

A Strategies of Success Virtual Mobility for Technical Students

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Abstract

Student mobility program have risen to the top of local universities' worldwide priorities. In addition to giving university students the chance to learn about different cultures, this programme helps expose them to various study strategies. Mobility programmes should adopt a new strategy in the age of Revolution Industry 4.0 and use technology as the vehicle for implementation. This study aims to determine whether virtual mobility programmes are appropriate for implementation, the level of students' knowledge regarding virtual mobility implementation, the reasons why students joined virtual mobility programmes, and the kinds of media that students anticipated using when participating in virtual mobility. Quantitative method was used with survey questionnaire to collect the data. A total of 304 students of Malaysian Technical Higher Institution were involved as a sample in this study also descriptive and inferential analysis were employed to this study. The findings showed that virtual mobility can be seen as an alternative for conventional mobility and it still has an impact on students' soft skills. Besides, the data showed that the level of students' knowledge towards the implementation of virtual mobility is moderate and majority of the respondents decided to join the virtual mobility program because they could develop their information technology skills. Meanwhile, most of the respondents expected to use internet as a main medium to join the virtual mobility program.

Introduction

The process of globalisation strengthened and spread the market focus in development strategies even more. The investing in public institutions and the rise of the private sector as a potential rival to public universities are two examples of how it has affected higher education. Students have had a lot of new opportunities to learn through problem-solving,

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communication, teamwork, leadership, and an emphasis on moral and ethical considerations thanks to the mobility programme (Bilecen & Van Mol, 2017). (Ahmad, Isa, & Yusoff., 2017). Regarding the stakeholders, the mobility programme has produced chances for knowledge transfer and given the university the advantage of having expertise. It can be viewed in the perspective of the university and the nation as a platform to advertise the academic programmes of the university and nation abroad. Mobility programmes with a technology focus should be introduced in line with the global pandemic of Covid-19 and the Revolution Industry 4.0. This is to guarantee that the Key Performance Indicator (KPI) for internationalisation in the National Higher Education Strategic Plan (PSPTN) of the Malaysian Education Development Plan Agenda (PPMPT) 2015–2025 can be achieved. It is intended to transform and enhance the quality of the local top-tier tertiary education. Additionally, the novel idea of "internationalisation at home" can be discussed.

Table 1: International Student Mobility in ASEAN

Type of mobility	No of ASEAN students	Member States with largest number of students
Outbound	302,000	Vietnam Malaysia Indonesia
Inbound	235,000	Malaysia Singapore Thailand

Source: (Atherton et al., 2020)

Table 1 shows the total number of inbound and outbound mobility and ASEAN member states with the largest number of such students (Atherton et al., 2020). One of the top nations for both receiving and sending students for mobility programmes is Malaysia. Singapore and Thailand are the 2 additional top destinations for students from ASEAN. On the other hand, students who travel abroad frequently come from Vietnam and Indonesia in addition to Malaysia. The implementation of a virtual mobility programme is among the alternatives that can be used in order to replace the physical mobility. Virtual mobility has been introduced at one workshop conducted in Vienna in June 2006 and in Helsinki in 2005. A discussion during the Being Mobile Workshop in Vilnius, Lithuania, in 2006 concluded that virtual mobility was a recent phenomenon with drawbacks and problems that needed to be resolved (Bijnens et al, 2006).

In Malaysia, technical higher institution also actively involved in mobility student. Due to pandemic Covid-19, the program has to tune to virtual mobility to ensure that students can meet and collaborate with students from different countries and cultural backgrounds, gaining fresh ideas and ways of learning as well as developing intercultural competences. New norms are injected into the education system especially in the curricular activities like university-community engagement programme and mobility programme, which must be introduced virtually. There is still a high demand from students for foreign education despite border closures and doubts regarding future enrollments that have persisted well into 2021 owing to the epidemic (Mason, 2021). Despite border limitations, there is still a demand for international exchange, and there has been an impressive global shift toward online learning and teaching (UNESCO et al., 2021). With the epidemic still spreading, this transition has shown how higher education may use technology to maintain pedagogical continuity, which has also highlighted the possibility for innovation and creativity. The pandemic has served as a wake-up call for student mobility, shining a harsh spotlight on historical injustices and the lack of sustainability.

Malaysia Technical Univerisity Network MTUN is an umbrella network of four universities, namely Universiti Malaysia Perlis (UniMAP), Universiti Tun Hussein

Onn Malaysia (UTHM), Universiti Teknikal Melaka (UTeM), and Univeristi Malaysia Pahang (UMP) (JPK, Malaysia 2020). MTU's educational style is "Practical Oriented," emphasising "Problem-Centered Teaching, Action, and Experiential Learning." The University-Industry Centre (UIC) was established as a "teaching factory" with a similar concept to a "teaching hospital," providing students with a proper platform to receive necessary industry training and experience. MTU alumni are not only endowed with outstanding personal traits, but they are also well-versed in theories that are implemented in the practical component. This strengthens their knowledge and gives MTU graduates an advantage over their peers from other HEIs because they require less retooling. Therefore, this study tries to identify the suitability of the implementation of virtual mobility program among technical students, the level of students' knowledge towards the implementation of virtual mobility, the factor that motivated students to joins virtual mobility programmes and the types of medium students expect to use when joining virtual mobility programme.

Virtual Mobility

In many skill-based labour market niches within neoliberal economies, mobility has even become a need to achieve better work opportunities. Mobility is frequently expected to be successful (Overbeek, 2002). The introduction of mobility programmes at the higher education level aids in the promotion of national higher education institutions abroad. As a result, the academic landscape has changed due to interactions between faculty and students as well as knowledge and practise exchanges and the realignment of higher education institutions. Virtual exchange referred to as telecollaboration before, is nothing new (O'Dowd, 2021). Colpaert (2020), according to O'Dowd's analysis, has voiced his concern that the term "virtual" may undervalue trade activities when compared to actual exchanges. Virtual implies that something is not truly there. However, the phrase has gained popularity ever with the establishment of the "Virtual Exchange Coalition" in 2011 by groups including Soliya, iEARN, and Global Nomads Group (O'Dowd, 2021).

In Malaysia, virtual mobility is yet to be implemented. However, the blended learning approach is used as a main pedagogy for all higher education institution and e-learning has been chosen as an important component of teaching and learning session in higher education. Shifting from physical to virtual mobility will have many advantages, challenges and barriers as well. During the COVID-19 epidemic in 2020, when travel restrictions across the globe limit the opportunities for studying abroad, virtual exchange activities became popular. Universities and organisations have thought about virtual exchange efforts to successfully include an international learning experience into their students' curricula at this time (O'Dowd, 2021). According to six out of ten European universities questioned, the pandemic had increased the use of virtual student mobility as a substitute for actual student movement (Marinoni, Van't Land, & Jensen, 2020).

A fully ICT-supported learning environment with cross-border collaboration between people from various backgrounds and cultures working and studying together constitutes virtual mobility, a type of learning whose primary goals are the improvement of intercultural understanding and the exchange of knowledge (Bijnens et al., 2006). Virtual mobility is different from physical mobility, yet it can be utilised as an alternative to carry out the mobility programme, according to Vriens et al. (2010). Maek & Ritonija (2016) discovered that students expect international virtual mobility to improve their intercultural competence and English language proficiency among other critical competencies. In addition, they discovered that the

students' most challenging obstacles were the particular knowledge and abilities they needed in order to participate in the virtual world.

According to Aguado et al. (2014), the most challenging challenge is involving high-level institutional commitment, which is related to academic administration of the programme and the technical-administrative nature. Attempting a new concept, such as virtual mobility, requires changes in the routines of the organisations. However, one advantage of virtual mobility is that it allows students to access platforms with alternative designs as well as programmes and materials that their local universities did not provide. Meanwhile, Meanwhile, the learning community generated by virtual mobility fosters knowledge that is more collaborative which comes directly from the lecturer or instructor who handles the programme. Previous studies showed that the use of technology in academic activities including online learning can contribute to increased motivation and learning performance of students (Syarif, 2012), support active learning and use of online attractive materials (Gecer & Dag, 2012), enable to increase the happiness of the students while pursuing learning (Hubackova et al, 2011), encourage the opportunity to collaborate online (Barhoumi, 2015). Students are also encouraged to participate in the discussion and contribute something worth in learning (Eddy et al., 2014). Supporting those studies in the context of virtual mobility, Daukien et al. (2010) discovered that the students were eager to enroll in the academically oriented course under the virtual mobility programme because they would be expected to apply what they had learned there to their studies and future employment. According to the current study, virtual mobility must succeed in order to function. A country's competitiveness will be increased and its human resource competencies will significantly benefit from investment in mobility programmes. Students should return with knowledge of education, culture, and social issues if the state chooses to support their study for at least one semester for the sake of the nation as a whole. Additionally, the nation expects that by sending students abroad, the students can increase their human capital by developing their competences in terms of knowledge and skills, and as a result, there won't be any unemployment among university graduates in the future (Vilmante Kumpikaite & Kestutis Duoba, 2013).

Methodology

Quantitative survey questionnaire was employed for this study. 304 participants in this study were chosen at random from among MTU technical students. The items were created by adapting McKenzie's 1999 survey, The Technology in My Life Survey (McKenzie, 1999). The questionnaire was broken down into five sections, with section A measuring the demographic data of the respondents, section B measuring the suitability of the implementation of the virtual mobility programme, section C measuring the level of students' knowledge regarding the implementation of virtual mobility, section D measuring the reason why students joined virtual mobility, and section E measuring the media types that students anticipated using when joining virtual mob. Three and Four Likert Scale have been used to achieve the objective of the study. The reliability test shows that the alpha value for all variables of this study was 0.846 which are acceptable and reliable according to The score mean for each variable were divided into three categories which were low, moderate and high as shown in Table 1.

Table 1 Mean Score of Variable

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

Results And Discussion

This section will discuss about the findings of this study. This section contains of the findings from demographic characteristics of respondents; suitability of the virtual mobility programme implementation; level of students' knowledge towards the implementation of virtual mobility; motivating factors for students to join virtual mobility; and types of medium do student expect to use when joining virtual mobility

Section A: Respondent's Demographic

Table 2 shows the responses from 304 Malaysian Public University students who were selected randomly to participate in this study. A total of 174 out of 304 respondents were females (57.2%) and the rest were males (42.7%). Majority of respondents are from UTHM 120 (39.5%) followed by UMP 73 (24.0%), UTeM 70 (23.0%) and UNIMAP 41 (13.5%).

Table 2: Demographic Factor Analysis among Respondents

Category	Frequency	Percentage (100%)
Gender		
Male	130	42.7
Female	174	57.2
Total	304	100
Ethnic		
Malay	211	69.4
Chinese	43	14.1
Others	14	4.6
Indian	36	11.8
Total	304	100
University		
UTeM	70	23.0
UTHM	120	39.5
UMP	73	24.0
UNIMAP	41	13.5
Total	304	100

Based on the analysis, majority of the respondents were Malays (69.4%, n=211) followed by Chinese (14.1%, n=43) and Indian (11.8%, n=36). Others showed only 4.6% (n=14) which was a small group in this study.

Section B: Suitability of the Virtual Mobility Programme Implementation

As shown in Table 3, more than half of the students (60.9%, n=209) had previously participated in a traditional mobility programme, and the majority of them (91.8%, n=315) felt that the university-organized mobility programme had a substantial impact on the development of students' soft skills. The majority of students (85.1%, n=292) also agreed that virtual mobility can be used as an alternative to traditional mobility. The majority of students (78.4%, n=269) felt that the mobility programme should be continued even if social distance was required.

Table 3: Suitability of the virtual mobility programme implementation

	Item	Yes	No	Total
1	Mobility helps in developing student soft skill	279 (91.8)	25 (8.2)	304 (100)
2	Mobility should be continued even if social distancing is needed.	238 (78.4)	66 (21.6)	304 (100)
3	Virtual mobility is an alternative for conventional mobility	259 (85.1)	45 (14.9)	304 (100)
?	Mobility can be run virtually	261 (86)	43 (14)	304 (100)
4	Virtual mobility still has an impact on student soft skill	248 (81.6)	56 (18.4)	304 (100)
5	I took part in conventional mobility programme before	119 (39.1)	185 (60.9)	304 (100)

In agreement with this statement, Ain & Liza (2018) discovered that using the internet makes teaching and learning sessions easier and more successful. Thus, a large majority of them (86%, n=261) believed that conducting a virtual mobility programme was not problematic and that it still had an impact on students' soft skills (81.6%, n=248). The research also reveals that the majority of respondents (60.9%, n=185) had never participated in a physical mobility programme. According to research by Aguardo et al. (2014), knowledge that is directly imparted by a teacher or master class is less collaborative and complicated than knowledge that is supported by the learning community built through virtual mobility. Students get access to programmes and materials that their home universities could not provide them with, as well as platforms with various designs. In every institution and/or subject, being a student and professor takes on a new form, and what is required of us differs from what we typically do.

Section C: Students' Knowledge Towards the Implementation of Virtual Mobility

Table 4 shows the level of students' knowledge towards the implementation of virtual mobility. The mean score shows that the level of respondent readiness knowledge is moderate with mean score = 3.09 with standard deviation value is 0.57.

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

	Knowledge readiness
Mean	3.09
Std. Deviation	0.57

Table 5 shows the level of students' knowledge towards the implementation of virtual mobility was at the moderate level with mean value 3.03 and the respondents have at least basic knowledge of the computer and they can use it with confidence (mean=3.65). With that knowledge, respondents were definitely able to interpret the internet materials' content (mean=3.28).

Table 5 *Level of students' knowledge towards on the implementation of virtual mobility*

Item	Mean	S.D
I know the basic usage of computer.	3.65	.616
I can diversify mobility activities online	2.87	.878
I am able to find opportunities to improve computer competency	3.12	.707
I can identify the relevance among the skills of finding information with the objective of mobility	3.11	.676
I can make demonstrations using new software on the Internet	2.83	.924
I can design activities by integrating information technology	2.89	.832
I am skilled in using the software supplied	2.94	0.802
I understand all aspects related to the ethical use of information technology	3.12	0.618
I can diversify the use of information technology as a mobility student intake strategy	2.56	0.511
I can interpret the internet materials to students	3.28	0.575
Overall	3.03	0.567

The study found that even though the respondents' knowledge of how to implement the virtual mobility programme was only at a moderate level, they were still able to design activities that integrated information technology (mean: 2.89; range: 2.83–2.94) and demonstrate new software over the Internet (mean: 2.83). According to El-Hmoudova (2004), interactive and interesting courses can be utilised to improve the teaching methods, make them more appealing, and motivate students to learn. It was simple to diversify mobility activities online with a moderate level of understanding (mean=2.87) without neglecting any immoral use of information technology (mean=3.12). Additionally, according to Bucovetchi et al. (2016), students were eager to enroll in online courses to advance their knowledge and abilities. As a result, this survey revealed that respondents were ready to advance their computer competency whenever possibilities arose (mean=3.12).

Section D: Students' Motivations for Joining Virtual Mobility

Table 6 illustrates that respondents decide to joined the virtual mobility programme because they can develop their information technology skills (mean=3.06) and being creative when facing new challenge that virtual mobility brings in academic system (mean=3.01). Respondents feel that participating in a virtual mobility programme will enable them to further their professional growth (mean=2.82), improve their English language proficiency (mean=2.89), and even increase their competency (mean=2.85). According to Kerrison et al. (2016), online courses will provide flexible, welcoming, and free learning environments for the entire community.

Table 6: *Students' Motivations for Joining Virtual Mobility*

Item	Mean	SD
Attractive and interactive module	2.88	0.609
Virtual teaching and learning approach	2.72	0.638
Improve competency	2.85	0.609
Build new networking from different country	2.83	0.667
Interesting topic relevant with field of study	2.89	0.582
Gain new experience in online learning	3.00	0.583
Professional development	2.82	0.671
Improvement in English language skill	2.89	0.577
Development on information technology skills.	3.06	0.505
Being creative when facing new challenge	3.01	0.544

According to Kasim & Khalid (2016), online teaching and learning activities will provide students with a wealth of opportunities and benefits as they provide them the chance to research primary and supplementary sources, do independent research, and gain information about a topic of interest. In addition, the session's given modules look engaging and interactive (mean=2.88), and some of them are pertinent to respondents' fields of study (mean=2.89), which will encourage them to sign up for the virtual mobility programme. In addition, the respondents mention joining the virtual mobility programme to create new international networks (mean=2.83) and expressing interest in the methodology utilised in virtual teaching and learning sessions (mean=2.72). Additionally, Wahid et al. (2017) supported the idea that online programmes like Massive Open Online Courses (MOOC) might be viewed as an alternative to the many teaching and learning techniques currently used because they provide better access and can pique students' interests. According to UNESCO-IESALC (2022) research, virtual student mobility, a different type of student mobility, can significantly impact higher education internationalisation in the post-pandemic environment. The amazing creativity and inventiveness shown during the outbreak to ensure students could continue to benefit from cross-cultural exchange via ICT needs to be embraced and further increased. Student mobility needs to be made feasible not only physically but also online.

Conclusion

Although Malaysia has incorporated blended learning into its educational system, the mobility program's curriculum continues to use the traditional approach. As a result of the current state of affairs and globalisation, Malaysia must adopt a fresh method, namely the virtual mobility strategy used by the majority of foreign universities. Overall, it can be concluded that the majority of respondents are of the opinion that the mobility programme should be sustained, even in light of the changing social norms that call for social distance and allow for virtual application. This is due to the fact that the majority of students concur that a mobility programme is the ideal method for fostering soft skills in students, even if it is conducted online.

According to the study, a few issues, such as the respondents' level of knowledge for joining the programme, the factor influencing their motivation to join the programme, and the medium that students anticipate using when joining the virtual mobility programme, can be seen as a critical strategy that contributes to the success of the implementation of the programme. Therefore, the curriculum's syllabus and structure must be altered in order to reflect the content and execution strategy that are appropriate for the virtual mobility

programme. Future research can advance by examining the effectiveness of virtual mobility from many locations and nations for a better understanding of the educational culture.

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