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Master's Thesis

The relationship between intercultural communication competence and perceived challenges and its effects on the success of studying in Japan: A case study of international graduate students in JAIST

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Abstract

With the inevitable internationalization trend among higher education institutions, the English-medium instruction (EMI) and English-taught programs (ETPs) have been prevailing in Japan in recent years. International students more likely tend to participate in EMI/ETPs, especially at the graduate level. The previous study identified four typical issues in the implementation of EMI/ETPs. Those issues bring some negative learning experiences to students due to the stakeholders involving in EMI/ETPs are mainly from non-native English-speaking countries. Some of the previous work suggests students with higher English proficiency can gain better learning experiences. In contrast, some other researchers suggest students with higher English proficiency still struggle with learning in the form of EMI/ETPs.

On the one hand, we can see the conflicting findings, conclusions, and claims on proficiency's role in the EMI/ETPs from previous work. On the other hand, some researchers are continually calling for attention to another language-related skill—intercultural communication competence (ICC) in recent years. Yet, there is a noticeable lack of investigation about ICC's effect on international students' learning experiences in Japan. In particular, we do not know the relationship between ICC and students' perceived challenge. We also do not know how the skill-challenge balance affects students' perception of success.

This study mainly focuses on international graduate students' on-campus experiences in Japan. It investigates the relationship between students' ICC and perceived challenge and this balance's effect on the perceived success according to their learning experiences in Japan. ICC is an indicator both linguistically and culturally relevant to an individual's skill. By introducing ICC into this study, a broader understanding both in and out of the classroom can be provided. The investigation focuses on the skill-challenge balance rather than rigid but not an absolute proficiency test score, fruitful discussions and implications can be provided through data analysis. The result offers a preliminary understanding of ICC-challenge balance's role in international student groups' learning experiences in Japan.

From the literature review, it can be found the previous work has two apparent characteristics. First, the mainstream research' objectives focused on Japanese students' EMI experiences at the undergraduate level, relatively little research involves international students. Second, the previous work which examines the impact of proficiency on students' EMI learning experiences is

constrained to the classroom, with conflicting findings of English proficiency's role in students' EMI learning experience. Although small in number, some researchers argue the importance of ICC in their learning experiences. Apparently, as an indicator that is both linguistically and culturally relevant, ICC can play a role in the classroom and the whole on-campus life. However, the ICC's role in students' learning is unclear. Besides, despite international students taking the dominant population of EMI/ETPs in Japan, none of the previous work is involved in investigating this particular group's ICC. Thus, there remains an unclear place to identify the relationship between ICC and international students' perceived challenge. Besides, how the ICC-challenge balance affects their perceived success of studying in Japan is unclear, either.

This study investigates the relationship between ICC and perceived challenges in international graduate students' learning experiences and this balance's effect on their perceived success. It will enrich the current shortage in literature concerned with international graduate students' learning experiences in Japan.

The main objective is to investigate the effect of the ICC-challenge balance on international students' perceived success of studying in Japan.

The first sub-objective investigates the relationship between international students' ICC and the perceived challenge.

The second sub-objective investigates the ICC's effect on international graduate students' learning experiences in Japan.

The convenience sampling and data collection approach was applied in this study. The online survey was designed with four demographic questions and 23 Likert Scale questions. Participants are international students from different schools of Japan Advanced Institution of Science and Technology (JAIST). One hundred thirteen valid questionnaires were retrieved through Google form. Data were coded and processed by Microsoft Excel and IBM SPSS 26.

The results of the data analysis showed that all four ICC factors correlated with different perceived on-campus challenges, with the team effectiveness factor being the most correlated to the perceived challenge. However, some of the correlations differed significantly, depending on the way of student grouping. Further, individuals' ICC-challenge degrees are grouped into H-H, H-L, L-H, and L-L quadrant. Using the plot box, different ICC-challenge balance groups showed their

different correlation with the perceived success. Overall, the perceived success degree decreases in the order of H-H, H-L, L-H, and L-L. However, the perceived success degree would be changed as changing the way of grouping, either.

The prior study highlighted that the international student population in Japan is highly homogeneous, as more than 90% of the students are from Asia. Research on EMI has argued students' language proficiency and has linked it to their learning success. The results of this study show that although this is considered a highly homogeneous group, ICC varies significantly across student groups and shows more complex correlations in terms of the degree of perceived challenges and success with different student groups. Although this is a preliminary study, international students' ICC includes more content and involves more complex dimensions than single language proficiency. Whether individual ICC differences contribute to teaching difficulties in EMI and student dissatisfaction or academic failure in learning merits further study.

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1 Introduction

1.1 Background

1.1.1 Increasing international students in Japanese higher education institutions

According to the Japan Student Service Organization (JASSO, 2019), the number of international students in Japan reached 312,214 in 2019. Japan is the sixth most popular country for international student enrolment in tertiary education (OECD, 2012). The number of international students studying in Japanese higher education institutions (HEIs) has increased dramatically in recent years (see Table1.1-1). The data also shows the overall characteristic of international students in Japanese HEIs: always over 90 percent of them from Asia and only around 5 percent from Europe and North America (see Table 1.1-2). These data mean that most international students in Japanese HEIs are from countries where English is not their mother tongue language. Meanwhile, the data also indicates that international students in Japanese HEIs mostly need to interact with other national students in English or Japanese.

Table 1.1-1 Number and growth rate of international students in Japanese HEIs (2011-2019)

Year	Number	Growth rate (%)
2011	138,075	2.6
2012	137,756	0.2
2013	135,519	1.6
2014	139,185	2.7
2015	152,062	9.3
2016	171,122	12.5
2017	188,384	10.1
2018	208,901	10.9
2019	228,403	9.3

Source: JASSO 外国人留学生在籍状況調査 https://www.studyinjapan.go.jp/ja/statistics/zaiseki/index.html

Table 1.1-2 Region of International students in Japanese HEIs (2013-2019)

Area / Year	Asia (%)	Europe&North America (%)	Others (%)
2013	91.9	5.3	2.8
2014	91.5	5.4	3.1
2015	91.4	5.5	3.1

2016	91.5	5.4	3.1
2017	92.0	5.0	3.0
2018	92.4	4.9	2.7
2019	92.7	4.8	2.5

Source: JASSO 外国人留学生在籍状況調査 https://www.studyinjapan.go.jp/ja/statistics/zaiseki/index.html

1.1.2 Increasing English-medium instruction (EMI) and full degree English-taught programs (ETPs)

To compete with European and the United States higher education institutions and recruit international student source, reducing the barrier of studying in Japan, in the early 1980s, the national universities began to establish English-taught programs (ETPs) at the graduate level with limited number and scope (Hashimoto, 2018; Ninomiya et al., 2009). In 2009, the well-funded Global 30 (G30) Project was launched by Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT,2009), which took a big step in EMI implementation among designated higher education institutions (Rose & McKinley, 2018).

Government initiatives and have pushed Japanese HEIs to establish their own EMI/ETPs on a greater scale. To date, MEXT's (2019) recent data shows 42 percent of Japanese universities have implemented EMI courses at the undergraduate level. 36 percent of Japanese universities have implemented them at the graduate level. As for full-degree ETPs, the number is 5.2 percent at the undergraduate level and 16.2 percent at the graduate level. The statistic indicates the EMI/ETPs at the graduate level are more prevailing.

1.2 Current issues

1.2.1 The majority but minority: international students in EMI/ETPs

Although international students account for the majority population in EMI/ETPs (SHIMAUCHI, 2018), most previous studies and the mainstream research in this area have focused on Japanese undergraduates' experiences in the EMI classroom. So far, relatively rare research has been conducted to investigate international students' on-campus learning experiences in Japan.

1.2.2 The debatable role of English proficiency in EMI/ETPs

Considering most of the students in EMI/ETPs are non-native English speakers, many previous studies focus on students' language proficiency factor, leading the investigation on the role of students' language proficiency in their learning. In earlier studies conducted in Japan, Rose, Curle, Aizawa and Thompson (2019) argue that students with higher language proficiency will face fewer challenges. In comparison, this conclusion is opposite to McKinley's (2018) work. He claims simple academic tasks like describing ideas are challenging for students with higher English proficiency.

1.2.3 Neglected language-related skill: intercultural communication competence (ICC)

Some previous research has pointed out the importance of educators' intercultural competence in communicating with international students in the host country (see, e.g., Lassegrad 2006, Hiroyoshi 2016, Bradford 2018). In the earlier time, Fritz, Möllenberg and Chen (2002) point out, "The trend towards globalization and internationalization has increased the importance of being competent in communicating with people of different cultural backgrounds." Whisted and Volet (2011) argue that Japanese HEIs have neglected intercultural development at both the institutional and individual levels. ICC is considered closely related to foreign language proficiency and cultural adaptation as it links communication in a host culture environment (Fantini, 2012). However, besides the lack of research on educators and educational institutions' intercultural competence, international students' ICC has been more neglected in current research.

1.3 Objectives and the structure of research

In the EMI/ETPs context, English proficiency has been investigated thoroughly, including proficiency level's effect on students' success. Only a few previous studies have suggested the importance of ICC, relatively little research was conducted to investigate this language-related skill. We do not know the role of international students' ICC in their on-campus life in Japan. This study's main objective is to investigate the effect of ICC-challenge's balance on international students' perceived success. Matveev's (2002) integrated intercultural communication competence model is applied to measure the ICC. This study can provide a broader understanding

outside the classroom by introducing ICC as a novel language-related skill. The challenge concept used in this study is adapted from Csikszentmihalyi's (1975, 1988) Flow Model, which means the opportunities perceived by the individual to meet demanding or overcome difficult situations.

In response to the main objective, the sub-objectives aim to:

(1) Firstly, identify the relationship between international students' ICC and the perceived challenge.

(2) secondly, investigate ICC's effect on international graduate students' learning experience in Japan.

Based on the research objectives, the research questions are followings:

MRQ: What kind of effect does the ICC-challenge balance have on international graduate students' perceived success in EMI?

Sub-RQ1: What is the relationship between international graduate students' language-related skills and the perceived challenge in EMI?

Sub-RQ2: What is the effect of ICC on international graduate students' learning experiences in Japan?

1.4 Novelty and significance of this study

The number of international students in Japan is increasing year by year, as well as the EMI/ETPs in Japanese HEIs. Furthermore, without any doubt, intercultural communication in HEIs will be more and more frequent than ever before. However, EMI/ETPs also brings/bring some issues as Japan is a non-native English-speaking country. Previous research mainly focuses on English proficiency's role in Japanese students' learning through EMI classroom, and there is a noticeable lack of research on international student group. This study will take the typical international student group as the research subject. Unlike most previous studies focusing on the classroom, this study will focus on students' on-campus life experiences instead of limited to the classroom. This study also introduces the skill-challenge balance from the Flow model to identify the relationship between ICC and perceived challenge.

1.5 Thesis structure

Chapter 1 is thesis' introduction. It introduces the background and states the current issues. Then, it explains the necessity of this research topic. Finally, it presents the research objectives and research questions, this study's novelty, and the thesis structure.

Chapter 2 presents the literature review. First, it introduces backgrounds and reviews the issues experienced by students with their EMI experiences. Then, the critical concept of challenge in this study will be explained in detail. Finally, international student success was introduced.

Chapter 3 explains the research method and how the data were gathered.

Chapter 4 presents the data reliability.

Chapter 5 proposes the result of data analysis, including the relationship between the ICC and perceived challenges in the different international student groups, the effect of ICC-challenge balance on their perceived success.

Based on the analysis result from chapter 5, chapter 6 makes discussion of findings in this study.

Chapter 7 summarizes the outcomes of this research as well as its limitations.

2 Literature review

This research focuses on ICC's effect on international students' learning experience through EMI/JMI in Japan. This chapter then outlines the history of the EMI, typology of EMI challenges and the summary of already known international students' on-campus challenges in Japan. The debatable discussion about students' English proficiency will be introduced. Another critical indicator of linguistic skill—ICC and its four dimensions will be presented, too. Further, the concept of challenge used in this study will be explained. At the end of this chapter, factors that affect international students' success will be introduced.

The primary purposes of this chapter are to:

(1) Make a short review of literature concerns EMI history in non-native English-speaking countries' HEIs, especially in recent Japan. Present an overview introduction of four typical challenges in EMI/ETPs' implementation in Japan HEIs.

(2) Review the previous literature that addresses issues experienced by students through the EMI/ETPs in Japan context.

(3) Introduce the concept of ICC and its four dimensions in the integrated intercultural communication competence model.

(4) Introduce the concept of challenge and eight factors of international students' success.

(5) Summarize the literature review.

2.1 Internationalization of higher education in non-native English-speaking countries

Higher education's internationalization is usually defined as "the process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of post-secondary education (Knight, 2011)". As English has become the primary language worldwide and highly connected to internationalization, higher education in non-native English-speaking countries takes priority to introduce English-medium education (so-called the Englishization of

higher education) as a means of approaching the internationalization trends (Galloway & Ruegg, 2020; Kirkpatrick, 2011; Rose & McKinley, 2018; SHIMAUCHI, 2018; Tsuneyoshi, 2005).

EMI programs were first offered in Europe in the 1980s, then widespread among European higher education institutions (Galloway & Ruegg, 2020). Wächter and Maiworm's (2014) report indicates some European higher education institutions gained over a 1000 percent rise of program numbers between 2001 and 2014 with implementing EMI at the graduate and undergraduate levels. Following this inevitable momentum, other Asia countries like Japan, Korea and China have established their own EMI policies, respectively (Aizawa & Rose, 2019; Galloway & Ruegg, 2020; Jon & Kim, 2011). Outside Asia and Europe, EMI can be found in South American and African universities (Hashimoto, 2018). According to the statistic from Ball and Lindsay (2013), English is used by half of the world's international student population, indicating the dominance of English as a shared language in the academic environment.

2.2 EMI and English-taught degree programs (ETPs) in Japan

To compete with European and the United States higher education institutions and recruit talented international students, reducing their barrier of studying in Japan, in the early 1980s, the national universities began to establish the ETPs at the graduate level with limited number and scope (Ninomiya et al., 2009). In light of Japan has been facing the increased pressure of shrinking high school graduates' population and lacking competitiveness with other countries' academic ranking, the Japanese government introduces and promotes EMI gradually at universities as a solution to attract more international students (Hashimoto, 2018).

In 2009, the well-funded Global 30(G30) Project was launched by MEXT (2009), which took an aggressive establishment of EMI among designated higher education institutions (Rose & McKinley, 2018). Government initiatives have prompted higher education institutions to establish their own EMI/ETPs on a significant scale. To date, MEXT (2018)'s data shows 42 percent of Japanese universities have implemented EMI courses at the undergraduate level and 36 percent have implemented at the graduate level. As for full-degree ETPs, the number is 5.2 percent at the undergraduate level and 16.2 percent at the graduate level. EMI/ETPs are more prevailing at the graduate level.

According to the definition from MEXT, EMI in Japan context refers to delivering the course content by using English solely without the purpose of language teaching or learning (MEXT,2015). However, EMI seems like a relatively broad concept in practice. Among the literature, EMI includes long-term and short-term study programs, compulsory and elective courses, as long as the classes are conducted in English. It also offers to both the undergraduates and graduates, with the degree or non-degree program. And when the EMI is mentioned in the research, its student body often refers to Japanese students (Brown, 2014). EMI courses commonly have been integrated into the previously existed Japanese-medium instruction (JMI) courses (Rakhshandehroo & Ivanova, 2020).

2.3 Four typical EMI/ETPs challenges in Japan

Promoting EMI in a non-English speaking country has generated many discussions about the challenges of implementation. EMI has been implemented in the European area for a much longer period. Thus, issues that arise in the European area have been discussed more thoroughly than in Japan as EMI in Japan is still in its early stage. Only some specific themes have been intensely investigated in the literature, such as the EMI implementation challenges. Tsuneyoshi (2005) first identified three challenges in a short-term EMI program in Japan: linguistic, cultural and structural challenges. Bradford (2016) further examined the structural challenges and refined them into two categories: institutional challenges and administrative & managerial challenges (see figure 2.3-1).

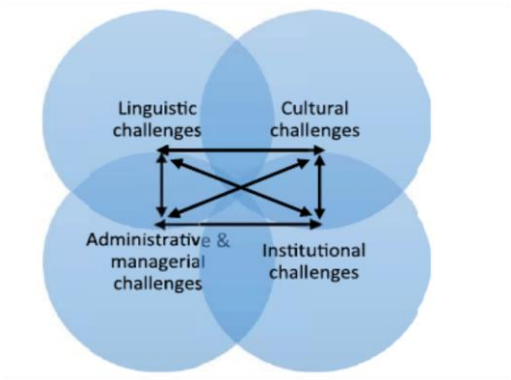

Figure 2.3-1 Typology of challenges facing the implementation of EMI (Bradford, 2016)

Most research concerned with implementation policies or strategies uses a top-down method at the undergraduate level, lacking the "bottom-up perspectives" (Rakhshandehroo & Ivanova, 2020). Besides, even at the undergraduate level, the research target usually only involves Japanese students. Most international students' experiences are only mentioned with rarely small space. This may be due to the EMI policy is geared more towards Japanese students to enhance their global competitiveness. Since inward-looking Japanese students are not so keen on study abroad, "internationalization at home" has become the main strategy for Japanese higher education to approach internationalization. Then the student body of the EMI program is often mentioned Japanese students (Brown, 2014). However, as one of the main stakeholders in the EMI/ETPs, especially in the full-degree ETP at the graduate level, international students' voices have been overlooked in the current literature. To date, few international students' on-campus learning experiences have been investigated.

2.4 Issues experienced by students through EMI/ETPs in Japan

Most EMI on-campus challenges experienced by students in considerable literature come from Japanese undergraduate students. The previous research has identified two primary issues students often experience in the EMI programs and courses: language challenges and cultural challenges (Ishikura, 2015). Heigham (2016) argues that linguistic challenges and cultural challenges mainly shape the EMI/ETPs' issues.

Despite challenges to the international students who participated in EMI/ETPs in Japan haven't been thoroughly researched yet, and few works can be found that discussed international students' issues specifically. However, since the ICC having a close relationship with language and culture, the already known students' faced issues were sorted out purposely and categorized as language challenges and cultural challenges.

2.4.1 Linguistic challenges

In most cases, students and teachers in the EMI class in Japan are the majority of the non-native English speakers from Asia; thus, the on-campus English is usually full of "Asian variety" or "Asian accented" (Haswell, 2017). It appears that English linguistic challenges are the most frequently seen issues when discussing the EMI/ETPs challenges in Japan context.

Limited language proficiency of students, professors and staff can cause linguistic issues for international students (Aizawa & Rose, 2019; Heigham, n.d.; Rakhshandehroo & Ivanova, 2020). Students' insufficient English language proficiency results in anxiety and frustration as they cannot participate in the discussion or contribute to the discussions (Murata et al., 2019). Insufficient English language proficiency of professors results in damaging the quality of EMI class and students are unsatisfied with their learning experiences (Heigham, n.d.).

In the multicultural EMI class, international students experience confused English varieties, inadequacy and other negative feelings when using English (Haswell, 2017; Murata et al., 2019). All the above leads to non-native English-speaking students' uncertainty feeling of understanding the EMI course. In Japan, students certainly need extra academic English skill support in the EMI programs (Bradford, 2013; Galloway & Ruegg, 2020; Ishikura, 2015).

2.4.2 Cultural challenges

In addition to language issues, cultural issues are another concerning theme in EMI/ETPs challenges regarding international students' learning experiences in Japan.

International students in EMI/ETPs are usually with limited Japanese language proficiency. Usually, they will receive some support training from the host institutions. However, international students tend to hide their original cultural characteristics and assimilate into Japanese society with support training like the Japanese language or social skills (Horie, 2017). However, international students faced cultural challenges that could be found as follows.

One of the most frequently discussed cultural challenges is the Dejima model. EMI settings created isolation between Japanese students and international students, especially in the full degree English-taught program (Shimauchi 2017). International students tend to form groups based on their nationality, language, ethnic or educational background (Heigham, n.d.). They have their own social cohort of similar cultural backgrounds friends without made any Japanese friends (Kunioshi & Nakakoji, n.d.). Such isolation also resulting in the difficulty of making friends with Japanese students (Rakhshandehroo & Ivanova, 2020). Thus, the lack of interactions between international and Japanese students bring segregation to the international student during their study period (Bradford, 2016; Kunioshi & Nakakoji, n.d.; Morita, 2012; Shimauchi, 2017).

Another culture-related challenge could be the different teaching and learning styles of the EMI courses (Jon & Kim, 2011; Tsuneyoshi, 2005). Students in the EMI classroom tend to sit quietly as the "culturally conditioned classroom behaviour" (Bradford, 2016). The passive one-way lecture style is an unpleasant experience for international students; it is challenging for non-native English-speaking students to listen to the lecture for a long time without a pause (Heigham, n.d.; Horie, 2017). Thus, comparing with their home education, international students experience classroom interaction differently in EMI/ETPs. When high-context culture background students sit together with low-context culture background students, they experience the course differently. Asian students considered the class style is discussion-based, while western students thought it lacks "American style" (Jon & Kim, 2011).

Monocultural challenges emerge during international students' on-campus life. The host institution's monocultural/monolingual administrative infrastructure hinders international students' success and affects their satisfaction with the EMI/ETPs (Hiratsuka, 2016; Rakhshandehroo & Ivanova, 2020).

2.5 Challenge in Flow theory

The above linguistic and cultural challenges in EMI/ETPs refer to all stakeholders' difficulties or issues. However, both linguistic and cultural issues in EMI/ETPs will not be entirely eliminated as long as the education environment is in Japan. For international students, ETP is a unique experience of studying abroad. Meanwhile, studying abroad requires students to balance their academic outcomes with acculturation into a new country (Manning, 2020). Studying abroad can be seen as an activity full of opportunities to improve oneself through various challenges. It also requires the ability of an individual to resolve different problems. From this perspective, studying abroad activities are in line with Csikszentmihalyi's specific definition of "challenge" in his Flow model (see Table 2.5-1).

Table 2.5-1 A list of various definitions of challenge.

Cambridge dictionary*	(the situation of being faced with) something that needs great mental or physical effort in order to done successfully and therefore tests a person's ability."

Flow Model	the opportunities perceived by the individual to meet demanding or overcome difficult situations(Csikszentmihalyi,1975, Csikszentmihalyi& Csikszentmihalyi,1992, Bricteux, Navarro, Ceja&Fuerst,2016).

*Source:https://dictionary.cambridge.org/zhs/%E8%AF%8D%E5%85%B8/%E8%8B%B1%E8%AF%AD/challenge

In the Flow model, the challenge is defined as "the opportunities perceived by the individual to meet demanding or overcome difficult situations" (Csikszentmihalyi,1975; Csikszentmihalyi& Csikszentmihalyi 1992, Bricteux, Navarro, Ceja& Fuerst, 2016). Another term, "skill," refers to the individual's perceived ability to deal with the problems (Csikszentmihalyi,1975; Bricteux, Navarro, Ceja& Fuerst, 2016).

In ETPs, international students need to perform their skills to meet the academic requirement and adjust themselves to the Japanese educational environment during study abroad. Flow mood is not necessarily caused in all activities, but tensions between skills and challenges in the flow model force people to improve their abilities in an activity (Gjesteland & Vos, 2019).

Besides, despite the content learning rather than the language learning outcomes being the priority in EMI/ETPs (Carty & Susser, 2014), Csikszentmihalyi's flow theory has been tested in foreign or second language learning (Egbert, 2004). Several foreign language scholars have repeatedly examined that study abroad can positively influence second language learning (Salisbury et al., 2013). It is also considered that studying abroad can significantly stretch one's intercultural competence, too (Salisbury et al., 2013). However, in this study, the EMI learning environment offers a particular context to investigate the relationship between intercultural communication competence and perceived challenge.

Based on the definition of "challenge" in the Flow theory, some specific challenges raised in previous research can be extracted and transformed into "the opportunities perceived by the individual to meet demanding or overcome difficult situations" (Csikszentmihalyi,1975; Csikszentmihalyi& Csikszentmihalyi 1992, Bricteux, Navarro, Ceja& Fuerst, 2016). As ICC values the relationship between language and culture (Byram, 2012), seven related items extracted from previous studies are divided into language-related and culture-related challenge categories in this study (Table 2.5-2).

Table 2.5-2 Comparison of the challenge in EMI

Category	Challenge (difficulty or issues)	Challenge (Flow model)
Language-related	"Non-native English speaking students have difficulty in coping with content presented in English" (Bradford, 2013).	To work harder to improve language proficiency.
	Speaking English with anxiety and frustration results in not participate in or contribute to the discussion (Murata et al., 2019).	To improve communication skills to communicate effectively with other students.
	Insufficient academic skills are exhibited, such as written English skills, essay organization skills (Aizawa & Rose, 2019).	To look for extra academic support to overcome academic disadvantages.
Culture-related	EMI course's different teaching and learning style. (Jon & Kim, 2011; Tsuneyoshi, 2005).	To change the past learning style to adjust to the different learning environment/learning style.
	It is challenging for non-native English speaking students to listen to the lecture for a long time without a pause (Horie, 2017).	To pay extra effort to understand the learning materials.
	EMI creates isolation between student groups(SHIMAUCHI, 2018). International students tend to form groups based on their nationality, language, ethnic or educational background(Heigham, n.d.).	To make friends with other countries' people to establish social connections in the host country.

After transforming the challenge from "issues," "difficulties" to "perceived opportunities," it is possible to link the ICC skill level with the perceived challenge by students through their EMI learning experience. This study's first step focuses on the relationship between international graduate students' ICC level and their perceptions of being motivated by on-campus EMI activities. Furthermore, this study investigates the effect of such skill-challenge balance on international graduate students' perceived educational success in Japan.

2.6 Language-related skills in EMI/ETPs

2.6.1 Language proficiency

Considering English language proficiency always in the spotlight in EMI or ETPs, some research has been conducted to investigate the relationship between non-native English-speaking students' English proficiency and their perceived difficulties.

For example, Evans and Morrison (2011) examined the language-related challenges of EMI in Hong Kong. Further, Aizawa and Rose (2019) used the adapted questionnaire from Evans and Morrison (2011) to examine the relationship between EMI challenges and students' four language skills. The result shows students with higher English proficiency perceived fewer EMI challenges. However, Mckinley's (2018) research work suggests that even for students with higher English proficiency, expressing their thought in the academic task is still challenging. This result is in line with another study conducted by Aizawa&Rose(2019) with Japanese students, which indicated all level English proficiency students experienced difficulties in EMI class. Latter, in Rose et.al's (2019) study, they use the TOEIC score as the standardized measurement to examine the relationship between Japanese undergraduate students' English proficiency and content test score, showing the statistically significant relationship between English proficiency and course score. What's more, the debate appears as students perceive lecturers' poor language proficiency damage their learning result while the professors argue students' poor language proficiency leads to their unsuccessful learning (Galloway et al., 2017).

Despite English proficiency is frequently discussed in the literature; however, there is no clear threshold of English proficiency in Japan for joining the EMI/ETPs (Bradford, 2019). Bradford (2012) argues that educators may lack the intercultural knowledge to conduct the EMI classes successfully rather than language proficiency. She recently argues that many previous studies have stressed the importance of intercultural communicative competence in EMI teaching (Bradford, 2019). This conclusion is in line with another earlier study. Whitsed and Volet (2011) argue that compared with the intercultural dimensions stressed in Anglo-European literature, Japanese higher education lacks the emphasis on fostering intercultural development, both at institutional and individual levels.

2.6.2 **Intercultural communicative/communication competence（ICC）**

There is no common-used definition for intercultural communication/communicative competence. ICC refers to using a foreign language to properly communicate with others from different cultural backgrounds, which values the relationship between language and culture (Byram, 2012). “ICC is a complex of abilities need to perform effectively and appropriately when interacting with others who are linguistically and culturally different from oneself” (Fantini 2006: 12). Research concerned with intercultural communication is critical to many globalization theories, but people involved in intercultural communication can hardly interact well as they want (Matveev, 2002). Students experience challenges intensively when contacting different cultures, and their ethnocentric can prevent them from being intercultural individuals (Ryan, 2012). There is no doubt that ICC plays a critical role in a multicultural environment in the global context, such as the EMI classroom or workplace. Around the 1970s, two Japanese scholars Masao Kunihiro and Mitsuko Saito have already recognized that effective intercultural communication is more important than foreign language proficiency (Martin et al., 2012).

However, there is no definite assessment tool to measure the ICC. According to Fantini (2012), there are around100 kinds of tools to assess the ICC with numerous descriptive items. However, despite a large selection of assessment tools, some are not free and charge considerable money, such as the intercultural development inventory (IDI) tool. In this study, a comprehensive, low-cost and feasible assessment tool is needed. Therefore, Matveev’s (2002) integrated intercultural communication competence model is applied.

2.7 The Integrated Intercultural Communication Competence Model

The Integrated Intercultural Communication Competence Model is an overview model of the overseas performance model, the intercultural adjustment model, and the intercultural communication competence model. These three models account for most space in the intercultural communication literature (Matveev, 2002). Then, each model contains different identified critical factors in intercultural communication, with different situations or dimensions. Finally, Matveev’s integrated intercultural communication competence model can examine an individual’s ICC from four dimensions: interpersonal skill, team effectiveness, cultural uncertainty and cultural empathy. Different elements are contained in each dimension. The individual is viewed as “the basic unit in

the organization(Matveev, 2002); this model was applied in Mateev's research to examine managers' ICC in multicultural teams.

Similarly, international students belong to the multicultural laboratory or need to participate in classes with other multicultural background classmates. It is inevitable for international students involved in a multicultural team, for temporary (taking classes), or a permanent period (assigned laboratory). This model is applied in Abdul Qahar Sarwari and Mohammad Nubli Abdul Wahad's research to examine international students' ICC in Malaysia university. Thus, this model is considered to be applied in this research.

2.7.1 **The four dimensions of the integrated ICC model**

The integrated ICC model consists of four dimensions: interpersonal skill, team effectiveness, cultural uncertainty, and cultural empathy. The interpersonal skill dimension examines the individual's ability to conduct effective interpersonal communication with people from different cultural backgrounds. The team effectiveness dimension examines individuals' ability to work effectively with other team members; The cultural uncertainty dimension examines individuals' ability to deal with the uncertainty caused by cultural differences. The cultural empathy dimension examines individuals' ability to behave appropriately in a multicultural environment (Matveev, 2002). Based on these four dimensions of the integrated ICC model, these four dimensions are transformed as the required skills of students in my research (see figure 2.7-1).

Interpersonal Skills: Enable people to conduct successful interpersonal interactions in a multicultural environment, to obtain necessary knowledge on different social and cultural value, and to admire differences.

Team Effectiveness: Understanding and acknowledging team roles and goals, sharing information, involving in team decision-making, receiving, giving and using helpful feedbacks, managing the probable conflicts, and respecting team members.

Cultural Uncertainty: The ability to deal with cultural ambiguities, being patient towards differences, being open towards social and cultural differences, and being flexible towards differences.

Cultural Empathy: The ability of looking to the world from different cultural viewpoints, inquiry of different cultural values,norms and beliefs, and appreciation of different lifestyles(Cui&Awa 1992; Koester&Olebe, 1988;Mateeve 2002)

Figure 2.7-1 The four dimensions of Integrated Intercultural Communication Competence Model (Matveev, 2002)

2.8 International student success in this study

In this study, the main research objective is to investigate students' skill-challenge balance level's effect on their perceived success through EMI learning experiences. Many previous studies have examined cognitive indicators (GPA, time to degree completion, etc.) at the individual level regarding student success. Using cognitive scores as a predictor to measure student success is inadequate (Sanford, 2009). On the other hand, Selacek (2004) has identified eight noncognitive variables that can predict international students' academic success.

However, for this study, academic success is a too narrow indicator to apply. And academic success is not the same as success. Thus, in this study, a comprehensive, multi-faced success indicator tool, preferably for the international student, is necessary.

Smith (2019) identifies eight factors that will affect international student success (see Figure 2.8-1). These factors are divided into academic and non-academic types. According to Smith (2019), academic factors include language challenges, culture-related learning differences, exclusion from group discussions, academic support issues and adjustment to a new education system. At the same time, non-academic factors include social issues, cultural adjustment and finances. Although Smith's work was conducted in North America, most elements can be generalized and applied in this study.

For academic factors, due to Smith's research background is in North America, language proficiency, namely English proficiency, is a critical factor influencing student success as it directly related to all learning activities. Culture-related learning differences refer to international students with different cultural background perceived learning environment in the host country differently. Some international students will experience student-centered pedagogy in North America, which is quite different from teacher-centered ones in their own countries. Similarly, the educational system in North America is another difficulty. Western learning style and pedagogy are more student-centered (Hofstede, 1997). Thus, extra academic support is necessary for international student success. For non-academic factors, cultural adjustment can impact all aspects of life in the host country, and social interactions support international students' mental health. The financial situation can also affect student success. However, in this study, the financial factor is far away from educational success regarding students' ICC. The finances factor was excluded

from this study. Similarly, considering that eastern education systems are teacher-centered (Geert et al., 2010), adjustment to the new education system factor was also excluded from this study. Six elements are chosen to be applied in this study (see Table2.8-1).

Figure 2.8-1 Factors influencing international student success (Smith, 2020)

Table 2.8-1 Success factors of the international student

Category	Factor
Academic	Proficiency improvement
	Engage in group discussion
	Adjustment to cultural-related learning differences
	Adequate academic support
Non-academic	Cultural adjustment
	Social connections/Social activities

2.9 Summary

In non-native English-speaking countries, HEIs have taken great effort into Englishlization to pursuit internationalization. It is because “English has become the academic lingua franca” (Kirkpatrick, 2011), and “internationalization means English-medium higher education” (Phillipson & Skutnabb-Kangas, 2015). Japan, as a typical advanced non-English speaking country, is not an exception in this trend. The number of EMI/ETPs has been significantly driven by the G30 project (Rose & McKinley, 2018). However, adapting EMI/ETPs into Japanese local education system settings brings various challenges in its implementation. According to Bradford (2016), EMI challenges can be categorized into four categories. These four categories are linguistic challenges, cultural challenges, institutional challenges and administrative & managerial

challenges. Most of the studies concerned with EMI/ETPs' challenges are top-down method studies with specific groups of students, in most cases -- the Japanese undergraduate students.

The overview of issues experienced by students through EMI/ETPs in the literature shows the gap between reality and image. Those issues increase difficulties for students learning through EMI/ETPs in Japan. Unlike Japanese students who mainly face linguistic challenges in EMI class, international students face double cultural challenges. However, relatively little research has focused on this majority but minority student group for now.

English proficiency has been a popular indicator to examine the relationship between students' language proficiency and perceived learning challenges in EMI/ETPs. However, in existing literature, the relationship between English proficiency level and students' perceived challenges is still debatable. It seems that English proficiency is not the only linguistic indicator of assessment. Unlike Western countries' counterparts, the intercultural dimension topic is hardly seen in Japan HE (Whitsed & Volet, 2011). Besides discussing English proficiency, several recent studies have pointed out the importance of intercultural competence in Japanese HEIs and EMI/ETPs classes.

Matveev's integrated intercultural communication competence Model is an integrated model modified based on three intercultural communication models. Therefore, this model is suitable for this study to assess the ICC of the international student.

3 Research Method

The research method section includes participants and the research instrument.

3.1 Target university setting of this study

Japan Advanced institution of Science and Technology (JAIST) is a national postgraduate university in Japan, which was established in 1990. It consists of three schools, namely materials science, information science and knowledge science. Like many other HEIs pursuing internationalization, JAIST has EMI/ETPs in both of the three schools. Course in curricular with the "E" mark means EMI course. International students can get their degree by only taking EMI courses and writing an English thesis/dissertation. By the 1st May of 2020, the total number of students is 1218, and the number of international students in JAIST is 530. 348 of 530 international students are Chinese students, accounting for 65.7% of the international student body (Source: https://www.jaist.ac.jp/about/outline/student.html).

3.2 Participants

This study uses a case study approach as the research method. I applied convenience sampling and data collection approach to collect the data. One hundred thirteen international graduate students who participated in this study are studying in JAIST from three different schools. Seventy-three of them are learning in JAIST through EMI. Forty of them are learning through JMI. Sixty-seven of them were males and forty-six were females. Data was gathered through an online survey in the form of google form. Table 3.2-1 illustrates the composition of participants based on their answers through the online questionnaire.

Table 3.2-1 Demographics of the survey participants

Category	item	Frequency	Percentage (%)
Gender	Female	46	40.71
	Male	67	59.29
Grade	D1	10	8.85

Category	item	Frequency	Percentage (%)
	D2	17	15.04
	D3	15	13.27
	M1	40	35.40
	M2&Mα	30	26.55
	Postgraduate/researcher	1	0.88
Age	20-24	33	29.20
	25-29	58	51.33
	30-34	14	12.39
	35-39	7	6.19
	40~	1	0.88
Length of stay in Japan	12-24 Months	28	24.78
	25-48 Months	56	49.56
	Less than one year	12	10.62
	More than four years	17	15.04
Sum		113	100.0

3.3 Instrument

In this study, after four demographic questions, two types of questionnaires were applied. Eleven question items are adapted from Matveev's (2002) Intercultural Communication Competence Questionnaire (ICCQ). These eleven items were used to measure participants' intercultural communication competence in the first part of the questionnaire. Then, the perceived challenge and success questionnaire includes twelve question items. Six of them adapted from previous research's content to measure students' perceived challenge level through EMI learning experiences. Another six question items are adapted from Smith's (2019) work on international student success measure students' perceived success level through EMI learning experiences. A

total of twenty-three items in this combined questionnaire were designed with Linkert Scale. Each question has five options from (Strongly disagree) to (Strongly agree), ranging the value from 1 to 5 (see Appendix A and Appendix B).

Table 3.3-1 Each factors' mean scores of the individual participant

Items	N of samples	Min	Max	Mean	Std. Deviation	Median
Interpersonal skill (ICC)	113	1.500	5.000	3.586	0.820	3.500
Team effectiveness (ICC)	113	1.000	5.000	4.088	0.830	4.000
Cultural uncertainty (ICC)	113	2.000	5.000	3.788	0.796	4.000
Cultural empathy (ICC)	113	2.000	5.000	3.920	0.698	4.000
Language learning (Challenge)	113	1.000	5.000	4.159	1.065	5.000
Communication (Challenge)	113	1.000	5.000	4.159	1.014	4.000
Learning style (Challenge)	113	1.000	5.000	3.805	1.016	4.000
Learning effort (Challenge)	113	1.000	5.000	3.788	1.048	4.000
Academic support (Challenge)	113	1.000	5.000	3.832	1.085	4.000
Social activity (Challenge)	113	1.000	5.000	3.752	0.987	4.000
Language proficiency (success)	113	1.000	5.000	3.770	1.027	4.000
Engagement (success)	113	1.000	5.000	3.531	1.127	4.000
Learning adjustment (success)	113	1.000	5.000	3.796	0.857	4.000
Academic support (success)	113	1.000	5.000	3.770	0.973	4.000
Cultural adjustment (success)	113	1.000	5.000	3.522	1.045	4.000
Social Connections (success)	113	1.000	5.000	3.664	1.049	4.000

4 Data collection

The data collection started from 19th January 2021 to 23rd January 2021. The English version questionnaire data was collected by sending a mass mailing to students' on-campus email addresses in the form of a Google questionnaire, and thirty-eight English version responses were collected. The Chinese version questionnaire was made based on the English version and translated word by word. The Chinese version questionnaire data was collected by distributing it to a Wechat group of Chinese students studying at JAIST in a Google questionnaire. Using a Google questionnaire, Chinese students studying at JAIST through online classes but were physically present in China were excluded. The total international student group response rate is 21.32%; the Chinese international student group's response rate is 21.55%.

4.1 Checking reliability

In this study, the Cronbach's alphas value of the adapted questionnaire was initially measured to examine its reliability. This quantitative instrument's reliability was tested using data from 113 questionnaires answered by whole participants (n=113) in JAIST. The Cronbach's alphas value of adapted ICCQ was .875. The Cronbach's alphas value of the adapted perceived challenge questionnaire is .800. The Cronbach's alphas value of the perceived success questionnaire was .805 (see Table 4.1-1)**.**

Table 4.1-1 Cronbach's alphas value of Adapted questionnaire's each dimension

Dimension	**items**	**Cronbach α**
ICC	11	0.875
Perceived challenge	6	0.800
Perceived success	6	0.805

5 Data analysis

This study was conducted to identify the relationship between ICC and perceived challenge as well as the ICC-challenge balance's effect on perceived success among international graduate students of a national postgraduate university in Japan. Data analysis was performed by using IBM SPSS 26 to find the result of each objective.

5.1 The relationship between international students' ICC and their perceived challenge

Based on the collected data, initially, international students were divided into three groups: they were the EMI group full of Chinese graduate students (n=35), the EMI group of international graduate students of other countries (n=38), JMI group of Chinese graduate students (n=40). The reason for grouping like this is that no correlation between factors was found when analyzing the bivariate correlation test for all students (n=113). However, when the students were grouped, different correlations between the factors emerged in different groups. Afterwards, the students will be grouped by gender, grade and age, as well as by the length of stay time in Japan. In these different groups, different correlations between the factors emerged, too.

5.1.1 The relationship between the ICC and the perceived challenges in the EMI group of Chinese graduate students (n=35)

Table 5.1-1 Pearson Correlation between the factors of ICC and perceived challenges in the EMI group full of Chinese graduate students (n=35)

	v5_language	v6_communication	v7_learning_style	v8_learning_effort	v9_academic_support	v10_social_activity
v1_interpersonal_skill	0.436**	0.277	0.425*	-0.007	0.119	0.310
v2_team_effectiveness	0.556**	0.473**	0.506**	0.180	0.242	0.259
v3_cultural_uncertainty	0.587**	0.273	0.296	0.113	0.145	0.312

	v5_language	v6_communication	v7_learning_style	v8_learning_effort	v9_academic_support	v10_social_activity
v4_cultural_empathy	0.486**	0.325	0.237	0.053	0.133	0.337*

* $p<0.05$ ** $p<0.01$

Table 5.1-1 illustrates the bivariate correlation test result of the EMI group consists of Chinese graduate students (n=35). We can see both four ICC factors were statistically significant for the perceived challenge of English language learning (at p<0.01 level). Interpersonal skill and cultural empathy were statistically significant for the perceived challenge of learning style and social activity (at p<0.05 level). Besides, team effectiveness was statistically significant for the perceived challenge of communication and learning style (at p<0.01 level).

5.1.2 The relationship between the ICC and the perceived challenges in the JMI group of Chinese graduate students (n=40)

Table 5.1-2 Pearson Correlation between the factors of ICC and perceived challenges in the JMI group of Chinese graduate students (n=40)

	v5_language	v6_communication	v7_learning_style	v8_learning_effort	v9_academic_support	v10_social_activity
v1_interpersonal_skill	-0.146	0.091	0.125	-0.086	0.008	0.200
v2_team_effectiveness	0.264	0.106	0.090	0.056	0.097	0.142
v3_cultural_uncertainty	0.117	0.365*	0.062	0.098	-0.008	0.156
v4_cultural_empathy	0.140	0.405**	-0.028	-0.164	-0.220	0.043

* $p<0.05$ ** $p<0.01$

Table 5.1-2 illustrates the bivariate correlation test result of the JMI group consists of Chinese graduate students (n=40). We can see few ICC factors were statistically significant for the perceived challenge. Only the cultural uncertainty was statistically significant for the perceived communication challenge (at p<0.05 level). Besides, cultural empathy was statistically significant for the perceived communication challenge (at p<0.01 level).

5.1.3 The relationship between the ICC and the perceived challenge in the EMI group of other international graduate students (n=38)

Table 5.1-3 Pearson Correlation between the factors of ICC and perceived challenges in the EMI group of other international graduate students

	v5_language	v6_communication	v7_learning_style	v8_learning_effort	v9_academic_support	v10_social_activity
v1_interpersonal_skill	-0.076	-0.341*	-0.259	-0.051	-0.434**	-0.221
v2_team_effectiveness	0.137	0.012	-0.013	-0.156	-0.275	0.076
v3_cultural_uncertainty	-0.287	-0.422**	-0.071	-0.115	-0.364*	-0.333*
v4_cultural_empathy	-0.203	-0.301	0.216	0.159	-0.167	0.122

* $p<0.05$ ** $p<0.01$

Table 5.1-3 illustrates the bivariate correlation test result of the EMI group consists of international graduate students except for Chinese nationality (n=38). However, compared to the Chinese EMI learning student group, we can see a wholly reversed situation with this EMI learning group. There was a strong negative correlation between the interpersonal skill factor and perceived communication challenge (at p<0.05 level) and academic support challenge (at p<0.01 level). Similarly, there was a statistically significant negative correlation between the cultural uncertainty factor and perceived communication challenge (at p<0.01 level). There was a strong negative

correlation between cultural uncertainty and academic support (at p<0.05 level), social activity (at p<0.05 level).

5.1.4 The relationship between ICC and perceived challenges when grouped by gender

By grouping international students into different gender groups, correlations between different ICC factors and perceived challenges can also be found.

Table 5.1-4 Pearson Correlation between the factors of ICC and perceived challenges in male (n=67) international graduate student group

	v5_language	v6_communication	v7_learning_style	v8_learning_effort	v9_academic_support	v10_social_activity
v1_interpersonal_skill	-0.048	-0.111	-0.045	-0.147	-0.308*	0.021
v2_team_effectiveness	0.247*	0.182	0.110	-0.151	-0.145	0.099
v3_cultural_uncertainty	-0.049	0.018	0.090	-0.021	-0.219	0.207
v4_cultural_empathy	-0.018	0.045	0.134	-0.007	-0.127	0.214

* $p<0.05$ ** $p<0.01$

Table 5.1-4 illustrates the bivariate correlation test result of the male international student group (n=67). There was a strong negative correlation between the interpersonal skill factor and perceived academic challenge (at p<0.05 level). The team effectiveness was statistically significant for the perceived challenge of language learning (at p<0.05 level).

Table 5.1-5 Pearson Correlation between the factors of ICC and perceived challenges in female (n=46) international graduate student group

	v5_langu age	v6_communi cation	v7_learning _style	v8_learning_ effort	v9_academic_s upport	v10_social_a ctivity
v1_interpersonal _skill	-0.340*	-0.350*	-0.035	-0.276	-0.201	0.190
v2_team_effectiv eness	0.179	0.158	0.257	0.245	0.155	0.177
v3_cultural_unce rtainty	-0.139	-0.227	-0.140	-0.185	-0.150	-0.185
v4_cultural_emp athy	0.125	0.125	0.077	0.028	-0.052	0.021

* $p<0.05$ ** $p<0.01$

Table 5.1-5 illustrates the bivariate correlation test result of the female international student group (n=46). There was a strong negative correlation between the interpersonal skill factor and perceived language learning challenge, communication challenge (at p<0.05 level).

However, when grouped by gender, fewer correlations were presented.

5.1.5 The relationship between ICC and perceived challenges when grouped by the length of stay in Japan

By grouping international students into different lengths of stay in Japan groups, correlations between different ICC factors and perceived challenges can also be found.

Table 5.1-6 Pearson Correlation between the factors of ICC and perceived challenges in international graduate student group which stay in Japan less than two years (n=40)

	v5_langu age	v6_communi cation	v7_learning _style	v8_learning_ effort	v9_academic_s upport	v10_social_a ctivity
v1_interpersonal _skill	-0.172	-0.121	0.136	-0.181	-0.138	-0.136
v2_team_effectiv eness	0.239	0.250	0.242	0.209	0.176	0.165

	v5_language	v6_communication	v7_learning_style	v8_learning_effort	v9_academic_support	v10_social_activity
v3_cultural_uncertainty	-0.027	-0.032	0.048	-0.075	0.042	-0.013
v4_cultural_empathy	-0.010	0.026	0.080	0.044	0.048	0.155

* $p<0.05$ ** $p<0.01$

Table 5.1-6 illustrates the bivariate correlation test result of the female international student group (n=40). Surprisingly, there was no correlation between the ICC factors and the perceived challenge.

Table 5.1-7 Pearson Correlation between the factors of ICC and perceived challenge in international graduate student group which stay in Japan more than two years (n=73)

	v5_language	v6_communication	v7_learning_style	v8_learning_effort	v9_academic_support	v10_social_activity
v1_interpersonal_skill	-0.110	-0.209	-0.076	-0.136	-0.270*	0.197
v2_team_effectiveness	0.260*	0.153	0.179	-0.044	-0.083	0.154
v3_cultural_uncertainty	-0.061	-0.080	0.030	-0.009	-0.260*	0.134
v4_cultural_empathy	0.097	0.104	0.178	0.011	-0.168	0.173

* $p<0.05$ ** $p<0.01$

Table 5.1-7 illustrates the bivariate correlation test result of the female international student group (n=73). We can see there was a strong negative correlation between the interpersonal skill factor and perceived academic support challenge (at $p<0.05$ level). There was also a strong negative correlation between cultural uncertainty and perceived academic support challenge (at $p<0.05$ level). A positive correlation between team effectiveness and perceived language learning can be found at $p<0.05$ level.

When grouped by the length of stay in Japan, no correlation was presented for the group that stayed in Japan for less than two years. However, both positive and negative correlations were presented for the group that stayed in Japan for over two years.

5.1.6 The relationship between ICC and perceived challenges when grouped by grade

By grouping international students into different grade groups, correlations between different ICC factors and perceived challenges can also be found.

Table 5.1-8 Pearson Correlation between the factors of ICC and perceived challenge in doctoral student group (n=34)

	v5_language	v6_communication	v7_learning_style	v8_learning_effort	v9_academic_support	v10_social_activity
v1_interpersonal_skill	-0.043	-0.238	-0.004	-0.238	-0.204	0.098
v2_team_effectiveness	0.158	-0.067	0.044	-0.024	-0.177	0.180
v3_cultural_uncertainty	-0.070	-0.237	0.112	-0.022	-0.208	0.008
v4_cultural_empathy	0.025	-0.109	0.288	0.195	0.036	0.254

* $p<0.05$ ** $p<0.01$

Table 5.1-8 illustrates the bivariate correlation test result of the doctoral international student group (n=34), including one postgraduate/researcher). Surprisingly, there was no correlation between the ICC factors and the perceived challenge.

Table 5.1-9 Pearson Correlation between the factors of ICC and perceived challenge in master student group (n=79)

	v5_language	v6_communication	v7_learning_style	v8_learning_effort	v9_academic_support	v10_social_activity
v1_interpersonal_skill	-0.054	-0.013	0.184	-0.077	-0.126	0.108
v2_team_effectiveness	0.319**	0.400**	0.325**	0.080	0.186	0.148
v3_cultural_uncertainty	0.057	0.133	0.111	-0.015	-0.005	0.114
v4_cultural_empathy	0.128	0.240*	0.093	-0.025	-0.101	0.122

* $p<0.05$ ** $p<0.01$

Table 5.1-9 illustrates the bivariate correlation test result of the master international student group (n=79). However, unlike the doctoral student group, we can see team effectiveness was statistically significant for the perceived challenge of language learning, communication, and learning style (at p<0.01 level). Cultural empathy had a strong correlation with perceived communication challenge (at p<0.05 level).

When grouped by grade, no correlation was presented for the doctoral student group. However, strong positive correlations were presented for the master student group.

5.1.7 **The relationship between ICC and perceived challenges when grouped by age**

By grouping international students into different age groups, correlations between different ICC factors and perceived challenges can also be found.

Table 5.1-10 Pearson Correlation between the factors of ICC and perceived challenge in the group with 25-29 years old student (n=58)

	v5_language	v6_communication	v7_learning_style	v8_learning_effort	v9_academic_support	v10_social_activity
v1_interpersonal_skill	-0.074	-0.173	0.034	-0.360**	-0.116	0.138

	v5_language	v6_communication	v7_learning_style	v8_learning_effort	v9_academic_support	v10_social_activity
v2_team_effectiveness	0.457**	0.294*	0.238	0.074	0.152	0.178
v3_cultural_uncertainty	0.077	-0.043	0.130	-0.046	-0.031	0.021
v4_cultural_empathy	0.294*	0.098	0.336**	0.115	0.201	0.189

* $p<0.05$ ** $p<0.01$

Table 5.1-10 illustrates the bivariate correlation test result of the 25-29 years old international student group (n=58). There was a significant negative correlation between the interpersonal skill factor and perceived learning effort challenge (at p<0.01 level). Team effectiveness had a strong correlation with perceived language learning challenge (at p<0.01 level) and communication challenge (at p<0.05 level). Cultural empathy had a significant correlation with perceived learning style challenge (at p<0.01 level) and language learning challenge (at p<0.05 level).

Table 5.1-11 Pearson Correlation between the factors of ICC and perceived challenge in the group with 20-24 years old student (n=33)

	v5_language	v6_communication	v7_learning_style	v8_learning_effort	v9_academic_support	v10_social_activity
v1_interpersonal_skill	-0.116	-0.010	0.052	0.202	-0.223	0.087
v2_team_effectiveness	0.217	0.379*	0.251	0.145	0.093	0.285
v3_cultural_uncertainty	-0.126	0.068	0.044	0.074	-0.029	0.212
v4_cultural_empathy	-0.074	0.223	-0.119	-0.032	-0.206	0.166

* $p<0.05$ ** $p<0.01$

Table 5.1-11 illustrates the bivariate correlation test result of the 20-24 years old international student group (n=33). Only team effectiveness strongly positive correlates with the perceived communication challenge (at p<0.05 level).

Table 5.1-12 Pearson Correlation between the factors of ICC and perceived challenge in the group with students over 30 years old (n=22)

	v5_language	v6_communication	v7_learning_style	v8_learning_effort	v9_academic_support	v10_social_activity
v1_interpersonal_skill	-0.184	-0.494*	-0.140	-0.254	-0.493*	-0.172
v2_team_effectiveness	-0.126	-0.456*	-0.087	-0.224	-0.541**	-0.256
v3_cultural_uncertainty	-0.174	-0.357	-0.135	-0.300	-0.510*	-0.173
v4_cultural_empathy	-0.145	-0.199	0.168	0.039	-0.373	0.036

* $p<0.05$ ** $p<0.01$

Table 5.1-12 illustrates the bivariate correlation test result of over 30 years old international student group (n=22). There was a significant negative correlation between the interpersonal skill factor and perceived communication and academic support challenge (at p<0.05 level). Team effectiveness has a significant negative correlation with the perceived academic challenge (at p<0.01 level) and communication challenge (at p<0.05 level). Cultural uncertainty negatively correlates with the perceived academic support challenge (at p<0.05 level).

When grouped by age, only one correlation was presented for the 20-24 years old student group. However, positive correlations were more often presented for the 25-29 years old student group, while negative correlations were more often presented for the over 30 years old student group.

5.2 The effect of the balance between ICC and perceived challenge on perceived success

In this section, the ICC-challenge balance of whole international students and the corresponding perceived successful results would be presented. Then, based on different grouping criteria, each group's ICC-challenge balance and their perceived success will be presented, respectively. The ICC levels and perceived challenge level of each international student were calculated. The mean score of students' ICC is 3.78, while the mean score of their perceived challenge is 3.92. The overall quadrant distribution of students' ICC and perceived challenge was obtained using the mean scores as the horizontal and vertical coordinates. Afterward, each boxplot was processed to compare the perceived success of H-H, H-L, L-H, and L-L four subgroups. Finally, the perceived success of H-H, H-L, L-H, and L-L four subgroups were illustrated based on different gender, grade, age, as well as the length of stay in Japan.

5.2.1 The whole picture of ICC-Challenge balance's effect on perceived success

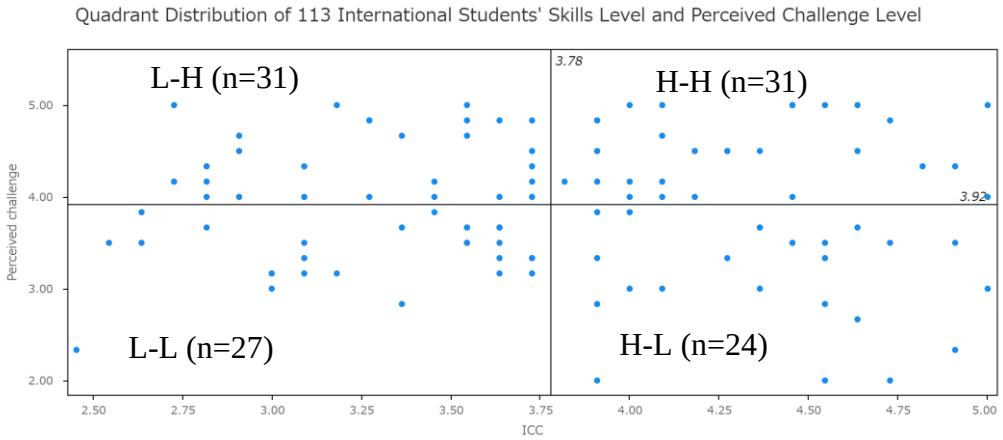

Figure 5.2-1 Quadrant distribution of 113 international students' ICC level and perceived challenge level

The quadrant distribution of 113 international students' ICC level and the perceived challenge level is shown in figure 5.2-1. The two quadrants with the highest number of individuals, 31 in each, were High-ICC&High-challenge (H-H) and Low-ICC&High-challenge (L-H) quadrants. It was followed by the Low-ICC&Low-challenge (L-L) quadrant with 27 individuals and the High-ICC&Low-challenge (H-L) quadrant with 24 individuals.

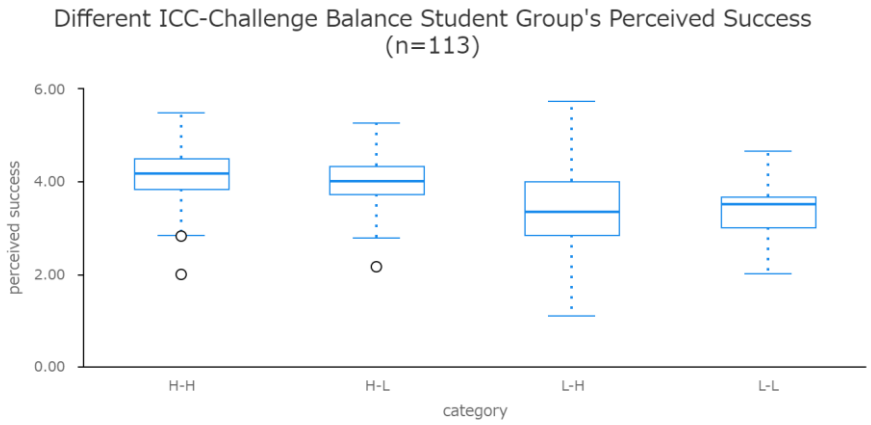

Figure 5.2-2 Different ICC-challenge balance student group's perceived success

After exporting the different ICC-challenge and the corresponding perceived success values of each individual (n=113) as the box plots (see figure 5.2-2), it can be seen that the H-H subgroup had the highest degree of perceived success. The degree of perceived success was gradually decreased in the order of H-L, L-H, L-L. Both the H-H, H-L, and the L-L subgroup showed less fluctuation in the degree of perceived success. But both H-H and H-L subgroups showed the outliers (2 in H-H, 1 in H-L). However, students in the L-H subgroup had a severe perceived success range than the other three subgroups. Besides, most students in the L-H subgroup perceived their success at a lower level than the other three subgroups. Students in the L-L subgroup had the lowest degree of perceived success, but most students in this subgroup tended to perceive their success higher than the other three subgroups' students did.

5.2.2 **ICC-Challenge balance's effect on perceived success in Chinese graduate student group (learning through EMI)**

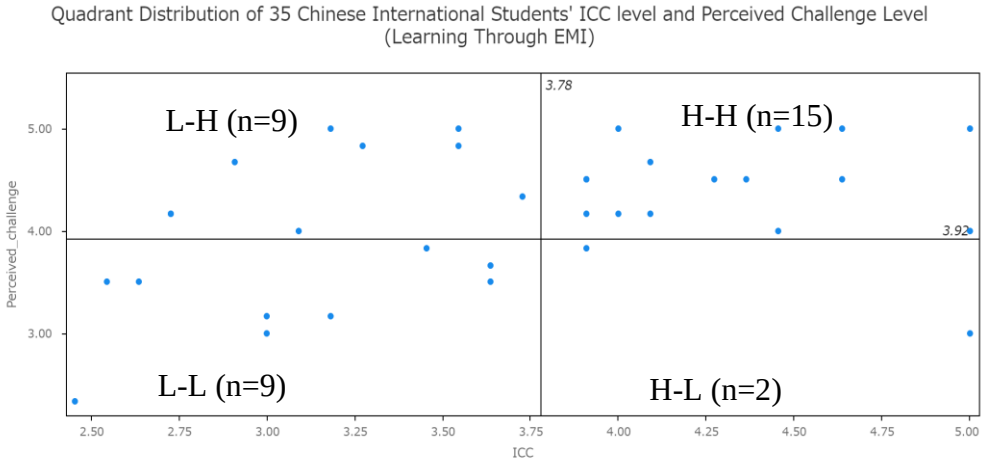

Figure 5.2-3 Quadrant distribution of 35 international students' ICC level and perceived challenge level

The quadrant distribution of 35 Chinese students' ICC level and the perceived challenge level is shown in figure 5.2-3. The highest number of people in the H-H quadrant was 15. The two quadrants with the same second-highest number of individuals, 9 in each, were L-H and L-L quadrants. There were only two individuals in the H-L quadrant.

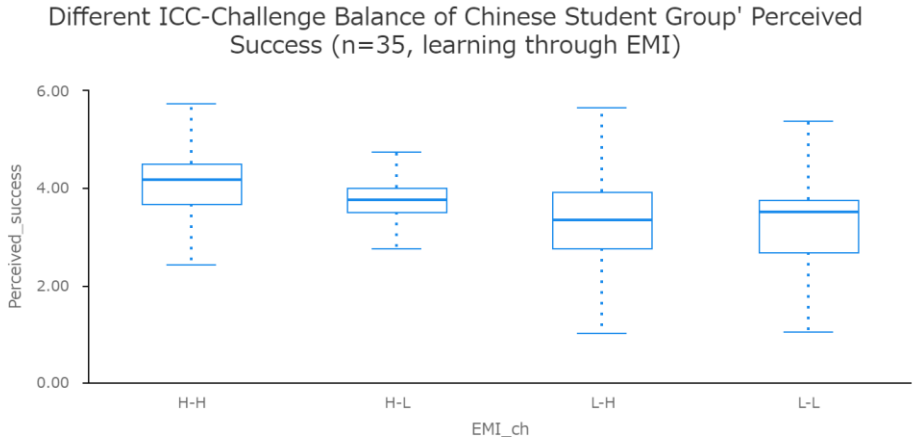

Figure 5.2-4 Learning through EMI Chinese international student group's ICC-challenge balance and perceived success

The different ICC-challenge and corresponding perceived success of Chinese students studying through EMI were exported as box plots (see figure5.2-4). It can be seen that the H-H subgroup had the highest degree of perceived success. And still, students in the L-H subgroup had a severe perceived success range than the other three subgroups. Students in the L-L subgroup have the lowest degree of perceived success, but most students in this subgroup likely tended to perceive their success higher than the other three subgroups' students did.

5.2.3 ICC-Challenge balance's effect on perceived success in Chinese graduate student group (learning through JMI)

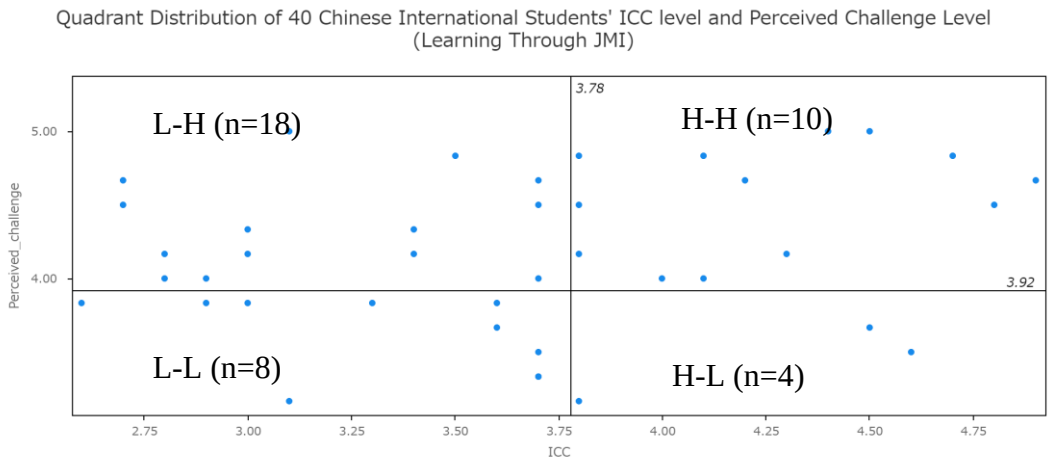

Figure 5.2-5 Quadrant distribution of 40 Chinese students' ICC level and perceived challenge level (learning through JMI)

The quadrant distribution of 40 Chinese students' ICC level and the perceived challenge level is shown in figure 5.2-5. The highest number of people in the L-H quadrant was 18, followed by the H-H quadrant with 10 of all. There were eight individuals in the L-L quadrant while four individuals in the H-L quadrants.

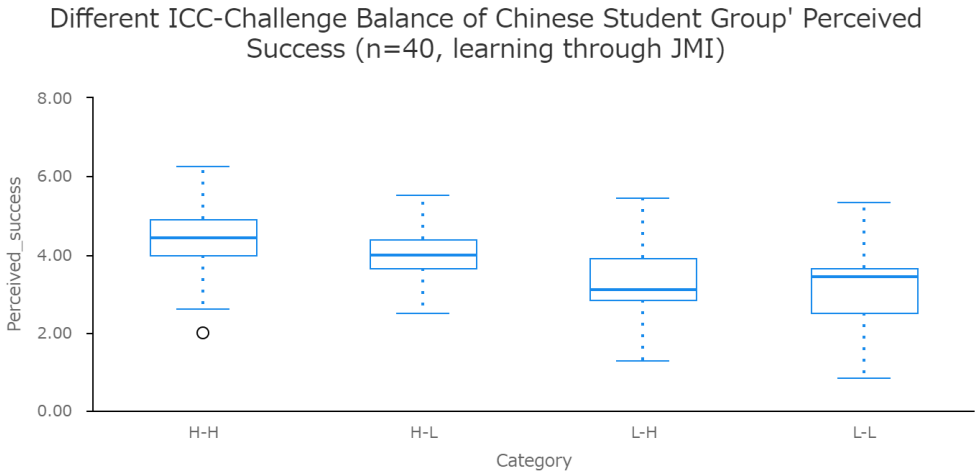

Figure 5.2-6 Learning through JMI Chinese international student group's ICC-challenge balance and perceived success

The different ICC-challenge and corresponding perceived success of Chinese students studying through JMI were exported as the following box plots (see figure 5.2-6). The degree of perceived success is gradually decreased in the order of H-H, H-L, L-H, L-L. This decreasing trend was more significant than the whole international student group and the learning through EMI Chinese student group. The H-L subgroup showed the least fluctuation in the degree of perceived success. Most students in the L-H subgroup perceived their success at a lower level than the other three

subgroups. Students in the L-L subgroup had a most severe perceived success range, and students in the L-L subgroup had the lowest degree of perceived success. Still, most students in this subgroup tended to perceive their success higher than the other three subgroups did.

5.2.4 ICC-Challenge balance's effect on perceived success in other international graduate student group (learning through EMI)

The quadrant distribution of 38 international students' ICC level and the perceived challenge level is shown in figure 5.2-7. The highest number of people in the H-L quadrant was 18, followed by the L-L quadrant with 10 of all. There were six individuals in the H-H quadrant while four individuals in the L-H quadrants.

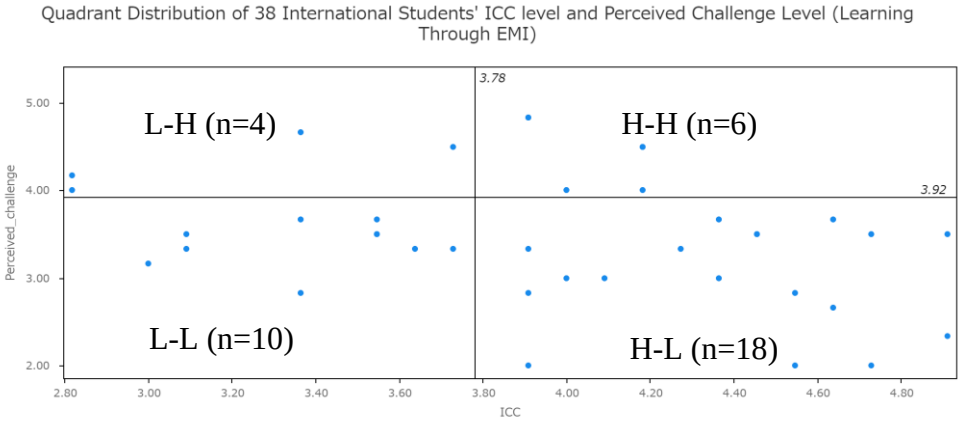

Figure 5.2-7 Quadrant distribution of 38 students' ICC and perceived challenge

The different ICC-challenge and corresponding perceived success of 38 international students studying through EMI were exported as following box plots (see figure 5.2-8). H-H, H-L and L-H subgroups had a similar degree of perceived success, but most L-H subgroup students tended to perceive their success higher, while most students in the H-H and the H-L subgroups tended to perceive their success at lower scores level. The L-L group had the lowest perceived success level with a most severe perceived success range.

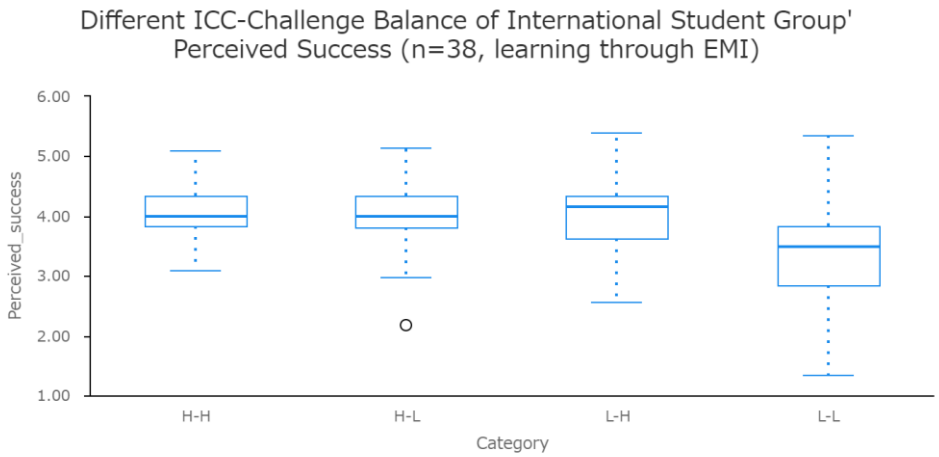

Figure 5.2-8 Learning through EMI non-Chinese international student group's ICC-challenge balance and perceived success

5.2.5 **ICC-Challenge balance's effect on perceived success when grouped by gender**

Add the gender factor, different ICC-challenge levels and corresponding perceived success of 113 international students studying through EMI were exported as following box plots (see figure 5.2-9). The male perceived their success higher than females in H-H and H-L subgroups. In the H-H and L-H subgroups, the male also showed severe fluctuation in the degree of perceived success. On the other hand, in the H-L subgroups, the female showed a more severe fluctuation in the degree of perceived success. Females also perceived their success higher than males in the L-L subgroup.

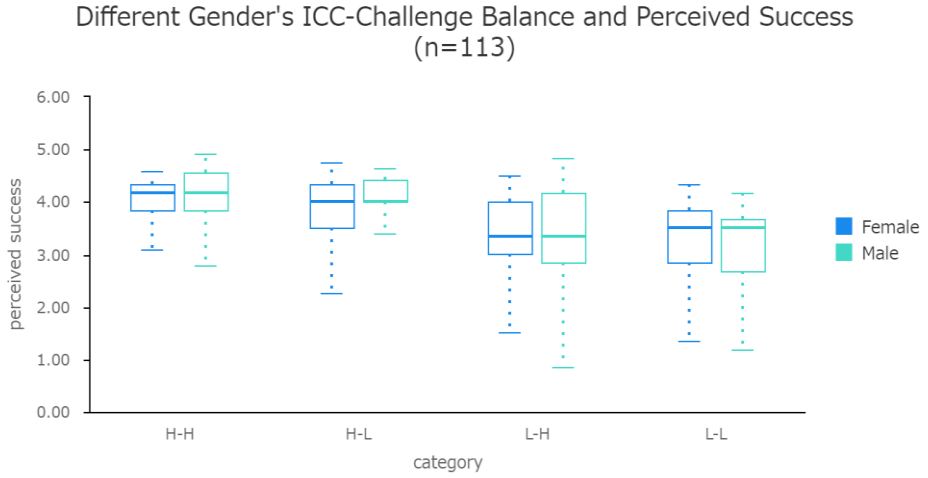

Figure 5.2-9 Different ICC-challenge balance student group's perceived success (different gender groups)

5.2.6 ICC-Challenge balance's effect on perceived success when grouped by grade

Add the grade factor, different ICC-challenge levels and corresponding perceived success of 113 international students studying through EMI were exported as following box plots (see figure 5.2-10). In the H-H, H-L and L-L subgroups, the master students group showed severe fluctuation in the degree of perceived success. On the other hand, in the L-H subgroups, the doctoral students showed a more severe fluctuation in the degree of perceived success.

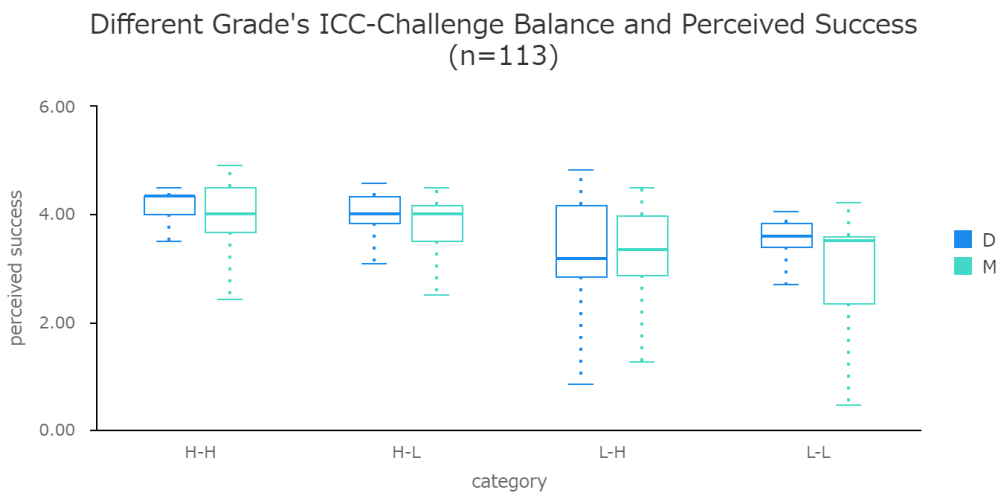

Figure 5.2-10 Different ICC-challenge balance student group's perceived success (different grade groups)

5.2.7 ICC-Challenge balance's effect on perceived success when grouped by age

Add the age factor, different ICC-challenge levels and corresponding perceived success of 113 international students studying through EMI were exported as following box plots (see figure5.2-11). In the H-H subgroup, the under 30 years old student group perceived a higher level of success. In the H-L subgroup, the over 30 years old student group perceived a higher level of success. In the L-H subgroup, the over 30 years old student group showed the most severe fluctuation in the degree of perceived success. In the L-L subgroup, the over 30 years old student group showed the least fluctuation in the degree of perceived success.

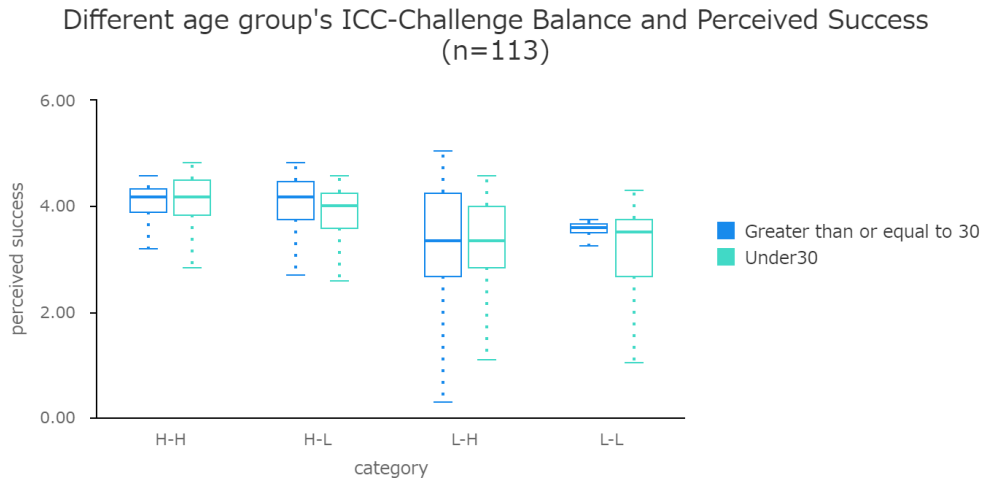

Figure 5.2-11 Different ICC-challenge balance student group's perceived success (different age groups)

5.2.8 ICC-Challenge balance's effect on perceived success when grouped by the length of stay in Japan

Add the length of stay in Japan factor, different ICC-challenge levels and the corresponding perceived success of 113 international students studying through EMI were exported as following box plots (see figure 5.2-12). In the H-H, H-L and L-L subgroups, the length of stay in Japan over two years student group perceived a higher level of success. In the L-H subgroup, the stay of over two years student group showed a more severe fluctuation in the degree of perceived success and lowered perceived success level. In the L-L subgroup, the stay length of less than two years student group showed a more severe fluctuation in the degree of perceived success. Besides, in H-H and L-L subgroups, both student groups' individuals tend to perceive their success at a higher level. International students in the L-H group who have been in Japan for more than two years perceived that their success is mostly at a low level.

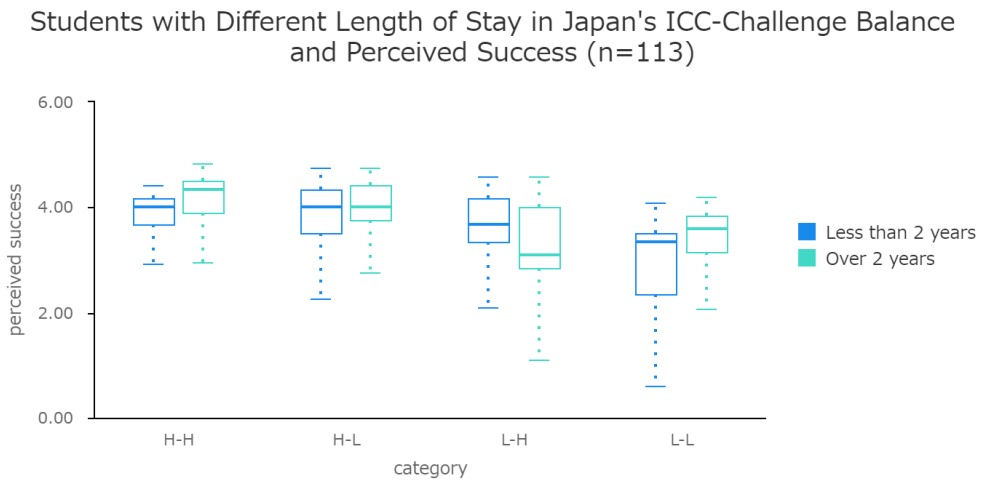

Figure 5.2-12 Different ICC-challenge balance student group's perceived success (different length of stay in Japan groups)

6 Discussion of Findings

In this chapter, key findings in chapter four will be presented in line with the research objectives and research questions.

6.1 The relationship between international students' ICC and their perceived challenge

Many previous studies have suggested that the international student population in Japan is highly homogeneous. However, in this study, the analysis results showed that the relationship between ICC and perceived challenge appears quite different with respect to national region, male, gender, length of stay in Japan and the language instruction medium.

In the EMI group with all Chinese graduate students, all ICC factors are significantly and positively correlated with the perceived language learning challenge. Besides, the team effectiveness factor is significantly and positively correlated with both the perceived communication and learning style challenge. The data analysis result for the EMI group with all Chinese graduate students showed an overall positive correlation between ICC factors and perceived challenge.

In the EMI group with international graduate students except Chinese graduate students, interpersonal skill and cultural uncertainty factors are significantly and negatively correlated with the perceived communication and academic support challenge. Cultural uncertainty factor also negatively correlated with the perceived social activity challenge. The data analysis result for the EMI group with international graduate students without Chinese graduate students showed an overall negative correlation between ICC factors and perceived challenge.

In the JMI group with all Chinese graduate students, data shows the least ICC factors correlated with the perceived challenge. Only the cultural uncertainty and cultural empathy factor are significantly and positively correlated with the perceived communication challenge.

When international students are grouped by gender, the male group shows a negative correlation between interpersonal skills and academic support challenge. A positive correlation between team effectiveness and language learning challenge was shown. In addition, the female group shows a

negative correlation between interpersonal skills and language learning challenge, communication challenge.

When international students are grouped by the length of stay in Japan, stay in Japan within two years international student group does not show a significant correlation between their ICC and perceived challenge. However, the length of stay in Japan beyond two years' international student group shows interpersonal skill and cultural uncertainty factors negatively correlated to the perceived academic support, while team effectiveness positively correlated to the perceived language learning challenge.

When international students are grouped by their grade, no significant correlation is shown between doctoral students' ICC and perceived challenge. However, in the master student group, the team effectiveness factor is significantly and positively correlated with the perceived language learning challenge, communication challenge, and the perceived learning style challenge. Cultural empathy also has a positive correlation with the perceived communication challenge.

When international students are grouped by the age range, in 20~24 years old student group, only the team effectiveness factor has a positive correlation with the perceived communication challenge. While, in 25~29 years old student group, the interpersonal skill factor negatively correlated with the perceived learning effort challenge. Besides, team effectiveness positively correlated with the perceived language learning challenge and communication challenge. The cultural empathy factor positively correlates with the perceived language learning challenge and perceived learning style challenge. Finally, in the over 30 years old student group, both interpersonal skill and team effectiveness factors negatively correlate with the perceived communication challenge and perceived academic support challenge. A significant negative correlation between the cultural uncertainty and perceived support challenge.

6.2 The effect of the ICC-challenge balance on perceived success

The overall perceived success degree of the whole international students (n=113) decreases in the order of H-H, H-L, L-H, L-L. The majority of international students in the L-L group tend to perceive their success with higher values than the other three groups. Students in the L-H subgroup have the most severe perceived success range than the other three groups.

In the EMI group with all Chinese graduate students (n=35), 42.86% (n=15) individuals in the H-H quadrant. Nearly half of the Chinese student participants who are learning through EMI perceive themselves as being in a high-ICC, high-challenge state, while this group also has the highest perception of success. Align with the whole picture, students in the L-L group tend to perceive their success with higher values than the other three groups. Students in the L-H subgroup have the most severe perceived success range than the other three groups.

In the EMI group with international graduate students without Chinese graduate students (n=38), 47.37% (n=18) individuals in the H-L quadrant. Nearly half of them learning through EMI perceive themselves as being in a high-ICC, low challenge state. Students in the L-L subgroup have the most severe perceived success range than the other three groups.

In the JMI group full of Chinese graduate students (n=40), 45% (n=18) individuals in the L-H quadrant. Surprisingly, nearly half of them learning through JMI perceive themselves as being in a low-ICC, high-challenge state, although this group is considered to have the highest Japanese proficiency among all international students. Students in the L-H quadrant tend to perceive their success with lower values than the other three groups. In contrast, students in the L-L group still tend to perceive their success with higher values than the other three groups.

When international students' ICC-challenge balance is grouped by gender, the male has a higher perceived success than the female in the H-H and H-L quadrant. The male has a severe fluctuation in the H-H quadrant and L-H quadrant. Female has a higher perceived success than the male in the L-L quadrant, and the female has a severe fluctuation in H-L quadrant.

When international students' ICC-challenge balance is grouped by grade, the doctoral student group has a higher perceived success than the master student group in the H-L, L-H and L-L quadrant. The master student group has a higher perceived success than the doctoral student group in the H-H quadrant. The doctoral student group has less fluctuation in the H-H, H-L and L-L quadrant but has a severe fluctuation in the L-H quadrant.

When international students' ICC-challenge balance is grouped by age, in the H-L quadrant, over 30 years old student group perceived their success at a higher level than the student group under 30 years old. In the L-H quadrant, the over 30 years old student group has a severe fluctuation while has an extremely small fluctuation in the L-L quadrant.

When international students' ICC-challenge balance is grouped by the length of stay in Japan, it shows that over two years student group has a higher level of perceived success than the student group stay in Japan within two years in the H-H, H-L and L-L quadrant.

6.3 ICC's effect on international graduate students' on-campus experiences in Japan

In the present study, when analysing the relationship between ICC factors and perceived challenges for all international student participants, there was no possible correlation. However, when the students were grouped by the different mediums of instruction, nationality, gender, age, academic year, and length of stay in Japan, different ICC factors in different groups would correlate with different perceived challenges. The results suggest that ICC affects different aspects and degrees of international students' on-campus life in Japan, depending on their age, gender, medium of instruction, nationality, gender, and length of stay in Japan. ICC's effect varies according to age, gender, medium of instruction, nationality, gender, and length of stay in Japan.

In general, learning through EMI, Chinese students' ICC factors would positively contribute to their perceived on-campus challenges. While learning through JMI, Chinese students' ICC factors would contribute less to their perceived on-campus challenges. In contrast, learning through EMI, international students' ICC factors negatively affect their perceived challenges.

The correlation between ICC factors and perceived challenges was not very significant when divided by gender and length of stay in the day. However, when divided by age, there was a strong positive correlation between ICC factors and perceived challenges for international students aged 25-29. Simultaneously, there was a strong negative correlation between ICC factors and perceived challenges for international students aged 30 and older. Whereas when divided by grade, master students' ICC factors had a strong positive correlation with the perceived challenge, and doctoral students' ICC factors showed no correlation with the perceived challenge.

7 Conclusion

7.1 Implications of findings from the results

The results suggest that ICC affects different aspects and degrees of international students' on-campus life in Japan, depending on their age, gender, what kind of medium of instruction they are using, nationality, gender, and length of stay in Japan. ICC factors have different degrees and dimensions of impact on international students' perceived challenges and their on-campus life. Although international students studying in Japan are highly homogeneous in terms of geographical origin, their ICC factors and perceptions of challenges show great diversity. Whether it is the significant differences in individual's ICC that cause some of the issue is worth further discussion.

The results of the study also show that the balance of ICC-challenge further influences the degree of their perceived success. Generally individual with higher ICC and higher perceived challenge perceived their success higher, too. But the perceived success level varies from age, gender, what kind of medium of instruction they are using, nationality, gender, and length of stay in Japan.

7.2 Limitations in this study and proposals for further research

While this study offers some implications for further research regarding international student groups' ICC, this study still has some limitations.

First, the current study focused on the relationship between international students' ICC and their perceived challenges, regarding ICC as an essential factor influencing students' on-campus life. However, language proficiency's effect is also recommended to be considered and compared.

Second, although there are 113 international students in this study, over 60% are from China. Thus, their preferences of cognition may lead to biased analysis results. The result cannot be generalized to the whole international student group.

Finally, although this study investigated the effect of the balance between the level of skill-challenge balance on students' perceived success, the success is self-reported. Individuals differ in their understanding of their success level, thus leading to another possible biased result.

Acknowledgment

This research is completed under the supervision of Professor Kim Eunyoung. It was under the thorough guidance of her that the thesis was completed on time. She pointed out many problems in my research and guided my reflections on them. I benefited greatly from her rigorous attitude on academic and her dedicated teaching.

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Appendices

APPENDIX A: Questionnaire of Intercultural Communication Competence (ICC), Perceived Challenge and Success (English version)

Questionnaire of intercultural communication competence (ICC), perceived challenge and success in JAIST' learning experiences

Gender □M/□F Grade ☐M1 ☐M2 □D1 ☐D2 ☐D3 ☐Postgraduate/researcher

Age □20~24 □25~29 □30~34 □35~39 □40~

School □Information Science □Material Science □Knowledge Science

Length of stay in Japan

□Less than one year □12-24 months □25-48months □More than four years

Instructions: Please read the listed 23 items carefully and choose the closest one in each question based on your own learning experiences in JAIST.

1. I can establish a good relationship with people from other countries.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

2. I can listen actively to people from other countries (like in a lab seminar or in the class group discussion).

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

3. I can deal with and manage cultural uncertainties well when I get along with other people who come from other countries (Note: Cultural uncertainty refers to cultural ambiguities, social and cultural differences, such as beliefs, customs, values).

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

4. I feel comfortable when discussing/studying/interacting with people from different countries together.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

5. I can be flexible in interacting with and work with people from different countries when it comes to get together with them.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

6. I can engage in meaningful dialogue with people from other countries in the same way as with people from my home country.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

7. I can develop closer relationships with persons from other countries in school/lab/class like I make friends with my own country.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

8. When I am assigned to the multicultural team, I can treat others equally without any relevance to the national origin.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

9. I can learn as much about Japanese culture as possible.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

10. I can be flexible with different communication/interaction styles when working with people from other countries.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

11. I can be flexible when working with people from different cultures as I am aware of differences in values and beliefs among cultures.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

12. I need to work harder to improve my language proficiency to satisfy the degree/credit completion requirements.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

13. I need to improve my communication skills to communicate effectively with other international students for group discussions /seminars.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

14. I need to change my past learning style to adjust to the different learning environment/learning style in JAIST.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

15. I need to pay extra effort to understand the learning materials exactly.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

16. I need to actively look for extra academic support to overcome my academic disadvantages (such as language barriers, learning style differences) since studying at JAIST.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

17. I need to actively expand my own social network, including making friends with other countries' people, to increase my social activities during my study abroad in JAIST.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

18. I have made a lot of improvement in both academic English writing and oral English communication.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

19. I have effective and meaningful communication/interaction experiences with other international students.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

20. I have adjusted myself to learning environments(such as teaching style, learning style, exam, academic tasks, etc.) in JAIST.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

21. I get enough academic supports from JAIST or outside JAIST to complete my study program.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

22. I have adjusted myself to the Japanese culture well.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

23. During in Japan/ at JAIST, I built my social network and kept enough social contact with family, friends, and the outside world.

☐Strongly disagree ☐Disagree ☐Neutral ☐Agree ☐Strongly agree

APPENDIX B: Questionnaire of Intercultural Communication Competence (ICC), Perceived Challenge and Success (Chinese version)

关于跨文化交流能力、JAIST 学习经历中感受到机遇和成功的问卷调查。

性别 □男/□女　　学年 ☐M1 ☐M2 □D1 ☐D2 ☐D3 ☐博士后/研究员

年龄 □20~24□25~29□30~34□35~39□40~

系别 □情报科学 □材料科学 □知识科学

在日本的时间长度

□少于一年 □12-24 个月 □25-48 个月 □4 年以上

填写说明：请仔细阅读所列举的 23 项内容，根据自己在 JAIST 的学习经历，在每道题中选择最符合自己的一项。

1. 我可以和其他国家的人建立良好的关系。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

2. 我可以积极地听取来自其他国家的人的意见和想法（如 zemi，小组发表或课堂讨论等）。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

3. 当我与其他国家的人相处时，我可以很好地处理和管理文化的不确定性（注：文化的不确定性是指文化的模糊性，社会和文化的差异，如信仰、习俗、价值观）。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

4. 在和其他来自不同国家的人一起讨论/学习/互动时，我不会觉得不自在。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

5.在和其他国家的人一起相处/学习/互动时，我能够采取和本国人不一样的交际方式去对待他们。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

6 我能做到参与一些和其他国家的人进行有意义/有深度的对话的活动中（相较于日常会话的程度而言）。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

7 我可以在（研究室/学校/课堂）和其他国家的人建立就像和自己国家的人交朋友一样的密切的关系。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

8 当我在多元文化背景的团队/小组时，我可以与平等地对待其他人，与对方的种族，国家等无关。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

9 我能够做到尽可能多地了解日本文化。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

10 在和其他国家的人合作时，我可以灵活应对来自这些人的不同的沟通或互动方式。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

11 我可以灵活地与来自不同文化背景的人合作，因为我知道不同文化之间有价值观和信仰的差异。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

12 我需要更加努力提高自己的语言能力，以获得满足学位/学分的完成要求。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

13 我需要提高自己的沟通能力，以便在小组讨论/zemi 等场合下与其他留学生进行有效沟通。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

14 我需要改变过去的学习方式，以适应在 JAIST 不同的学习环境/学习方式。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

15 我需要付出额外的努力来准确理解来自老师的学习资料（如幻灯片等）。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

16 我需要积极寻找额外的学术支持，以克服我在 JAIST 学习后的学术劣势（如语言障碍、学习风格差异等）。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

17 我需要积极拓展自己的社交网络，包括结交其他国家的人，以增加我在 JAIST 留学期间的社交活动。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

18. 在学术英语/日语写作和英语/日语口语交流方面，我都有了很大的进步。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

19. 我有很多和其他国家的留学生有意义的交流/互动经验。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

20. 我适应了 JAIST 的学习环境（比如老师的教学方式、学习方式、考试/学习任务等）。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

21. 我从 JAIST 或 JAIST 外部获得足够的学术支持来完成我的学业。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

22. 我已经很好地适应了日本的文化。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意

23. 在 JAIST 期间，我建立了自己的社交网络，并且和家人朋友及外界保持了充分的社交接触。

☐非常不同意 ☐不同意 ☐中立 ☐同意 ☐非常同意