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Implementation of Distance and Digital Learning During Pandemic Covid-19 in Malaysia

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Abstract: Due to physical constraints preventing Covid-19 spread, TVET institutions are unable to develop and offer their courses effectively. Almost every country in the world has been affected by the pandemic Covid-19. Many students are having difficulty, limiting their access to a high-quality education. This scenario shines a light on how stakeholders can guarantee that the curriculum continues to operate even if students are unable to attend school. Many initiatives have been conducted, including curricular innovation and digitalization. The learning materials are transformed to digital form, and the curriculum delivery is done online. This involves the use of Open Educational Resources (OER). Many institutions are also implementing cutting-edge technology, such as Augmented Reality (AR) and Virtual Reality (VR), to improve student's learning. However, challenges and issues occurred in terms of institutions' preparation to transition from traditional learning, and students' readiness in terms of physical equipment and connectivity. The objective of this paper is to highlight the initiatives and efforts made by the TVET stakeholders in relation to distance and digital learning. This article will discuss the strategies and practices taken by the Malaysian Government and the TVET institutions to deliver quality education including the issues and challenges that most TVET institutions confront particularly the teachers and lecturers. The findings of this article elaborate the best practices initiated during pandemic. Furthermore, based on the online survey of 242 respondents from various TVET institutions, the student's perception on distance learning is at moderate level with mean=2.875, SD=0.95. There is a need to enhance the student's experience while taking distance and online learning. The outcome of this paper may be used as a guideline in the development and planning of TVET curriculum and delivery particularly on distance and online learning.

Keywords: Covid-19, digitalization, online, distance, curriculum delivery

1. Introduction

The World Health Organization (WHO) had declared the COVID - 19 outbreak as a "Public Health Emergency of International Concern" (WHO, 2020). The COVID - 19 was first reported in Wuhan, China in end of December 2019; but nowadays it has been geographically spread in almost 200 countries. The number of peoples infected by COVID-19

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has been increasing at alarming levels starting from end of February 2020. Only in April 2020, some countries have demonstrated the ability to control the spread of the COVID-19, by slowing down the chain of COVID-19 spreads through controlling people's movement, maintaining social distances, and maintain a good personal hygiene and lifestyle, through a thorough campaign by the local authorities (Chen et al., 2020; WHO, 2020). Malaysia has also been affected by the COVID-19; the first wave was from imported cases reported on 25th January 2020. From this first case, eight close contacts were identified as being in Johor, Malaysia (Abdullah). The number has been going up every day, but the infection is still under control because of the success of the vaccination programme,

Thus, teachers should be adequately prepared, supported and empowered to cope with the changes and transition processes involved to continue teaching in a virtual environment. Additionally, TVET college managers and policy makers should priorities change management programmes designed to prepare teachers for the inevitability of technological change in education (Aina & Ogegbo, 2021). However, several initiatives have been employed to support the TVET delivery such as incentives for devices, software and the establishment of a digital innovation centre to support the development of online materials. Trainings were also designed to guide the teachers to develop their own materials. This includes online learning, videos, interactive slide, Augmented Reality and Virtual Reality. An online platform to train the teachers was developed, based on the self-paced learning method to ensure that the teachers are equipped with relevant information and skills for their development. Nevertheless, learners or students' perception are critically important to be assessed to ensure that the curriculum delivered through online and distance learning are being implemented in the right way. However, it is important to know what the students or learners think about the curriculum delivery through online and distance learning to make sure that it is being implemented in the right way. During this transition, it is important for all stakeholders to play their roles effectively.

2. Literature Review

Curriculum delivery issues are critical during the pandemic since students are trying to graduate on time despite the difficulties. Lecturers continue to strive to complete the course curriculum as specified in the teaching plan. These concerns are deemed critical because they directly affect the delivery of TVET material. The TVET education strategy focuses on skills and hands-on courses. As a result, TVET institutions must recognise digital or distant learning as a viable way of carrying out teaching and learning activities. As a result, all TVET institutions must be well-prepared to address this issue without infringing the MCO. The Malaysian government has implemented a number of methods to help students and TVET institutions in effectively engaging in learning. During this crisis era, TVET institutions also take actions to make judgments on training implementation (present and post-crisis) based on existing capabilities, resource adequacy, and infrastructure. They must ensure that the trainee's interests and wellbeing are well-protected. They must periodically document and update all actions and activities carried out throughout the MCO term. All TVET institutions are encouraged to continue training and studying through different online learning platforms. Furthermore, the theoretical portion of the TVET curriculum is restricted to roughly 30% - 50%, with the remainder requiring demonstration, hands-on skills, and observation on equipment handling. Some courses are suggested to use AR (Augmented Reality), VR (Virtual Reality), or MR (Mixed Reality) technology to efficiently offer training. However, the expense and skill required to execute it may be beyond most TVET schools' capabilities.

As a response to this problem, the Malaysian government and internet service providers collaborated to provide free phone and data packages to individuals who are less fortunate. Other government countermeasures are evident in the Ministry of Education's intention to cancel national examinations and ultimately reduce superfluous hardships, which was recently announced. We have no option but to adapt to the new normal since RMO is projected to continue for a few more stages. Aiming to ensure that no student is left behind while still providing the finest service possible, TVET colleges are tackling this epidemic head-on. For TVET programmes in Malaysia, strategies have been devised to promote digital and distant learning as a learning transformation to assure the quality of curriculum delivery and to keep access to education constant. In order to facilitate the shift from conventional to digital and distant learning, the tactics have been rigorously planned. At the same time, efforts are being made to raise student and lecturer knowledge and competence via training, and the best infrastructure is being provided to assist learning.

This is a collective effort between TVET stakeholders, ministries and agencies that are providing TVET in Malaysia. Since most of the TVET programs comprises of hands on or practical activity, the curriculum delivery encounters a serious issue (Yunus & Ngadiman, 2021). Interventions were made to overcome referring to the guidelines from Malaysia Qualification Agency (MQA). Higher Education Provider (HEP)s are given the flexibility to handle Teaching and Learning activities (Online / remote learning) and need to provide an action plan for dealing with possible crisis situations or uncertainty. Implementation of planned and structured courses will ensure the smoother of the program offerings.

Traditional news media (e.g., television) has been found to have a favourable effect on students' self-initiative and eagerness to study (Hopmann, Shehata & Strömbäck, 2015). Like earlier media, the newest media (e.g. social media) has a greater impact on current affairs knowledge than the older ones do as well (Oluwatosin, Olusola & Popoola, 2019). It's because of this that the internet, which is accessible from any location, is a vital source of news (Newman, Fletcher, Kalogeropoulos, Levy, & Kleis Nielsen, 2017). With 87.4 percent of Malaysians having access to the internet, social media applications like WhatsApp and Telegram, as well as the likes of Twitter (Facebook) and Instagram (Instagram),

are available to everyone (Elias et. al, 2021). While social media has helped people stay on top of current events, it may also lead people's interest and purpose in learning to wane, according to Boukes (2019).

Various online learning methods have been introduced and can be implemented according to the suitability of the courses offered. Courses which basically technical, clinical, laboratory or other major activities that involve specific skill competency requirements are advised to be creative and innovative (Ghavifekr & Yulin, 2021). This includes designing courses that are supported by an online practical or hands-on activity to be considered to utilize virtual simulation, virtual lab, augmented reality, virtual reality and many more.

On the basis of the description of the learning process, distance learning may be split into three categories: (i) synchronised learning; (ii) asynchronised learning; and, (iii) blended learning. The methods by which the educational objectives are to be met, on the other hand, are the same. These three categories are only distinguished by the manner in which educational activities alternate throughout the course of a student's learning process. Due to the flexibility of scheduling, customised feedback, and the opportunity of setting an unique pace of learning for each individual student, distance learning may be a viable solution for students who might otherwise struggle in the traditional classroom setting (Ge, 2012). Distance learning has a number of advantages. Students are able to operate freely and are motivated to pursue the route/course of self-learning that they have chosen (Lionarakis, 2005). The different audiovisual means given by distance learning stimulate students to creatively explore the content and enable the transmission of information, attitudes, and skills without requiring students to be physically present in the classroom or on the learning environment (Bozkurt, 2019). As reported by instructors, during the covid-19 epidemic, students were more engaged and took more responsibility for their own learning. Distance learning provided an opportunity for students to benefit from the time savings. This allowed for a more pleasurable class (Van Der Spoel, Noroozi, Schuurink & Van Ginkel, 2020). During the previous several decades, many different distance learning training programmes have been made available to instructors. These programmes involve the development of methods and practises that are necessary for distant learning. Other educational programmes for teachers focused on the application of new technological tools as well as the educational needs of students.

3. Methodology

Document analysis and quantitative survey were the two methods used in this article, which were separated into two categories. The information in this article was gathered via the use of a document analysis approach applied to policy documents and reports produced by the government. It also used a quantitative technique, in the form of a survey instrument, to study the perceptions of students throughout Malaysia about online distance learning opportunities. It was disseminated online via the use of a Google form, which was developed by the researcher. During a pandemic, the online survey is believed to be the most effective technique of gathering information. It was distributed to diploma and degree students in Malaysian public institutions located across the country, including the Malaysia Technical University Network, Malaysia Polytechnic, and Vocational Colleges, among others. The survey received responses from a total of N = 242 participants. Convenience sampling was utilised in this research, and it was conducted on a large scale. Males constituted 47.5 percent of the group, while females constituted 52.5 percent.

4. Result and Discussion

There are many initiatives and efforts being introduced to support the innovation and digitization of TVET delivery. This section will explain on the guidelines and policy for the implementation of digital learning and example of best practices for the reference. The Malaysian Qualification Agency (MQA) has issued a number of new rules for teaching and learning in higher education in the wake of the COVID-19 pandemic outbreak. According to the Department of Skills Development (DSD) guidelines, training must follow government orders. For the most part, the guideline focuses on recommending the use of online and offline platforms for the delivery of instructional materials and assessment activities, particularly during the MCO period in its guidelines, the Department of Skills Development stresses the importance of following government orders. Technical and Vocational Education and Training (TVET) colleges must be aware of the availability and accessibility of students (Department of Skills Development, 2020). It is the responsibility of TVET and educational institutions to guarantee that students have access to instructional materials and are evaluated equally on whatever platforms used for teaching and learning.

The list of the policy and guidelines can be studied in the following documents:

i. Policy of National E-Learning 2.0 (2011). Department of Higher Education, Ministry of Higher Education. Putrajaya.
ii. Guidelines on Skills Training Delivery During Movement Control Order (MCO) (2020). Department of Skills Development, Ministry of Human Resources. Putrajaya.
iii. Guideline on the Development of Teaching and Learning Materials based on Immersive Experience (2019). Department Polytechnic and Community College. Ministry of Higher Education. Putrajaya.
iv. Guidelines on Program Delivery for Higher Education (2021). ADVISORY NOTE NO. 2/2021. Malaysian Qualification Agency. Putrajaya.

v. Malaysia MOOC QUALITY PRACTICES (2018). Department of Higher Education, Ministry of Higher Education. Putrajaya.
vi. Code of Practice for open and distance learning (2013). Malaysian Qualification Agency. Putrajaya.

These documents basically emphasize on the activity and guidelines that can be used to deliver the teaching and learning despite the physical session constraint. It is to ensure that the learning continues and the students will get assessed for the certification.

It is difficult to manage the TVET curriculum because of its emphasis on hands-on learning. The courses in the TVET programme emphasise the significance of practical components in laboratory work and workshop activities, which are distinct from other programmes. Every TVET student's cognitive, psychomotor, and emotional components are evaluated based on their performance in the program's practical components. However, if physical gatherings are prohibited, such as during MCO, the laboratory and workshop activities may not be practicable. To avoid the 3Cs (Confined Space, Crowded Space, Closed Conversation) situations, educational institutions, especially TVET, must adhere to the Standard Operating Procedure (SOP). The SOP mandates that the number of trainees in each practical session be reduced and that there be enough room for social distancing to be practised. The TVET programme has made a great deal of effort to address the difficulties of SOP requirements in restricted facilities and staff, but the difficulties experienced by overseas students remain. There are some overseas students who are unable to return to university because of this epidemic. As a result, the project's response to TVET's current problems is to enhance distance and digital learning.

i. Initiatives and Incentives

When it comes to dealing with the consequences of this epidemic, the Malaysian government has devised a number of measures and incentives to help pupils cope with the obstacles of learning sessions at this vital era. By collaborating with telecom providers, the government has budgeted RM600 million under the PRIHATIN Economic Stimulation Package (ESP) to guarantee students may benefit from free daily internet access of up to 1 Gigabyte (PENJANA, 2020). An extra RM400 has been set aside for the purpose of improving the coverage and quality of network services. The YTL Foundation provided free mobile phones to kids from low-income households and families belonging to the B40 group (YTL, 2020). Each free mobile phone comes with a free SIM card as well as 10GB of free internet access each month for a period of one year.

Many efforts, including webinar series and public talks on new work processes, have been implemented, and should be applauded by the educators' committee, which includes TVET trainers among others. It has been decided that the Ministry of Education would engage with other relevant ministries and non-governmental organisations (NGOs) in order to make efforts toward aiding teachers and students in order to maintain the continuance of the national education agenda. The Malaysia Research Institute for Vocational and Technical Education and Training (MyRIVET) has organised webinars with TVET specialists to assist TVET educators in adjusting to working in the new normal environment (MyRIVET, 2020). Higher education institutions' Centers for Academic Development, Deputy Deans for Academic and Internationalization, Committee on Outcome-Based Education, and Course Coordinators came together to review the delivery style and assessment information for each course. Despite the fact that we are currently dealing with the COVID-19 pandemic situation, teaching plans are being amended to guarantee that the content of the courses is adequately covered.

University Tun Hussein Onn Malaysia (UTHM) for example is making an attempt to develop support groups via the use of online platforms like as Google Classroom and Author, which they believe is a positive step. It is because of the presence of these support groups that information sharing, as well as the exchange of information on teaching and learning resources in the form of papers, audios and videos, is encouraged. Author UTHM allows professors to post notes and streamline the process of completing evaluations. In addition, lecturers may publish questions for students to respond to. Author UTHM may also be used as a venue for students to obtain feedback from their professors, according to the authors.

The Centre for Instructor and Advanced Skill Training (CIAST), which is one of the TVET instructor training centres, is also actively involved in providing training and courses to educate instructors to deliver digital and online training to students. Funded by the Ministry of Finance and governed by the Ministry of Human Resources, CIAST is a public-private partnership. The courses are provided at no charge in order to maintain the high quality of Malaysia's TVET system. Participants may sign up for the course and training by clicking on the following link.: https://ekursus.ciast.gov.my/.

Aside from that, the University of Texas at Houston engaged in a nationwide effort to develop the material for Massive Open Online Courses (MOOCs) (MOOCs). MOOCs (Massive Open Online Courses) are a learning and teaching platform that allows students to access courses from any location at any time using the website https://www.openlearning.com/malaysiamoocs. Malaysia intends to adopt a national policy on credit recognition for the MOOCs platform, which will be implemented in the near future. As a result of the programme, students from all around the globe will be able to complete their studies online while still receiving academic credit. The Malaysian Ministry of Education wants to grant credit via the country's own MOOCs in order to encourage students to study in a more flexible

manner, eliminate duplication of effort, and recognise the teachings and experiences earned outside of the traditional classroom.

ii. Digital Innovation Centre (DICE) and National Digital TVET Innovation Centre (NDTIC)

In the effort to centralize the plan and activity for online and digital learning, most of the TVET instructions are strengthening its roles through establishment of the centre. Digital Innovation Centre (DICE) was established at Universiti Tun Hussein Onn Malaysia, responsible to accelerate the development of innovative solutions for digital learning from the research & development stage to the commercially available stage. As a technology and innovation center, it provides a flexible and efficient services to empower digital teaching and learning. This centre offers online program through its Moodle platform to educate teachers on how to engage their students in class through innovative teaching materials.

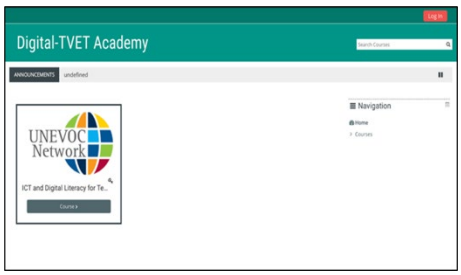

Fig. 1 - Digital learning platform

It is also actively working on the projects regarding digital materials for the Teaching and Learning (T&L). Figure 1 shows the interface for the online self-paced learning platform. This centre is also responsible to create an engaging environment for student's learning through innovation in learning materials such as mobile application, games and digital form. Figure 2 shows the example of mobile and game application developed to engage student's learning.

Fig. 2 - Example of mobile and game application

Research, development, technology, innovation, and training are provided by the National Digital TVET Innovation Centre (NDTIC) to strengthen Malaysian digital TVET via research, development, technology, innovation, and training (NDTIC, 2020) and other related activities. Furthermore, this centre is concerned with the creation of Open Educational Resources (OER) and the establishment of norms for providing open access to education. These rules are intended to assist in the development of educational materials that may be freely accessed, reused, updated, and shared. These guidelines explain significant challenges and provide recommendations for incorporating open educational resources (OER) into higher education (UNESCO, 2015).

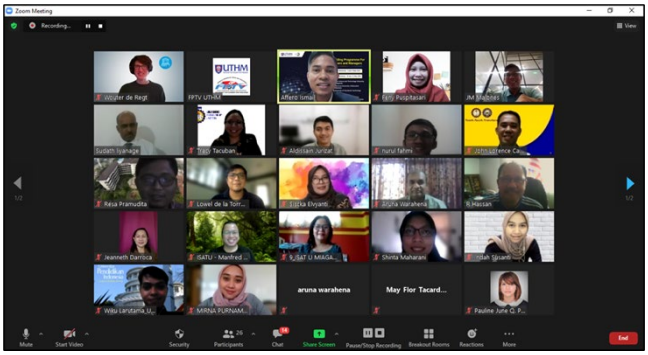

Fig. 3 - Online workshop with UNEVOC network

CeLT (Center for eLearning and Teaching) is the Learning Unit under the Department of Polytechnic and Community College Education, Ministry of Higher Education Malaysia. It establishes TECC or Technology Enable Collaborative Classrooms as a new 21st century learning spaces for teaching and learning environment. A TECC will consist of several basic technological tools that MUST be used to assist and enhance the practiced instruction via the use of research, presentation, and collaborative technologies. There are four level of TECC as in Figure 4.

Fig. 4 - Level of TECC

iii. Digital Content

The implementation of content distribution in TVET courses must be in accordance with the standard operating procedure in the "new normal." In order to turn physical components into digital platforms, it is possible to optimise the use of Augmented Reality (AR), Virtual Reality (VR), and Mixed Reality (MR). Trainees will have a comparable experience to that of doing actual practical work in physical labs and workshops thanks to the use of AR, VR, and mixed reality technology. Indeed, by incorporating interactive audio-visual components into TVET courses, augmented reality and virtual reality apps may make the process of grasping tough concepts in TVET courses less difficult. In AR and VR applications, the interactivity factor allows for immersive learning to take place, resulting in increased student engagement during learning sessions. Additionally, while developing the content of TVET courses, the necessity for collaborative learning and problem-solving abilities should be taken into consideration. The nature of the job in the TVET-related business is to implement and foster a sense of collaboration in problem-solving activities.

iv. Training

Teaching and learning should be able to be executed in various ways through different mediums. Every educator should understand that every medium has its unique challenges and opportunities. In shaping and following the guidelines for online teaching, be it synchronous or asynchrounous, trainers need to understand the available forms of interaction by observing the functions provided in the chosen platform or application. Every platform or application provides different features that support different forms of interaction. Trainers should analyse the needs of trainees as well as the potential of different types of interaction.

It is necessary to organise training sessions to familiarise trainers with the delivery technique of TVET courses in the new typical environment. Trainers and trainees must be proficient in grasping the environment of online learning platforms, as well as in using the augmented reality and virtual reality apps that will be employed in the practical component of the TVET programme. Subject Matter Experts (SMEs) for the courses in the TVET programme should be trained in order to assist the digital content creators in understanding the requirements of different teaching and learning

activities in the TVET programme. Small and medium-sized enterprises (SMEs) have the ability to explain the essential aspects in the contents of the syllabus and how they relate to learning objectives. Furthermore, small and medium-sized enterprises (SMEs) should use their imagination to vary the teaching and learning activities of their courses.

TECCs are learning spaces that MUST be used to promote the following concepts: i) 21st Century Learning Skills; ii) Education 3.0; and iii) Higher Order Thinking. Figure 5 shows the interactive session with Virtual Reality (AR) and Augmented Reality (AR). While the traditional approach, the teaching of lectures and the use of textbooks contribute to ineffective learning around the world. To avoid the boredom in learning that only uses chalk and talk, it was inspired to develop AR (Abd Ellah, Essai & Yahya, 2015). Students believe that introducing technology will aid them in their learning process.

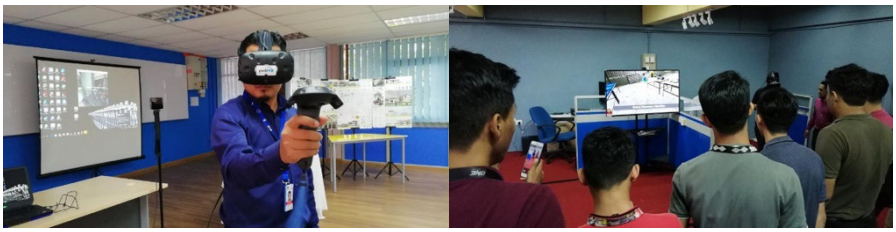

Fig. 5 - PolyVR and AR

4.2 Online Learning Platform

There are various online learning platforms that were developed to offer training and courses to users. Some of the platforms are operated based on the self-learning approach while others are blended learning. Most of the institutions are familiar with Moodle and open learning. However, some of them has taken initiatives to develop their own learning platform and there is increasing pressure on governments, educational institutions, workplaces, and community groups to adopt distance and online learning to ensure the continuity and upscaling of skills development while keeping communities safe (Neal, 2020).

RCTVET is an online platform built specifically for TVET educational institutions that offer training programs based on skills training and vocational education. This platform is more easily accessible by educators without the need for special skills in the field of IT and is interactive for students. It is important to shares a good examples and insights that can assist TVET officials and leaders to respond to immediate challenges and to rethink traditional TVET models to be able to reduce costs, increase flexibility and to prepare for a more resilient future (Neal, 2020).

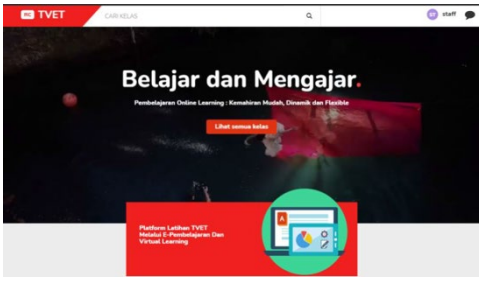

Fig. 6 - RCTVET learning platform

Labtech International is one of the largest technical educations (TVET) providers in the world established since 1990. This online learning site features a new generation of advanced interactive and graphic rich content for technical and vocational education subjects. It designed meant to be used by individual learners that may be already taking courses at their local institutions. It can also be used for reskilling for a new job or even if you are just curious and want to acquire new knowledge and skills. Teachers can also use this site to supplement their existing learning materials for their students. Labtech academy with collaboration with UTHM has taken steps ahead in promoting access to education through this platform. Users can self-enrolled and assess their own performance by completing the activities. Figure 7 depicts the homepage for the Labtech Academy platform.

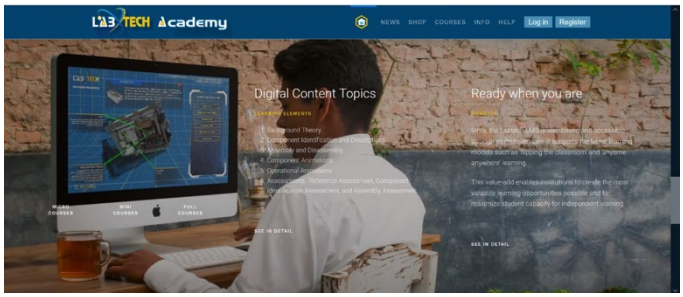

Fig. 7 - Labtech academy platform

4.3 Survey on Distance and Digital Learning among TVET Students

The survey on student's perception of distance and digital learning was conducted online. The questionnaires were dividied into four main components which are satisfaction, perceived ease of use, perceived usefulness and perceived enjoyment. The findings are illustrated in table 1.

Table 1 - Student's perception on distance learning

No.	DIMENSION	Mean	Std. Deviation
1	Satisfaction	2.82	.950
2	Perceived Ease of Use	2.73	0.965
3	Perceived Usefulness	2.99	0.954
4	Perceived Enjoyment	2.96	0.949
		2.875	0.955

From table 1, the mean score for the satisfaction is mean=2.82, SD=0.950, perceived ease of use is mean=2.73, SD=0.965, perceived usefulness is mean=2.99, DS=0.954 and perceived enjoyment is mean=2.96, SD=0.949. The highest mean falls to perceived usefulness. In summary, all dimensions are at highly moderate level which explains that the implementation of distance learning still not achieve the expected level. Further investigation needs to be conducted to explain this scenario. This includes the readiness of the teachers that could be referred to the ICT Competency Framework for Teachers (ICT CFT). ICT CFT was established by UNESCO as a framework to assist pre- and in-service teacher training on the use of ICTs within the education system. The ICT CFT is intended to advance national and institutional objectives by providing an up-to-date framework for policy development and capacity building in this rapidly evolving sector. It is funded by the European Union (UNESCO, 2018). As a whole, this includes the shift from Pedagogy/Essentialism/Instructivism to Andragogy/Constructivism, which then leads to Heutagogy/Connectivism, which then progresses to Peeragogics and Cybergogy, and finally Peeragogy and Cybergogy (Rawoofu Nisha, 2018). Table 2 shows the detailed item of each dimension.

Table 2 - Detailed item of each dimension

Dimension: Satisfaction			
No.	**ITEM**	**Mean**	**Std. Deviation**
1.	A digital learning programme keeps me up to date and helps me stay focused.	2.82	.950
2.	There is a digital learning programme at my institution now, and I like how I communicate with my teacher through it.	3.05	.891
3.	I like how I communicate with other students in the digital learning programme that is already in place at my institution.	3.02	.938
4.	I like the technology that is used in the digital learning system right now.	3.26	.947
5.	I think I did very well in institution.	2.73	1.014
6.	When I use digital learning tools, I can train myself at my own pace.	3.24	1.012
7.	My digital learning programme has given me a lot more knowledge than a lecture in person.	2.50	1.020

Dimension: Perceived Ease of Use			
No.	**ITEM**	**Mean**	**Std. Deviation**
1.	I think it's easy to learn new things from a digital learning programme.	2.86	.951
2.	A digital learning programme makes it easier for students and lecturers to get in touch with each other.	2.83	1.001
3.	When I work with the digital learning system, I know what I'm doing and why.	2.76	.952
4.	It's very rare for me to get lost when I use the digital learning system.	2.95	1.045
5.	When I use the digital method of learning, I never make mistakes at all.	2.45	.902
6.	When I use the digital method of learning, I never feel bad about it at all.	2.53	.938
Dimension: Perceived Usefulness			
No.	**ITEM**	**Mean**	**Std. Deviation**
1.	When I learn digitally, I will be able to save both time and energy.	3.17	1.040
2.	When you use digital learning, you can get to know a study platform without having to go to school.	3.24	.929
3.	The digital learning programme makes it easier for me to do my work quickly.	2.84	.985
4.	The digital learning programme improves the quality of my work and increases my efficiency at work.	2.82	.976
5.	The digital learning programme helps me do better at work.	2.83	.939
6.	The digital learning programme will have an impact on my job.	3.17	.888
7.	I think the digital learning programme helps me keep track of my study plan.	2.88	.922
Dimension: Perceived Enjoyment			
No.	**ITEM**	**Mean**	**Std. Deviation**
1.	The digital learning system I'm using is fun to work with.	2.99	.966
2.	Because I am using a digital learning system, I find it very exciting!	3.00	.927
3.	There is a good digital learning programme that I'm using right now.	3.06	.934
4.	Because I have been using a digital learning programme, I think it is a great one.	3.03	.906
5.	There is a digital learning programme I am using that helps me improve my communication skills.	2.95	.984
6.	To me, it's fun to share learning resources with other students.	3.37	.851
7.	I like the digital learning programme better than the traditional classes where there are teachers.	2.45	1.042
8.	I get more excited about a subject when I use a digital learning method.	2.85	.984

Teachers must be willing to experiment with any digital learning platform, such as Blackboard, Edmodo, or Google Classroom, and be versatile in their approach. In addition to teaching us to be more attentive, Pandemic Covid-19 seems to have educated us to accept the new normal. Almost all nations are confronted with significant and expanding obstacles in their efforts to battle the virus, which has, in one way or another, impacted the services provided by education sectors across the world. As a consequence, developing suitable ways to ensure high-quality education is critical, particularly in light of the shifting landscape of education that has occurred as a result of the worldwide pandemic epidemic. In order to avoid falling out of favour with the ever-changing globe, education sectors should be prepared to handle the changes. This is especially true in the recent year of 2020, when absolutely everyone is influenced in one way or another. It is past time for a paradigm shift to be implemented in order to meet the difficulties of keeping up with the tide of change, which may become much more severe in the future.

It is hoped that this paper will be able to contribute to the discussion of methods in which TVET institutions might offer access to education in the face of Covid-19, with the assistance of the Malaysian government and other interested parties. Distance and digital learning are the most effective solutions available at this time to keep students on track and guarantee that they have access to education while adhering to the SOP established by the federal government.

Institutions of technical and vocational education and training (TVET) should make use of educational technology and digital mechanisms to enhance distant and digital learning. While designing the curriculum and delivering it, the most critical consideration is ensuring that students accomplish their learning objectives via accurate assessment and

constructive alignment. It is hoped that it will continue to provide precious opportunity for all parties concerned to adjust to the new standard in the years to come.

5. Conclusion

Covid-19 pandemic has caused an unpredictable crisis in all areas including education. This crisis has led to the enormous closure of face-to-face activities of educational institutions to avoid the disseminated of the virus and alleviate its impact. The pandemic created a lot of challenges in TVET education system. Reaching out to students indeed a challenge for TVET educational institutes and the educators while at the same time to ensure continuity of education through remote learning. Educators need to ensure the completion of the course according to the addressed curriculum. Educational institutions are switching to the online mode but being a new concept require a lot of back-and-forth experimentation. At such a time, understanding these challenges is key to solving them for better crisis management in education. Therefore, TVET stakeholders, ministries and agencies that are providing TVET in Malaysia implementing collective effort for dealing with the pandemic crisis.

This article has addressed the efforts and best strategies undertaken by the government and educational institutions, as well as the challenges that they face. The explanation for the moderate degree of student perception of online and distance learning should be examined in depth to determine its cause. Online and Digitization in TVET are one of the most sought-after topics particularly during Covid-19. Although the COVID-19 pandemic is seen as a challenge in the implementation of the TVET programme, it has given great benefit to various parties involved in brainstorming the intervention in dealing with such situation. The implemented innovation and digitization have brought positive impacts such as improving the student's learning in adaptation to the fast-growing technology and Industry Revolution 4.0, creation of opportunities to TVET teachers to explore various innovation in teaching and learning particularly in digitization and the existence of applications developed enables the course syllabus and learning outcomes to be fulfilled even in challenging times such as the Covid-19 period.

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