

Virtual Learning for Trainee Teachers in the Institute of Teacher Education Technical Education Campus during Movement Control Order (MCO): A Survey



Romy, A.K¹, Ajurun, B.A², Baharudin, S.³, Romai Noor, R.⁴ Halimatun Saadiah, H.⁵

^{1,2,3,4,5} Institut Pendidikan Guru Kampus Pendidikan Teknik

ABSTRACT: This study aims to identify the level of knowledge, attitude and readiness of students of the Institute of Teacher Education, Technical Education Campus (IPGKPT) on virtual learning. Correspondingly, a study was administered to a sample of 988 trainee teachers. Likert-based questionnaires which was distributed through google forms were utilized as the instrument in this descriptive study. Findings revealed that the level of knowledge is at a high degree with an average mean value of 3.02 (sd = 0.78), while the level of attitude of trainee teachers towards virtual learning is at a moderate degree with an average mean value of 2.94 (sp = 0.88) and likewise the level of readiness of the trainee teachers is high with an average mean value of 3.32 (sp = 0.78). Based on the questionnaire conducted online and the findings of the study from the respondents it was found that virtual learning entails positive implications but some improvements are required in order to increase the quality of virtual learning in IPGKPT.

KEYWORDS: Virtual learning, knowledge, readiness.

INTRODUCTION

In line with the development of information technology and the advent of the industrial revolution 4.0 (IR 4.0), education today is more focused on the use of information technology as a tool in teaching and facilitation (PdPc). Prior to the commencement of Movement Control Order (MCO) in Malaysia, learning in a virtual environment (virtual learning) was considered a latent learning approach for students and pupils. However the numbers of educational institutions embracing an online approach to teaching and learning are increasing specifically during the COVID 19 pandemic. According to Shariman (2013) in developed countries such as Singapore, Ireland, the United Kingdom, the United States and Hong Kong virtual learning has long been a practice.

Reflecting through time, it is evidenced that the government's efforts in virtual learning are seen to be consistent. In 2011, the Ministry of Education Malaysia (MOE) introduced VLE Frog platform which was an education system transformation project under the 1Bestari.Net project. Through this project, schools were equipped with integrated solutions on school administration, teaching and facilitation (PdPc) through virtual methods and the latest information on students' educational progress was obtained through internet accessibility.

Coronavirus contagion was first detected in Wuhan, China around December 2019. The World Health Organization (WHO) has named the virus Covid-19 as an abbreviation of Corona Virus Disease where the virus was detected in 2019. Formerly, before the Covid-19 outbreak, virtual learning elements were not fully employed in our country. However, when the Covid 19-pandemic began to propagate, the education system in primary, secondary, college, skills centres, Institute of Teacher Education (IPG) and universities, began to engage virtual learning approaches widely. As a result, during the Movement Control Order (MCO) period, the Ministry of Education Malaysia (MOE) had initiated learning programmes from home through the Okey TV channel (Chin, 2020).

BACKGROUND OF THE RESEARCH

The Movement Control Order (MCO) phase one commenced on 18 March 2020 to 31 March 2020. The Malaysian Institute of Teacher Education (IPGM) disseminated a letter of IPG operational management during the MCO dated 17 March 2020 (Centre for Academic Excellence, 2020). As the Covid-19 pandemic has not yet shown a decline in infection cases during that period, the government extended the MCO to phase two from April 1 to April 14, 2020. On March 21, 2020, MCO was extended to phase

Virtual Learning for Trainee Teachers in the Institute of Teacher Education Technical Education Campus during Movement Control Order (MCO): A Survey

three from April 15 to April 28, 2020. In order to curb this epidemic from spreading and proliferating in the community, the government once again extended the MCO to phase four from April 29 to May 12, 2020.

The Malaysian Institute of Teacher Education (IPGM) issued instructions to the campuses that teaching and facilitation (PdPc) was to be conducted online (online learning). The major learning platforms distinguished were Google Classroom, Whatsapp, Telegram, Schoology, Youtube, Zoom, Facebook Live, Skype and Kahoot which were utilized by the lecturers and teacher trainees in the implementation of PdPc.

Table 1: Distribution of IPGKPT trainee teachers

Programme	Intake	Amount
PPISMP	Jun 2020	281
PISMP	Jun 2017	15
	Jun 2018	128
	Jun 2019	108
	Jun 2020	450
PDPP	Jun 2020	174
Total		1156

Source: HEP Institut Pendidikan Guru Kampus Pendidikan Teknik (IPGKPT)

Table 1 illustrates the distribution of trainee teachers by intake which indicates the June 2020 intake to comprise the highest number of students which is 450 trainee teachers and the total number of students for the three programmes, Preparation of Bachelor of Teaching Program (PPISMP), Bachelor of Teaching Degree Programme (PISMP) and Postgraduate Education Diploma Programme (PDPP) respectively are 1156 trainee teachers. Apparently, the need to embark on a study to determine the implication of virtual learning towards the trainee teachers of IPGKPT emerged due to the Covid 19 pandemic since the trainee teachers have to conform to virtual learning which is still considered the new norm. The adaptation to the current situation too became a mandatory to the trainee teachers.

LITERATURE REVIEW

Virtual Learning

Virtual learning is a learning method or approach that uses computers and is supported by internet lines. According to Lai (2017), Design and Technology (RBT) teachers, especially in rural schools, have not yet fully mastered the virtual learning approach. In rural areas, internet access is still poor. It indicates that virtual learning either for teachers or students is still latent and has not attained an adequate degree. This is due to various factors such as the internet access and the concept of virtual learning that has not yet been fully mastered by teachers. Meanwhile, Kok (2020), teaching and learning for the subject of Professional Medium Studies during the implementation of the Movement Control Order (MCO) is at a moderate level and students are more satisfied with the implementation of teaching and learning face to face.

According to Harison (2004), the effectiveness of virtual learning depends on the elements of high knowledge, skills and personality while doing practical work. This is in accordance with the objectives of this study which looks at the level of knowledge, readiness and attitude of the respondents. The installation of 1BestariNet in schools was inaugurated in stages since 2012. This project targeted 10,000 primary and secondary schools to be equipped with 4G high speed internet access. The VLE project aimed to pave way to school community to interact, access and share learning materials as well as to communicate virtually.

STATEMENT OF PROBLEM

The increasingly sophisticated information technology intrigued the urgency for the trainee teachers to grab the opportunity to learn and acquire something new in their preparation in emerging as a teacher at some point in the future. The advent of Covid19 has transformed completely the teacher training system in the Institute of Teacher Education (IPG).

Virtual Learning for Trainee Teachers in the Institute of Teacher Education Technical Education Campus during Movement Control Order (MCO): A Survey

According to Kok (2020), learning satisfaction is stimulated by a conducive learning environment and encompasses the physical and social conditions in a classroom. The ability of a teacher to boost the spirit, motivation and performance in a classroom contributes to the escalation of satisfaction in learning in the classroom.

Therefore, the elements of knowledge, attitude and readiness of the trainee teachers in virtual learning render an important role in ascertaining a smooth navigation of the learning process. The virtual learning approach is capable in measuring the ability of virtual learning in moulding and producing skilled trainee teachers whose skills are applicable in accommodating to the demands and the responsibilities as a teacher in the future. The prerequisite personal qualities and technical facilities are vital for academic achievement and personal fulfilment within this environment.

Hence, a study was conducted to investigate the extent to which this virtual learning is feasible since the 1156 trainee teachers, are required to adhere to virtual learning but the study to identify the effects of virtual learning is scarce. Accordingly, this study was conducted to see the extent to which this virtual learning could be accommodated by trainee teachers of IPGKPT.

RESEARCH OBJECTIVES

Specifically, the objectives of this study were to:

1. Identify the level of knowledge of trainee teachers on current virtual learning during the MCO period.
2. Identify the level of attitude of trainee teachers towards learning during the MCO period.
3. Identify the degree of readiness of trainee teachers for virtual learning during the MCO period.

RESEARCH QUESTIONS

There are three research questions as follows:

1. What is the trainee teachers' level of knowledge of the current virtual learning during the MCO period?
2. What is the trainee teachers' level of attitude towards learning during the MCO period?
3. What is the trainee teachers' level of readiness for virtual learning during the MCO period?

METHODOLOGY

Research methodology explains the form of the framework for conducting a study (Baharin Abu, Othman Md Johan, Syed Mohd Shafeq Syed Mansor, & Haliza Jaafar, 2007). Research methodology is an important part to ensure that the study is conducted with the appropriate methods, procedures and approachess. In addition, objectives of a study are achieved through the research methodology based on valid and reliable data (Mohd Najib Abdul Ghaffar, 1999).

Research design

Survey method is a plan or blueprint to collect data and to conduct the analysis in order to obtain information to answer research questions (Foong, 2018). This study uses a quantitative approach which is a survey as the research design. According to Creswell (2008), quantitative research approach is a technique to answer research questions. The mentioned approach is able to strengthen the findings of the analysis that would be discussed later. The data obtained are analyzed statistically to obtain the results of the study.

The questionnaire was distributed to be answered on google forms as an instrument to collect data. The collated data is obtained as 'data sampling' to explicate and to establish the tangible result related to the knowledge, attitudes and readiness of the trainee teachers towards virtual learning.

Population and Sample Study

Krejcie and Morgan (1970) introduced a table with reference to the total population in determining the sample size (Hua, 2016). The following diagram shows the table of Krejcie and Morgan (1970).

Virtual Learning for Trainee Teachers in the Institute of Teacher Education Technical Education Campus during Movement Control Order (MCO): A Survey

Populasi	Sampel	Populasi	Sampel	Populasi	Sampel	Populasi	Sampel	Populasi	Sampel	Populasi	Sampel
10	10	85	70	220	140	440	205	1200	291	4000	351
15	14	90	73	230	144	460	210	1300	297	4500	354
20	19	95	76	240	148	480	214	1400	302	5000	357
25	24	100	80	250	152	500	217	1500	306	6000	361
30	28	110	86	260	155	550	226	1600	310	7000	364
35	32	120	92	270	159	600	234	1700	313	8000	367
40	36	130	97	280	162	650	242	1800	317	9000	368
45	40	140	103	290	165	700	248	1900	320	10000	370
50	44	150	108	300	169	750	254	2000	322	15000	375
55	48	160	113	320	175	800	260	2200	327	20000	377
60	52	170	118	340	181	850	265	2400	331	30000	379
65	56	180	123	360	186	900	269	2600	335	40000	380
70	59	190	127	380	191	950	274	2800	338	50000	381
75	63	200	132	400	196	1000	278	3000	341	75000	382
80	66	210	136	420	201	1100	285	3500	346	100000	384

The population of this study were obtained from the Students Affairs Department (HEP) IPGKPT. They are 1156 trainee teachers from the 2017 June to 2020 June intake, The term trainee teachers here is applicable to the students who are undertaking training at the Institute of Teacher Education (IPG) who are trained to be future teachers in the primary school after obtaining their degree. The trainee teachers who were selected as the sample in this study consisted of trainee teachers of PPISMP, PISMP and PDPP programmes from semester 1 to semester 8. A pilot study was conducted on 37 PPISMP trainee teachers.

The data for analysis was obtained from 988 IPGKPT trainee teachers or respondents from the total population of 1156. This adheres to the terms of quantitative sample selection methods for sample-based research (Krejcie & Morgan 1970). According to the sample selection requirements, the number of respondents (988 students) who had responded is above the mandatory stipulated number of respondents as a sample for a study.

Instrument of the study

This study uses a questionnaire as the instrument. According to Sulaiman (2002) questionnaires are the most convenient method to obtain information and some advantages are prevalent compared to other methods in obtaining quantitative information. The instrument used in this study is an online questionnaire. This questionnaire was distributed in order to identify the level of knowledge, attitudes and readiness of teacher teachers towards virtual learning.

The instrument of this study consists of four parts, namely part A demographics, Part B teacher trainees' knowledge on virtual learning (virtual learning), Part C teacher trainees' level of attitude towards virtual learning (virtual learning) and Part D teacher trainees' level of readiness towards virtual learning. Part A consists of 5 items, Part B consists of 23 items, Part C has 18 items and Part D consists of 10 items.

Table 2: questionnaire items

Part A	Construct	No of Item
A	Demographics of teacher trainees	5
B	The trainee teachers' level of knowledge on virtual learning	23
C	The trainee teachers' level of attitude on virtual learning	18
D	The trainee teachers level of readiness on virtual learning	10

Virtual Learning for Trainee Teachers in the Institute of Teacher Education Technical Education Campus during Movement Control Order (MCO): A Survey

Descriptive Analysis

This study employed descriptive analysis to answer the research questions. The descriptive analysis of this study consists of percentage, mean and standard deviation (SP) which were utilized to identify the level of each variable. The interpretation of the mean score used in this study refers to the study of Zolkepli (2017) taken from Alias Baba (1992) stated as in Table 3 below;

Table 3: Interpretation of Min Score in Descriptive Analysis

Min Score	Interpretation
1.00 – 2.00	Low
2.01 – 3.00	Moderate
3.01 – 4.00	High

Data Collection Procedures

The survey method using the questionnaires were utilized to obtain information to achieve the purpose of the descriptive study. This method is appropriate to obtain information about an occurring event. Wiersma (1991) states that questionnaires are used to measure attitudes or opinions with any number of variables in a natural conditions. For the purpose of data collection, the following procedures were performed:

- i) The participants of the study were informed regarding the purpose of the study and their consent to participate in this study voluntarily was obtained.
- ii) Questionnaires were distributed online via link <https://forms.gle/ifWA41PPX2cbZEvJ8>

Data Analysis Procedures

The quantitative data were analyzed using Statistical Package for the Social Science (SPSS) version 22. The level of agreement was determined based on mean and percentage scores. Overall, the design of this study is a survey study and a quantitative approach. This study was conducted with the focus to obtain descriptive information to answer the above stated research questions.

FINDINGS AND DISCUSSION

Demographic Analysis of Respondents

Based on Table 4 below, it is apparent that a total of 988 respondents were involved in this study. From the total, 223 respondents (22.6%) are male trainee teachers while 765 (77.4%) are female trainee teachers. The respondents' gender information demonstrates that the number of male trainee teachers involved in this study is relatively less than the female trainee teachers.

Table 4: The Gender of the Respondents

Gender	Number of Respondents	Percentage
Male	223	22.6
Female	765	77.4
Total	988	100

Table 5 below refers to the field of respondents involved in this study. The highest number of respondents who answered the questionnaires is from the Islamic Education field which are 256 respondents (25.9%), followed by respondents from Malay Studies and Technology Design 168 (17%) respondents. Meanwhile, PDPP trainee teachers in agriculture and hospitality were the least likely to answer this questionnaire, which is (0.1%).

Table 5: Cohort and year of intake

Field	Number of Respondents	Percentage
Tech Design	168	17
Mathematics	143	14.5
Science	79	8
Islamic studies	256	25.9

Virtual Learning for Trainee Teachers in the Institute of Teacher Education Technical Education Campus during Movement Control Order (MCO): A Survey

English	112	11.3
Malay Studies	168	17
Welding	9	0.9
Automotive	5	0.9
Aircond	3	0.3
Electricity	5	0.5
Electronics	12	1.2
Tourism	7	0.7
Accounting	15	1.5
Business	4	0.4
Agriculture	1	0.1
Hospitality	1	0.1
Total	988	100

Table 6 below refers to the respondents' semester of study. 530 respondents (53.6%) were from semester one while , 458 (46.4%) respondents from semester 2 were involved in this study.

Table 6: The respondents' semester of study

Semester	Number of Respondents	Percentage
Sem 1	530	53.6
Sem 2	458	46.4
Total	988	100

Table 7 below refers to the intake year of the respondents. The 2020 intake was the most involved in this study which was 774 respondents (78.3%) while the respondents from the 2017 intake was the least in answering the questionnaire of this study which was only 4 (0.4%) respondents.

Table 7: Intake Year

Year	Number of Respondents	Percentage
2017	4	0.4
2018	84	8.5
2019	126	12.8
2020	774	78.3
Total	988	100

Table 8 below, refers to the respondents' study programmes. Most of the respondents who participated in the study were of PISMP programme which were 602 respondents (60.9%), followed by PPISMP (307) which is (31.1)% and PDPP 79 respondents (8%).

Table 8: Study Programme

Programme	Number of Respondents	Percentage
PISMP	602	60.9
PPISMP	307	31.1
PDPP	79	8
Total	988	100

Virtual Learning for Trainee Teachers in the Institute of Teacher Education Technical Education Campus during Movement Control Order (MCO): A Survey

Findings based on the questionnaires

Research Question 1: *What is the trainee teachers' level of knowledge of the current virtual learning during the MCO period ?*, In order to determine the answer for research question 1, 23 items were used in this section. Table 9 illustrates the mean values and standard deviations for each construct to establish the level of knowledge of virtual learning among the trainee teachers. The findings of the study illustrate that the mean for the construct *I submit my assignment using the google classroom application* obtained the highest mean which is 3.84 and s.d = 0.38. Overall, the level of the teacher trainees' knowledge on virtual learning is at a high level with an average value of mean = 3.02, s.d = 0.78.

Table 9: Mean for level of respondents' knowledge of virtual learning

No	Sub-construct	N	mean	sd	Interpretation
B1	I know the concept of virtual learning.	988	3.61	0.53	High
B2	I use a virtual learning approach every day (virtual learning) during the Movement Control Order (MCO) period.	988	3.67	0.52	High
B3	I am good at using interactive learning in virtual learning	988	3.40	0.61	High
B4	Virtual learning helps me understand Teaching and Facilitation (PdPc) more easily	988	2.98	0.787	Moderate
B5	Virtual learning is more flexible	988	3.23	0.788	High
B6	Virtual learning creates collaborative learning	988	3.08	0.787	High
B7	I know and often use google classroom application in Teaching and Facilitation (PdPc)	988	3.74	0.46	High
B8	I know and often use the Google Meet application in teaching and facilitation (PdPc)	988	3.69	0.51	High
B9	I know and often use the Zoom app in teaching and facilitation (PdPc)	988	2.59	1.06	Moderate
B10	I know and often use Skype application in teaching and facilitation (PdPc)	988	2.10	1.033	Moderate
B11	I know and often use Microsoft team applications in teaching and facilitation (PdPc)	988	2.68	1.11	Moderate
B12	I submit my assignments using the Google Classroom application	988	3.84	0.38	High
B13	I submit my assignments using the google meet application	988	3.10	0.95	High

Virtual Learning for Trainee Teachers in the Institute of Teacher Education Technical Education Campus during Movement Control Order (MCO): A Survey

B14	I send assignments using the Zoom app	988	2.12	1.03	Moderate
B15	I submit my assignments using the Skype app	988	1.86	0.95	Low
B16	I submit my assignments using the Microsoft Team application	988	2.39	1.13	Moderate
B17	I am good at downloading documents and videos using the Google Classroom application	988	3.75	0.50	High
B18	I am good at downloading documents and videos using the Google Meet application	988	3.38	0.80	High
B19	I am good at downloading documents and videos using the Zoom app	988	2.41	1.08	Moderate
B20	I am good at downloading documents and videos using the Skype application	988	2.08	1.02	Moderate
B21	I am good at downloading documents and videos using the Microsoft Team application	988	2.49	1.11	Moderate
B22	Virtual learning improved my computer skills	988	3.73	0.47	High
B23	Virtual learning improved my skills in using the internet	988	3.75	0.46	High
	Overall Mean	988	3.02	0.78	High

Research Question 2

Research Question 2.: *What is the trainee teachers' level of attitude towards learning during the MCO period?*

In order to determine the answer for research question 2, 18 items were established. Table 10 shows the mean values and standard deviations for each construct which exhibit the level of teacher trainees' attitudes towards virtual learning. The findings of the study revealed that the mean for the construct *I enjoy accessing virtual learning using the Google Classroom application because it is easy to access anywhere*, is at the highest level which is at mean = 3.50, s.d = 0.67. Generally, the level of teacher trainees' attitude towards virtual learning is at a moderate level with an average value of mean = 2.94, s.p = 0.88.

Table 10: Mean for level of respondents' attitude towards virtual learning

No	Sub-construct	N	mean	sd	Interpretation
C24	I like to learn using the virtual learning approach	988	3.07	0.84	High
C25	I like to use virtual learning to find materials	988	3.61	0.59	High
C26	I am responsible for conducting virtual learning	988	3.48	0.63	High
C27	I enjoy accessing virtual learning using the Google Classroom application because it is easy to access anywhere	988	3.50	0.67	High

Virtual Learning for Trainee Teachers in the Institute of Teacher Education Technical Education Campus during Movement Control Order (MCO): A Survey

C28	I enjoy accessing virtual learning using the Google Meet application because it is easy to access anywhere	988	3.38	0.78	High
C29	I enjoy accessing virtual learning using the Zoom app because it is easy to access anywhere	988	2.59	1.04	Moderate
C30	I enjoy accessing virtual learning using Skype applications because it is easy to access anywhere	988	2.36	1.04	Moderate
C31	I enjoy accessing virtual learning using the Microsoft Team application because it is easy to access anywhere	988	2.67	1.05	Moderate
C32	I like Google Classroom display because it attracts my attention to study	988	3.49	0.66	High
C33	I like the Google Meet display because it attracted my attention to study	988	3.43	0.7	High
C34	I like the Zoom display because it catches my attention to learn	988	2.57	1.04	Moderate
C35	I like Skype display because it attracts my attention to learn	988	2.33	1.02	Moderate
C36	I like the Microsoft Team display because it attracts my attention to learn	988	2.63	1.02	Moderate
C37	I like to discuss about assignments with friends using the Google Classroom app	988	3.26	0.84	High
C38	I like to discuss about assignments with friends using the Google Meet app	988	3.45	0.76	High
C39	I like to discuss about assignments with friends using Zoom	988	2.48	1.07	Moderate
C40	I like to discuss about assignments with friends using the Skype app	988	2.21	1.02	Moderate
C41	I like to discuss about assignments with friends using Microsoft Team	988	2.49	1.07	Moderate
	Overall Mean	988	2.94	0.88	Moderate

Research Question 3

Research Question 3: *What is the trainee teachers' level of readiness for virtual learning during the MCO period?*

To answer research question 3, 44 items were assigned in the questionnaires. Table 11 conveys the mean values and standard deviations for each construct for the level of readiness of trainee teachers in the implementation of virtual learning by the lecturers.

Virtual Learning for Trainee Teachers in the Institute of Teacher Education Technical Education Campus during Movement Control Order (MCO): A Survey

The findings of the study indicated that the mean for the construct *I can access virtual learning easily because I have a computer at home* obtained the highest mean which is 3.58, s.d = 0.62. Overall, the level of readiness of trainee teachers for virtual learning is at a high level with an average value of mean = 3.32, s.d = 0.78.

Table 11: Mean for level of readiness for virtual learning

No	Sub-construct	N	mean	sd	Interpretation
D42	I am willing to use the virtual learning approach in PdPc	988	3.46	0.73	High
D43	I have good internet access at home during the MCO period	988	3.32	0.85	High
D44	Virtual learning makes it easier for me to interact with the lecturers	988	3.07	0.89	High
D45	I can learn by using a virtual learning approach (virtual learning) outside of lecture hours	988	3.45	0.70	High
D46	I can access virtual learning easily because I have a computer at home.	988	3.58	0.62	High
D47	I can access virtual learning easily because I have internet at home.	988	3.43	0.79	High
D48	I can access virtual learning easily even when I am outdoors	988	3.27	0.83	High
D49	I do not feel left out in lessons although I am learning using a virtual learning approach (virtual learning)	988	3.09	0.88	High
D50	I always look forward to lecturers using the virtual learning approach during the MCO period	988	3.30	0.78	High
D51	I always use the virtual learning approach at all times even when the MCO period is over	988	3.26	0.81	High
	Overall Mean	988	3.32	0.78	High

DISCUSSION

Discussion based on the level of knowledge of trainee teachers in virtual learning practices.

The results of the study depict that primarily, the level of knowledge of teacher trainees on virtual learning is at a high level with an average value of mean = 3.02, s.d = 0.78. The key findings emerge as such because IPG students represent the high digital literacy group who belong to the very high computer group, who are also referred to as 'digital natives'. The term refers to the young generation that grew up in the digital age and have close ties to computers, the internet, video games, mobile phones, social networks and tablets (Marc 2001). Correspondingly, the fact was also highlighted by Jones, C.; Shao, B. (2011). Their research clearly illustrates that students in higher education or university students prefer the use of ICT in their courses. This is supported by a study conducted by Yu, Backman & Backman (2010) who quoted Oblinger's (2003) statement that the current generation which is better known as the 'net generation' is vulnerable to the latest technology and uses a variety of the latest technological tools in the learning process.

Virtual Learning for Trainee Teachers in the Institute of Teacher Education Technical Education Campus during Movement Control Order (MCO): A Survey

According to a study by Singh and Lee (2008) and quoted by Yu, Backman & Backman (2010), it is vital for institutions of higher learning to employ the latest technology in teaching and learning in order to meet the expectations of tertiary level students and students favour it in comparison with the traditional method of conferences. Ewelina Lacka & T. C. Wong (2019) also stated that "digital natives refer to higher education students who have been raised in the environment where the emergence of the latest technological devices is a reality. All of this demonstrates and supports the findings of this study which indicate that the trainee teachers' level of knowledge of the current virtual learning using technology is high.

Discussion of Teacher Student Attitude Levels on Virtual Learning.

Apparently the findings of the study reveal that the trainee teachers' level of attitude towards learning during the MCO period is moderate with an average value of mean = 2.94, and s.d = 0.88. This shows that IPGKPT students are not very keen in virtual learning. This may be related to the immediate change of teaching-learning methods from face to face to entirely virtual learning as a result of the MCO announcement on March 18, 2020 for the first time and followed by several MCOs that persist to this day. This is based on the findings of Zilka, Rahimi & Cohen (2019) who argued that the virtual environment causes students to be coerced to familiarize themselves with higher-level thinking abilities. They are also expected to possess the ability to integrate multiple tasks and multi-media such as the audio, visual and oral used in virtual learning to achieve success in the learning process. This prerequisite may pose a challenge for students who hastily had to switch to a higher level of thinking in order to comprehend the online lectures that were previously conducted face to face.

The study also cites studies by Henderson, Selwyn, and Aston 2017; Whitaker, New, and Ireland 2016 which convey that the use of digital technology is also found to bear negative elements such as it is more teacher-centered, as well as , result in inefficient time management by students (Gao, Luo, and Zhang 2012; Tariq et al. 2012). Supporting this finding is also Brown, A (2018) who argues that there are college students who at present lack self-learning skills that need to be inculcated to adapt in virtual learning environment. Based on these arguments, the findings of this study are found to be in line with other former studies conducted.

Discussion of The Trainee Teachers' Level Of Readiness For Virtual Learning During The MCO Period

The results of the study depict that the level of readiness of the trainee teachers for virtual learning is at a high level with an average value of mean = 3.32, and s.d = 0.78. The level of readiness of trainee teachers for virtual learning is high and corresponds to the good preparation by the teacher or lecturer due to the fact that good preparation could enhance the students' confidence. The statement was agreed by Ewell W.H & Rodgers R.R. (2014) who stated that careful preparation by a teacher or lecturer affect student readiness. Ewell W.H & Rodgers R.R. (2014) also emphasized that the attitude of only distributing assignments to students without adequate guidance would have negative impact on students' readiness to learn. Correspondingly, according to A. Maltby and S. Mackie (2009), students' high confidence that they are able to take the course and perform the task well would contribute as a determining factor in them following a course well. The findings of the study are in congruence with other similar studies since the IPG trainee teachers are the cream of SPM students who are selected among the high achievers in the SPM examination. Hence it is anticipated that they should possess high self-confidence and would be willing to pursue learning including virtually as they have a very wide exposure in the digital and virtual worlds.

SUMMARY

Based on the findings, it is concluded that the level of knowledge and level of readiness of IPGKPT students is high based on their background and the ability as children of the digital technology age who are able to adapt to changes despite the fact, that they are not yet fully prepared to adopt virtual teaching and learning. Considerably, improvements need to be furnished in order to enhance the level of readiness of the students or trainee teachers. Students should be exposed to effective time management methods, as well as the teaching and learning activities of the lecturers should be tailored to cater the needs of students who may not be fully prepared to learn entirely through the virtual world.

REFERENCES

- 1) Maltby and S. Mackie (2009) *Virtual learning environments – help or hindrance for the 'disengaged' student?*, ALT-J, 17:1, 49-62, DOI: 10.1080/09687760802657577
- 2) Baharin Abu, Othman Md Johan, Syed Mohd Shafeq Syed Mansor dan Haliza Jaafar, (2007). *Kepelbagaian Gaya Pembelajaran dan Kemahiran Belajar Pelajar Universiti di Fakulti Pendidikan, UTM Johor*. Research Vote No: 71881. Universiti Teknologi Malaysia.

Virtual Learning for Trainee Teachers in the Institute of Teacher Education Technical Education Campus during Movement Control Order (MCO): A Survey

- 3) Brown, A (2018) *Engaging students as partners in developing online learning and feedback activities for first-year fluid mechanics*, European Journal of Engineering Education, 43:1, 26-39, DOI: 10.1080/03043797.2016.1232372
- 4) Chin, C., (2020). *Teaching Through the Telly*. Sunday Star
- 5) Creswell JW, (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson/Merrill Education.
- 6) Ewell W.H & Rodgers R.R. (2014) *Enhancing Student Preparedness for Class through Course Preparation Assignments: Preliminary Evidence from the Classroom*, Journal of Political Science Education, 10:2, 204-221, DOI: 10.1080/15512169.2014.893760
- 7) Ewelina Lacka & T. C. Wong (2019): *Examining the impact of digital technologies on students' higher education outcomes: the case of the virtual learning environment and social media*, *Studies in Higher Education*, DOI: 10.1080/03075079.2019.1698533
- 8) Foong, S.Z.Y., Lam, Y.L., Andiappan, V., Foo, D.C.Y., Ng, D.K.S., (2018). *A systematic approach for the synthesis and optimization of palm oil milling processes*. Ind. Eng. Chem. Res. 57, 2945–2955. <http://dx.doi.org/10.1021/acs.iecr.7b04788>.
- 9) Gao, F., T. Luo, and K. Zhang. 2012. "Tweeting for Learning: A Critical Analysis of Research on Microblogging in Education Published in 2008–2011." *British Journal of Educational Technology* 43 (5): 783–801.
- 10) Harison, H., (2004). *Analisis Keupayaan Pembelajaran Maya dan Realiti (Sistem Pneumatik) di Kalangan Pelajar Pendidikan Teknik dan Vokasional*. UTHM.
- 11) Huang, Y.-C., Backman, S. J., & Backman, K. F. (2010). Student Attitude Toward Virtual Learning in Second Life: A Flow Theory Approach. *Journal of Teaching in Travel & Tourism*, 10(4), 312–334. <https://doi.org/10.1080/15313220.2010.525425>
- 12) Jones, C.; Shao, B. (2011), *The net generation and digital natives: implications for higher education.*, Higher Education Academy, York, UK.
- 13) Khasiman, S.A. (2013). *Tinjauan Awal Pengguna Frog VLE Di Sekolah*. <http://sekolahpenandaaras.wordpress.com>
- 14) Kerjcie, R.V., & Morgan, D.W. (1970). *Determining sample size for research*. *Educational and Psychological Measurement*. 30, 607-610.
- 15) Kok, K.H., (2020). *Interaksi Tidak Bersemuka dan Perintah Kawalan Pergerakan*
- 16) *Wabak Covid-19*. *Jurnal Dunia Pendidikan*. <http://myjms.mohe.gov.my/index.php/jdpd>
- 17) Lai, C.S., Normawati, K., Rashidah, L., Noridah, H., (2017). *Tahap Penggunaan Pembelajaran Maya Dalam Kalangan Guru Reka Bentuk Teknologi : Satu Tinjauan di Sekolah Luar Bandar*.
- 18) Mohamad Najib Abdul Ghafar (1999). *Penyelidikan Pendidikan*. Skudai: Penerbitan Universiti Teknologi Malaysia
- 19) Prensky, Marc (September 2001). "Digital Natives, Digital Immigrants Part 1". *On the Horizon*. 9 (5): 1–6. doi:10.1108/10748120110424816. ISSN 1074-8121.
- 20) Pusat Kecemerlangan Akademik., (17 April 2020). *Rumusan Laporan Pengajaran Dan Pembelajaran Dalam Talian Perintah Kawalan Pergerakan Fasa 1 & 2*. <http://www.moe.gov.my/ipgm>.
- 21) Sulaiman, Wahid, 2002, *Jalan Pintas Menguasai SPSS 10*, edisi pertama, Andi, Yogyakarta
- 22) Wiersma, W. 1991. *Research methods in education*. 5th ed. Boston: Allyn & Bacon.
- 23) Zilka, G. C., Rahimi, I. D., & Cohen, R. (2019). Sense of Challenge, Threat, SelfEfficacy, and Motivation of Students Learning in Virtual and Blended Courses. *American Journal of Distance Education*, 33(1), 2–15. <https://doi.org/10.1080/08923647.2019.1554990>
- 24) Zolkepli, H. (2017). *Kesediaan Guru Mengimplementasikan KBAT dalam Pembelajaran dan Pengajaran Matematik Sekolah Rendah*. Universiti Kebangsaan Malaysia.