TVET Teaching Strategy during COVID-19: A Comparative Study of Indonesia and Malaysia

A. Ana[1,2*], Fazlinda Binti Ab Halim[3], Ilhamdaniah Saleh[1,2], Yadi Mulyadi[1,2], A. Budhi Salira [1,2], M. Muktiarni[1,2], Ana Ramdani Sari[1,2], Wan Hanim Nadrah Binti Wan Muda[3], Indah Khoerunnisa[1,2]

[1] Faculty of Technology and Vocational Education,
Universitas Pendidikan Indonesia, Jl. Dr. Setiabudhi No. 229, Bandung, INDONESIA

[2] TVET RC, Universitas Pendidikan Indonesia, Jl. Dr. Setiabudhi No. 229, Bandung, INDONESIA

[3] Digital Educational Technology & Resources (DETR), Faculty of Technical and Vocational Education,
Universiti Tun Hussein Onn Malaysia, MALAYSIA

*Corresponding Author

Abstract: The purpose of this study is to gain an understanding of the teaching strategies used by lecturers in Indonesia and Malaysia during the COVID-19 pandemic. Many lecturers must consider the amount of teaching they can provide. The transition from offline to online learning, which is accompanied by extensive technological use, is extremely challenging. A survey study was designed using an online questionnaire. The questionnaire is including items on learning objectives, lesson materials, teaching and learning activities, learning design, media, resources, and learning evaluations. A Google form-based online questionnaire is used to collect the data. The research participants are TVET lecturers from two universities in Indonesia and Malaysia with 200 valid responses. Descriptive statistics such as frequency distribution, mean, and standard deviation are used to analyse the research data. Inferential statistics, t-test is used to investigate the difference between two countries, Malaysia and Indonesia on the teaching strategies during the pandemic. The results show that Indonesian and Malaysian lecturers have similar preferences for lesson material, learning resources, teaching and learning activities. While learning objectives, learning design, media, and learning evaluation are all distinct and interconnected. Most Malaysian lecturers agree that online learning allows for greater teaching flexibility, more caring, and is more open to meet the needs of students. Other than that, the t-test show no difference in teaching strategies between Malaysia and Indonesia. For the conclusion, lecturers at both universities adapt quickly to the changes that occur during each phase of the pandemic. The most effective teaching strategies are presented to ensure that educational services and processes continue to perform.

Keywords: Teaching strategies, TVET

1.   Introduction

The Corona Virus Disease 2019 (COVID-19) pandemic has cast uncertainty on the future. As of October 26, 2021, there had been 243,572,402 WHO-confirmed COVID-19 cases, including 4,948,434 deaths, and 6,697,607,393 vaccine doses administered. (WHO, 2021). In response to the crisis, school closures have been running for more than 68 weeks in Indonesia and 52 weeks in Malaysia (UNESCO, 2021). Many educational institutions are transitioning from offline learning to online learning followed by the high use of technology to improve distance learning (Sukendro et al. 2020).

This pandemic crisis introduces a new argument in online learning and it can serve as a powerful medicine in times of crisis (Dhawan, 2020).

Learning activities in Indonesia have been carried out from home since mid-March 2020. In response to the pandemic, the government issued policies aimed at preparing learning infrastructure with an online environment. The Ministry of Education and Culture launched a learning-at-home program, broadcasting programs on Televisi Republik Indonesia (TVRI) and allocating internet quotas for students to use to access more than 60 e-learning platforms. Online tutoring services for elementary school to college students are also available in the private sector. Many parties encountered difficulties during the policy's implementation. Teachers have difficulty selecting the best platform for distance learning, students believe distance learning is a burden that causes psychological illness, and parents are greatly disturbed by virtual activities. Rural schools encounter problems, such as limited internet access, a high level of community technology stuttering, and a lack of infrastructure owned by students as a result, not all students can fully enjoy the learning process. It is estimated that a lack of optimal support from various aspects will result in a decrease in student ability (loss of learning), an increase in the dropout rate, and an indirect reduction in the potential for future student admissions (Churiyah et al. 2020).

As for Malaysia, it is among the first countries to implement a Movement Control Order (MCO) in the Southeast Asian region (Khor et al. 2020). For several months, schools and universities are also closed. The COVID-19 disease causes substantial changes in universities, which has significant impacts on students. The impacts include social distancing, quarantine, isolation measures, campus closures, border closures, and travel restrictions (Kwok et al. 2020). When the government announced that all schools and universities were encouraged to use online learning as a teaching and learning method, the situation became dire. The academic community, however, is extremely resilient, adapts quickly, and takes a proactive approach to overcome the challenges posed by MCO. In two weeks, lessons, projects, group work, presentations, and assessments are all prepared and delivered using technology (Chung et al. 2020).

Many teachers must consider the learning that can be served. There are three pedagogical approaches to choose from (1) synchronous, (2) asynchronous, to (3) mixed learning strategies (Lapitan et al. 2021). In higher education in Indonesia, a combination of synchronous and asynchronous-based online lectures is used so that students are more active, not bored, and the material content is easier to understand. 38.4% used a combination of face-to-face and non-face-to-face online methods, 35.5% used online but non-face-to-face, 20% used online face-to-face interactive direct methods, and 6.2% used other methods (Kemendikbud, 2020). In synchronous learning, the learning environment is more structured, where students attend live lectures and have real-time interaction, and it also allows direct feedback or response, either voice or text, while for asynchronous learning the learning content is not available in direct classes but uploaded to the learning management system (LMS) or other online platforms so that students can access it anytime (Nieuwoudt, 2020). Educational institutions should also prepare emergency learning plans. The availability of adequate information and communication technology infrastructure, learning tools, and digital learning resources is very important (Huang et al. 2020). Instruction, content, motivation, relationships, and mental health must also be considered when learning online (Martin, 2020). Teachers should spend a lot of time developing effective learning strategies to deliver online teaching (Dhawan, 2020).

The prolonged closure of TVET institutions can result in a loss of learning effect in the short term, as well as human resource losses and reduced economic opportunities, due to a decrease in graduates' competence and skills due to a lack of hands-on practical learning experience (World Bank, 2020a). Models and methods of delivery in the learning process are transformed during the pandemic, but not the educational goals. TVET, as an education that prioritizes technical skills as a learning outcome, aims to prepare a skilled workforce. TVET encompasses both education and training. Disruption of the work environment and ways of working necessitates TVET graduates having competencies, if not multi-competencies, that are in line with the changes that occur (Szalavetz, 2019). In the face of disruptions, TVET can play an important role in the various stages of the COVID-19 crisis. At least these three phases have been, are being and will be passed: (1) the coping phase, when schools and many businesses close and the health emergency reaches its peak; (2) the intermediate phase, when schools and businesses reopen gradually; and (3) the recovery phase, when opportunities open up to reimagine, reorganize, and redo workforce training (Levin et al. 2020). The challenges of TVET that necessitate skill mastery must be thoroughly investigated to determine how learning strategies are applied. Therefore, the purpose of this study is to determine the teaching strategies used by lecturers in Indonesia and Malaysia during the pandemic.

2.   Education Digitization Trend

The development of digital technology has triggered a tendency to shift conventional or face-to-face education to more open education. Several countries in Asia have implemented flexible learning, namely online education services (Evan & Hood, 2017). Technology in education is increasingly playing an important role in the era of the COVID-19 pandemic. Technology serves to assist the learning process, improve performance by creating, using, managing processes and adequate technology resources, as well as creating effective and efficient learning innovations. The rapid use of digital technology is reflected in changes in learning models which is the growing growth of distance learning, where teachers and students do not need to be in the same place at the same time and the increasing number of choices of learning

resources available online and easily accessible such as electronic books (e-books), e-libraries, e-forums, and e-journals (Evan & Hood, 2017).

Technology enables the creation of a standardized global learning environment that places students at the centre of the learning process, surrounded by various learning resources and electronic learning services. The conventional education system should show a friendly attitude with new alternative ways of learning that are loaded with digitalization. Digital transformation is done through schools adopting technology, interactive content, and preparing students with the skills needed to succeed in the dynamic world of work. The main factors hindering digital transformation are cyber threats and security issues, lack of skills, weak organizational leadership, and lack of a skilled digital workforce (Niemueller et al. 2016). The development of digital skills is the latest trend of automation and data exchange. The term includes cyber-physical systems, the internet of all, cloud computing, and cognitive computing (Kagermann & Andrel, 2013). Technological advances such as IoT, 5G, computing, data analytics, and robotics are transforming products, processes and business models across all sectors, ultimately creating new industry patterns as global value chains shift (Szalavetz, 2018). This development refers to a systemic transformation that impacts civil society, government structures, economic identity and manufacturing (Santos et al. 2018).

Education providers must agree on the integral role digital technology plays in improving pedagogy. This leads to a gap between the need for transformation and the availability of concrete strategies for moving forward. However, now is the time for educational institutions to transform into digital organizations to remain relevant and to ensure that students are prepared to meet the changing needs of the next generation of workers (APAC, 2021). Nine trends in education in the 4.0 era are 1) learning can be done at different times and places, 2) personalized learning for each individual, 3) students can choose what they want to learn, 4) project-based learning is carried out more intensely, 5) direct learning is more substantial, 6) interpretation of data to understand theoretical understanding, 7) assessment is carried out through projects in the field, 8) students' opinions are used as consideration in curriculum formation, and 9) students are more independent in learning, the teacher acts as a facilitator (Hussin, 2018). Several dimensions of transformation that teachers must consider to transition to digital education are: 1) from teacher-centred to student-centred, 2) technology integration in teaching and learning (mobile technology, web-based applications, multimedia tools, wireless application protocols), 3) authentic teaching and learning approach, 4) problem-based learning, project-based or a combination of both, 5) competency-based approach, and 6) industry-leading educational content.

2.1   Online Learning

Due to the limited time given, students are required to study from home and apply open and distance learning (Hashim, et.al, (2020). It is not permitted to engage in direct face-to-face learning in class or even physically interact with one another. Lecturers must also conduct online classes and work from home. This is to ensure that the higher education system can continue to operate and function properly. Online learning is a teaching method in which students can complete their studies from anywhere because they are not required to physically attend lecture sessions. Furthermore, stable and free platforms for lecturers and students to communicate, discuss, and conduct virtual teaching and learning processes are available, such as Google Classroom, Google Meet, Webinars, and Tutor Room.

E-learning is the delivery of formal and informal learning and training activities, processes, communities, and events via all electronic media such as the internet, intranet, extranet, CD-ROM, videotape, DVD, TV, mobile phone, and personal organizer. With the advancement of technology, lecturers can use e-learning to teach students at any time and from any location during the pandemic (Zahari et al. 2020). There are two types of online learning: synchronous and asynchronous, depending on how the optional interaction time is used. Synchronous online learning allows lecturers and students to interact directly in the classroom using tools such as video conferencing or chat rooms. Meanwhile, asynchronous online learning allows lecturers and students to interact before and after online classes via discussion boards and email. These two modes of learning are frequently combined to compensate for each other's shortcomings.

Table 1 below depicts the implementation of synchronous learning and asynchronous learning communication in online learning. There are four study rooms. Room 1 is a face-to-face learning room, which is eliminated during the pandemic. Learning is done in study Room 2, where learning can only be done online, so it is done face-to-face (virtual synchronous learning). This learning occurs concurrently, but the teacher and students are in separate rooms. The study Room 3 is carried out independently (self-directed asynchronous learning), where learning takes place anywhere and at any time, depending on the conditions and speed of students in carrying out their respective learning. The study Room 4 is collaborative (collaborative asynchronous learning), which means that learning can take place at any time and from any location with the help of other resource people such as students, lecturers, and practitioners (Chaeruman, 2019).

Online learning facilitates independent learning and the development of new skills in the process of lifelong learning (Dhawan, 2020). One of the advantages of online education is that it allows students to learn at their own pace. Students can save money without having to come to college or university. Another advantage is that students can complete assignments by accessing books or online journals. Today, numerous online learning applications can be used in education. Google Classroom is one of the free and well-known applications used. Teachers, lecturers, tutors, and instructors, in general, can open classes and invite students to attend. The use of online learning allows teachers and students to learn without having to meet face-to-face in a class by providing learning materials, assignments (individually or in groups), and assessments. Teachers and students can interact in this application via discussion forums (streams).

Table 1 - Synchronous and asynchronous Learning

Synchronous Learning	
Study Room 1: Face-to-face is temporarily suspended	Study Room 2: Virtual *Virtual synchronous learning*
Study Room 3: Independent *Self-directed asynchronous learning*	Study Room 4: Collaborative *asynchronous learning*
Asynchronous Learning	

(Chaeruman, 2019)

Students are less disciplined when they do not have face-to-face interaction with lecturers due to a lack of online learning. Furthermore, the lack of input from lecturers, the absence or limited availability of facilities to support e-learning and good online learning are difficult to achieve, as are the causes of e-learning weakness. Online teaching has some limitations because lecturers struggle to prepare materials for the online method, and it is a time-consuming process (Selvanathan et al. 2020). Other factors that contribute to the limitations of online learning include limited internet access. According to reports, approximately 52% of students in Sabah, Malaysia, do not have access to the internet due to inadequate infrastructure, particularly in rural and remote areas. Because of their lack of preparation to adopt online learning as a new learning method during the pandemic, some Malaysians continue to doubt the effectiveness of the virtual teaching model (Selvanathan et al. 2020).

2.2 Blended Learning

Because of the rapid development of new technologies, higher education institutions are now required to provide online teaching and learning platforms on campus through blended learning. Various online learning platforms, both free and paid, have been widely used, including social media as a blended learning tool (Stone & Logan, 2018). During the COVID-19 pandemic, blended learning may be an option in learning strategies. Blended learning incorporates concepts from both online and face-to-face learning environments. Students can easily access learning materials, participate in online learning activities and forums, and take online assessments through a Learning Management System (LMS) such as Moodle provided by their university (Kerimbayev et al. 2017). The findings of a 2020 study show the advantages of integrating blended learning with WhatsApp Messenger (Susilawati & Supriyatno, 2020). Many of these advantages are experienced by students, such as 1) information and knowledge are quickly transferred, 2) it is simple to create discussion forums, 3) it becomes a place for unlimited communication between teachers and students, and 4) it is free and simple to use.

Blended learning strategies can be adapted to the characteristics of the learning materials that students will be given. Interaction and communication between students and teachers are required for blended learning. The difficulty of communication during the pandemic presents a challenge in implementing blended learning. Educational institutions are becoming accustomed to using technology media in response to communication challenges in e-learning during a pandemic. This mode of operation is no longer the preferred medium, but rather the dominant supporting medium in every teaching and learning process. The communication model shifts to technology-based media communication (Chaeruman, 2019). Figure 1 illustrates the communication of synchronous and asynchronous learning in the implementation of blended learning.
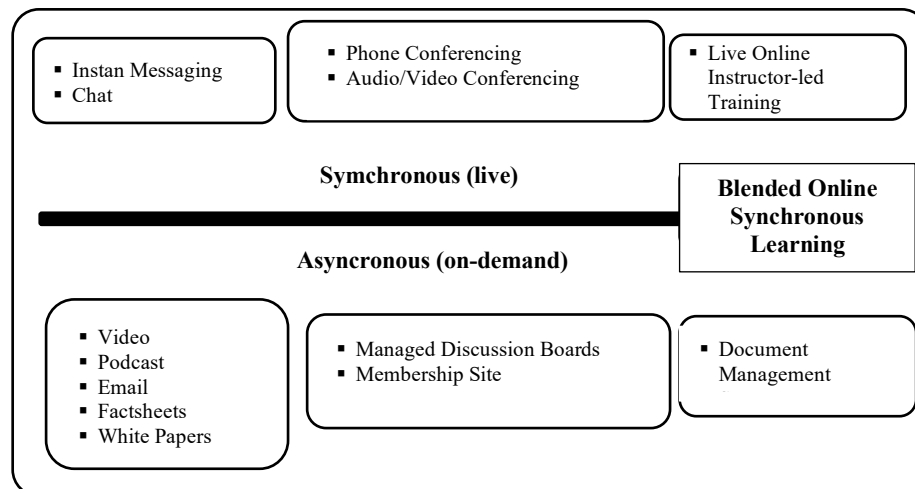

Fig. 1 - Synchronous e-learning vs asynchronous e-learning (Amiti, 2020)

An asynchronous learning environment is one in which teachers and students communicate in the learning process by meeting online on a platform (Amiti, 2020). Examples of synchronous implementation of e-learning are online chat

and video conferencing (Deepika et al. 2021). Synchronous learning includes tools that allow students and teachers to interact directly, such as instant messaging. During the learning process, students can interact with teachers and other students. Synchronous learning has the advantage of not isolating students because communication occurs in real-time, but it is less flexible because students must set aside special time to be present in learning on the spot (Coman et al. 2020). Teachers must have guidelines and a curriculum in place, as well as software that incorporates all skills so that students can have a better online learning experience (Amiti, 2020).

Students can gain knowledge and learn in an asynchronous learning environment at any time and from any location. Students can study in a quieter environment. Instructional websites, forums, videos, podcasts, membership sites, and other asynchronous e-learning implementations are examples. Teachers must first prepare and design learning materials and activities. Teachers can track student progress using the Learning Management System (LMS), forums, and/or email. Although synchronous e-learning involves direct interaction between teachers and students, asynchronous e-learning appears to be more flexible and is the best choice for educational institutions because it is more cost-effective (Ramaha & Karas, 2021). According to the National Education Association, online learning should be asynchronous and scheduled because flexibility is important. However, there must be a time limit for when students complete assignments, and it is beneficial for students to have access whenever they want (Amiti, 2020). The use of various online media, particularly for theoretical learning materials, can be done to facilitate access to learning anywhere (Jones, 2019). Materials involving practicum can be simulated online, but you can still meet in person for learning materials requiring practicum (Noor et al. 2020).

In general, asynchronous synchronous online learning has both advantages and disadvantages. Although each method has different requirements, both synchronous and asynchronous e-learning methods appear to be equally effective for student learning. Blended learning can provide students with more flexibility, make better use of infrastructure, and deliver high-quality learning at scale (Clark & Post, 2021). Face-to-face attendance is beneficial as part of blended learning, students can obtain and access interesting e-learning materials on their own time. In general, it can be concluded that online learning requires students to complete all of their learning online, whereas the blended learning model allows for face-to-face learning.

3.   Research Method

This online survey study is intended to describe how TVET teaching strategies in Indonesia and Malaysia thrived during the pandemic using Google form-based online questionnaire. During the pandemic, data on gender, length of teaching, education level, TVET disciplines, and teaching methods are collected for descriptive purposes and then linked to specific responses.

3.1   Sampling and Population

As research participants, TVET lecturers from two universities in Indonesia and Malaysia were chosen. There are about 450 lecturers from both countries represented as the population for this study. According to Bartlett, Kotrlik and Higgins (2001), the sample of respondents needed for this study is about 96 respondents only. Since the data were collected through online, the researchers decide to get more respondents than they should. After ineligible responses are removed, there are 200 valid responses received.

3.3   Instrument

The instrument was developed through literature review and it was validated by an expert in teaching strategy to confirm the appropriateness of the content of an instrument. There are seven categories in the questionnaire which are learning objectives (4 items), lesson materials (2 items), teaching and learning activities (6 items), learning design (8 items), learning media (11 items), learning resources (2 items), and learning evaluation (5 items). Each item of the questionnaire was a 5-point Likert item from strongly disagree to strongly agree. In order to understand whether the questions in this questionnaire all reliably measure the same latent variable, a Cronbach's alpha was run on a sample size of 35 lectures. The Cronbach's alpha is 0.986, which indicates a high level of internal consistency for the scale with this specific sample. The real data for the research is also gathered using a Google form-based online questionnaire. Emails with questionnaire links are sent, and WhatsApp messages are sent out as a follow-up. This research stressed voluntary participation and also the confidentiality of participants' details.

3.4   Data Analysis

The data of the research are analysed using descriptive and inferential statistics such as frequency distribution, mean, standard deviation and independent samples t-test. This data set provides a useful overview of TVET teaching strategies in Indonesia and Malaysia during the pandemic, as well as preferences for TVET teaching strategies after the pandemic.

4.   Result and Discussion

The demographics of the respondents are displayed in Table 2 for Indonesia and Table 3 for Malaysia. Table 2 depicts the gender of respondents that are evenly distributed; Indonesian respondents are 62 (57%) female lecturers and 47 (43%) male lecturers. The frequency of education level of respondents from Indonesia is 60 (55%) for master and 49 (45%) for PhD. The majority of Indonesian respondents have teaching experience for 0 to 5 years and 20 to 25 years which contribute to 29% or 32 person each. Meanwhile, Table 2 shows Malaysian respondents are 48 (53%) female lecturers and 43 (47%) male lecturers. The frequency of respondents from Malaysia according to education level is 33 (36%) for master and 58 (64%) for PhD. The majority of Malaysian respondents have teaching experience for 0-5 years that is 31(34%).

Table 2 - Demographics' data for Indonesia

Gender	Frequency	Percentage (%)
Male	47	43.1
Female	62	56.9
Level of Education		
Master	60	55.0
PhD	49	45.0
Teaching experience		
0-5	32	29.4
6-10	16	14.7
11-15	11	10.1
16-20	18	16.5
20-25	32	29.4

Table 3 - Demographics' data for Malaysia

Gender	Frequency	Percentage (%)
Male	43	47.2
Female	48	52.8
Level of Education		
Master	33	36.3
PhD	58	63.7
Teaching experience		
0-5	31	34.1
6-10	17	18.7
11-15	24	26.4
16-20	10	11.0
20-25	9	9.9

Several factors are considered when determining the teaching and learning strategies during the pandemic according to the TVET programs. In this study, each aspect of teaching and learning strategies consists of indicators. Allam, Hassan, Mohideen, Ramlan and Kamal (2020) described several aspects such as online teaching and learning and the delivery of learning material that has been changed during the ODL. Mohd Salleh, Md Ghazali, Wan Ismail, Alias and A.Rahim (2020) also stated a few indicators of teaching and learning strategy during the pandemic aligned with finding in Table 4. They also added, with the development of technology, electronic learning or e-Learning can be used by the lecturers to teach the students anytime and anywhere. Table 4 shows each aspect and its corresponding indicators.

Table 4 - Teaching and learning strategy indicators during the pandemic

Aspect	Indicator
Learning Objectives	Became more caring, open, flexible in dealing with student needs
	Analyse students who are comfortable using technology and who need more help
	Analyse students who can work independently and or need more learning guidance
	Encourage students to develop and actualize their potentials
Lesson Material	Develop online learning materials creatively and innovatively
	Collect information from various media
Teaching and Learning Activities	Confident to teach online
	Prepare the teaching material earlier
	Convert the learning from traditional to online
	Need to rethink how a material will be presented
	Make a guide for implementing the lesson plan and the learning resources
	Make schedule online and face-to-face learning
Learning Design	Work professionally and independently.
	Communicate effectively with students.
	Online learning provides the flexibility of teaching
	Online learning is the most effective teaching strategies during the pandemic
	Dedicate a significant number of hours per week
	Manage the hybrid learning in detail
	Conduct the learning process with educational values and based on dialogue
	Establish a comprehensive learning design in the classroom, laboratory, and practical lessons.

Table 4 - Continue

Aspect	Indicator
Learning Media	Use ICT in the learning process.
	Teach irrespective no matter where I am.
	Challenge my skills in using information technology.
	Challenge my knowledge on information technology literacy.
	Accommodate different learning styles online
	Video, audio, and real-time activities benefit from the asynchronous online course
	Comfortable in communicating almost entirely through writing
	Apply the most appropriate technology for various situations
	Ensure the effective learning media to support the independent learning
	Prepared media alternatives for online communication and classrooms to make it easier
	Use the online platform to do face-to-face learning regularly
Learning Resources	Apply technology and combine it with the physical and sensory skills
	Update the material, structure, concept, and scientific thinking mindset that supports the courses
Learning Evaluation	Online learning proves students to complete assignments
	Get benefited from using ICT for self-development
	Determine learning process aspect and outcomes
	Develop evaluation instruments and evaluate the process and learning outcomes
	Encourage students to actualize their potentials

Figure 2 shows the percentages of learning strategies constructed consisting of learning objectives, lesson material, teaching and learning activities, learning design, learning media, learning resources and learning evaluation among Indonesia and Malaysia. In all, there are 200 lecturers from Indonesia (n = 109) and Malaysia (n = 91). Lesson material (85%) is a dominant construct among Malaysian lecturers, followed by learning objective (84%), teaching and learning activities (84%), learning media (84%), learning design (83%), learning resource (83%) and learning evaluation (82%). According to Balyer and Oz (2018), educators learned how to incorporate computers into their classes and teach technology skills, while also being responsible digital citizens, which became increasingly critical topics for education to address. It shows that the emerging technologies, make it easier for educators to deliver the lesson materials. However, the study outcomes differ from Indonesian lecturers that shows that learning objective is the most dominant construct in teaching and learning strategies. This outcome is followed by other constructs such as lesson material (82%), teaching and learning activities (81%), learning design (80%), learning media (80%), learning evaluation (80%) and learning resources (79%). Research from Espino-Díaz et al. (2020) found that the effects of COVID-19 sparked a change in the approach to education from the traditional classroom to the online learning environment. A frantic and unexpected movement happened in a paradigm shift that presupposes a transition from face-to-face education to online education and how educators should adapt to todays' world environment through online applications.
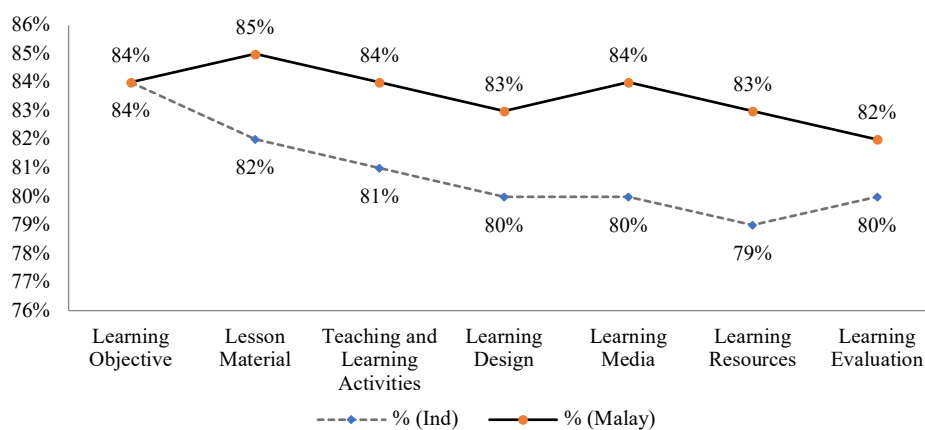

Fig. 2 - Teaching and learning strategies

The determination of learning strategies will always go hand in hand with the determination of learning objectives. The link between the two must be maintained to achieve effective and efficient learning activity steps. Figure 3 shows the outcome of the learning objective. There are four items to measure learning objectives. Most of the lecturers in Indonesia strongly agree that "encouraging students to develop and actualize potentials" is the best part of the learning objective (*M = 4.74, SD = 0.87*). But most of the Malaysian lecturers strongly agree that "becoming more caring, open, flexible in dealing with student needs" is the best part of the learning objective (*M = 4.24, SD = 0.85*). Bogdandy et al.

(2020), also stressed out that the digital transformation due to the COVID-19 was not smooth and without challenges but half of the students liked it and would prefer it in the future. Any new technology adoption can be difficult if there is no strategic plan. Lecturers from Indonesian and Malaysian agree even the "analysing students who can work independently and/or need more learning guidance" shows the lowest calculated mean value (M = 3.95, 3.97; SD = 0.94, 0.80).
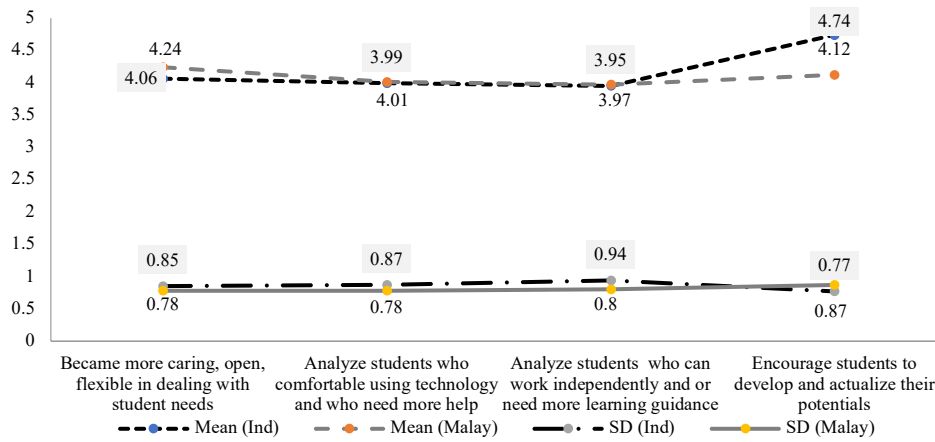

Fig. 3 - Learning objective

Figure 4 shows the lesson material construct in teaching and learning strategies. Most lecturers strongly agree that "collecting information from various media" (*M = 4.29, SD = 0.82; M = 4.17, SD = 0.85*) is essential to ensure their lesson material is well prepared. The majority of lecturers from Malaysia and Indonesia also agree that developing online learning materials creatively and innovatively (*M = 4.22, SD = 0.68; M = 4.05, SD = 0.79*) is also necessary to make more engagement with the students. In short, lecturers must work together to develop innovative, inclusive and equitable online learning environments for students to succeed in higher education. According to Espino-Díaz et al. (2020), the creation of an environment where continuous learning is expected and appreciated within the institution will help educators continue to modernize and build digital skills so that they can serve the modern student. This statement supports the research finding where the skills in collecting information in the digital era are so important.
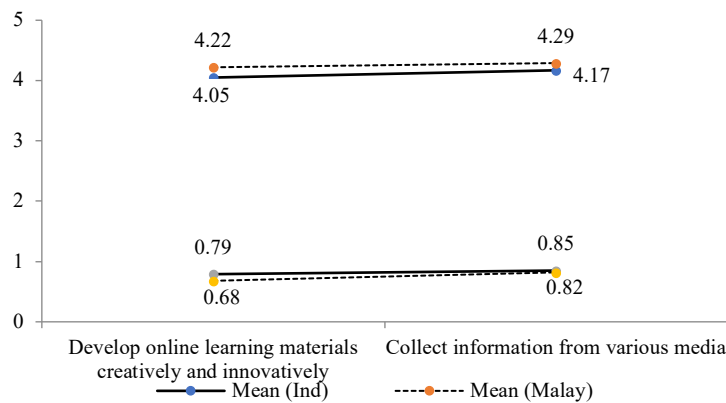

Fig. 4 - Lesson material

Figure 5 shows the results of the teaching and learning activities. The result shows that most of the lecturers prepare the teaching material earlier (M = 4.38, SD = 0.76; M = 4.36, SD = 0.78). The lecturers from Malaysia (M = 4.23, SD = 0.73) also have more confidence in teaching online than lecturers from Indonesia (M = 3.96, SD = 0.80). Most of the lecturers are skilled to convert the learning from traditional to online (M = 4.23, SD = 0.83; M = 3.92, SD = 0.86), make a guide for implementing the lesson plan and the learning resource (M = 4.13, SD = 0.81; M = 3.92, SD = 0.86), and make schedule online and face-to-face learning are the activities (M = 4.08, SD = 0.89; M = 3.96, SD = 0.89). The lecturers also agree that they need to rethink how the material will be presented via an online learning environment (M = 4.09, SD = 0.81; M = 4.10, SD = 0.79) and can meet the student's needs. According to Cheung et.al (2020), during the pandemic, all institutions had to do adjustments in their learning environment in a short time. As to the amount of learning tasks, it is believed that the proportion of traditional face-to-face learning and blended learning having a large task burden both exceed 30%, so blended teaching may not be easy. But this research shows that most of the lecturer in Malaysia and Indonesia does not face so much problem in converting traditional learning to online learning.
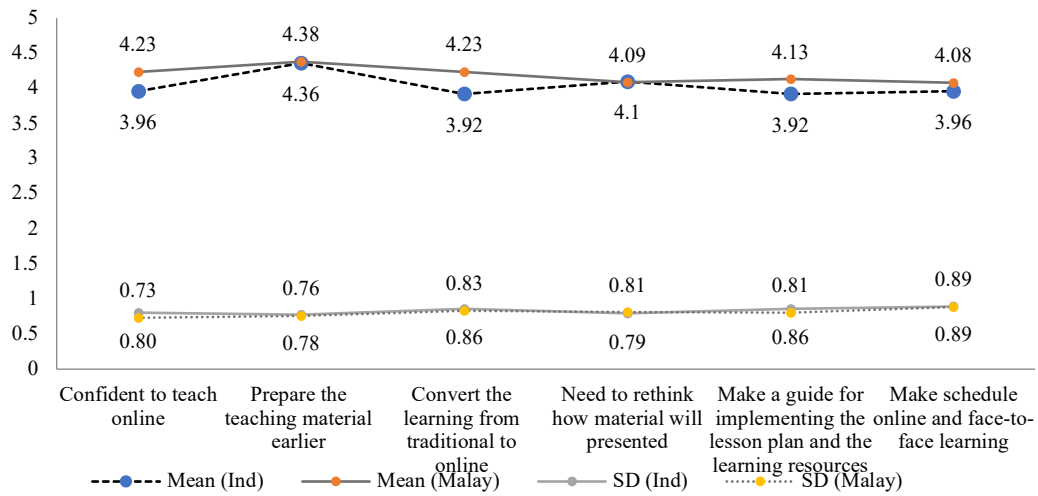
Fig. 5 - Teaching and learning activities

Figure 6 shows the result of the learning design measured by eight items. Most Malaysian lecturers strongly agree that online learning provides the flexibility of teaching (*M = 4.29, SD = 0.85*) for them. However, they need to be more focused to establish a comprehensive learning design in the classroom, laboratory, and practical lessons (*M = 3.93, SD = 0.89*). Moreover, most Indonesian lecturers strongly agree that working professionally and independently (*M = 4.17, SD = 0.82*) is critical in learning design. Nevertheless, they need to give more effort in communicating effectively with their students (*M = 3.73, SD = 1.04*). The study outcomes also show that most lecturers agree that online learning is the most effective teaching strategies during the pandemic (*M = 4.15, SD = 0.95; M = 3.97, SD = 0.97*). To create or develop a comprehensive learning design, the lecturers also agree that they have to manage the hybrid learning in detail (*M = 4.10, SD = 0.86; M = 3.88, SD = 0.87*), spend more time in their teaching (dedicate a significant number of hours per week) (*M = 4.18, SD = 0.84; M = 4.12, SD = 0.87*) and conduct the learning process with educational values and based on dialogue (*M = 4.18, SD = 0.76; M = 4.10, SD = 0.77*).
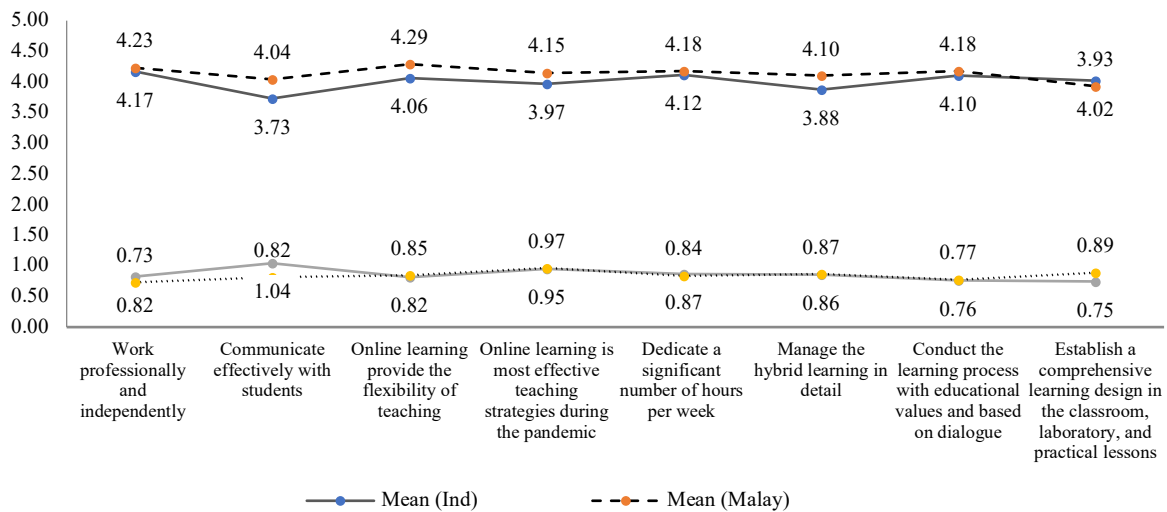

Fig. 6 - Learning design

Figure 7 shows the result of the learning media measured by eleven items. Most Malaysian lecturers strongly agree that video, audio, and real-time activities benefit asynchronous online courses (*M = 4.36, SD = 0.71*). However, they need to be more focused to establish a comprehensive learning design in the classroom, laboratory, and practical lessons (*M = 3.93, SD = 0.89*). Lecturers must redefine their teaching and learning roles and be a facilitator of learning. Meanwhile, most Indonesian lecturers strongly agree that working professionally and independently (*M = 4.17, SD = 0.82*) is critical in learning design. In the online learning environment, the effectiveness and success of teaching is the responsibility of lecturers. Lecturers are supporters, resources and facilitators who supply students with the tools needed to be successful (Iivari et al. 2020). Nevertheless, they need to give more effort in communicating effectively with their

students ($M = 3.73$, $SD = 1.04$). The study outcomes also show that most lecturers agree that online learning is the most effective teaching strategies during the pandemic ($M = 4.15$, $SD = 0.95$; $M = 3.97$, $SD = 0.97$). To create or develop a comprehensive learning design, the lecturers also agree that they have to manage the hybrid learning in detail ($M = 4.10$, $SD = 0.86$; $M = 3.88$, $SD = 0.87$), spend more time in their teaching (dedicate a significant number of hours per week) ($M = 4.18$, $SD = 0.84$; $M = 4.12$, $SD = 0.87$) and conduct the learning process with educational values and based on dialogue ($M = 4.18$, $SD = 0.76$; $M = 4.10$, $SD = 0.77$). Thus, lecturers must prepare a well-planned syllabus and produce a clear instructor for their students.
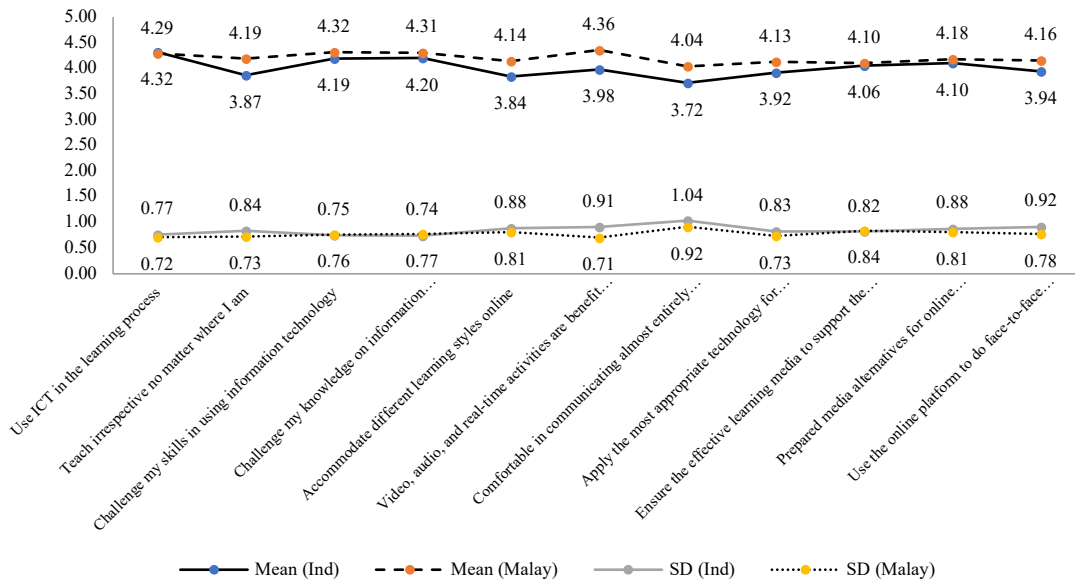

Fig. 7 - Learning media

Figure 8 shows the result of the learning resources measured by two items. Most lecturers strongly agree that they need to update the material, structure, concept, and scientific thinking mindset that supports the courses ($M = 4.18$, $SD = 0.78$; $M = 4.08$, $SD = 0.80$). All the learning resources must be relevant to the courses, accomplish teaching purposes and meet the specific students' learning needs and objectives. Research from Martín-García (2020), show that it is easier to continuously assess the student with the support from the amount of technological tools that exist nowadays. Thus, most Malaysian lecturers strongly agree that they have to apply technology and combine it with physical and sensory skills ($M = 4.08$, $SD = 0.85$) compared to Indonesian lecturers ($M = 3.85$, $SD = 0.87$). To make the online learning environment meaningful, especially in Technical and Vocational Education and Training (TVET), blended learning (that combines technology, physical and sensory) is the best strategy that can help achieve learning objectives. Hence, the instructional design needs to be applied to the educational field has shown that pedagogical and technological components stand out as inseparable elements, whose combination ensures improved quality of teaching and learning processes.
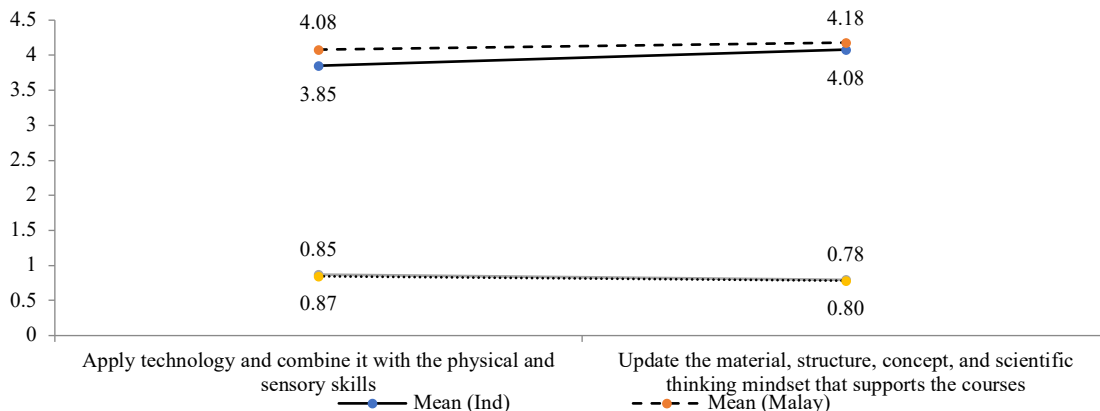

Fig. 8 - Learning resources

Figure 9 shows the result of the learning evaluation measured by six items. Most Indonesian lecturers strongly agree that they encourage students to actualize their potential ($M = 4.28$, $SD = 0.77$). Lecturers can encourage online

student-to-student discussions and create group projects within the tool. It also encourages students, who normally do not talk in front of the class, to interact. So, lecturers can evaluate students in real-time. While most Malaysian lecturers strongly agree that they determine the learning process construct and outcomes ($M = 4.22$, $SD = 0.79$). Students' outcomes are the most crucial part of the educational process. The quality of the teaching-learning process is determined by the relevance and appropriateness of the proposed objectives, the existing relationship between them, the achievements attained, and the satisfaction of students' needs and expectations. The quality assessment of all educational processes should be reliable and appropriate. This finding is aligned with the study from Dwivedi et al. (2020), to overcome this issue during pandemic, educators have to change their teaching strategies or instructional practices. The majority of lecturers also agree that to ensure online learning strategy effectively, evaluation instruments, processes and learning outcomes need to be developed ($M = 4.08$, $SD = 0.76$; $M = 4.09$, $SD = 0.83$).
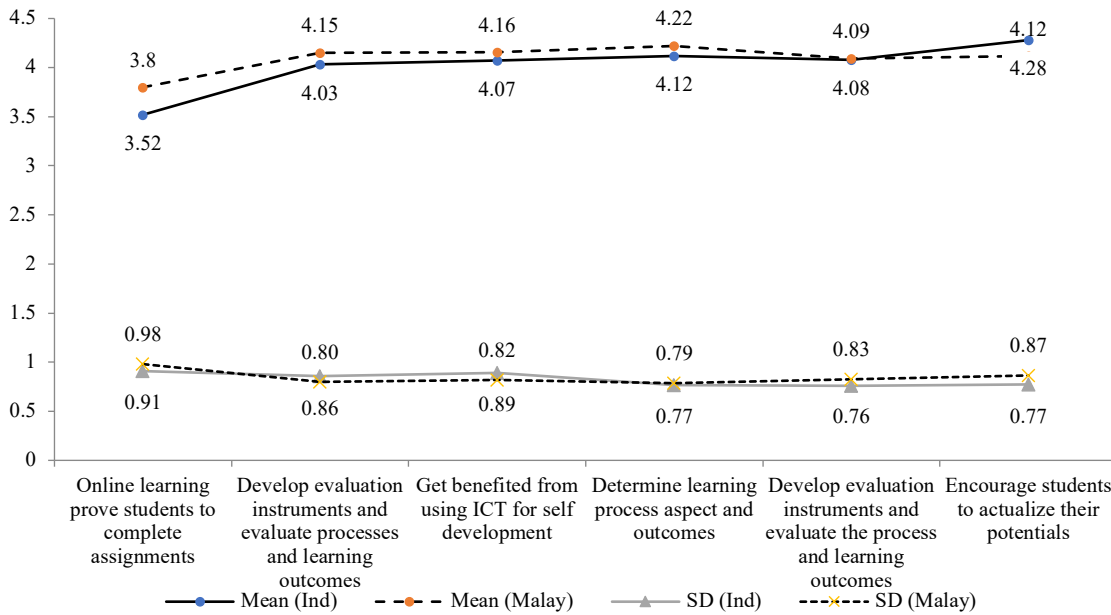

Fig. 9 - Learning evaluation

Table 5 shows that there is no significant difference in teaching and learning strategy indicators during the pandemic between Indonesia and Malaysia, $p = .104$. this result proves that Indonesian and Malaysian lecturers have similar preferences for lesson material, learning resources, teaching and also learning activities. According to Hunter and Austin (2020) at the extreme end, advanced technologies allowed the establishment of fully online higher educational institutions. Where the transition is smooth and successive, traditional face-to-face learning can coexist or is blended with the forms of distance learning all over the world.

Table 5 - The independent samples T-test on teaching and learning strategy indicators during the pandemic between Indonesia and Malaysia

Country	n	*M*	*SD*	*t*	*df*	*p*
Indonesia	109	4.015	.656	1.634	198	.104
Malaysia	91	4.163	.627			

5.   Conclusion

The purpose of this study is to learn about the teaching strategies used by lecturers in Indonesia and Malaysia during the pandemic. It is critical to developing teaching strategies because they will facilitate in determining the steps necessary for effective and efficient learning activities. Findings indicated that lecturers in both countries have similar preferences in terms of lesson materials, teaching and learning activities, and learning resources. While learning objectives, learning design, learning media, and learning evaluation are all distinct. In terms of learning objectives, most Indonesian lecturers strongly agree that students should be encouraged to develop and realize their full potential. While the majority of Malaysian lecturers agree that they are becoming more caring, being open and flexible in addressing student needs is the most important aspect of the learning objectives. In terms of learning design, the majority of Malaysian lecturers strongly agree that online learning allows for greater teaching flexibility, whereas the majority of Indonesian lecturers strongly agree that they continue to work professionally and independently. In terms of learning media, the majority of Malaysian lecturers strongly agree that video, audio, and real-time activities are beneficial for asynchronous online courses, whereas the majority of Indonesian lecturers strongly agree that online learning deepens information technology literacy. In terms

of learning evaluation, most Indonesian lecturers strongly agree that they encourage students to maximize their potential, whereas most Malaysian lecturers strongly agree that they determine the learning process's constructs and outcomes.

This study implies that teachers in TVET institutions should have more activity in bilateral collaboration, particularly in the academic area. The collaboration will encourage more transfer of knowledge thus lecturers can learn from each other. The recommendation is that both countries can have more collaboration not just in research but also in teaching and learning aspects. Exchanging skills in teaching from each country in terms of developing lesson materials, pedagogical aspects, learning evaluation and so on might give lots of benefit to both institutions towards strengthening the teaching and learning strategies especially in TVET programs. For future research, it is suggested to other researchers to construct the same research in a new context, location or culture. Future research also could address the limitation of this study, assessing and expanding the theory, framework or model that is suitable to the TVET area.

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