

THE READINESS OF MALAYSIAN UNIVERSITY TOWARDS THE IMPLEMENTATION OF VIRTUAL MOBILITY

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Abstract

The university needs to endure some drastic changes in teaching and learning due to the challenges and changes in educational system parallel to the Revolutionary Industry 4.0 and pandemic Covid-19. Besides, the implementation of co-curriculum activities and mobility program ought to be streamlined so that the aim of university to produce students with soft skills can be achieved. Since virtual mobility has not been implemented yet in Malaysia. Thus, a preliminary study needs to be conducted to identify the feasibility of the program. Hence, this study was conducted in Malaysian Public Universities to determine the readiness of lecturers in terms of their knowledge and attitudes to run virtual mobility program during this pandemic. In addition, the tools that needed to run the virtual mobility program were also examined. The study consisted of 305 university lecturers from Malaysian Public Universities who had participated in the mobility program or teaching the co-curricular courses. The findings showed that the level of knowledge and attitude readiness of lecturers to implement the virtual mobility program was at a medium level. Meanwhile, internet and the ethics of internet usage were seen as the necessary things in the implementation of the virtual mobility program. The finding was hoped to be a platform for enhanced knowledge and lecturers to implement the virtual mobility program.

Keywords: co-curricular, higher education, industry revolution 4.0, Malaysian University virtual mobility.

Introduction

The diversity of events in today's world scenario resulted in higher education system beginning to experience drastic changes especially from the aspect of delivery methods. In line with the current technology, educational opportunities no longer rely on the physical venue only but also allow for collaboration between students and teachers from various parts of the world. Internationalization, industrial revolution 4.0 and the spread of coronavirus outbreak between events had affected conventional learning methods so as to cause virtual technology applications to be fully used in teaching and learning delivery (Zhou, Wu, Zhou, & Li, 2020). Besides practicing social distancing, many countries have implemented comprehensive restrictions on all travels of their citizens abroad and the influx of tourists to prevent the spread of the disease (Salcedo, Yar, & Cherelus, 2020). Thus, it is impossible to perform international mobility physically. However, the transformation of conventional learning methods to virtual technology applications is not a simple matter especially for courses that emphasize the aspect

of soft skills of students such as co-curriculum program and mobility program.

Mobility programs provide new exposure to students to learn through experience in solving problems, communication skills, teamwork, leadership skills as well as emphasis on moral and ethical aspects. From the point of the stakeholders, it also provides opportunities for the stakeholders to benefit and share the expertise of the university community. In the context of the university and the country, it can be seen as a platform to promote the curriculum of the university and country internationally. Through this approach, the university and the country can broaden the cooperative network not only in education, but also to open new collaboration opportunities in terms of development and economic aspects. This is because this program is one of the Key Performance Indicator (KPI) under the Critical Agenda Project (CAP) internationalization in the National Higher Education Strategic Plan (PSPTN), which has been given new breath in the Malaysian Educational Development Plan (PPPMPT) 2015-2025 towards transforming and improving the quality of local tertiary education towards world class (Abdullah, 2012). Nonetheless, the current main challenge for education institutions is on finding suitable ways to maintain their mobility activities against the current "battle" with the deadly coronavirus. The rationales of this study are to determine the level of lecturer readiness in terms of their knowledge and attitudes to run virtual mobility program during Pandemic Covid-19. This study used descriptive analysis to determine the level of readiness. As a result, the findings showed that the level of knowledge and attitude readiness of lecturers to implement the virtual mobility program was at a medium level.

Problem Statement

Review Stage

Initiatives to introduce mobility program at higher education level help to promote national higher education institutions to foreign countries (Sakhieva et al., 2015). In fact, student exchanges, ideas and experiences in conducting activities can also be used as a platform for students to explore knowledge or new skills from the countries visited. The involvement of students from various countries in an activity conducted together will encourage the transfer process of borderless knowledge as well as to train students to better understand, respect the culture and appreciate the diversity values that exist in each individual. Different beliefs and ability to receive diversity among students will be able to strengthen their self-esteem and patriotism in students (Ambe, 2006). Several studies showed that student mobility was motivated by the desire for three (3) factors including personal growth (Beaven & Borghetti, 2015)(Severino, Messina, & Llorent García, 2014), better job prospects (Ivancheva & Gourova, 2011)(Nilsson & Ripmeester, 2016) and experiential activities (Vredeveld & Coulter, 2019). The concept of implementation the mobility program is to exchange knowledge, skills and culture across national borders (Vredeveld & Coulter, 2019). The implementation of hand-enabled activities allows students to understand the knowledge gained through experience more effortlessly.

The effects of Movement Control Order (MCO) implementation following the spreading of the Covid-19 outbreak and the new norm have given implications on the feasibility of mobility

program conventionally (Wu, Wu, Liu, & Yang, 2020). The aspect of social distancing that is emphasized in the new norm requires the implementation of conventional mobility program to be changed to a virtual implementation. However, there are some issues that need to be considered when implementing virtual mobility such as the relevance of virtual mobility program, the technology to be used, the pedagogical issues, planning and organizing the structure, accreditation and credit, legal agreements, policies and many more. On the other hand, the issues of readiness to run and participate in virtual mobility program among the students and staff should be investigation especially in light of the extensive use of ICT. Therefore, this study tries to identify the readiness of Malaysian Public Universities to run the virtual mobility programs in terms of lecturer competency, accessibility and the tools needed to be used in the implementation of virtual mobility.

Virtual Mobility

Virtual mobility is a form of learning which consists of virtual components. This Information and Communication Technology (ICT) supported learning environment includes cross-border collaboration with people from different backgrounds and cultures who work and study together. Their main purpose of using virtual mobility is for the enhancement of intercultural understanding and the exchange of knowledge. The implementation of virtual mobility will have their advantages and disadvantages due to the change from conventional practise to virtual practice. What is the important is, the engagement program among student and stakeholder will help their development especially in their mental and emotional (Ahmad, Isa, & Yusoff, 2017)(Isa, Noh, Johar, Yusoff, & Ahmad, 2018).

The implementation of virtual mobility abroad has long been existing. Daukšienė et al. (2010) has analyses the existing virtual mobility practices that have been found in six European countries at the beginning of 2010 (Daukšienė et al., 2010). The analysis of the survey that is reviewed here has been implemented by TeaCamp project partners and covers 6 countries - Lithuania (Vytautas Magnus University (project coordinator) and Baltic Education Technology Institute), Spain (Innovation Centre of University of Oviedo), Finland (Jyväskylä University), Latvia (Higher Education Quality Evaluation Centre), Poland (Jagellonian University), and Portugal (University of Aveiro). The participants of a massive open online course which was conducted by involving students and teachers from six European countries and higher education institutions, gave positive feedbacks in terms of collaborative learning, autonomy-drive learning, open-mindedness and intercultural skills (Poce, 2020).

In Malaysia, virtual mobility has not been implemented but the teaching and learning session using mobile learning (M-learning) and e learning (e-learning) have begun (ALTRAD, 2017). Shifting from physical to virtual mobility is not as simple as it sounds. There are many challenges and barriers to be faced by the organisers and the participants as well. The readiness of lecturers in the use of computer-based information technology is one of the important aspects towards the virtual mobility implementation effectiveness. Van Lengen in Morton (1996) states that most teachers are ready to apply the technology tools in their teaching and learning session but they do not know how to use computer in the teaching and learning process (Bukaliya & Mubika, 2012). Labbo et al. (2003) also found that many teachers know about computer rather

than the ability to use the computers.

According to Zulkafly et al. (2011), mobile learning is a teaching and learning session using the environment and facilities of mobile technology by employing mobile devices such as Personal Data Assistant (PDA), smart phones and mobile phones. Therefore, the knowledge and readiness of teachers, lecturers and instructors to use the information technology and the Internet are very important. In the 21st century, the emergence of students called as the Y generation or digital natives also impact the mobile learning and e learning environment. The Y generation has been exposed and are proficient in using technology information and various latest communication tools on the internet. In fact, these students were the first generation to grow up with the new technologies (Prensky, 2007).

Based on previous study, the integration of web technologies in student learning process is believed be able to bring a positive impression to the achievement of students (Ahmed, Zakaria, & Elmi, 2012)(Pettward, 2011)(Songkram, 2015). The diversity of method and the use of technology in the process of learning activities is able to promote the participation of students and is expected to increase the success of the achievement of student's learning goals (Yeop & Gapor, 2012). As suggested by Bijmens et al (2006), there are three different categories of virtual activities which are:-

- i. by their use of virtualization,
- ii. Based on the technologies used for the activities,
- iii. Based on the circumstances in which the virtual mobility activity takes place.

Based on Bijmens et al. (2006), the implementation of virtual mobility needs a good skill and knowledge in the use of information technology. In this context, Wang et al. (2015) explain that educational institutions, trainers and students have to be prepared to make a change in the success of information technology-based education including the virtual mobility program. The knowledge and skills of using ICT will help the implementation of virtual mobility programs to be successful.

Previous research on the implementation of ICT shows that a large number of influencing factors are involved in using ICT in the teaching and learning process. There are two factors influencing teacher decision to use ICT which are the non-manipulative factors referring to factors that cannot be influenced directly by the school, such as age, teaching experience, computer experience of the teacher or governmental policy and the availability of external support for schools and the manipulative factors referring to the attitudes of teachers towards teaching and ICT, ICT knowledge and the teachers' skills, commitment of the school towards the implementation process and the availability of ICT support (Ten Brummelhuis, 1995).

Besides, the Comparative Research Project (2005) by the Australian Flexible Learning Framework states that the willingness of teachers to apply mobile learning is limited because teacher knowledge is a major barrier in mobile technology. Surprisingly, there are even numbers of teachers who have never used ICT in their teaching (Peters, 2007). Therefore, lecturers need to establish themselves with technology-based teaching and learning process

before embarking on virtual mobility programs. Besides, the accessibility of internet usage also plays an important role to ensure that the program runs smoothly. The lecturers have to ensure that the module and the content of virtual mobility are relevant to the program outcomes. Even though the implementation of mobility is conducted virtually, the aim to polish students' soft skill must be achieved.

Methodology

This study was conducted in Malaysian Public Universities by using of online survey. The questionnaire was distributed to the academicians of Malaysian Public Universities via emails. This study involved 305 respondents who were randomly selected using the table of Morgan & Krejcie (1970). The development of an item was referred to the previous qualitative research based on The Technology in My Life Survey by McKenzie in 1999 (McKenzie, 1999). A minimum of 309 respondents are the approximate recommendation of sample size based on the number of 31,740 academician population in Malaysian Public Universities with 95% confidence level (α) (Quick Facts, 2018). The questionnaire was divided into four sections, where section A measured the respondents' demographic information, section B measured the suitability of the implementation virtual mobility program, section C measured the respondents' readiness in term of knowledge and attitude towards of implementation of virtual mobility and section D measured the tools that needed to be used in the implementation of virtual mobility. Four Likert Scale was used in section C (1- Strongly Disagree, 2 - Disagree, 3 - Agree and 4 - Strongly Agree). While, section D used three Likert scale to determine the tools needed the most in the implementation of virtual mobility. The reliability test shows that the alpha value for all variables in this study was 0.721 which according to Sekaran (2003), if the reliability test value is > 0.7 , it is acceptable and reliable (Sekaran, 2003). The score mean for each variable will be divided into three categories which are low, moderate and high as shown in Table 1.

Table 1: Mean Score of Variable

Score range	Mean value
1.00 – 2.33	Low
2.34 – 3.66	Moderate
3.67 – 5.00	High

Finding and discussion

Section A: Respondent's Demographic

As shown in Table 2, the survey was administered on 305 students representing the sample size of a Malaysian Public University. A total of 160 out of 305 respondents were females (52.5%) and the rest were males (47.5%). From the data given, majority of the respondents were Malays (69.8%, n=213) followed by Chinese (14.1%, n=43) and others (11.8%, n=36). Meanwhile, only a small number of Indians took part in this research which was 4.3% or equal to 13 respondents.

Table 2: Demographic Factor Analysis among Respondents

Category	Frequency	Percentage (100%)
Gender		
Male	145	47.5
Female	160	52.5
Total	305	100
Ethnic		
Malay	213	69.8
Chinese	43	14.1
Others	13	4.3
Indian	36	11.8
Total	305	100

Section B: Implementation virtual mobility program suitability

Most of the respondents (92.8%) agreed that mobility program organised by the university helped to polish the students' soft skill and the program should be continued even with the need of social distancing (78%). Besides, 86.2% respondents agreed that virtual mobility was the right alternative to replace the conventional mobility because it still had an impact on students' soft skill (83.3%) even though Schreurs et al., (2006) stated that executing virtual mobility would cause various problems especially on culture diversity and language (Schreurs, Verjans, & Van Petegem, 2006). The details of the description are provided in Table 3.

Table 3: The virtual mobility program implementation suitability

Num	Item	Yes	No
1	Mobility helps improve student soft skill	283 (92.8)	22 (7.2)
2	Mobility should be continued even need a social distancing	238 (78)	67 (22)
3	Mobility can be run virtually	263 (86.2)	42 (13.8)
4	Virtual mobility still has an impact on students' soft skill	254 (83.3)	51 (16.7)

Section C: Respondents' readiness towards the implementation of virtual mobility

Table 4 shows the data of respondents' readiness towards the implementation of virtual mobility. Two aspects were measured which were respondents' knowledge and attitudes. The mean scores showed that level of respondents' knowledge and attitude were moderate with mean score = 2.853 (knowledge) and mean score = 2.740 (attitude).

Table 4: Mean score on respondents' readiness towards the implementation of virtual mobility

	Knowledge readiness	Attitude readiness
Mean	2.8533	2.7400
Std. Deviation	.49261	.36994

The data analysis in Table 5 shows that the level of readiness of lecturers to run virtual mobility program is at medium level with the score mean of 2.853 and even the mean score of respondents' basic knowledge of using the computer was at a moderate level towards a high level of 3.47 with a standard deviation value of 0.604.

This show the respondents have moderate knowledge of basic computer and they were confident of using the computer. Although the respondents have basic knowledge of using the computers, the respondents claimed that they could interpret the internet materials with mean score of 3.13 and understand aspects related to the ethical use of information technology (mean score=3.00). This condition could indirectly identify the relevance among the skills of finding information with the objective of mobility (mean score 2.93).

All the respondents were confident in using the software supplied (mean score=2.73) and able to design mobility program activities by integrating information technology (mean score=2.67). Therefore, the respondents would not face the problem of making demonstrations using the new software on the internet (mean score=2.60) because they were always finding opportunities to improve competency in using computer (mean score=3.00). According to Hamzah & Attan (2007), even though the facility of computer usage is available in the school or university, the chance to use computers in schools may be quite limited due to the number of hardware conditions that are insufficient, time constraints and other problems that arise (Hamzah & Attan, 2007).

Table 5: Lecturer Readiness from the Aspect of Knowledge

Item	Mean	s.d
I know the basic usage of computer.	3.47	0.640
I can diversify mobility activities online.	2.53	0.743
I am able to find opportunities to improve computer competency.	3.00	0.655
I can identify the relevance among the skills of finding information with the objective of mobility.	2.93	0.594
I can make demonstrations using new software on the Internet.	2.60	0.828
I can design activities program by integrating information technology.	2.67	0.724
I am skilled in using the software supplied.	2.73	0.704
I understand any aspects related to the ethical use of information technology.	3.00	0.535
I can diversify the use of information technology as a mobility student intake strategy.	2.47	0.516
I can interpret the internet materials to students.	3.13	0.516

As shown in Table 6, the readiness of lecturers' attitude to run the virtual mobility was at a medium level with mean score=2.740. This analysis directly showed that lecturers had a positive attitude towards virtual mobility even they faced more challenges while conducting virtual mobility than physically mobility (mean score 3.00).

Supporting this finding, Afshari et al. (2009) stated that training program can play an important role to provide the necessary training for lecturers or instructors (Afshari, Bakar, Luan, Samah,

& Fooi, 2009). According to Dias & Atkinson, (2001)., before teachers or instructors implement the use of information technology in classrooms, they need to be positive by improving their self-skills so that the teaching and learning process can progress smoothly. Therefore, the respondents revealed that they had to always refer to a book to get the input to implement the virtual mobility program (mean score=3.20). Respondents were also seen positive on the implementation of virtual mobility as they were prepared to face challenges arising during the mobility (mean score=2.93), would explore the latest method to apply in the virtual mobility program activity (mean score=2.80).

In order to ensure the implementation of virtual mobility could be carried out smoothly, the respondents also believed that they would constantly improve the delivery method in the virtual mobility program (mean score=2.73). The analysis also showed that the respondents would ensure the virtual mobility program had a wide range of delivery methods (mean score=2.80) to attract the participants to participate in the program. In this context, the respondents would be concerned with the issues arising from conducting the virtual mobility program (mean score 2.87) so that the implementation of the program could be improved from time to time as the implementation of virtual mobility had never been implemented in Malaysia. Meanwhile, the respondents were pleased to provide the materials to be used in the virtual mobility program (mean score=2.60) as they were confident that the virtual mobility encouraged more active communication with the participants (mean score=2.33).

Table 6: Lecturer Readiness from the Aspect of Attitude

Item	Mean	s.d
I constantly improve the delivery method in virtual mobility program	2.73	0.458
I will explore the latest method to apply in virtual mobility program activity	2.80	0.561
I am prepared to face the challenges that may arise while running the virtual mobility	2.93	0.258
Running a virtual mobility is easier than physical mobility (conventional)	2.13	0.990
Will face more challenges when running virtual mobility than conventional mobility	3.00	0.655
I will be concerned with issues that arise while running a virtual mobility program	2.87	0.516
Virtual Mobility promotes active communication with participants	2.33	0.900
I am happy while preparing materials for virtual mobility programs	2.60	0.632
I am sure the virtual mobility program has a variety of delivery methods	2.80	0.561
I still refer to a book to get input to implement the virtual mobility program	3.20	0.862

Section D: Tools needed for the implementation of virtual mobility

Table 7 shows the analysis of the equipment needed in the implementation of the virtual mobility program. From the data given, almost all the respondents (97%) stated that the internet is the most needed equipment followed by the internet usage ethics (93.4%), data accessibility

(92.5%) and email (90.2%). In addition, the basic computer operation (86.9%), database (83.6%) and file management on computer (81.3%) also seen necessary and important in the implementation of virtual mobility. Most of the respondents (86.6%) believe that information literacy is also necessary so that the instructors can perform better during the mobility program. Besides, respondents need good information literacy so they can provide more interactive graphics (67.9%) to attract outsiders to participate in the virtual mobility program.

In addition, information literacy allows the respondents to design the website in accordance with the content and goals of the program. Therefore, more than half (67.9%) of the respondents said that the development of a website was necessary in implementing the virtual mobility program. However, the findings showed that there was no doubt that social media applications like Facebook (26.2%), Instagram (26.2%) and Twitter (32.8%) were needed in the implementation of a virtual mobility program.

Table 7: Tools needed in the implementation of virtual mobility

Item	Need	Not Sure	No need
	F (%)		
Basic Computer Operation	265 (86.9)	33 (10.8)	7 (2.3)
File Management	248 (81.3)	48 (15.7)	9 (3.0)
Word Processing	244 (80)	54 (17.7)	7 (2.3)
Database	255 (83.6)	44 (14.4)	6(2.0)
Graphic	245(80.3)	47(15.4)	13(4.3)
Internet	296(97.0)	7(2.3)	2(0.7)
E-mail	275(90.2)	26(8.5)	4(1.3)
Facebook	177(58)	80(26.2)	48(15.7)
Instagram	162(53.1)	80(26.2)	63(20.7)
Twitter	124(40.7)	100(32.8)	81(26.6)
Ethic of internet usage	285(93.4)	15(4.9)	5(1.6)
Software	239(78.4)	58(19.0)	8(2.6)
Information Literacy	264(86.6)	35(11.5)	6(2.0)
Website Development	207(67.9)	70(23)	28(9.2)
Data Accessibility	282(92.5)	19(6.2)	4(1.3)

Conclusion

In conclusion, it can be concluded that lecturers or instructors who have been involved in the mobility program were ready to use information technology in the implementation of virtual mobility even their levels of knowledge and attitude were at a moderate level. The findings of this study can be used by the government or academic institutions to plan for students' mobility program using virtual platforms.

The lecturers or instructors needed more exposure on interactive social media applications in order to make the mobility program more attractive to join. Lecturers and instructors with a high knowledge level of social media applications would be more creative to diversify the approach of virtual mobility delivery. According to Schiller, (2003), teachers' characteristics

such as educational experience, experience with the computer for educational purpose can influence the adoption of an innovation during the teaching and learning process (Schiller, 2003). In addition, the high level of knowledge and attitude of ICT use could also help the success of the virtual mobility implementation. The determination of the necessary equipment in the implementation of virtual mobility also guaranteed the implementation to run smoothly. Thus, this approach can be seen as a pioneer implementation of virtual mobility in Malaysia which is most required in the era of Industrial Revolution 4.0.

Some problems may arise in the initial stage of virtual mobility implementation. Nonetheless, most of the problems can be overcome with good interaction between all the parties involved. Subsequently, the main problem concerning the implementation of virtual mobility within an institution and stakeholder must be solved prudently by the organizer. Therefore, the university's readiness of internet facilities, the content of module, data accessibility and marketing strategies to promote the virtual mobility program to outsider and stakeholder can be highlighted as a critical strategy for the successful implementation of virtual mobility program in Malaysia.

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