REALIZING TVET E-LEARNING FOR ALL IN THE NEW NORMAL

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TESDA

I. Introduction

The world is currently at war, but this time it is facing a very deadly enemy that knows no exception. The enemy is the spread of COVID-19 which has been declared a global pandemic by the World Health Organization (WHO).

Now more than ever, the world is at a turning point wherein the need for digitalization is no longer a choice but a necessity. We are at the brink of change and we have to adopt this change whether or not we are ready to do so.

This policy brief shall explore relevant and timely innovative practices in flexible and distance or online education and training that can be adopted in the Philippines as it faces the new normal. However, it will also shed light on the issues and challenges both the implementors, trainers as well as trainees are most likely to face.

II. Flexible Learning as the New Normal

"Flexibility" is defined as offering choices in the educational environment, as well as customizing a given course to meet the needs of individual learners. Therefore, providing the possibility of making learning choices to learners is crucial. These learning choices can cover class times, course content, instructional approach, learning resources and location, technology use, the requirements for entry/completion dates, and communication medium. (Collis, Moonen, & Vingerhoets, 1997) (Goode, Willis, & Harris, 2007) With the development of information and communication technologies, new learning modes have appeared that can open more opportunities for flexible learning. (UNESCO IITE, 2020)

Dimensions of Flexibility (UNESCO IITE, 2020)

- When and where the learning occurs
  This means that the time of participating in a course, starting and finishing a course, participating in learning activities, the pace of study can be flexible. Learners can be offered choices based on their needs (e.g., study during evenings or weekends). They can also specify the time they want to interact with others and the time they want to study on their

own. The location of learners to carry out learning activities and access learning materials can also be flexible anywhere at any time via mobile devices, such as at campus, home, public transport, airport or even on a plane. (Gordon, 2014)

- What and how students will learn
  It allows students to determine the sections and the sequence of content according to their desire, pathways of learning, forms of course orientation, size and scope of the course through modulization of the content.

- How to deliver instruction
  Flexible delivery offers a suitable range of how and where students can access learning materials. Students may experience the course in campus-based learning, web-based learning, or in both via different technologies, such as Augmented Reality (AR). Lectures may also be delivered online by the instructor as live virtual classrooms using various online platforms.

- Strategies to be used for organizing learning activities
  The learner's choices can be offered using several instructional approaches, such as lectures with tutorials, independent study, discussion, seminar groups, debates, student-led discovery approaches and educational gamification. (Gordon, 2014)

- Types of Learning Resources to provide students
  In addition to instructor created content, the resource created by learners, libraries, even high-quality resources from the web can also be the potential choices. Regards to the modality of the resources, flexibility can be indicated by using a range of media formats, such as podcasts, narrated screen capture, the full video of lectures and software. Open Educational Resources (OER) can also provide flexibility in the way of using learning resources since they are under an open license. Another option could be the use of massive open online course (MOOC). An MOOC is a free Web-based distance learning program that is designed for the participation of large numbers of geographically dispersed students. A MOOC may be patterned on a college or university course or may be less structured.

- Technologies truly useful for learning, teaching, and administration
  The use of technologies to enhance teaching and learning and help instructors and departments to process administrative work within institutions can be flexible. A variety of online tools can be used to help learners generate content and interact with peers, such as learning management systems, blogs, wikis, and social networks. Additionally, several technology-based communication mediums, such as emails and instant messages applications, made the instructors and administrative staffs' work much more convenient.

- The right time and way to provide assessment and evaluation
  The flexibility can be indicated by the methods of assessments, such as presentation, research papers, team projects, peer assessments, and standardized tests (e.g., multiple choices). The timing and delivery channel of assessment can also be flexible, computer-

based test (e.g. online test, adaptive test) and human managed assessment (paper-based test) are the typical methods. Flexible learning can also be provided by applying learning analytics
approaches, which will collect the students' learning traces (within the learning system) to provide real-time assessments, as reports or dashboards.

- Support and services for the students and instructors
  For example, students can get help via help desks, face-to-face or online meetings with tutors, group help sessions and through video-based real-time chatting tools.

III. Applying Distance and E-Learning to provide Flexible Learning in TVET

Distance/E-Learning is a mode of delivering education or training programs remotely. It does not require a simultaneous interaction between the teacher/trainer and the learner. This is not a new concept; in fact, delivering learning material by post to learners who lived far from educational/training institutions existed well before the advent of the Internet. (Distance and E-Learning in TVET, 2020)

The greatly increased access to the Internet and advances in Information and Communication Technologies (ICTs) over the past two decades have provided a tremendous boost to distance learning, so that it is now generally referred to as "e-learning". With education and training being no longer dependent on physical infrastructure and co-location, e-learning allows a large and varied number of learners, including people who for various circumstances do not have access to traditional learning and training, to access new knowledge and skills. (Di Cara & Chatani, 2020)

> *A key aspect of e-learning is computer-based or Internet-aided learning activities. Online learning is another term that is often used, but* ***e-learning could be off-line****, for example learning from off-line educational applications stored on a tablet. (Distance and E-Learning in TVET, 2020)*

Although internet-based e-learning is the most widely used method of distance learning, other off-line modalities based on traditional media (radio, CD/DVD players, USB sticks) may also be a vehicle for distance learning in places not connected to the web. (Di Cara & Chatani, 2020)

E-learning encompasses multiple formats and levels of interaction between students and instructors, ranging from autonomous learning, through exclusively online teaching, to a mix of online and regular or occasional face-to-face contacts between instructor and learner known as "blended learning".

As regards the role of teachers, while they remain essential figures in the learning process, their role will need to be redefined from that of instructor to that of designer of formats, developer of materials and facilitator of learning environments. (Di Cara & Chatani, 2020)

Table 1: Modalities for E-Learning

Type of E-Learning	
Internet-based E-learning	Offline E-learning
• Virtual training content using simulators and virtual or augmented reality software • Podcasts • Massive Open Online Courses (MOOCs) • Blogs • YouTube videos • Tablets • Mobile phones • Radio	• CD/DVD players • Radio • USB sticks • Tablets • Mobile phones

Source: Distance and E-Learning in TVET 2020

In response to rapid changes in the labor market needs, innovative applications of e-learning have become an important aspect of TVET. For instance, large countries with extensive rural or remote areas, such as Australia and Canada, apply distance/e-learning to provide the theoretical part of vocational training, as a strategic policy option to improve access to quality training. Economies that are highly dependent on the growth of ICT-related and automation technologies have been applying e-learning and ICTs-based TVET delivery to reshape their skills development systems. (Distance and E-Learning in TVET, 2020)

Table 2: Advantages and Disadvantages of Online or Internet-Based E-Learning

Advantages	Disadvantages
• People can learn at any time • Learners can be anywhere, provided they have access to the Internet • Learners can go at their own pace - suitable for learners with various aptitudes and constrained time • • Lower ongoing costs (e.g. lower tuition fees, no commuting cost for learners, lower delivery costs for TVET institutions)	• It requires self-discipline to follow online learning courses • Feeling of isolation • Limited peer learning effects • Internet access speed and cost • Sometimes high initial costs (design and equipment) • Sometimes high initial costs (design and equipment)

Source: Distance and E-Learning in TVET

IV. Importance of Distance/E-Learning

With the current state of the world, wherein there is a change to "New Normal," how to keep learning in disruption has become a major challenge to the global education community. As stated by UNESCO Director-General Audrey Azoulay: "We are entering uncharted territory and working with countries to find hi-tech, low-tech and no-tech solutions to assure the continuity of learning." (UNESCO IITE, 2020)

According to the International Labour Organization, distance/e-learning has revolutionized the learning process. Today's technologies have made possible the delivery of good quality learning experiences to remote areas where access to learning opportunities have previously been limited. Aside from this, other reasons on why this mode of delivery of training is important are listed below:

- Achieving inclusive socio-economic development

  Societies need to provide equal access to quality TVET and skills development that is relevant to current and future job needs. This is essential for achieving more inclusive social and economic growth. A judicious and integrated implementation of e-learning, as an option for delivery of TVET, can promote inclusiveness by making flexible training and lifelong learning available to a wider group of potential learners. Possible beneficiaries include marginalized people who do not have access to education and skills development because of their geographical, financial, religious, or ethnic circumstances. If well implemented, ICT-based training can thus contribute to building a more inclusive society in which all people, regardless of their socio-economic conditions, are equally supported to progress. In this way universal opportunities for skills development can provide an essential contribution for sustained and inclusive development.

- Improving learning outcomes

  Compared to traditional learning, one of the main advantages that e-learning can offer is flexibility in choosing the location, timing and pace of learning for both learner and teacher. In designing e-learning programs, instructors can develop individualized pedagogical tasks and assessments based on each student's knowledge, previous experience and personal interests.

  E-learning can motivate students to develop the reactive capacity needed to support self-directed learning. When used appropriately, ICTs have the potential for empowering and transforming passive learners into active and independent ones, able to take charge of their own learning by choosing and using a range of resources. Developing autonomous learning in this way, which endures after a formal course is ended, is indeed the true key to lifelong learning.

- Responding to the rapidly changing skills demand

  In view of the rapid socio-economic and technological changes, jobs and the skills required to perform them continue to evolve. Many jobs in labour intensive sectors, which tend to be occupied by economically vulnerable groups of people (such as women and the poorly

educated), are at high risk of being automated. In this light, **delivering job-relevant skills at a reasonable cost, especially for workers whose jobs are at risk, is important.** If well implemented, ICTs in TVET have the potential to improve access to learning, to improve quality while decreasing costs, to make teaching and learning more relevant to people's work and lives, and to encourage individuals to become lifelong learners.

E-learning formats allow material to be easily updated to reflect latest developments. Online learning material is often developed by renowned experts and teams of highly qualified and experienced specialists, allowing programs to be more relevant to current demands for skills. In addition, it is frequently much easier and cost-effective to modify e-learning material as the skills requirements of jobs change than it is to update physical learning materials. ICTs have also a great potential for helping teachers and instructors to keep up-to-date with the latest developments in their field. A technology that is of particular relevance in this respect is Open Educational Resources which, because of its easy accessibility, can offer teachers and instructors additional expertise adapted to suit local needs and curricula. Furthermore, teachers and instructors who lack technical expertise in specialized vocational subjects can use expertly designed materials from online sources to bridge the gap.

V. Challenges in the New Normal

The COVID-19 pandemic has triggered an abrupt transition to distance education and training. The crisis has resulted in massive shifts to online platforms and tools for the continued delivery of learning and skills development. This massive and sudden demand has shown both promising trends and troubling signs.

Among those signs, the evidence that, while much is being made of digital learning making access more equitable, access to online platforms doesn't always result in equal quality learning. Women, for example, are being disproportionately cut off from distance learning due to lack of childcare or home help during the pandemic. (Sanchez, 2020)

According to the recent E-discussion on "Continuing online learning and skills development in times of the COVID-19 crisis" organized by the ILO's Skills and Employability Branch, the challenges in using online education is as follows:

- Instructors/Trainers are not properly trained and prepared to deliver online courses
  There is also a digital divide in digital skills, especially among older trainers. Digital skills are needed by TVET professionals, enterprise mentors and career support professionals who must now plan and facilitate activities in unfamiliar learning environments. Even when teachers and trainers do have the required digital skills, they often do not have the experience to effectively use them to facilitate the planning and delivery of both synchronous and asynchronous training. (International Labour Organization, 2020)

- Difficulties in adapting TVET (Technical and Vocational Education and Training) curricula and training to online formats

  In most cases, the distance learning options focus exclusively on theoretical knowledge, but in a few cases, demonstrations are included in ad-hoc videos, or stepby-step instructions are given to demonstrate the more practical skills linked to a specific occupation. (European Commission, 2020)

- Lack of access to the internet or ICT (Information and communications technology) equipment to carry out learning or training

  The digital divide risks widening the gap in academic achievement as low-income households are less able to provide the tools and environment required for effective online learning. Educational achievement will also be affected for those learners who do not engage as well as their peers in online learning, even if digitally skilled. As a result of the widespread restrictions on movement and closure of schools and workplaces, many potential learners are confined to their homes without access to a suitable space from where they can learn. They lack access to basic digital equipment and sufficiently strong internet connections to enable their participation in online learning activities. In many cases, entire families are sharing a single computer with conflicting learning and work schedules. (International Labour Organization, 2020)

- Apprentices ready for assessment but who couldn't be assessed due to COVID-19 issues

  In Latin America, institutions and specialized agencies are also developing innovative examples of how to respond to the challenge of assessment and certification of competences. CONOCER and ChileValora plan to trial novel responses to evaluate and certify using non-face-to-face digital tools, which could perhaps have a long-term impact on the way certification of competencies is undertaken at the global or regional level. (ILO CINTERFOR, 2020)

- Students unable to access the resources necessary to continue their training because they were not familiar with online platforms

  The shift to digital learning has reinforced existing inequalities and created new ones. If the shift to distance learning only relies on digital technologies rather than integrating traditional text-based resources, many learners with limited internet access and other restrictions on their ability to learn in a digital environment will also be disadvantaged. (International Labour Organization, 2020)

- With the rise of e-learning, there is also a rise in the importance of cyber security.

  E-learning entails the use of both online and offline tools. The database which will contain the materials for this type of learning shall be protected as it contains information needed by the learners. Only accredited individuals such as experts and trainers shall be given the permission to access this database to protect the integrity of the information therein. For online platforms, there is also a need to ensure that the data containing personal information coming from its users is protected.

VI. E-Learning: Ways Forward for PH TVET

Considering the aforementioned importance of the role of E-Learning in revolutionizing the delivery of training, TESDA may look into the following actions that could be undertaken to effectively integrate E-Learning to Philippine TVET:

1) Given the constrained resources of TESDA for an initial investment in ICT, it will be practical to adopt a gradual transition to E-enabled learning using technology to foster wider access to learning especially in rural areas. TESDA shall strengthen collaborations with concerned government agencies, LGUs, and other stakeholders in support of its goal of digitalization.

2) It is important to keep the approach to digitalization of TVET coherent across TVET institutions. Therefore, TESDA shall ensure that its institutions will comply to the requirements of the new normal and shall also offer the necessary support to achieve this.

3) TESDA as an agency shall also digitize. Along with its implementation of E-Learning in the TVET institutions, it shall adopt new and improved approaches in the registration of programs, conduct of assessment and certification implementation TESD programs, like utilizing ICT or online modes in the processing of applications, inspection, validation, authentication, verification and issuance of certifications and compliance audit.

4) To maintain TESDA's industry driven programs, partnerships with the industry should be strengthened further to ensure that the skills trainings are still relevant to the actual demands of the industry.

5) Capability-building programs shall be conducted to enhance the digital skills of of the key players in the implementation of training program including trainers, curriculum/standards developers, assessors, among others. These trainings shall give the trainers the necessary skills on how to effectively integrate technology in their traditional teaching practices.

6) Capability-building programs for TESDA personnel should be prioritized as well. In the face of the current need for E-Learning, TESDA should play an effective role in policy guidance, overall coordination, and effective supervision. TESDA employees should therefore be skilled enough to take on these roles.

7) For technology to be properly integrated into TVET, revisions of curriculum, learning materials and assessment and certification will be necessary. Development of new materials is essential, but reviewing and revising existing multimedia and ICTs resources may also be viable option.

8) Cyber security shall be given importance now more than ever. As TVET transitions to E-learning, safeguarding against malicious attacks is very important. However, this will require a considerable investment on the part of TESDA.

9) The utilization of ICT in training and implementation of flexible learning should consider various TVET clients to make TVET program inclusive despite of the challenges brought by the new normal.

References

Collis, B., Moonen, J., & Vingerhoets, J. (1997). Flexibility as a Key Construct in European Training: Experiences from the TeleScopia Project. *British Journal of Educational Technology, 28*, 199-217. doi:10.1111/1467-8535.00026

Di Cara, M., & Chatani, K. (2020, May 25). *Distance and E-Learning in TVET.* Retrieved from International Labour Organization: https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-jakarta/documents/publication/wcms_732618.pdf

European Commission. (2020, March 29). Survey on Addressing COVID-19 Emergency for VET Providers and Policy Maker.

Goode, S., Willis, R., & Harris, A. (2007). Enhancing IS Education with Flexible Teaching and. *18*(3), 297-302.

Gordon, N. (2014). Flexible Pedagogies: technology-enhanced learning. *In The Higher Education Academy*. doi:10.13140/2.1.2052.5760

ILO CINTERFOR. (2020, April 3).), The role of Vocational Training against the effects of COVID-19 in Latin America. Retrieved from https://www.oitcinterfor.org/fp_covid19

International Labour Organization. (2020, April 4). Continuing online learning and skills development in times of the COVID-19 crisis.

International Labour Organization. (2020, April). *Distance and Online Learning during the time of COVID-19.* Retrieved from International Labour Organization: https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/publication/wcms_743485.pdf

Sanchez, J. (2020, May 12). *The shift to online learning and skills training shows promising trends and troubling signs.* Retrieved from International Labour Organization (ILO): https://iloblog.org/2020/05/12/the-shift-to-online-learning-and-skills-training-shows-promising-trends-and-troubling-signs/

UNESCO IITE. (2020, March 24). *UNESCO Institute for Information Technologies in Education (IITE).* Retrieved from Handbook on Facilitating Flexible Learning During Educational Disruption: https://iite.unesco.org/news/handbook-on-facilitating-flexible-learning-during-educational-disruption/?fbclid=IwAR1MaNjWrh5tMoFYoshzBVw1jsJNpDhSI_zgQdJT0m5scHWoqiyWwY_NREs

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