



Research Article

ACADEMIC OUTREACH DURING COVID-19 LOCKDOWN AT A UNIVERSITY LEVEL: USING MOOC AS A STRATREGY

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Pichayalak Pichayakul^{1*}

¹Chiang Mai University, Chiang Mai 50200, Thailand

*Corresponding Author, E-mail: pichayalak.p@cmu.ac.th

Abstract

The objectives of this research were twofold: 1) to develop an online course on Thai culture as a substitute for physical international inbound student mobility during the COVID-19 pandemic and 2) to implement and assess the online course in terms of media quality, content, and the knowledge and experience gained by the students who participated in the course. This research was an experimental development research consisting of two parts. The first part involved course development, where the researcher created a course curriculum encompassing the rationale, course objectives, learning objectives, and a course description. This curriculum was utilized as a research instrument, with the results reported in a narrative format. The second part focused on course implementation and assessment. The population in this part consisted of students who enrolled in the course. The data were gathered from the overall population. Nevertheless, since course assessment participation was voluntary, this study's informants consisted solely of students who both completed the course and submitted the online assessment form. In turn, a total of 235 foreign students, majority from ASEAN countries responded to the course assessment. The data gathered during this phase were quantitative and subjected to analysis using descriptive statistics including frequency, percentage, mean, and standard deviation. The findings revealed the successful development of an online course, in the form of Massive Online Open Course (MOOC), titled "Business Etiquette in Thailand". The respondents consistently rated the media quality, content, and knowledge and experience gained as highly satisfactory with most responses indicating "strongly agree" for all components. The most frequently mentioned comment regarding the course was its quality and interesting nature, while the primary suggestion was to offer more courses of a similar nature. The findings of this study contribute to the ongoing exploration of alternative modes of intercultural learning during challenging circumstances for providing to inbound students.

Keywords: Academic, COVID-19, MOOC, Student Mobility

Introduction

Studying abroad through student international mobility programs offers students a valuable opportunity to develop essential skills and broaden their perspectives. Higher academic institutions worldwide recognize numerous benefits of student mobility, including the cultivation of professional, social, and intercultural skills, language proficiency, and increased employability. Several research revealed that graduates who have participated in international mobility programs are more likely to secure employment post-graduation. According to European Commission research (2023), students who engaged in study exchange programs overseas reported a heightened appreciation for other cultures (93 percent), improved language skills (91 percent), and enhanced problem-solving abilities (80 percent).

Under normal circumstances, higher education institutions commonly promote student mobility programs, where home universities send their students to study at host universities in other countries (outbound student mobility), and vice versa (inbound student mobility) (Kelo et al., 2021). These programs aim to provide students with international experiences, mainly referring to cultures and languages (Marina, 2019).

However, the COVID-19 pandemic forced many of these student mobility programs to terminate, and outbound students were required to return to their home countries to abide by pandemic regulations. As a result, many higher education institutes froze their international relations activities during the pandemic period, leading to strained academic relationships (Altbach, 2020). According to UNESCO (2020), the number of international students pursuing international experience was up to 5.6 million in 2018 in which the number doubled within 20-year time frame. The growth rate of international higher students was approximately 4.8 percent per year (UNESCO, 2020). UNESCO reported that the steepest growth rate of international student mobility took place during 2013 – 2018 which accounted for 1.5 million students. However, the effect of COVID-19 on global mobility flows was significant. Among the top five host countries for international students including the USA, Canada, China, Australia, and United Kingdom, enrollment drastically declined by approximately 20 percent (Mason, 2021).

Due to the inevitable circumstances, students in both host and home universities unfortunately lost their opportunities to gain international experiences. Fortunately, there was a way out. The pandemic stimulated a remarkably innovative and flexible learning environment for higher education institutions worldwide. Institutions transformed promptly from providers of education in a physical classroom to a virtual learning platform in various forms. This research aims to experiment with a new academic outreach strategy to overcome the obstacle of not being able to physically receive inbound students from other countries. The selected strategy is Massive Open Online Course (MOOC) which is a free online course available for public. MOOC provides an affordable and flexible way to acquire new knowledge, skills, and deliver quality educational experiences to the learners conveniently (MOOC.org, 2023). The researcher developed a MOOC and sending it to students at universities in other countries to learn about Thai culture, partially substituting the missing international experiences. This article shares the results and recommendations of this approach.

Objectives

1. To develop an online course on Thai culture as a substitute for physical international inbound student mobility during the COVID-19 pandemic.
2. To implement and assess the online course in terms of media quality, content, and the knowledge and experience gained by the students who participated in the course.

Literature Reviews

International student mobility encompasses the participation of students in overseas placements, studies, or other educational activities (Think Pacific, 2018). UNESCO (2015) defines international students as individuals who have physically crossed international borders to engage in educational activities in a country different from their country of origin. At a national level, student exchanges can be seen as a medium to strengthen international relations by fostering global citizenship traits, promoting pluralistic values in students, and enhancing the soft power of nations (Snow, 2021). The objectives of academic mobility are diverse, as succinctly summarized by Sakhieva et al. (2015), which include: 1) providing students with an opportunity to experience a different higher education system and enhance the reputation of their own education, 2) developing new skills and competencies in students, 3) broadening students' social and cultural horizons, improving foreign language proficiency, and fostering intercultural communication skills, and 4) expanding the accessibility of education at all levels throughout one's lifetime.

However, since student mobilities were forced to freeze during the beginning of COVID-19 pandemic and being restricted in many ways later. The virtual student mobility then becomes an alternative. Online study is one of the choices to keep providing international experiences to students. There are online courses provided in various forms. One of the well-known online courses is MOOC. MOOC is a shorten form of "Massive Open Online Course." Generally, Massive Open Online Courses (MOOCs) are accessible to the public and provided free of charge. They serve as online platforms that enable individuals to access and acquire new knowledge, develop skills, and advance their careers. MOOCs attract a wide range of learners who have diverse motivations, including career development, college preparations, and supplementary learning (edX, 2023). Several studies have explored the effectiveness and potential of MOOCs in catering to the educational needs of international learners.

Subsequently, the researcher's affiliated university initiated a new program called "MOOC International" or in short, MOOC I." The program consisted of 28 MOOC courses designed to offer knowledge and virtual experiences to students from universities partnering with the researcher's affiliated institution. For clarification, "partner universities" in this context pertained to those universities that have signed a memorandum of understanding with the researcher's affiliated university. In this research, the researcher chose to develop an online course in the form of MOOC under the umbrella of MOOC I program.

Research Methodology

This research was an experimental development research which involved creating new a medium of learning and experiencing intercultural knowledge through practical application and testing (Van de Ven & Johnson, 2006). In principle, experimental development research is a practical approach that focuses on transforming new ideas into tangible outputs. It involves the creation of feasible prototypes and testing their functionality. This type of research plays a crucial role in bringing innovation to society (OECD, 2015). Experimental development research is important as it brings innovation to society. Protecting innovations through intellectual property law is a common practice among innovators. Intellectual property rights provide legal protection for their creations, allowing innovators or knowledge owners to commercialize or utilize their ideas as well as to conduct further research. Intellectual property protection laws ensure that innovators can benefit from their work and incentivize further innovation by providing exclusive rights for a specific period (Dowsett, 2023).

Research Scope

The research consists of two parts:

Part 1: Course development

This part involved the development of the course, with a list of topics that included the rationale of the course development, course objectives, learning objectives, and course description. The results from this part are reported in the structure of course description.

Part 2: Course implementation and assessment

This part involved the implementation and assessment of the course, with the population being students from partner universities who enrolled in the course during the 2 months after the course was launched. The population in this part consisted of students who enrolled in the course. The data were gathered from the overall population. Nevertheless, since course assessment participation was voluntary, this study's informants consisted solely of students who both completed the course and submitted the online assessment form. In turn, a total of 235 foreign students responded to the course assessment. The research instrument for this part was the university's standard online assessment form applying to all of its MOOC International courses provided on the university's platform. This assessment form was already validated at the university level. The assessment form consists of general information about the respondents, their opinions towards learning experiences and their comments and suggestions. The data from part 2 is quantitative data and will be analyzed using descriptive statistics, including frequency, percentage, mean, and standard deviation.

Results

Part 1: Course Development

With the objective of creating an online course on Thai culture as an alternative to physical international inbound student mobility during the COVID-19 pandemic, the researcher, who possesses a background and interest in business, made the decision to develop a MOOC titled "Business Etiquette in Thailand." The components of the course structures are provided as follows.

1.1 Rationale for Course Development

Thailand is ranked 26th on the World Bank's list of countries where it is easy to do business (World Bank Group, 2020). The Thai government's policies encourage free trade and foreign investment, making it an attractive location for business. Moreover, Thailand is a transportation hub of Asia, providing easy access to dynamic markets, including a domestic consumer market of over 69 million people (Thailand Board of Investment, 2023). As a result, an increasing number of foreigners are interested in doing business with the Thais.

Effective business etiquette and communication are critical soft skills for successful business conduct, with each culture having its own unique customs. Thailand is no exception, and foreign business partners must learn to correspond with the Thais respectfully and efficiently.

This Massive Open Online Course (MOOC) will provide insight into Thai business etiquette, which will be beneficial for people from other countries to learn, understand, and perform in a respectful manner. The course will be advantageous not only for businesspersons but also for foreign students who are interested in coming to Thailand. The instructor (the researcher) aims to promote this MOOC to students in the ASEAN University Network (AUN) and the ASEAN International Mobility for Students (AIMS) network, as well as other partner universities, so that they can share it with their students, especially those who would like to come to Thailand as exchange students.

1.2 Course objectives

- 1) To facilitate online exchange education and support student exchange programs with the institution's partner universities.
- 2) To maintain strong relationships with the institution's partner universities, particularly during periods of restricted mobility.

1.3 Learning objectives

- 1) Students gain knowledge and understanding of business etiquette in Thailand.
- 2) Students have opportunity to practice and develop skills of Thai business etiquette.
- 3) Students understand and embrace Thai culture.

1.4 Course description

The MOOC on "Business Etiquette in Thailand" is composed of 10 lessons, covering the following topics: 1) Introduction to Thailand 2) Importance of business etiquette 3) Introduction to Thai business culture 4) Greeting 5) Dress code 6) Gift giving 7) Meeting 8) Dining 9) What not to do in the Thai culture and 10) Epilogue.

1.5 Course design

1) The entire module is approximately 125 minutes long and is divided into sub-sections ranging between 2 - 20 minutes per clip, as deemed appropriate for the content, for a total of 10 clips.

2) A total of 10 evaluation questions with answers are prepared to reflect the core knowledge of the course correctly and appropriately. These evaluation questions are to be used as a pre-test and post-test as part of the passing evaluation criteria.

1.6 Assessment Criteria for Students

Students will be evaluated through a 10-question multiple-choice evaluation. To receive an e-certificate of achievement for this MOOC, students must score at least 70% on the post-test (answering at least 7 questions correctly out of the total 10).

1.7 Link

This “Business Etiquette in Thailand” MOOC course is provided on the MOOC platform of the researcher’s affiliated university. The link to access this MOOC on “Business Etiquette in Thailand” is <https://mooc.cmu.ac.th/th/course/8389dfbb-3e68-4de7-9ad0-0fc2ea411140>. The interested students need to register on the platform system to enroll in the course.

Part 2: Course implementation and assessment

2.1 Course implementation

The researcher collaborated with partner universities outside of Thailand to promote this MOOC course to academic staff who recognized the value of this intercultural short course and were willing to promote it to their students. Then, the representatives of the partner universities helped spread the word about the course. In turn, interested students registered online, completed the course materials, and took the test. Those who scored 70% or higher were granted an e-certificate of achievement for the course.

2.2 Course assessment

Two months after the MOOC on “Business Etiquette in Thailand” was launched in 2020, the researcher gathered feedback from students who registered for an online course using an online assessment form as the data collection tool. The form was designed to protect the students' personal identity and was answered anonymously on a voluntary basis. The results are reported as follows:

1. General information of the respondents

Table 1 shows general information of the respondents, including the number of students and percentage of each country of residence. The top 3 countries that students reside in the ASEAN countries consist of Malaysia with 193 (82.1%), followed by Brunei with 12 (5.1%) and the Philippines with 9 (3.8%), respectively. The other countries consist of Japan, Cambodia, Indonesia, Myanmar, Vietnam, and China. The grand total of respondents was 235.

It is important to note that this MOOC on "Business Etiquette in Thailand" is an open access course that welcomes students from both Thailand and other countries. However, for the purpose of this

research, the focus was solely on students from other countries. As a result, the Thai students did not meet the sample selection criteria, therefore their responses were omitted by the researcher.

Table 1 General information of the respondents

Country of residence	Number of students	%
Malaysia	193	82.1%
Brunei	12	5.1%
Philippines	9	3.8%
Japan	8	3.4%
Cambodia	4	1.7%
Indonesia	4	1.7%
Myanmar	2	0.9%
Vietnam	2	0.9%
China	1	0.4%
Grand Total	235	100.0%

Table 1 provides information on the current study level of the respondents. Among the 235 participants, 91.1% had a bachelor's degree, 5.1% were below bachelor's degree level, 3.0% had a master's degree, and only 0.8% had a doctoral degree. It is observed that there are 12 students studying below bachelor's degree level who also studied the course. It is possible that either some students may have invited others such as their siblings to take the course, or some students who are currently studying below bachelor's degree level may have heard about this course and enrolled in the course out of personal interest or to gain additional knowledge.

Table 2 Current study level

Current study level	Number of students	%
Below bachelor's degree	12	5.1%
Bachelor's degree	214	91.1%
Master's degree	7	3.0%
Doctoral Degree	2	0.8%
Grand Total	235	100.0%

2. Opinions towards learning experiences

Table 3 displays results on average scores and interpretation of the respondents' assessment of the media quality of the MOOC course. The course material was presented in a suitable and appealing manner, with an average score of 4.71, followed by the instructor's use of easy-to-comprehend language with

a score of 4.69. Respondents also found the use of course media beneficial and enjoyable, with average scores of 4.68 and 4.67, respectively. The learning media provided was stimulating and captivating, with an average score of 4.65. Finally, the respondents expressed a desire to participate in more MOOC International courses, if available, with an average score of 4.61. The respondents in this study strongly agreed with all aspects of media quality, as demonstrated by the average score for each point being above 4.60.

Table 3 Opinions towards media quality

Media quality	Average	Interpretation	STDEV	Order
The course material (including pictures, videos, text, audio, etc.) were presented in a suitable and appealing manner.	4.71	Strongly agree	0.5925	1
The instructor's use of language which was easy for you to comprehend.	4.69	Strongly agree	0.6110	2
You benefited from the use of course media.	4.68	Strongly agree	0.6219	3
You enjoyed using the course media while taking part and engaging in the course.	4.67	Strongly agree	0.6229	4
The learning media provided in the course were stimulating and captivating.	4.65	Strongly agree	0.6529	5
You would like to partake in MOOC I courses again in the future.	4.61	Strongly agree	0.6177	6

From table 4 below, the respondents strongly agreed with the course content, with an average score of 4.71 for the course being beneficial and complementing their interests, and an average score of 4.65 for the appropriate quantity of learning materials and modules. They also found the course content to be thought-provoking and easily understandable, with an average score of 4.64, and found the length of each learning module and sub-topic to be adequate, with an average score of 4.61.

Table 4 Opinions towards content

Content	Average	Interpretation	STDEV	Order
The course was beneficial and complemented directly with your interest.	4.71	Strongly agree	0.6302	1
The quantity of the learning materials and modules of the course was appropriate.	4.65	Strongly agree	0.6334	2

Content	Average	Interpretation	STDEV	Order
The course content was thought-provoking and easily understandable for you.	4.64	Strongly agree	0.6597	3
The length of each learning module and sub-topics was adequate.	4.61	Strongly agree	0.5938	4

Table 5 presents the respondents' opinions towards the knowledge and experience gained from "Business Etiquette in Thailand" MOOC. The average score for all items is interpreted as "strongly agree," ranging from 4.62 to 4.70, with standard deviations ranging from 0.6083 to 0.6447. The items include receiving a valuable experience (4.70), gaining a better understanding of Thailand (4.64), being able to apply the information in personal and professional life (4.63), gaining academic proficiency (4.62), and rating the knowledge and skills received from the course (4.62).

Table 5 Opinions towards knowledge and experience gained from "Business Etiquette in Thailand" MOOC

Knowledge and experience gained from the use of this course's media	Average	Interpretation	STDEV	Order
You received a valuable experience from participating in this MOOC I course.	4.70	Strongly agree	0.6108	1
This MOOC course provide you with a better understanding and deeper insight of Thailand.	4.64	Strongly agree	0.6447	2
The information of this course can be applied within your personal and professional life.	4.63	Strongly agree	0.6083	3
You gained further academic proficiency from partaking in the course.	4.62	Strongly agree	0.6397	4
You highly rate the knowledge and skills received from the course.	4.62	Strongly agree	0.6375	5

3. Comments and suggestions

Table 6 presents the comments and suggestions provided by the students who participated in the course. A summary of the student feedback is as follows:

Positive feedback was received from the majority of respondents. Out of the total 235 students, 36 expressed that the course was good and very interesting. One student mentioned gaining new experiences and knowledge, while another student found the course concise and easy to understand.

However, a common concern raised by six students was the excessive loudness of the music in the online course.

Moreover, several respondents provided valuable suggestions to enhance the quality and performance of the MOOC. The suggestions included a request from 21 students for more courses like this one, eight students recommending increased promotion to the public, and others expressing their hopes for the program to continue in the long run. Additionally, specific suggestions were made such as incorporating tests or more questions after every module, providing more examples, offering more language examples, introducing additional courses about the Thai language, courses about studying in Thailand, adding English subtitles during teaching, providing extra reading materials, and incorporating interaction slots like Q&A or comment sections.

Table 6 Comments and suggestions

Comments and suggestions	Number of students
Positive comments	
Good, very interesting	36
Gained new experiences and knowledge	1
Concise and easy to understand	1
Negative comment	
Music too loud	6
Suggestions	
Provide more courses like this	21
Promote to public more	8
Hope this program continue in the long run	8
Add test after every module/ more question	3
Provide more examples	2
Provide more Language examples	2
Provide more course about Thai language	1
Provide more course about studying in Thailand	1
Add English sub-title while teaching	1
Provide extra reading materials	1
Provide interaction slots such as Q&A or comment section	1

Conclusion and Discussions

The research developed an online course on Thai culture as a substitute for physical international inbound student mobility during the COVID-19 pandemic. The developed MOOC, titled “Business Etiquette in Thailand”, aimed to address the increasing interest of foreigners in doing business with Thais, highlighting Thailand's position as a transportation hub in Asia. By providing insights into Thai culture and emphasizing

the importance of soft skills in interacting with Thai partners, the MOOC aimed to prepare future foreign business partners. This initiative aligns with the objectives of academic mobility, as suggested by Sakhieva et al. (2015), which include developing students' skills, expanding social and cultural horizons, and improving language proficiency and intercultural communication skills.

The second objective of this research was to implement and assess the online course in terms of media quality, content, and the knowledge and experience gained by the participating students. The results indicated that the students rated the media quality, content, and knowledge and experience gained as highly satisfactory, with a "strongly agree" response for all components. These findings support the objectives of academic mobility mentioned by Sakhieva et al. (2015), as they demonstrate the development of new skills and competencies, the understanding of diverse culture, and the improvement of language proficiency as well as the embracement of cultures.

The result also aligns with the research conducted in Japan entitled "Designing a MOOC as an Online Community to Encourage International Students to Study Abroad" which reported that The University of Tokyo also designed a MOOC for foreign students who are interested in studying in Japan. That MOOC was deemed to support foreign students in learning about student lives in Japan. The foreign students' responses towards this MOOC initiative were satisfactory as well (Fujimoto et al., 2017).

Furthermore, the findings also align with the principles of MOOCs, providing an accessible channel for students to learn new knowledge and gain educational experiences, even when physical travel is restricted. Despite being unable to physically immerse themselves in authentic cultures, students were able to access quality educational content and substitute cultural experiences at scale, as highlighted by edX (2023).

In summary, the development and implementation of the "Business Etiquette in Thailand" MOOC as an alternative to physical student mobility during the COVID-19 pandemic align with the objectives of academic mobility and the principles of MOOCs. The positive ratings from students regarding media quality, content, and knowledge and experience gained highlight the effectiveness of this approach in providing valuable educational experiences in a time of restricted mobility.

Recommendations

1. Suggestions for higher academic institutions to develop strategies to substitute physical international student mobility during the physical restriction period

1.1 Consider utilizing Massive Online Open Courses (MOOCs) as an effective strategy to replace physical international student mobility during periods of physical restrictions, such as the COVID-19 pandemic. The finding from this research supports that MOOCs can provide valuable learning opportunities for students unable to travel, ensuring continuity in their education.

1.2 Conduct thorough research to identify the specific interests and demands of foreign students towards the host countries. The information will be a valuable resource to design online courses that serve the students' needs and attract their interest. For example, understanding the demand for business

opportunities in a particular country, like Thailand, can help develop courses that focus on topics like Thai culture, soft skills, and business etiquette.

1.3 Recognize that MOOCs, along with other e-learning tools, can effectively maintain strong relationships with partner universities during periods of restricted mobility. Therefore, the person in charge of promoting student mobility should explore various e-learning methods and platforms to engage students and facilitate meaningful connections between institutions.

1.4 Take note of the positive feedback and suggestions received from students who participated in the MOOCs. Many expressed their interest in having more courses like this, promoting the program to a wider audience, and hoping for its continuation in the long run. Based on this feedback, the universities should consider extending the MOOC International project beyond the COVID-19 pandemic to provide ongoing opportunities for students who may not have access to physical exchanges. These courses can serve as a valuable learning channel, offering international experiences and cultural insights to a broader student population.

1.5 Consider offering MOOC courses to inbound exchange students as a preparatory resource before their physical mobility. This can enhance their understanding of the host country and culture, allowing them to make the most of their exchange experience when they do travel. It is suggested that as the students can learn general knowledge from anywhere in the world such as general marketing, therefore, the MOOC courses provided to foreign students shall be specific knowledge related to the host country. For instance, instead of providing general marketing course, the university should provide “Marketing in Thailand” course.

By implementing these suggestions, higher academic institutions should be able to effectively substitute physical international student mobility with online learning experiences, ensuring continuous educational opportunities and fostering international connections even during periods of restricted mobility.

2. Suggestions for further research

2.1 Conduct research to develop a wider range of MOOC International courses covering various topics and assess the feedback from students. This research would provide insights into the specific topics that foreign students are interested in and help guide the development of future courses. By understanding the preferences and needs of the target audience, higher academic institutions can offer a diverse selection of courses that cater to the interests of international students.

2.2 Conduct a comparative research study to analyze the feedback from two groups of students enrolled in MOOC International courses: those who take the course as a pre-travel resource and those who enroll despite not having plans for exchange programs. This research would shed light on the effectiveness and relevance of providing MOOC International courses to both groups of students. By examining their feedback, the study can determine whether it is beneficial to offer these courses to students planning to participate in exchange programs as well as those who do not have immediate exchange plans. The findings will provide guidance on the target audience for MOOC International courses and help higher academic institutions better allocate their resources.

By conducting these suggested research studies, institutions can gain a deeper understanding of students' preferences, enhance the quality and relevance of MOOC International courses, and make informed decisions about their implementation and expansion.

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References

Altbach, P. G. (2020). The impact of the COVID-19 pandemic on international higher education. *Prospects*, 49, 1-6.

Beqiri, M., & Ramaj, B. (2021). Exchange Programs: Enhancing Internationalization of Higher Education. *International Journal of Innovative Technology and Exploring Engineering (IJITEE)*, 10(9), 3047-3051.

Dowsett, B. (2023). *Understanding the Main Types of R&D*. Retrieved 1 May, 2023, from <https://www.taxcloud.ie/blog/2023/understanding-the-main-types-of-rd>

edX. (2023). *About MOOCs*. Retrieved March 15, 2023, from <https://www.mooc.org/>

European Commission. (2023). *Mobility and cooperation*. Retrieved 15 March, 2023, from <https://education.ec.europa.eu/education-levels/higher-education/inclusive-and-connected-higher-education/mobility-and-cooperation>

Fujimoto, T., Takahama, A., Ara, Y., Isshiki, Y., Nakaya, K., & Yamauchi, Y. (2018). Designing a MOOC as an online community to encourage international students to study abroad. *Educational Media International*, 55(4), 333-346. DOI:10.1080/09523987.2018.1547545

Kelo, M., Marina, B. (2019). The Importance of International Education and Cultural Exchange. *Journal of International Students*, 9(2), 357-360.

Mason, L. (2021). *International Student Mobility Flows and COVID-19 Realities*. Research, Evaluation, and Learning Unit, Institute of International Education.

MOOC.org. (2023). *About MOOCs*. Retrieved 15 March, 2023, from <https://www.mooc.org/>

OECD. (2015). *Frascati manual 2015: Guidelines for collecting and reporting data on research and experimental development*. Paris: OECD Publishing.

Sakhieva, R., Ibatullin, R., Biktemirova, M., Valeyeva, G., Pchelina, O., Valeyeva, N., Minsabirova, V., & Khairullina, E. (2015). The Essential, Objective and Functional Characteristics of the Students' Academic Mobility in Higher Education. *Review of European Studies*, 7(3), 335-340.

Snow, N. (2021). *Student Mobility and Its Relevance to International Relations Theory*. Retrieved 10 March, 2023, from <https://www.e-ir.info/2021/12/05/student-mobility-and-its-relevance-to-international-relations-theory/>

Thailand Board of Investment. (2023). *Why invest in Thailand. Thailand's Advantages*. Retrieved April 27, 2023, from https://www.boi.go.th/index.php?page=thailand_advantages

Think Pacific. (2018). *Student Global Mobility*. Retrieved 15 March, 2023, from <https://thinkpacific.com/student-global-mobility/>

UNESCO. (2015). *UNESCO Science: Towards 2030*. Paris: UNESCO Publishing.

UNESCO. (2020). *UNESCO Institute for Statistics*. Retrieved 25 September, 2023, from <http://data.uis.unesco.org>

Van De Ven, A. H., & Johnson, P. E. (2006). Knowledge for theory and practice. *The Academy of Management Review*, 31(4), 802-821.

World Bank Group. (2020). *Economy Profile Thailand. Doing Business 2020: Comparing Business Regulation in 190 Economies*. Retrieved February 15, 2023, from <https://www.doingbusiness.org/content/dam/doingBusiness/country/t/thailand/THA.pdf>