunity to broaden student mobility as well as several administrative and educational challenges.

If successful, this could act as a model for expansion of international exchange within Kagawa University. As such, it was decided to conduct a case study of this initiative to analyze the steps taken by various bodies of Kagawa University and to make recommendations for improvements based upon this initiative for the new international activities across faculties.

2 BACKGROUND

2.1 Student Mobility in Japan

The number of international students in higher education institutions in Japan has been increasing. In 2014, Japan was the top host nation among major Asian countries for inbound student mobility [3]. Studies in Japan can provide a unique educational experience to incoming students, but also contribute to the host university in the internationalization of Japanese students. Furthermore, administrators in the host university gain new global perspectives in establishing delivery and content of academic studies and a better understanding of the academic content that the university is able to provide [4].

Another important consideration, particularly in smaller institutions, is student satisfaction which will contribute to the longevity of these programs. There are many factors that affect student satisfaction, such as their educational background at their home university. Miyoshi found that the balance between study time and leisure time was a significant factor in student satisfaction [5], and is an important factor in planning student mobility.

2.2 Kagawa University

Kagawa University has six faculties and seven graduate schools, and an international section, the International Office, that is charged with promoting and fostering international exchange. Each faculty has partnerships with a variety of institutions overseas, but the International Office administers international exchange at the university level and facilitates international cooperation both within the university and with partner universities through strategic planning, as well as encouragement of international collaboration in education and research [6]. However, the International Office has not played a major role in inter-faculty collaboration within the university.

The International Office, through the International Student Center, also focuses on the student mobility and student support services. The International Student Center is charged with Japanese language education, cultural and life support and research on education for international students and Japanese language education [6].

In 2013, Kagawa University established the 4 & 1 Plan, which set the target for student mobility of hosting 400 international students from overseas universities and dispatching 100 domestic students to international institutions every year [6].

2.3 Middle East Technical University

Middle East Technical University (METU) is a large national university in Ankara, Turkey with a student population of approximately 27,000. It has 42 departments in five faculties and five graduate schools [7]. The partnership was initiated by the Faculty of Agriculture of Kagawa University and Department of Food Engineering of METU through student mobility. A Memorandum of Understanding (MOU) was signed in October 2017. Since then, the Faculty of Agriculture has hosted one to two students from METU each year. In 2017, METU invited Kagawa University as a partner institution in Erasmus+.

2.4 Student Mobility: Erasmus+ Nomination

In February 2019, one METU undergraduate student, majoring in computer engineering, was nominated for a one semester exchange within the framework of the Erasmus+. The nominee was a METU student from outside of agricultural studies. The Faculty of Agriculture has maintained a close relationship with the Department of Food Engineering and viewed this request as a good opportunity to expand cooperation with METU. It was thought that this could lead to increased exchanges, particularly the dispatch of Kagawa University to METU

under Erasmus+, and requested the International Office to facilitate the student mobility.

3 ERASMUS+ & METU REQUIREMENTS

3.1 Courses

According to Erasmus+ program rules, it was necessary for the courses that the student takes at Kagawa University to be recognized by METU, specifically by the Department of Computer Engineering.

The Department of Computer Engineering required that the nominee take at least five credit courses. Courses in the nominee's major, engineering, would have to be accepted by METU as required courses or elective courses related to the nominee's major identified by METU as "must courses" or "technical electives". Courses outside of the nominee's major, would have to be accepted by METU as breadth elective courses or non-technical elective courses identified by METU as "free electives" or "non-technical electives". This meant that the nominee could take Japanese language courses for the breadth elective courses or non-technical elective courses requirement of METU.

3.2 Course Syllabi

The nominee was required to submit English syllabi for approval from the Department of Computer Engineering.

3.3 Language of Instruction

Lectures and course materials were required to be in the English language, with the exception of Japanese language and culture classes, which could be in the Japanese language.

3.4 Duration

The nominee would study for one semester, from October 2019 to March 2020 and the duration could not be extended according to Erasmus+ rules.

3.5 Program Transcript

Upon completion of the exchange activity, the nominee was required to submit a transcript to METU for approval.

4 KAGAWA UNIVERSITY REQUIREMENTS

4.1 Admissions

In general, to be able to enroll in undergraduate courses at Kagawa University, students must be accepted as Kagawa University students. As such, students are required to pass the national university entrance examination, and the Kagawa University entrance examination.

For international students attending as non-full-time students, this requirement may be waived. Students enrolled at a partner university can be accepted as special audit students. Special audit students may take credit courses and transfer these credits to their home university. However, to take undergraduate courses, other than Japanese language and culture courses, Japanese language proficiency is required because with the exception of language courses, the medium of instruction at Kagawa University is Japanese.

To accept international undergraduate students that are not proficient in Japanese language, the International Office developed the Sanuki Program.

4.2 Sanuki Program

The Sanuki Program is a one semester exchange program conducted by the International Office that focuses on Japanese language and culture studies. Students can participate regardless of their Japanese language proficiency [6].

Sanuki Program students are divided into two levels according to their Japanese language

proficiency: entry or beginner level, and intermediate or high-intermediate level. To date, the majority of students have been at the entry or beginner level. Some intermediate or high-intermediate level students have extended their studies for an additional semester, transferring to one of the faculties for academic studies. Since the Sanuki Program does not require Japanese language proficiency, students may use this as a bridge program to enroll in the academic courses at faculties.

However, the Sanuki Program was not an option for the METU nominee because the program does not offer specialized courses. Therefore, the nominee had to be hosted by the Faculty of Engineering and Design.

4.3 Challenges

The Faculty of Engineering and Design does not offer undergraduate courses in the English language. International students are generally accepted at the graduate level because studies are based on individual research projects. The Faculty of Engineering and Design offers an International Internship that has been used to accept international undergraduate students. However, this has been used only when there was already an existing research relationship in place, since a professor and supervisor for the student would have to take full responsibility for the visiting student(s), including research activities, housing and life support. The Faculty of Engineering and Design can accept students at the undergraduate level on a case by case basis which requires departmental approval as well as a supervisor that is willing to accept the student. This can be an onerous procedure, and requires great personal responsibility from professor(s) and supervisor(s).

The Faculty of Engineering and Design has had no past collaboration with METU including student, professor, or researcher exchanges nor any joint research, so initially the Faculty of Engineering and Design was reluctant to accept the nominee from METU. This situation is not unique to the Faculty of Engineering and Design, and without a clear prospect of collaboration, most faculties would be reluctant under the same circumstances. Therefore, this was an important first case in developing a model for accepting international students.

5 WORKING TOWARDS A SOLUTION

5.1 International Office Initiative

Because of this myriad of challenges, cooperation and flexibility was needed from both the International Office and the Faculty of Engineering and Design. The International Office developed a novel solution by offering to divide the responsibility for the nominee with the Faculty of Engineering and Design.

The International Office would host the student providing: i) accommodation; ii) Japanese language and culture courses, to meet the breadth elective course or non-technical elective course requirements; iii) a student “buddy”; and iv) an academic advisor. In this way, the nominee’s language proficiency would not be a barrier to acceptance. Furthermore, the International Office would take responsibility of the administrative aspect of enrollment, reducing the burden on the faculty. According to the nominee’s request, nine courses would be provided in Japanese language and culture for 10 credits (Table 2).

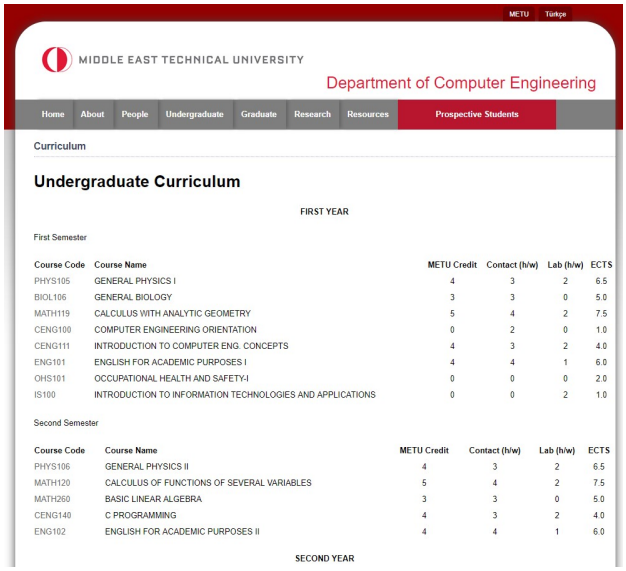
The Faculty of Engineering and Design was asked to provide three required courses or elective courses in engineering for 6 credits (Table 2), also according to the nominee’s request.

5.2 A New Curriculum

Studies had to be individually tailored to the nominee because engineering courses were not available in the English language. The Chair of the International Exchange Committee of the

Faculty of Engineering and Design took the lead in developing an English curriculum for the nominee, and appointing professors to teach each course. It is important to note that the proactive stance of the Chair was essential in gaining cooperation of the other professors in the Faculty of Engineering and Design.

The Department of Computer Engineering course syllabi [8] were used to determine suitable courses for the nominee [Figure 1].



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MIDDLE EAST TECHNICAL UNIVERSITY

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Curriculum

Undergraduate Curriculum

FIRST YEAR

First Semester

Course Code	Course Name	METU Credit	Contact (h/w)	Lab (h/w)	ECTS
PHYS105	GENERAL PHYSICS I	4	3	2	6.5
BIOL106	GENERAL BIOLOGY	3	3	0	5.0
MATH119	CALCULUS WITH ANALYTIC GEOMETRY	5	4	2	7.5
CENG100	COMPUTER ENGINEERING ORIENTATION	0	2	0	1.0
CENG111	INTRODUCTION TO COMPUTER ENG. CONCEPTS	4	3	2	4.0
ENG101	ENGLISH FOR ACADEMIC PURPOSES I	4	4	1	6.0
OHS101	OCCUPATIONAL HEALTH AND SAFETY-I	0	0	0	2.0
IS100	INTRODUCTION TO INFORMATION TECHNOLOGIES AND APPLICATIONS	0	0	2	1.0

Second Semester

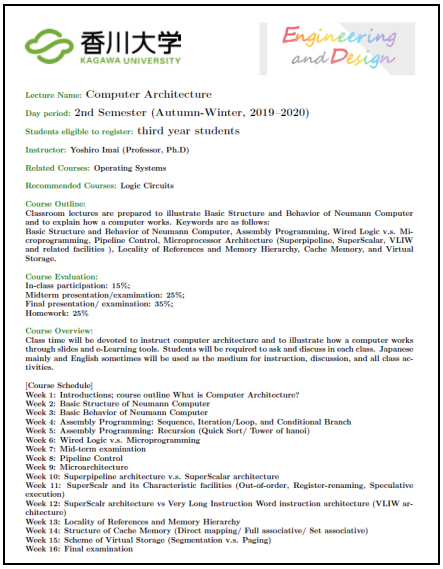
Course Code	Course Name	METU Credit	Contact (h/w)	Lab (h/w)	ECTS
PHYS106	GENERAL PHYSICS II	4	3	2	6.5
MATH120	CALCULUS OF FUNCTIONS OF SEVERAL VARIABLES	5	4	2	7.5
MATH260	BASIC LINEAR ALGEBRA	3	3	0	5.0
CENG140	C PROGRAMMING	4	3	2	4.0
ENG102	ENGLISH FOR ACADEMIC PURPOSES II	4	4	1	6.0

SECOND YEAR

Figure 1. Department of Computer Engineering syllabi

While the Faculty of Engineering and Design has hosted undergraduate students in the past, this was the first time to host a student that did not have sufficient language proficiency to study courses in the Japanese language, so individualized studies needed to be prepared. Furthermore, METU required an English language syllabus for each of the courses for approval of content.

At the time of nomination, the nominee was a second-year student, and the semester at Kagawa University would be the nominee's fifth semester at university, corresponding to the third year at Kagawa University. Based on this, the Faculty of Engineering and Design examined syllabi from courses for third year students. From them, the professors selected courses that would be offered during the student's semester of studies and translated the appropriate syllabi for the nominee [Figure 2].



香川大学 KAGAWA UNIVERSITY

Engineering and Design

Lecture Name: Computer Architecture

Day period: 2nd Semester (Autumn-Winter, 2019–2020)

Students eligible to register: third year students

Instructor: Yoshiro Imai (Professor, Ph.D)

Related Courses: Operating Systems

Recommended Courses: Logic Circuits

Course Outline:
Classroom lectures are prepared to illustrate Basic Structure and Behavior of Neumann Computer and to explain how a computer works. Keywords are as follows:
Basic Structure and Behavior of Neumann Computer, Assembly Programming, Wired Logic v.s. Microprogramming, Pipeline Control, Microprocessor Architecture (Superpipeline, SuperScalar, VLIW and related facilities), Locality of References and Memory Hierarchy, Cache Memory, and Virtual Storage.

Course Evaluation:
In-class participation: 15%;
Midterm presentation/examination: 25%;
Final presentation/ examination: 35%;
Homework: 25%

Course Overview:
Class time will be devoted to instruct computer architecture and to illustrate how a computer works through slides and e-Learning tools. Students will be required to ask and discuss in each class. Japanese mainly and English sometimes will be used as the medium for instruction, discussion, and all class activities.

[Course Schedule]
Week 1: Introductions; course outline What is Computer Architecture?
Week 2: Basic Structure of Neumann Computer
Week 3: Basic Behavior of Neumann Computer
Week 4: Assembly Programming: Sequence, Iteration/Loop, and Conditional Branch
Week 5: Assembly Programming: Recursion (Quick Sort/ Tower of hanoi)
Week 6: Wired Logic v.s. Microprogramming
Week 7: Mid-term examination
Week 8: Pipeline Control
Week 9: Microarchitecture
Week 10: Superpipeline architecture v.s. SuperScalar architecture
Week 11: SuperScalr and its Charactoristic facilities (Out-of-order, Register-renaming, Speculative execution)
Week 12: SuperScalr architecture vs Very Long Instruction Word instruction architecture (VLIW architecture)
Week 13: Locality of References and Memory Hierarchy
Week 14: Structure of Cache Memory (Direct mapping/ Full associative/ Set associative)
Week 15: Scheme of Virtual Storage (Segmentation v.s. Paging)
Week 16: Final examination

Figure 2. Computer Architecture Syllabus (in English)

5.3 Textbooks and Course Materials

Providing English syllabi for the courses was the first step to hosting the nominee. The next step was to prepare for teaching the content in English. This was another major difference from previous cases where the students could communicate and study in Japanese. The International Exchange Committee at the Faculty of Engineering and Design held discussions with the course professors to determine how to prepare English course materials, English textbooks, and conduct discussions with the nominee in English.

From these discussions, the Faculty of Engineering and Design: i) investigated the engineering courses offered at METU and options for English textbooks for the courses at the Faculty of Engineering and Design were determined [Table 1]; and ii) the most effective communication and information exchange with the nominee, such as discussions during lectures and email outside of class time, were discussed.

Table 1. English Textbooks

Title	Author(s), Publisher
Introduction to Algorithms	T. H. Cormen, C. E. Leiserson, R. L. Rivest, and C. Stein, McGraw-Hill
Computer Systems: A Programmer's Perspective	Randal E. Bryant and David R. O'Hallaron Prentice Hall
Database Management Systems	Raghu Ramakrishnan and Johannes Gehrke, McGraw Hill

The professors requested that the International Office provide the textbooks to the student so the student would be able to use them upon return to METU and a copy of the textbooks for the professors for course preparation.

5.4 Evaluation Criteria

Midterm examinations and final examinations would be based on the content of the selected textbooks. Of course, it is impossible to have completely identical exams to the Japanese students. However, since the content of the textbooks themselves are considered to be at a high standard, the Faculty of Engineering and Design determined that an equivalent level of the examination could be administered. Therefore, if a student is able to pass the examination, it can be recognized that the student has met the criteria for and equivalent level of understanding.

6 COORDINATING WITH METU

6.1 Method of Contact

Email was the primary method of contact with the nominee and the nominee's advisor at METU. The nominee's advisor was also the contact person for METU International Cooperations Office.

Email was an effective and appropriate communication method which allowed Kagawa University to confirm METU's requirements and adjust the curriculum as needed.

6.2 The Program

The nominee has applied to the Sanuki Program, and will take courses in Japanese language and culture, in addition to three courses in engineering [Table 2]. With the English syllabi for these courses, the nominee was able to gain approval from the Department of Computer Engineering.

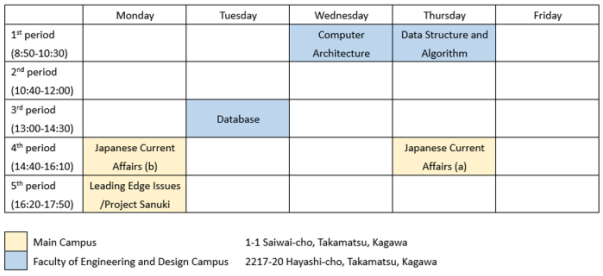
Table 2. List of Courses (Fall 2019)

Course Title	Number of Credits
Elementary Japanese I a	3
Elementary Japanese I b	
Elementary Japanese I c	
Elementary Japanese II a	3
Elementary Japanese II b	
Elementary Japanese II c	
Japanese Current Affairs (a) or (b)	2
Leading Edge Issues	1
Project Sanuki	1
Data Structure and Algorithm	2
Computer Architecture	2
Database	2

7 LOGISTICAL ISSUES

7.1 Course Schedule, Travel Distance and Accommodation

Kagawa University has four campuses. The International Office courses, Japanese language and culture courses, are held at the main campus while the engineering classes are held at the Faculty of Engineering and Design Campus, located approximately 10 km from the main campus. Travel time had to be considered when finalizing the course schedule. The time schedule for the Japanese language courses have not yet been set for the Fall 2019 semester, and they are not included in the tentative schedule [Figure 3].



	Monday	Tuesday	Wednesday	Thursday	Friday
1st period (8:50-10:30)			Computer Architecture	Data Structure and Algorithm	
2nd period (10:40-12:00)					
3rd period (13:00-14:30)		Database			
4th period (14:40-16:10)	Japanese Current Affairs (b)			Japanese Current Affairs (a)	
5th period (16:20-17:50)	Leading Edge Issues /Project Sanuki				

Main Campus 1-1 Saiwai-cho, Takamatsu, Kagawa
Faculty of Engineering and Design Campus 2217-20 Hayashi-cho, Takamatsu, Kagawa

Figure 3. Tentative Schedule for Fall 2019

Depending on the schedule of the Japanese language courses, the nominee will either take Japanese Current Affairs (a) or Japanese Current Affairs (b), requiring flexibility of the nominee's part.

The nominee will be housed at one of Kagawa University International Dormitories. Location, costs, and facilities differ and the nominee may select the most suitable dormitory based upon personal preference and availability.

7.2 Electronic Signatures

Application to the Sanuki Program includes submission of documents necessary to apply for a visa, financial support, course registration, academic records (transcripts and enrollment), a letter of recommendation, medical check, curriculum vitae, and an essay. Original documents are required to be mailed to Kagawa University. However, as a time-saving and cost-saving precaution, electronic documents were submitted by email to check the content.

Some documents required by Kagawa University, could be submitted as electronic documents. In general, external documents, such as visa applications, required the documentation to be sent by regular mail. One issue that arose was that as a time-saving measure, Kagawa University agreed to accept an electronic signature on documents. However, Kagawa University would not accept a digital signature. This resulted in confusion on the nominee's part as the nominee was unclear as to the distinction. As such it required several email exchanges, and finally the assistance of the advisor from METU.

7.3 Document Translation

Some certificates were issued in Turkish and could not be accepted by Kagawa University without a notarized English translation, which caused a delay in completing the application.

8 CURRENT STATUS

Upon passing the document selection and interview, the nominee was officially accepted by Kagawa University. Currently, the student's application for a student visa is in process. Kagawa University is arranging accommodation at one of Kagawa University International Dormitories. Once the schedule for Fall 2019 is finalized, the student's course schedule will also be set.

Kagawa University will welcome the student at the end of September 2019 and the student will be enrolled from October 2019 to March 2020.

9 CONCLUSIONS

9.1 Use of Technology

Use of the Internet was essential in the success of the initiative. Email played a critical role in communication from the onset of the initiative, firstly between METU and the Faculty of Agriculture, subsequently between the Faculty of Agriculture, the International Office and the Faculty of Engineering and Design, and finally between the International Office, the Faculty of Engineering and Design, METU and the nominee. However, there was some confusion in relying almost exclusively on email. In particular, there was confusion as to the meaning of the language used by both parties. Email, as a written form of communication, is necessarily more formal and at times, less direct than face to face communication.

Video conferencing was used for the interview with the nominee conducted after the submission of application documents. While there was some concern about the quality of the video and sound, because high speed and stable Internet connectivity is available in Turkey, it was not an issue. However, in some countries, this will be an issue.

In fact, because of the high quality of the video and sound, it would have been useful to also incorporate more as video conferencing particularly with the nominee to clearly explain areas of confusion earlier in the process.

9.2 Lack of Existing Procedures

The biggest problem for this particular case was that the structure for accepting the student did not exist and had to be created in a short amount of time. Furthermore, a lack of a model case and significant time pressure made this initiative more challenging. For these reasons, this case is particularly significant because it provides a model for future cases.

9.3 Flexibility

Flexibility was a key factor in success of this initiative from all of the stakeholders. For this case, the importance of flexibility cannot be understated. This was most apparent in the workload sharing between the International Office and the Faculty of Engineering and Design, and the development of curriculum specifically to meet the nominee's needs. The Sanuki Program has established its value as a bridge program and should be focused on more as a potential avenue to attract new students to Kagawa University.

9.4 Teamwork and Cooperation

This initiative succeeded because of cooperative efforts of the Faculty of Agriculture, the International Office and the Faculty of Engineering and Design. It involved many people working together, first identifying potential benefits and then working towards the success. Many discussions were held, both online and in person by stakeholders in international exchange at Kagawa University. So, this success can be reviewed as collaborative success and model for future inter-faculty cooperation.

9.5 Future Impacts

The Faculty of Agriculture has identified the Sanuki Program as a key bridge program for attracting international students. This may lead to other faculties utilizing the Sanuki Program for their international activities. The International Office demonstrated leadership and coordination on this project and may apply the lessons learned to develop a new system for collaboration. The Faculty of Engineering and Design has developed an English language model for accepting future students, which makes this case more easily repeated contributing both to the Faculty of Engineering and Design and to Kagawa University.

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REFERENCES

[1] Ministry of Education, Culture, Sports, Science and Technology, Japan (MEXT), 2003, Action Plan to Cultivate Japanese with English Abilities. Retrieved from http://www.mext.go.jp/b_menu/hakusho/html/hpac200201/hpac200201_2_015.html

[2] Ministry of Education, Culture, Sports, Science and Technology, Japan (MEXT), Launching the project for establishing core universities for internationalization (Global 30), 2011. Retrieved from http://www.mext.go.jp/english/highered/1302274.htm

[3] K. Kuroda, M. Sugimura, Y. Kitamura, and S. Asada, "Internationalization of Higher Education and Student Mobility in Japan and Asia," 2018, Background paper prepared for the 2019 Global Education Monitoring Report. Retrieved from https://www.jica.go.jp/jica-ri/publication/other/l75nbg000010mg5u-att/Background_Kuroda.pdf

[4] Ministry of Education, Culture, Sports, Science and Technology, Japan (MEXT), "Outline of the Student Exchange System in Japan," 2005. Retrieved from http://www.mext.go.jp/a_menu/koutou/ryugaku/06082503/002.pdf

[5] N. Miyoshi, Undergraduates' study time, study motivation and learning outcomes in the Journal of the Liberal and General Education Society of Japan, 2015, 37(1), 105-113.

[6] Kagawa University International Office, Annual Report, Journal of Kagawa University International Office, Vol. 10., Kagawa: Kagawa University, June 2019, pp. 95-102, 132-135.

[7] Middle East Technical University (METU), n.d., General information, Retrieved from https://www.metu.edu.tr/general-information

[8] Department of Computer Engineering (METU), n.d., Undergraduate Curriculum, Retrieved from https://ceng.metu.edu.tr/undergraduate-curriculum