

E-Education in the Philippines: The Case of Technical Education and Skills Development Authority Online Program

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**E-Education in the Philippines: The Case of Technical
Education and Skills Development Authority (TESDA)
Online Program (TOP)**

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Abstract

Education and training for productive employment play a crucial role in the social and economic plans of a developing country like the Philippines. Technical and vocational education and training (TVET) in the country has been viewed as a tool to help equip the people with the necessary skills for employment. In effect, this increases their income potential, and eventually, remove them from poverty. To reach more people, more so, those in the remotest places, TESDA introduced information, communications, and technology (ICT) into TVET and launched the TESDA Online Program (TOP) in 2012. TOP is the first Philippine institution to offer massive open online courses. Current TESDA statistics estimate that more than a million Filipinos were able to access and utilize the TOP. This study assesses how ICT has enabled the Filipinos to have access and use online technical education offered free by e-TESDA program. It also acknowledges the unlimited opportunities offered by TOP through its courses and the potential number of users/beneficiaries. The vision of a globally competent Filipino workforce with advanced skills can be realized with the encouraging results of the TOP accreditation and certification. Read more about the recommendations on how to improve the current TOP in this study.

Keywords: Philippines, digital economy, TVET, e-education, e-learning, technical and vocational education and training, Technical Education and Skills Development Authority, information and communication technology, digital literacy

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E-Education in the Philippines: The Case of Technical Education and Skills Development Authority (TESDA) Online Program (TOP)

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1. Introduction

Education and training for productive employment plays a crucial role in the social and economic plans of a developing country like the Philippines. Technical and vocational education and training (TVET) in the country has been viewed as a tool to help equip the people with the necessary skills for employment, in effect increasing their income potential and eventually removing them from the state of poverty. Moreover, the skills of the current working population are improved by upgrading or developing new competencies resulting in increased productivity and enhanced employability.

In 2016, there were about 2.27 million TVET enrollees under the Philippines Technical Education and Skills Development Authority (TESDA), where 2.15 million graduated. With the increasing demand for TVET, there was a need to reconsider new learning methods to expand capacity by accommodating those who cannot enter the TVET Institutions (TVIs) and to broaden access and opportunities to those living in the rural and far flung areas.

There is a need to expand access of quality TVET to reach out to more people, more so those in the remotest places. Building additional TVIs to address this need requires a lot of investments and time. With the advent of the ICT, fast tracking the expansion of the scope through eLearning becomes a likely possibility. eLearning also increases the absorptive capacity of TVIs to deliver TVET programs and services. The growing percentage of Filipinos with internet connections of 63.58% in 2016 according to National Telecommunication Commission (NTC), and the increasing trend of digitization of learning, tapping this technology had brought more people into enrolling in TVET.

In response to expanding the reach of TVET, the Philippines, through TESDA, initiated in 2011 and was officially launched in 2012 the TESDA Online Program (TOP), the first Philippine institution to offer Massive Open Online Courses. Current statistics from TESDA estimates that more than a million Filipinos were able to access and utilize the TOP. Hence, the aim of this research is to assess how ICT has enabled the Filipinos to have access and use online technical education offered free by e-TESDA program. Likewise, in an attempt to study the contribution of these online courses to personal/national development, ICT initiatives on online courses were described that showed how technical education became more accessible and inclusive for all. The study further stresses the role that TESDA plays in offering different

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online courses that have enabled the last mile consumers to enrol in them conveniently and affordably.

1.1 TESDA Mandate, Vision, Mision

The Technical Education and Skills Development Authority (TESDA) was established through Republic Act No. 7796 otherwise known as the "Technical Education and Skills Development Act of 1994." It aims to encourage the full participation and mobilization of the industry, labor, local government units and technical-vocational institutions in the skills development of the human resources of the country. The merging of the National Manpower and Youth Council (NMYC) of the Department of Labor and Employment (DOLE), the Bureau of Technical and Vocational Education (BTVE) of the now defunct Department of Education, Culture and Sports (DECS), and The Apprenticeship Program of the Bureau of Local Employment (BLE) of the DOLE gave birth to TESDA. The coming together of these offices, one of the key recommendations of the 1991 Report of the Congressional Commission on Education, was meant to reduce overlapping in skills development activities initiated by various public and private sector agencies, and to provide national directions for the country's technical-vocational education and training (TVET) system. The TVET system involves, in addition to general education, the study of technologies and related sciences and acquisition of practical skills relating to occupations in various sectors. It comprises organized programs as part of the school system (formal) and organized classes outside the school system (non-formal) approaches. (UNESCO)

TESDA formulates technical education and skills development plans, sets appropriate skills standards and tests, coordinates and monitors technical education and skills development policies and programs, and provides policy directions and guidelines for resource allocation for the TVET institutions in both the private and public sectors. Aside from this, TESDA is also mandated to ensure the delivery of high quality and accessible TVET. Thus, public and private TVET Institutions register their programs with TESDA before offering these to the public. Likewise, these registered educational institutions report outputs of training programs to TESDA.

1.2 TVET Quick Facts

As of November 2017, there are about 263 Training Regulations developed by TESDA, with industry. There are about 3,920 TVET Institutions, 9 percent of which are public while 91 percent are private. More than fifteen thousand (15,146) TVET Programs are registered with TESDA. From the 1.51 million applicants assessed in 2016, about 1.39 million were Certified which accounts for about 92%. In achieving such results, TESDA established its Assessment and Certification Infrastructure that comprises of an estimated 1,450 Assessment Centers, 5,580 Competency Assesors and 14,000 Certified Trainers.

1.3 TVET Delivery Modes

The TVET can be delivered through Institutions with registered programs, Enterprise-Community based organizations, Mobile training and as mentioned, the TESDA Online Program (TOP). Institution-based refer to the delivery of training programs by public and private training institutions. Enterprise-based training programs are implemented within companies/firms or through dual training arrangements and apprenticeship schemes.

Community-based training delivery is conducted at the local/ community level, mostly in partnership with the local government units (LGUs) and the non-government organizations (NGOs); any individual of any level or age 18 years old and over can join these programs.

2. The TESDA Online Program (TOP) for TVET

2.1 Concept and Learning Model

In formulating plans to enhance and develop the delivery of technical-vocational education skills in the country in a more effective and efficient way, the TESDA launched its Online Program (TOP) in 2012. This was in response to one of the strategies set forth in the National Technical Education and Skills Development Plan (NTESDP) of 2011-2016 which states that information and communication technologies (ICT) must be integrated in vocational education. Conceptualized in 2008, TOP has become an initiative to reach thousands of unreached Filipinos globally through ICT providing more technology-driven and technology-managed teaching and learning tools.

Thus, TESDA decided to adopt alternative to the traditional classroom based ‘Face-to-Face Learning Model’ which is the online program hybrid learning model or the ‘Learn to Work’ Model (Figure 1).

Figure 1. Classroom to online learning models

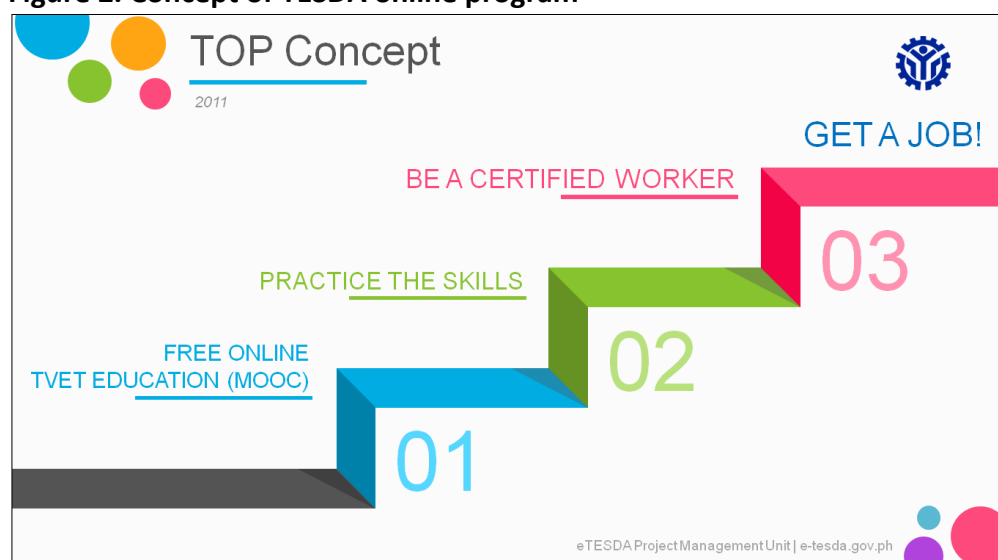


Source: e-TESDA Project Management Unit

The TOP utilizes open education resource framework that aims to make technical education³ accessible and inclusive using ICT. The objectives include, among others: (i) to broaden access and opportunities to quality TVET by harnessing technology; (ii) to improve quality of TVET delivery through standardized content of TVET programs; (iii) to increase absorptive capacity of TVET institutions; and (iv) expand TESDA services beyond borders. The program was conceived to provide opportunities to the citizens anytime, anywhere, by offering free online TVET courses and learning materials and providing them a chance to get skills and be certified to increase their employability.

The TOP process, to put it simply is - access the free online TVET education (MOOC), practice the skills anywhere or at home, be a certified worker and eventually get that job (Figure 2). In fact, the goal is to **“learn at your own pace, in your own time, at your own place”**: to relearn the lessons over and over for mastery; to apply or to put into practice the learning in a similar workplace; to be assessed and be certified⁴; and to earn or get a job applying the skills learned in gainful activities. This will give students unlimited access and lifelong learning with e-TESDA.

Figure 2. Concept of TESDA online program



Source: eTESDA Project Management Unit

2.2 Coverage of TVET Clients

With the vision of the former TESDA Secretary, now Senator Joel J. Villanueva to ‘reach the unreached (the grassroots) and empower the reached’, the TOP identified primary target clientele to include students, out-of-school youths, unemployed adults, local and overseas workers, and professionals who are interested to take TESDA online courses. This is most applicable to those who do not have time or opportunity to physically attend chosen training programs in a classroom/workshop environment due to workload or physical disabilities.

³ Refers to the education process designed at post-secondary and lower tertiary levels, officially recognized as non-degree programs aimed at preparing technicians, paraprofessionals and other categories of middle-level workers by providing them with a broad range of general education, theoretical, scientific, artistic and technological studies, social services and related job skills training. (RA 7796/TESDA Law, 2017 TVET Glossary of Terms)

⁴ Applicable to online courses with National Certification/Assessments

Students may include high school graduates, secondary school leavers, or college undergraduates who want to acquire competencies in different occupational fields. Likewise, those unemployed or displaced workers actively looking for work and those employed but needing skills upgrading and/or acquiring new skills. Returning Overseas Filipino Workers (OFWs) who decide to go back home or look for better job opportunities are also potential TOP clients as well as those graduates and currently employed who can take advantage of the learning program. The online technology provided a way for TESDA to expand its coverage to other parts of the country and the world.

2.3 Registration and Enrolment

The TESDA Online Program process involves the registration of interested individuals in the TOP website. Prospective participants or enrollees are guided in accessing the TESDA website using their personal computers, tablets or even mobile phones by clicking the website or url ‘www.e-tesda.gov.ph’ (Figure 3). Users/enrollees can then browse through the wide range of categories, from hard to soft skills courses being offered.

Figure 3. Platform for accessing TOP



Source: eTESDA Project Management Unit

Steps on registration include filling up the necessary form from the TESDA website and creating an account (See Annex 5 for a step by step guide to enroll in eTESDA). The applicant will then receive a confirmation email from eTESDA, after successfully registering online.

2.4 Course Offerings and Sectoral Orientation

As of February of 2018, e-TESDA offers fifty-nine (59) online courses across different sectors - from agriculture, electronics, and entrepreneurship to maritime, tourism, and ICT learning (Table 1). These courses are lodged in the current facility/website that is dedicated solely for the TOP and a host to Massive Open Online Courses (MOOCs). The 2018 figures did not include courses such as Cellphone Servicing and Computer Hardware Servicing/Computer System Servicing NC II because there is a need to redevelop its content due to training regulation’s upgrade of standard from Computer Hardware Servicing to Computer System Servicing NC II. Complete list of course offerings and its description is provided in Annex 1.

Table 1. Number of e-TESDA course offering (as of January 2018)

Sector	Number of courses
Agriculture	1 course
Automotive	2 courses
Electrical and Electronics	1 course
Entrepreneurship	2 courses
Human Health and Health Care	3 courses
Heating, Ventilating, Air Conditioning and Refrigeration	1 course
Information and Communication Technology	14 courses
Lifelong Learning Skills	2 courses
Maritime	1 course
Social, Community Development and Other Services	1 course
Tourism	21 courses
TVET	10 courses
TOTAL	59 courses

Source: eTESDA Project Management Unit

In the early stages of the TOP program, there were only 8 courses in 3 sectors being offered. These include courses in ICT (Basic Computer Operation), food and beverage servicing (bus boy servicing, room attendant servicing, waiter servicing), and housekeeping (guest room attendant servicing, valet servicing) (Table 2). About 12 more courses will be developed and/or updated in 2018 as planned output indicators of the project. With the provision of a longer list of eTESDA course offerings, screening has been applied to guarantee quality learning.

Table 2. Cumulative number of course offerings

Year	Cumulative Number of Course Offerings
2012	8
2013	16
2014	29
2015	43
2016	55
2017	59

* as of December 2017

Source: eTESDA Project Management Unit

2.5 eLearning Materials

The developers of the learning materials are guided by 5 things when making the learning modules, namely:

1. Alignment of the learning materials with existing Training Regulations of TVET/TESDA;
2. Learner-centered bearing in mind the learner will be on his own;
3. Materials should be easily understood;
4. Materials should be appropriate for self-paced learning; and Innovation made on the coursewares.

Further, to ensure adequacy of the course contents, the online courses were developed not only by the in-house development team but also through massive consultations with the subject matter experts. eTESDA also partnered with private organizations like Microsoft Online, Intel, Udacity-Google, SMART SWEEP Lecture Series, Coca Cola Philippines, Udemy, and Consuelo Foundation either through sharing/in-kind of coursewares or through developing relevant online courses (Table 3). The eLearning materials together with computer-based instructions were distributed to the different eTESDA Centers for an “On” and “Off” line utilization.

Table 3. e-TESDA’s private partners in course development

Private Partner Organization	Course Developed
Autodesk Inc	<ul style="list-style-type: none"> • Animation (3D Digital) • CAD / CAM Operation
Intel Easy Steps	<ul style="list-style-type: none"> • Basic Computer Operations
Microsoft Online	<ul style="list-style-type: none"> • Developing 2D Games with HTML5 • Developing 2D and 3D Games with Unity • Game Production Basics • C# Fundamentals for Beginners • Software Development Fundamentals
GOOGLE Inc.	<ul style="list-style-type: none"> • Web Development using HTML5 and CSS3
Udacity	<ul style="list-style-type: none"> • Android Development for Beginners • UX Design for Mobile Developers
SMART SWEEP Lecture Series	<ul style="list-style-type: none"> • SMART Android Mobile Apps Development for Beginners • SMART Technopreneurship 101
Coca Cola Philippines	<ul style="list-style-type: none"> • STAR Online Training Program
Udemy	<ul style="list-style-type: none"> • Android 4.0 Programming in Java • Job Interview Skills Training Course • How to Build Confidence in Your Abilities
Consuelo Foundation	<ul style="list-style-type: none"> • Managing Your Personal Finances

Source: e-TESDA Project Management Unit

2.6 Cost of Enrolment, Assessment and Certification

The online program requires no fees when taking the courses. However, it neither issues online training certificates. However, once participants finish the online course which has corresponding Training Regulation, they may opt to take the face-to-face assessment for National Certification at any TESDA accredited assessment center or venue.

Overseas Filipino workers (OFWs) who have completed online courses are assessed onsite. This is to empower OFWs by upgrading their skills to shift from vulnerable to decent jobs and increase income opportunities. To sustain the onsite assessment program, TESDA develops their capabilities to become Competency Assessors. This likewise involves the use of the online course on “Conduct Assessment” and use of smart applications such as Skype or Facebook for online lectures and submission of videos/assignments.

2.7 Governance and Management

The TOP is handled by the eTESDA Project Monitoring Unit (PMU). In the past, the adhoc unit had been assigned to different offices already, from the Office of the Director General to the Office of the Deputy Director General for TESD Operations. Today, eTESDA PMU is currently managed by an Executive Director on a concurrent basis. The Executive Director is assisted by two (2) permanent staff alongside eight (8) other staff hired on a Job-Order or Contract Service Worker basis. One permanent staff acts as the focal person for TOP while the other permanent staff is in-charge of the system, customer relation and data collation. The non-permanent staffs include one (1) project developer and training manager, one (1) executive producer, two (2) writers, one (1) research associate, one (1) multi-media developer, one (1) administrative assistant, and one (1) technical staff. The staff that manages the day to day operations have changed more often, moving to more permanent job opportunities when these come along.

The eTESDA PMU monitors and assists the eTESDA Centers through training of managers and trainers in development of eLearning modules. With the growing demand for TOP and the current management structure, TESDA requested the Department of Budget and Management (DBM) in 2017 to become a permanent division handling all eTESDA programs and projects. The proposed division is managed by an Executive Director who is also the overall Project Manager, to be assisted by 11 permanent staff for the two (2) identified units: (i) the Courseware Development Unit, and (ii) the Research, Training and Support Services Unit.

3. Statistics on TOP

3.1 Registration

Current statistics from TESDA recorded that as of December 2017, about 1,114,445 Filipinos were registered online and 791,617 or 72.7% were enrolled in any of the TOP courses since 2012 (Table 4).

Table 4. Number of registered users and enrollees

Year	Number of registered users per year (as of December 2017)	Number of enrolled users per year (as of December 2017)
2011-2012	49, 880	7,255
2013	152, 352	15,346
2014	201, 472	171,665
2015	207, 453	221,393
2016	326, 400	210,921
2017	176,888	164,957
Total	1,114,445	791,617

Source: eTESDA Project Management Unit

There are 404,163 (36.3%) female registered users and 273,672 (24.6%) male registered users (Table 5). About 39% of the total registered users did not provide their gender status. About 849,136 (76.2%) online sessions are located in the Philippines while 263,580 (23.8%) online

sessions are located overseas (Table 6). The growing participation of OFWs was a result of eTESDA's call to empower its reach even outside the country.

Table 5. Number of registered users by sex

Sex	Number of registered users*
Male	273,672 (24.6%)
Female	404,163 (36.3%)
Not defined**	436, 610 (39.1%)
Total	1,114,445 (100.00%)

* as of December 2017

**No. of registered users who did not answer the gender question

Source: eTESDA Project Management Unit

Users from the Philippines to those accessing the website, followed by those from Saudi Arabia, United States, United Arab Emirates, Singapore, Qatar, Canada, Hong Kong, Australia and others. TOP was designed to make technical vocational education and training (TVET) more accessible to potential trainees through the use of Internet technology. Understandably, it is in the countries in which there are a growing number of Overseas Filipino Workers register where TOP registered users are high.

Table 6. Number of online sessions per location

Country	Number of registered users	Percentage
Philippines	849,136	76.19
Saudi Arabia	25,021	2.25
United Arab Emirates	21,465	1.93
United States	4,785	0.43
Hong Kong	6,035	0.50
Singapore	5,540	0.54
Qatar	8,264	0.74
Kuwait	5,519	0.50
Canada	4,713	0.42
India	1,183	0.11
Others	182,784	16.4

* as of December 2017

Source: eTESDA Project Management Unit

3.2 Enrollment

Courses that have gained popularity since its establishment are those in ICT (51%), in tourism (20.7%), TVET (5.9%), health (5.4%), and electronics (4.9%) (Table 7). As of May 2017, 46.8 percent of the enrollees (or a total of 370,191 out of the 791,617 persons) have already completed the courses they were enrolled in. Complete list of enrollees from 2012 to 2017 by sectoral orientation is provided in Annex 2.

Table 7. Number of enrollees by eTESDA course offering

Sector	Number of enrollees	% of enrollees	Number of completers	% of completers	Completers/ Enrollees (%)
Agriculture	10,170	1.3	2,893	0.8	28.4
Automotive	22,072	2.8	1,548	0.4	7.0
Electrical and Electronics	38,869	4.9	8,294	2.2	21.3
Entrepreneurship	18,884	2.4	4,773	1.3	25.3
Human Health and Health Care	42,588	5.4	7,931	2.1	18.6
Heating, Ventilating, Air Conditioning and Refrigeration	25,704	3.2	19,832	5.4	77.2
Information and Communication Technology	403,869	51.0	264,501	71.4	65.5
Lifelong Learning Skills	2,721	0.3	0	0.0	0.0
Maritime	6,091	0.8	1,196	0.3	19.6
Social, Community Development and Other Services	10,064	1.3	872	0.2	8.7
Tourism	163,926	20.7	30,394	8.2	18.5
TVET	46,659	5.9	27,957	7.6	59.9
TOTAL	791,617	100.0	370,191	100.0	46.8

* as of December 2017

Source: eTESDA Project Management Unit

3.3 Mapping of TOP Registered Users from January 8-22, 2018

A small cross-section of TOP users in the Philippines, those who registered during the period of January 8 to 22 of 2018, were mapped in terms of sex, educational attainment, age group and location (Tables 8-11). A total of 4,018 users were recorded during this period. Among these users, 63% are female and 37% are male.

Table 8. TOP users from January 8-22, 2018 by sex

Sex	Frequency	Percentage	Cumulative Percentage Frequency
Female	2,527	62.9	62.9
Male	1,491	37.1	100.0
Total	4,018	100.0	

The distribution of TOP users by sex remains relatively the same across regions except for the Autonomous Region of Muslim Mindanao (ARMM) where all respondents are female. Majority of the registered users are college graduates (65%), followed by Grade 10 (4th year high school) or below at 16%, technical vocational at 12% and senior high school (Grade 11 and 12) at 6%. Ninety-eight percent (98%) of the registered users are ages 18 to 54 years. About eighty percent (80%) of the registered users are located in NCR (34%). The rest are in Region 4A (20%), Region 3 (11%), Region 7 (6%), Region 6 (4%) and Region 11 (4%).

Table 9. TOP registered users from January 8-22, 2018 by highest educational attainment

Highest Educational Attainment	Frequency	Percentage	Cumulative Percentage Frequency
College Degree	2,602	64.8	64.8
Doctorate Level	11	0.3	65.0
Grade 10 (4th year high school) or below	627	15.6	80.6
Masters Degree	77	1.9	82.6
Senior High School (Grade 11 and 12)	230	5.7	88.3
Technical Vocational	471	11.7	100.0
Total	4,018	100.0	

Table 10. TOP registered users from January 8-22, 2018 by age group

Age Group	Frequency	Percentage	Cumulative Percentage Frequency
17 years old and below	34	0.8	0.8
18-24 years old	1,315	32.7	33.6
25-34 years old	1,750	43.6	77.1
35-44 years old	747	18.6	95.7
45-54 years old	143	3.6	99.3
55-64 years old	27	0.7	100.0
65 years old and above	2	0.1	100.0
Total	4,018	100.0	

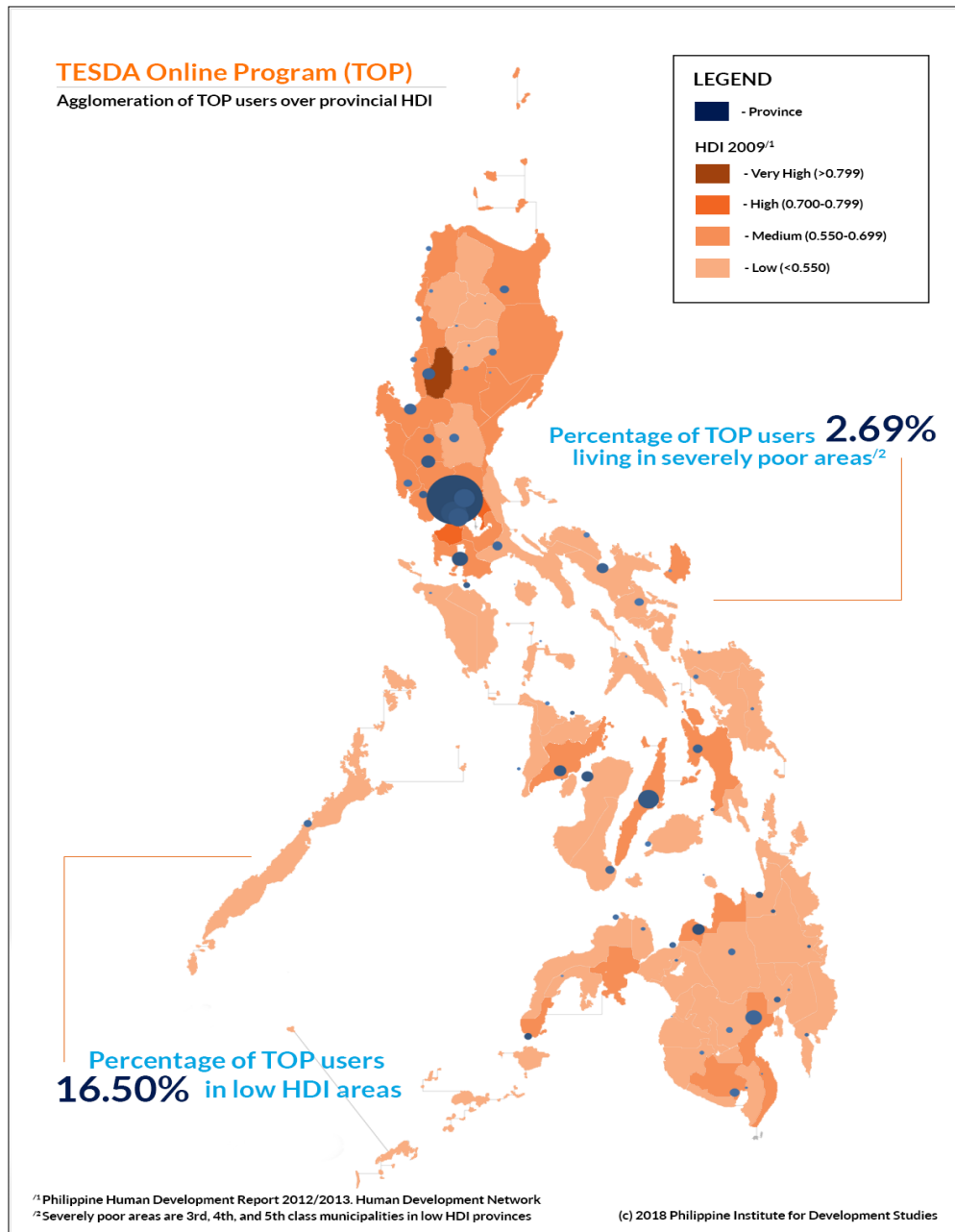
Table 11. TOP registered users from January 8-22, 2018 by location/region

Location/Region	Frequency	Percentage	Cumulative Percentage Frequency
ARMM (Autonomous Region in Muslim Mindanao)	6	0.1	0.1
CAR (Cordillera Administrative Region)	92	2.3	2.4
NCR (National Capital Region)	1,373	34.2	36.6
Region 4A (CALABARZON)	812	20.2	56.8
Region 4B (MIMAROPA)	56	1.4	58.2
Region I (Ilocos Region)	116	2.9	61.1
Region II (Cagayan Valley)	79	2.0	63.1
Region III (Central Luzon)	428	10.7	73.7
Region IX (Zamboanga Peninsula)	47	1.2	74.9
Region V (Bicol Region)	133	3.3	78.2
Region VI (Western Visayas)	158	3.9	82.1
Region VII (Central Visayas)	243	6.1	88.2
Region VIII (Eastern Visayas)	76	1.9	90.1
Region X (Northern Mindanao)	125	3.1	93.2
Region XI (Davao Region)	154	3.8	97.0

Location/Region	Frequency	Percentage	Cumulative Percentage Frequency
Region XII (SOCCSKSARGEN)	71	1.8	98.8
Region XIII (Caraga Region)	49	1.2	100.0
TOTAL	4,018	100.0	

The location of the 4,018 users were overlaid with a map of the Human Development Index (HDI) performance of each province in the country (Figure 4). The map shows that 16.50% of TOP registered users are residing in low HDI areas and 2.69% of TOP users are in severely poor communities. A TOP registered user is categorized as "severely poor" if he/she is (i) living in a low HDI categorized provincial area, or (ii) living in a 3rd, 4th, or 5th Class Municipality (basis can be found in the communities selected by DSWD for poverty alleviation under EO 443 s.1997).

Figure 4. Agglomeration of TOP users over provincial HDI



Source: PIDS

This provides evidence, albeit weak correlations, that the TOP, despite limited resources and weak infrastructure support, is able to reach the last mile consumers particularly those living in low HDI areas and in severely poor areas.

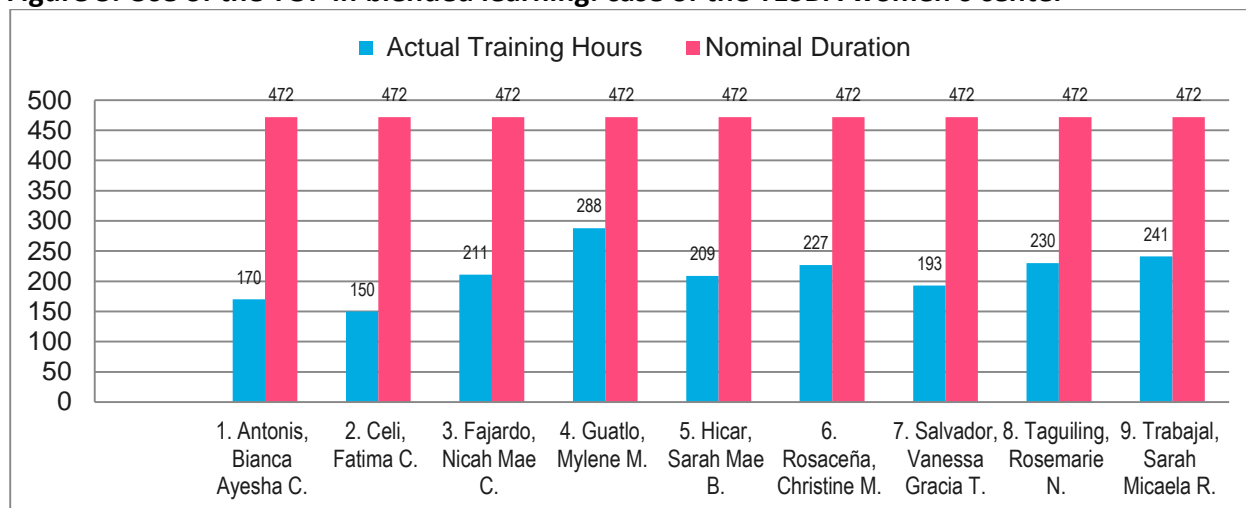
4. Analysis of the TESDA Online Program

4.1 Results of previous TOP studies

On August 31, 2015, a study was conducted by Ms. Maria Macapagal on the use of TOP in blended training program in collaboration with the UNESCAP and with the support of the TESDA Women’s Center. A total of 51 women trainees of the Pilot Testing of the TESDA Blended Food and Beverages Services (FBS) training program were evaluated in terms of

their performance. Results of the study showed that there were significant differences between the training duration of those trainees who went through the blended program as compared to those who were in the regular course under the Competency-Based Training (CBT) program. On average, the number of training hours spent by the trainees show they spent 213 hours or 26.6 days (46%) only to complete the Blended Food and Beverage Services NC II compared to 472 hours or 3 months nominal duration of the regular Food and Beverage Services NC II (Figure 5). Also, number of trainees increased by 150% more in 2017, with 100% Certification Rate. This means that all online participants ultimately acquire their certifications and take on the final exams in accredited TOP/TVET institutions.

Figure 5. Use of the TOP in blended learning: case of the TESDA women’s center



Source: TESDA

Two studies were already conducted by the eTESDA Project Management Unit to assess the relevance of the TESDA Online Program (TOP) courses to the learners and to map the number of registered users who have undergone the National Assessment. The following studies are aimed at improving the services offered by TOP:

- i. To measure the number of TOP users who have undergone the National Assessment, random samples of 39,546 TOP users who have enrolled in any of the available online courses were selected to be part of the study. Of the 39, 546 sampled TOP users, only 4,384 (11.1%) responded to the online survey. The results of the survey showed that only 1,343 (30.6%) of the respondents took the National Assessment after completion of the course. Out of those who were assessed, 1,241 (92.4%) of them passed the National Assessment. Lack of awareness of what National Assessment is has been the main reason why majority of the respondents did not go through the National Assessment. Survey period was conducted in February 23 to April 26, 2017.

Some key findings of the study suggest that the courses offered have been very effective as shown by the high passing rate of the TOP users during the assessment. This can be attributed to the adherence of online materials to TESDA training regulations. Moreover, there is a need to promote the TESDA National Assessment and Certification Program to the TOP users to increase their participation in the assessment and certification and to not just settle for learning and acquisition of new skills.

- ii. A total of 1,184 random samples were selected to participate in the study to assess the relevance of the completed course in terms of application of knowledge and skills acquired and further improvement of the materials. Survey period was conducted in July 9 to July 27, 2017. Only 185 or 15.6% of the respondents were able to finish the course and about 96.8% of these respondents were able to complete 1 to 2 courses. 184 out of 185 finishers find the course helpful in improving their skills and 35% of them finds the online learning materials as extremely helpful. Generally, the completed courses were found out to be very relevant to their daily activities or self-improvement, at their work places or in starting a business and to share to their family members and communities and even to teach at school.

4.2 Perception Survey last January 26 – February 6, 2018

In order to probe deeper on the opinions of the users of the TOP, a perception survey was also conducted on a cross-section of TOP users. The perception survey aims to measure not only on access and usage dimensions but also on the quality and impact of TOP to last mile consumers in terms of coverage, reach and relevance. A questionnaire for the perception survey was developed and designed structurally using a combination of both close and open ended questions, based on the objective of the study. The questionnaire gathered data on the characteristics of the registered users, career profiling and experiences, and relevance of the program. It was a self-administered electronic set of questions gathered online through the TOP portal. The questionnaire was uploaded to the portal for two (2) weeks from January 26, 2018 to February 6, 2018 for any registered user to respond. Only those enrolled in any one of the TOP courses were shortlisted to further answer questions in terms of certification, employment and income levels.

4.2.1 Demographic Profile

A total of 592 registered users responded to the questionnaire with 55 percent of them are male, 54 percent are single, 65 percent have educational attainment of college level to postgraduate diploma, 44 percent are ages 25-34 years old, and 29 percent are residing in the National Capital Region (NCR). Majority of the respondents are willing to go through the questionnaire but only 218 were shortlisted as enrolled in any one of the TOP courses (Table 12).

Table 12. Distribution of demographic profile

Respondent's Characteristics (N=592)	Frequency	Percentage (%)
Gender		
Male	327	55.2
Female	265	44.8
Marital Status		
Single	322	54.4
Married	198	33.5
Live-in	50	8.5
Annulled/Divorced	17	2.9
Widowed	5	0.8
Educational Level		
Elementary Undergraduate	1	0.2

Respondent's Characteristics (N=592)	Frequency	Percentage (%)
Elementary Graduate	6	1.0
High School Undergraduate	34	5.7
High School Graduate	104	17.6
Technical-Vocational Undergraduate	22	3.7
Technical-Vocational Graduate	43	7.3
College Undergraduate	130	22.0
College Graduate	236	39.9
Postgraduate diploma (Masters/PhD)	16	2.7
Location		
Outside the Philippines	29	4.9
NCR (National Capital Region)	171	28.9
Region I (Ilocos Region)	24	4.1
Region II (Cagayan Valley)	12	2.0
Region III (Central Luzon)	71	12.0
Region 4A (CALABARZON)	128	21.6
Region 4B (MIMAROPA)	1	0.2
Region V (Bicol Region)	16	2.7
Region VI (Western Visayas)	20	3.4
Region VII (Central Visayas)	38	6.4
Region VIII (Eastern Visayas)	11	1.9
Region IX (Zamboanga Peninsula)	11	1.9
Region X (Northern Mindanao)	15	2.5
Region XI (Davao Region)	15	2.5
Region XII (SOCCSKSARGEN)	7	1.2
Region XIII (Caraga Region)	8	1.4
ARMM	4	0.7
(Cordillera Administrative Region)	11	1.9
Age Group		
15 – 24	165	27.9
25 – 34	258	43.6
35 – 44	124	20.9
45 – 54	35	5.9
55 – 64	10	1.7
65 and Over	0	0.0
Interview Screener Question <i>(willing to go through the questionnaire)</i>		
No	24	4.05
Yes	568	95.95
Enrolment Screener Question <i>(Only those enrolled in any one of the courses)</i>		
No	374	63.18
Yes	218	36.82

Source: PIDS

4.2.2 Enrollees (Purpose, Benefits, Course, Status)

Of the 218 respondents who are enrollees of any one of the TOP courses, 122 of them (56%) enrolled in eTESDA for skills upgrading or enhancement, 41 (19%) for employment, 16 (7%) for raise in income, 16 (7%) for personal use, interest or hobby, 13 (6%) for job requirement, and only 3 (1%) for promotion (See Table 13a). Majority of the enrollees identified convenience (78%), learning at own pace (71%), and unlimited access to materials (57%) as the main benefits of enrolling at eTESDA. Only 49 percent found eTESDA affordable despite access to it is for free. This may be attributed to the cost of internet connection to access the TOP.

Moreover, popular courses are those in ICT (31%), Tourism (26%) and Entrepreneurship (12%). Only 39 enrollees (18%) have completed the course and the remaining enrollees are still taking the course. ICT being one of the popular courses is no surprise as it was already observed in earlier sample surveys conducted by eTESDA PMU (See Table 13a).

Table 13a. Enrollees' courses, purpose and benefits

eTESDA Enrollees	Frequency	Percentage (%)
Why did you choose to use e-TESDA?		
Credit towards degree requirement	5	2.3
For employment	41	18.8
For promotion	3	1.4
For skills upgrading or enhancement	122	56.0
Job Requirement	13	6.0
Personal use, interest, or hobby	16	7.3
TVET Qualification is popular	2	0.9
To increase income	16	7.3
What are the benefits that you get from e-TESDA? (Multiple answers allowed)		
Convenience	170	78.0
Affordable	106	48.6
Can learn at own pace	155	71.1
Unlimited access to materials	124	56.9
Added Credibility	1	0.5
No. of enrolled students per course (out of 218)		
Agriculture	6	3.1
Automotive	14	7.3
Electrical and Electronics	7	3.7
Entrepreneurship	23	12.0
Healthcare	5	2.6
Heating, Ventilation and Air Condition	5	2.6
Information and Communication Technology	60	31.3
Maritime	4	2.1
Tourism	50	26.0
TVET	18	9.4

4.2.3 Assessment and Certification

Out of the 218 enrollees, only 39 or 18% of them have completed the course. Out of the 39 completers, 18 of them took the National Assessment. Of the 18 completers who took the national assessment right after they have finished their courses, all but one (95%) passed the assessment. There were 15 passers awarded by TESDA with certification of NCII (88%), 1 passer with NC I (6%), and 1 passer with NCIII (6%) (Table 13b). This result is also consistent with the eTESDA PMU studies estimating about 92.4% passing rate of those who learn from TOP and then took the National Assessment after completion of the course.

Table 13b. Enrollees' status, assessment and certification

eTESDA Enrollees	Frequency	Percentage (%)
Course Status (out of 218 enrollees)		
Completed	39	17.9
On-going	179	82.1
National Assessment Taken (out of 39 completed)		
No	21	53.9
Yes	18	46.2
Passed National Assessment (out of 18 who took National Assessment)		
No	1	5.6
Yes	17	94.4
Certification Awarded by TESDA (out of 17 who passed National Assessment)		
NC I	1	5.9
NC II	15	88.2
NC III	1	5.9

4.2.4 Challenges and Opportunities

About 35 enrollees (49%) identified internet as one of the main challenge faced in terms of accessibility. Issues on internet include slow internet speed, expensive/costly data usage, unstable data connection, and sometimes no internet access (Table 14). Other identified challenges are the lack of instruction of completing the course specifically on assessment and certification procedures (7%). Some others have issues on registration such as forgetting username and password and tedious forms to fill-out (7%).

Table 14. Challenges and opportunities faced in terms of the accessibility

	Frequency	Percentage
Course Content	3	4.2
Limited Course Offering	2	2.8
Disability	1	1.4
Lack of Education	1	1.4
Employability	1	1.4
No/Lack of Instruction After Course Completion (Certification, Assessment)	5	7.0

	Frequency	Percentage
Issues on Interface	3	4.2
No Internet, Slow Internet Speed, Expensive/Costly, Unstable Data Connection	35	49.3
Language (English barrier, no Filipino version)	2	2.8
Motivation (lack of time, Schedule)	5	7.0
No gadget (no personal computers and other gadget)	3	4.2
Registration Issues (Forgot username and password, long process, difficulty)	5	7.0
Security Issues	1	1.4
Skills	1	1.4
Problems Accessing Videos	3	4.2
Total	71	100.0

4.2.5 Bottlenecks/Barriers Affecting Performance

Major bottlenecks and barriers of doing online learning in TESDA which may possibly affect the performance of the respondents include speed and cost of internet connection (23%) and time management and motivation to finish the course (16%). Other issues on access like language, website interface and the lack of videos were also identified pointing to the need for some aspects of TOP to be improved.

One respondent identified disability as one that hinders the respondent to perform better (Table 15).

Table 15. Bottlenecks/barriers affecting performance

	Frequency	Percentage
No Internet, Expensive/Costly, Unstable Data Connection	27	22.9
Time Management/Motivation/Work Schedule	19	16.1
Not Enough Assessment/Online Quiz	2	1.7
Interface/Website	2	1.7
No Illustrations/Videos	2	1.7
No Gadget	2	1.7
Finances	2	1.7
Course Content	1	0.8
Disability	1	0.8
Language	1	0.8
Registration	1	0.8
No Response	58	49.2
Total	118	100

4.2.6 Overall Experience and Satisfaction Ratings

Enrollees have given a very high (5) and a high (4) satisfaction rating of the eTESDA Program in terms of navigating the eTESDA portal website (85%), registration and enrolment (85%),

instructions and courses offered (83%), format of the course/contents of the material (81%), and relevance of the courses to actual needs (83%) (Table 16).

Table 16. Enrollees’ overall experience and satisfaction ratings of eTESDA program

Overall Experience	Satisfaction Ratings (5 being the highest satisfaction and 1 being the lowest)				
	1	2	3	4	5
User Experience	1 0.5	2 0.9	30 13.8	51 23.4	134 61.5
Registration Experience	2 0.9	2 0.9	29 13.3	48 22.0	137 62.8
Online Experience	2 0.9	3 1.4	27 12.4	49 22.5	137 62.8
Courses Offered	1 0.5	3 1.4	32 14.7	53 24.3	129 59.2
Course Curriculum	1 0.5	5 2.3	35 16.1	61 28.0	116 53.2
Relevance of Course to Actual Needs	2 0.9	4 1.8	30 13.8	52 23.9	130 59.6

4.2.7 Limitation of the Survey

About 85% of the respondents have enrolled in 2018, hence measuring the impact of the TOP in terms of employment and income is limited. Although 57% of them are currently employed during enrolment at eTESDA, most have not declared their income. To further measure the impact of the TOP, a graduate tracer surveys can be conducted provided with the full list of all eTESDA completers since 2012 to know degree of absorption of graduates in employment and to determine the income effect.

5. Discussions and Conclusion

5.1 Course offerings

One insight that can be obtained from the distribution of TOP users by course offerings is that the popularity of ICT would go hand-in-hand with the use of the TOP. Understandably, the registered users would already have a computer or a mobile device with which to access TOP which implies that they have some of the basic hardware and even software requirements for learning ICT skills. Because the TOP requires the practice/application of the skills learned at home, having these hardware requirements within reach adds to the popularity of these programs.

One can obtain similar insights in the courses that seem to be unpopular for enrollees like Maritime (0.8%) and Agriculture (1.7%) in Table 7. These sectors would imply that the knowledge learned by the enrollees will have to be applied in real life scenarios at home which

may be difficult or even impossible as their homes may not have the required infrastructure to support the practice of the skills they have learned.

While it is interesting to analyze the distribution of enrollees by course, it would also be interesting to see the proportion of enrollees in a given course who were able to complete the course. From Table 7, these would be Heating, Ventilating, Air Conditioning and Refrigeration; Information and Communication Technology; and TVET (Training Methodology). One can hypothesize that the proportion of completers in these courses are high because it can be a job requirement or the skill the enrollees have learned could be used in their jobs. It may be because obtaining these skills would make the students more marketable or employable. A more detailed analysis is required to test these hypotheses which is beyond the scope of this paper.

Because of lack of data, no study has been undertaken to identify what are the determinants of course choice for TOP registrants. Such a study could provide information that could help in improving the course offerings of the TOP program by specifically catering to the needs and characteristics of the registered users.

5.2 Impact on training cost and employability

The cost of training is mainly in terms of time and money. Students have to be physically present in the training classroom to be able to receive training. Even if the course is provided without cost, the transportation cost and time spent going to the training area might still be substantial. Results of the earlier studies conducted on TOP show that the TOP has the potential for reducing the training cost through the use of a blended program, where students combine face to face instruction with online learning.

The cost of access is also an important issue as only 49 percent of the respondents of the perception survey found the TOP affordable despite being provided for free. This is because users of the TOP would still require a reliable internet connection in order to fully appreciate the learning materials in TOP. This observation points to the need for a reliable internet infrastructure for e-education to be effective. While outside of the purview of TESDA, it would do well for the department to coordinate with the DICT to ensure that ICT infrastructure development projects are on track.

In two separate surveys, the eTESDA PMU have estimated the passing rate of TOP users who have opted to undergo National Assessment upon completing the online course. The high passing rate (above 90%) addresses the concern that online learning may not be as effective as face-to-face learning. The TOP also registered above 90 passing rate despite the lack of online forum where the students can interact with other students to address some questions or concerns.

One possible explanation for the high passing rate is the opportunity to learn at your own pace and revisit some learning materials and videos (for some courses). By focusing on learning at one's pace, the students can spend more time learning the topics in which they need more instruction rather than spending time on topics they are already familiar with. This can easily be observed in classroom learning where the students of different backgrounds are lumped together and are instructed in the same pace. In classroom learning, the instructions are given only once, while in online learning, there is opportunity for mastery.

5.3 Conclusion

The TOP offer unlimited opportunities through its courses and potential number of users/beneficiaries. The availability of online applications enables the framing of training materials that are strategically aligned for better understanding and appreciation of the target audience/clientele. Indeed, the vision of a globally competent Filipino workforce with advanced skills can be realized with the encouraging results of the TOP accreditation and certification. The mission to full accessibility in technical education and skills development program, either in online or offline mode, is an idea whose time has come to be implemented, to be realized.

More can still be done through courses in complete packages, institutionalization of TOP through blended programs in TESDA Technology partner-institutions and upgrading or capacity building of Trainers as well as e-Learning materials development.

6. Proposals to improve eTESDA

This section provides a summary of recommendations to improve TESDA Online Program based on the existing studies, stakeholder consultations, feedback from the users and reports from eTESDA PMU. For each of the proposal, a SWOT analysis is provided as a means of assessing the validity of each recommendation.

6.1 TESDA to continuously lobby for the institutionalization of eTESDA Division

The increasing demand for online courses and availing of the online assessments indicate the high interest in the TOP. Being the First Philippine Massive Open Online Courseware, the program should go to the next level through the institutionalization of an eTESDA Division with plantilla position for recommendation to the DBM. The eTESDA PMU have already submitted its proposal to become a permanent division back-up by concrete justification. Staff recruitment and development, management and leadership are important in securing quality and sustainable TOP.

Strengths	Weaknesses
<ul style="list-style-type: none"> • Efficient leadership and management • A reputation as the lead division in providing TESDA online courses • Presence of permanent staff with strong institutional history and experience coupled with new staff who bring a fresh outside perspective • Clear delineation of work for staff • Staff development plan in place • Adequate and reliable ICT infrastructure • Established clients • Increasing enrolment of students 	<ul style="list-style-type: none"> • Lack of vision • Determination of competence of staff • Lack of known expertise from staff • Comparison of compensation level of staff from other agencies performing the same function • Limited resources • No outside funding due to courses offered free online • Inadequate technical and other similar resources for staff to utilize • No program for capacity building for staff

<ul style="list-style-type: none"> • Well established online courses • Continuous course development • Adequate facilities for training and accomodation 	<ul style="list-style-type: none"> • ‘Traditional’ services and courses still being offered
<p>Opportunities</p> <ul style="list-style-type: none"> • High demand for TESDA online courses • Linkages with industry and private agencies • Employment opportunities for graduates • National development 	<p>Threats</p> <ul style="list-style-type: none"> • Cannot cope with local and international demand/standards • Competing interests with partners • Lack of time and motivation to finish the online courses • No support from the government

6.2 Ensure continuous development of quality and relevant online program courses

As the TESDA Online Program continuously develops relevant and practical course offerings, there is a need to ensure that all online curricula and program content meet or exceed the minimum occupational and training standards of quality. Creating more courses means more opportunities for learners to become more productive. There is also a need to continuously review and update existing online courses and test for its effectiveness, making it continuously relevant to industry needs. TOP courses should be designed to meet the changing job requirements and labour market needs to produce globally competent Filipino workforce with acquired 21st century skills.

<p>Strengths</p> <ul style="list-style-type: none"> • Quality online program courses • Course contents are regularly updated and relevant to the needs and demands of clients • Ladderized course offerings • More effective modules that students can choose from • Better instruments/instructional materials 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Not easily understood/appreciated by marginalized groups • Determination of competence of staff • Lack of known expertise from staff • Limited resources • Inadequate technical and other similar resources for staff to utilize • No program for capacity building for staff
<p>Opportunities</p> <ul style="list-style-type: none"> • High demand for TESDA online courses • Linkages with industry and private agencies • Employment opportunities for graduates • National development 	<p>Threats</p> <ul style="list-style-type: none"> • Cannot cope with local and international demand/standards • Competing interests with partners • Lack of time and motivation to finish the online courses • No support from the government

6.3 Strengthen partnerships/linkages

The eTESDA must establish strong collaborations with private organizations, employers, key stakeholders, labor market and industry, and government itself by encouraging them to take part in skills development through ICT. Partnerships and linkages are more effective approaches to skills development.

<p>Strengths</p> <ul style="list-style-type: none"> • Developed policies and standards with government and stakeholders • Effective implementation of policies and guidelines with government and stakeholders • Provision of better labor market information 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Not able to identify the appropriate government partners and stakeholders within TESDA and outside • No clear cut policies and guidelines with government and stakeholders • Lack of coordination to obtain labor market information
<p>Opportunities</p> <ul style="list-style-type: none"> • Possible projects and programs to improve the TOP • Possible funding assistance and support • Linkage with employment and access to better jobs 	<p>Threats</p> <ul style="list-style-type: none"> • Competing interests • Conflict or vested interest of funding sources • Political color

6.4 Promote TOP through advocacy activities

There is a need to intensify promotion of the TOP through advocacy activities and information campaigns. This may include the development of information, education, and communication materials to generate increased awareness on the program. Promotional face-to-face campaigns to reach the targeted disadvantaged groups in rural areas can be programmed in coordination with schools, local government units and private institutions.

<p>Strengths</p> <ul style="list-style-type: none"> • Improved image and reputation of the TOP • Wider reach and coverage • Recognition of TESDA as a technology driven institution • Strategic marketing plan (communication and dissemination) 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Limited funds • Poor promotional strategies • Unable to recognize target beneficiaries • Lack of marketing plan
<p>Opportunities</p> <ul style="list-style-type: none"> • Coordination with schools and local government • Partnership with NGOs and private institutions 	<p>Threats</p> <ul style="list-style-type: none"> • Lack of cooperation from schools and LGUs • Division of resources and labor

7. Bibliography

- Arabeheity, P.G., Chen,G., Cook, W., and McKay, C. 2016. *Digital Finance Interoperability & Financial Inclusion: A 20-Country Scan*. Working Paper, Washington, D.C.: Consultant Group to Assist the Poor. Accessed March 8, 2018.
<http://www.cgap.org/sites/default/files/interoperability.pdf>.
- Avendaño, C. 2017. "Senate to pass national ID system by 2018." *Philippine Daily Inquirer*, December 5. Accessed March 1, 2018. <http://newsinfo.inquirer.net/949820/senate-to-pass-national-id-system-by-2018>.
- Bangko Sentral ng Pilipinas. 2017. *Financial Inclusion in the Philippines Dashboard as of Third Quarter of 2017*. Manila City, Philippines: BSP. Accessed March 7, 2018.
http://www.bsp.gov.ph/downloads/Publications/2017/FIDashboard_3Q2017.pdf.
- BusinessWorld. 2018. "FINTQ to offer 1 million free microinsurance policies." *BusinessWorld*, March 4. Accessed March 8, 2018.
<http://www.interaksyon.com/fintq-to-offer-1-million-free-microinsurance-policies/>.
- Department of Information and Communications Technology. 2017. *National Broadband Plan: Building Infostructures for a Digital Nation*. Quezon City, NCR: DICT.
- GSMA. 2012. *Mobile Money in the Philippines – The Market, the Models and Regulation* . London: GSMA. Accessed March 8, 2018.
<https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2012/06/Philippines-Case-Study-v-X21-21.pdf>.
- International Finance Corporation. 2017. *Digital Financial Services: Challenges and Opportunities for Emerging Market Banks*. Washington, D.C.: IFC.
- SpeedTest. 2018. *Speed Test Global Index*. February. Accessed March 8, 2018.
<http://www.speedtest.net/global-index>.

Annex 1. e-TESDA course offerings and their description

Sector	Online Courses	Course Description	Remarks
Agriculture (1 course)	1. Fruit Grower	Fruit Grower covers lesson on the preparation of the plant site, growing of plant seedlings and tree, as well as monitoring and harvesting of fruit.	This learning material is a self-paced course.
Automotive (2 courses)	2. Automotive Battery Servicing	Automotive Battery Servicing covers the competence required to service, remove, replace, test, and charge automotive batteries.	This self-paced course is part of Automotive Servicing NC II.
	3. Diesel Engine Tune Up	Diesel Engine Tune Up covers the competence required to carry out engine maintenance to keep the vehicle in good running condition, maintain its optimum engine performance, and prevent serious engine trouble.	This self-paced course is part of Automotive Servicing NC I.
Electrical and Electronics (1 course)	<ul style="list-style-type: none"> • Cellphone Servicing 		<ul style="list-style-type: none"> • Not counted as a course. • Course currently hidden for update of content
	4. Solar Night Light Assembly	Solar Night Light Assembly covers knowledge and skills needed to assemble, test, and troubleshoot solar night lamp. This material can also be used to deepen one's understanding on the process and the system used of turning solar energy into consumable energy using solar-powered generation technology.	This learning material is a self-paced course.
Entrepreneurship (2 courses)	5. STAR Online Training Program	STAR Online Training Program covers lessons on how to start up a business including proper branding of products and techniques to sustain profit of a physical store set-up.	
	6. Managing Your Personal Finances	Managing Your Personal Finances covers lessons on making sound financial decisions to become a financially independent individual. It also teaches techniques on how to improve income and spending habits, to save, and to get out of debts fast and clean.	This self-paced material is developed in partnership with Consuelo Foundation.
Human Health and Health Care (3 courses)	<ul style="list-style-type: none"> • Course 1: Foundations of Massage Practice 	This is the one of the introductory courses for Swedish, Shiatsu, and Thai massage, and is a requirement, whether you want to study all the three modalities or just want to focus on one.	Not counted as a course.
	<ul style="list-style-type: none"> • Course 2: Fundamentals of Massage Therapy 	This is the other introductory course that covers the basic knowledge of Massage Therapy. It tackles the three stages of massage therapy - the pre-massage, massage proper, and post-massage.	Not counted as a course.
	7. Course 3: Swedish Massage	This course contains the knowledge one must have to perform a Swedish Massage.	This course is part of Massage Therapy NC II.
	8. Course 4: Shiatsu Massage	This course contains the knowledge one must have to perform a Shiatsu Massage.	This course is part of Massage Therapy NC II.
	9. Course 5: Thai Massage	This course contains the knowledge one must have to perform a Thai Massage.	This course is part of Massage Therapy NC II.

Sector	Online Courses	Course Description	Remarks
Heating, Ventilating, Air Conditioning and Refrigeration (1 course) Information and Communication Technology (14 courses) ICT Courses	10. Packaged Air Conditioner Unit Servicing	Packaged Air Conditioner Unit Servicing covers the competence required on the installation, troubleshooting, and maintenance of the indoor and outdoor Package Air Conditioning Unit (PACU).	This course is part of RAC Servicing (DOMRAC) NC II.
	• Computer Hardware Servicing/Computer System Servicing NC II *		<ul style="list-style-type: none"> • Not counted as a course. • Course currently hidden for update of content
	11. Animation (3D Digital)	Animation (3D Digital) covers the competence required 3D animators and multimedia artists to produce 3D digital animation, multimedia and special effects for film and video in both production and post-production stages.	This self-paced material is developed in partnership with Autodesk Inc.
	12. Basic Computer Operations	Basic Computer Operations covers the competence required to operate a personal computer by: starting the PC, logging in, using and working with files, folders and programs, saving work and closing down the pc.	This self-paced material is developed in partnership with Microsoft Corporation, Ltd.
	13. SMART Android Mobile Apps Development for Beginners	SMART Android Mobile Apps Development for Beginners covers setting up the development environment, Hello World in two parts, android basics in seven parts, and preparing for distribution.	<ul style="list-style-type: none"> • Videos • Grades section • You cannot go to next lesson until previous is marked complete
	14. SMART Technopreneurship 101	SMART Technopreneurship 101 covers the competence required to undertake effective entrepreneurial knowledge and practical skills for one to form and develop a technology-based business or enterprise.	This self-paced material is developed in partnership with SMART Communications, Inc.
	15. Web Development using HTML5 and CSS3	Web Development using HTML5 and CSS3 covers the competence required to undertake competitive knowledge in language and processes that all front-end web developers need to know to design corporate websites and create web apps.	This self-paced material is developed in partnership with Google Inc.
16. CAD / CAM Operation *		Course currently hidden for update of content	
Microsoft Online Courses			

Sector	Online Courses	Course Description	Remarks
Game Development		<p><i>Game Development is developed in partnership with Microsoft Corporation, Ltd. Its qualification consists of competencies that a person must achieve to program stand-alone computer game applications.</i></p> <p><i>A person who has achieved this qualification is competent to be employed as a Game Programmer, Technical Game Designer, Game Tester, Tools Programmer, and/or Game Play Scripter.</i></p>	
	17. Developing 2D Games with HTML5	Developing 2D Games with HTML5 covers the competence required by game programmers and technical game designers to develop 2D games with HTML5.	This self-paced material is developed in partnership with Microsoft Corporation, Ltd.
	18. Developing 2D and 3D Games with Unity	Developing 2D & 3D Games with Unity covers the competence required by game programmers and technical game designers to ramp up their game development skills.	This self-paced material is developed in partnership with Microsoft Corporation, Ltd.
	19. Game Production Basics	Game Production Basics covers the competence required by game programmers and technical game designers to understand game objects and components, to understand the architecture in Unity, to learn how to code in Unity, add physics to game objects, and to enhance user interface.	This self-paced material is developed in partnership with Microsoft Corporation, Ltd.
	20. C# Fundamentals for Beginners	C# Fundamentals for Beginners covers the competence required to undertake programming tasks using an object oriented programming language. Competence includes tool usage, documentation, debugging, and testing techniques in support of the programming activity.	This self-paced material is developed in partnership with Microsoft Corporation, Ltd.
	21. Software Development Fundamentals	Software Development Fundamentals covers the competence required to undertake the concepts of software developments that all developers need to know.	This self-paced material is developed in partnership with Microsoft Corporation, Ltd.
Udacity Courses by Google		<p>Udacity Courses by Google is developed in partnership with Udacity. Its qualification consists of competencies that a person must achieve to Java language and start building mobile applications.</p> <p>A person who has achieved this qualification is competent to be employed as an Android Developer.</p>	

Sector	Online Courses	Course Description	Remarks
Udemy Courses	22. Android Development for Beginners	Android Development for Beginners covers the competence required to undertake the basics of Android and Java programming to take the first step on becoming an Android developer.	This self-paced material is developed in partnership with Udacity.
	23. UX Design for Mobile Developers	UX Design for Mobile Developers covers the competence required to understand the most important and immediately useful techniques and approaches used by great mobile UX designers.	This self-paced material is developed in partnership with Udacity.
	24. Android 4.0 Programming in Java	Create an Android app after taking this course in Android development! You will learn everything from basic concepts of Android Programming to creating games and simulations. This class is beginner-intermediate course, ideally for someone who knows some Java before taking the course and will provide you the tools you need to build an Android app from scratch.	This self-paced material is developed in partnership with Udemy, Inc.
Lifelong Learning Skills (2 courses)	25. Job Interview Skills Training Course	Land your dream job and master your interview skills by studying specific interviewing techniques such as body language, learning how to prepare for an interview, and practicing common interview questions in this class. This course is relevant to anyone in the job marketing, whether you are completely new to the job market, re-entering the workforce, or looking to advance your career.	This self-paced material is developed in partnership with Udemy, Inc.
	26. How to Build Confidence in Your Abilities	Achieve your goals and develop your confidence through this personal development class! Through scientific research and expert experience, you will learn about behavior, therapy, motivation, and more to become confident in your skills.	This self-paced material is developed in partnership with Udemy, Inc.
Maritime (1 course)	27. Update on Ships' Catering NC III	Update on Ships' Catering NC III covers additional topics included in Maritime Labour Convention 2006 and is adopted by International Labour Convention (ILO). This course focused specifically on the preparation of nutritionally balanced diet and on the supervision/administration of galley area.	This self-paced course is an additional learning material for those who will take Ships' Catering NC III.
Social, Community Development and Other Services (1 course)	28. Beauty Care Services (Nail Care) NC II qualification	Beauty Care Services (Nail Care) NC II qualification consists of competencies that a person must achieve, such as performing manicure and pedicure, performing hand spa, and performing foot spa. To attain the National Qualification of Beauty Care Services (Nail Care) NC II, the candidate may apply for assessment in any accredited Assessment Centers, and must demonstrate competence in all units/clusters of core units of the Qualification.	

Sector	Online Courses	Course Description	Remarks
		A person who has achieved this qualification and awarded a National Certificate (NC) is competent to be employed as a Manicurist/ Pedicurist or Nail Technician.	
Tourism (20 courses)			
Bread and Pastry Production NC II	29. Preparing Cakes	Preparing Cakes covers knowledge and skills required by bakers and pastry cooks (pâtisseries) to produce, fill, decorate, and present a range of specialized sponges and cakes, where finish decoration and presentation of a high order is required.	This self-paced course is one of the competencies in Bread and Pastry Production NC II.
Cookery NC II		The qualification Cookery NC II consists of competencies that a person must perform/achieve including preparing hot, cold meals and desserts for guests in various food and beverage service facilities. To attain the National Qualification of Cookery NC II, the candidate may apply for assessment in any accredited Assessment Centers, and must demonstrate competence in all units/clusters of core units of the Qualification.	
		A person who has achieved this qualification and awarded National Certificate (NC) is competent to be employed in any of the following positions in the Garde Manger, Pastry or in the Hot Kitchen Section as Cook or Commis and Assistant Cook.	
		<i>The cluster Prepare and Cook Hot Meals is composed of 7 courses. Individuals aspiring to be awarded the qualification of COOKERY NC II must acquire Certificate of Competency (COC) in all clusters of core units of the qualification. Candidates may apply for assessment in any accredited Assessment Center</i>	
. Cookery NC II - Prepare and Cook Hot Meals	30. Preparing Stocks, Sauces and Soups	Preparing Stocks, Sauces and Soups covers competence required to prepare various stocks, sauces, and soups in a commercial/ institutional kitchen.	This self-paced course is part of the cluster Cookery NC II - Prepare and Cook Hot Meals.
	31. Preparing Poultry and Game Dishes	Preparing Poultry and Game Dishes covers competence required to select, prepare, cook, plate, and store poultry and game meat dishes.	This self-paced course is part of the cluster Cookery NC II - Prepare and Cook Hot Meals.
	32. Preparing Seafood Dishes	Preparing Seafood Dishes covers competence required to select, prepare, present, and store seafood dishes in a commercial kitchen or catering operation.	This self-paced course is part of the cluster Cookery NC II - Prepare and Cook Hot Meals.

Sector	Online Courses	Course Description	Remarks
	33. Preparing Egg Dishes	Preparing Egg Dishes covers competence required to cook, present, and store various egg dishes.	This self-paced course is part of the cluster Cookery NC II - Prepare and Cook Hot Meals.
	34. Preparing Starch Dishes	Preparing Starch Dishes covers competence required to cook, present and store starch dishes such as pasta and noodles.	This self-paced course is part of the cluster Cookery NC II - Prepare and Cook Hot Meals.
	35. Preparing Vegetable Dishes	Preparing Vegetable Dishes covers competence required to cook, present, and store various vegetable dishes.	This self-paced course is part of the cluster Cookery NC II - Prepare and Cook Hot Meals.
	36. Preparing Meat Dishes	Preparing Meat Dishes covers competence required to select, prepare, cook, and store meat dishes.	This self-paced course is part of the cluster Cookery NC II - Prepare and Cook Hot Meals.
<i>Cookery NC II - Prepare Cold Meals</i>		<i>The cluster Prepare Cold Meals is composed of 3 courses. Individuals aspiring to be awarded the qualification of COOKERY NC II must acquire Certificate of Competency (COC) in all clusters of core units of the qualification. Candidates may apply for assessment in any accredited Assessment Center.</i>	
	37. Preparing Appetizers	Preparing Appetizers covers competence required to prepare and present hot and cold appetizers.	This self-paced course is part of the cluster Cookery NC II - Prepare Cold Meals.
	38. Preparing Salads and Dressings	Preparing Salads and Dressings covers competence required to prepare and present salads and dressings.	This self-paced course is part of the cluster Cookery NC II - Prepare Cold Meals.
	39. Preparing Sandwiches	Preparing Sandwiches covers competence required to prepare and present sandwiches.	This self-paced course is part of the cluster Cookery NC II - Prepare Cold Meals.
<i>Cookery NC II - Prepare Sweets</i>		<i>The cluster Prepare Sweets is composed of 1 course. Individuals aspiring to be awarded the qualification of COOKERY NC II must acquire Certificate of Competency (COC) in all clusters of core units of the qualification. Candidates may apply for assessment in any accredited Assessment Center.</i>	
	40. Preparing Desserts	Preparing Desserts covers competence required to prepare a range of hot, cold, and frozen desserts.	This self-paced course is under the cluster Cookery NC II - Prepare Sweets.
<i>Food and Beverage Services NC II</i>		<i>Food and Beverage Services NC II qualification consists of competencies that a person must achieve to provide food and beverage service to guests in various food and beverage service facilities. To attain the National</i>	

Sector	Online Courses	Course Description	Remarks
		<i>Qualification of Food and Beverage Services NC II, the candidate may apply for assessment in any accredited Assessment Centers, and must demonstrate competence in all units/clusters of core units of the Qualification.</i>	
	41. Bus Boy Servicing	<i>A person who has achieved this qualification and awarded National Certificate (NC) is competent to be employed as Bus Boy, Room Attendant, Waiter and Food and Beverage Service Attendant.</i> Bus Boy Servicing covers knowledge, skills and attitudes required to buss out and clean soiled dishes.	This self-paced course is one of the competencies in Food and Beverage Services NC II.
	42. Room Attendant Servicing	Room Attendant Servicing covers knowledge, skills, and attitudes required to receive and handle guest concerns, promote food and beverage products, and provide room services to guests.	This self-paced course is one of the competencies in Food and Beverage Services NC II.
	43. Waiter Servicing	Waiter Servicing covers knowledge, skills, and attitudes required to receive and handle guest concerns, promote food and beverage products, prepare dining room/restaurant area for service, and take orders.	This self-paced course is one of the competencies in Food and Beverage Services NC II.
Housekeeping NC II		<i>Housekeeping NC II qualification consists of competencies that a person must achieve to prepare guest rooms, clean public areas and equipment, provide housekeeping services, provide valet services, handle intoxicated guest, and laundry linen and guest clothes to a range of accommodation services.</i> <i>To attain the National Qualification of Housekeeping NC II, the candidate may apply for assessment in any accredited Assessment Centers, and must demonstrate competence in all units/clusters of core units of the Qualification.</i> <i>A person who has achieved this qualification is competent to be employed as a Junior Cleaner, Assistant Cleaner, Assistant Public Area Cleaner, Cleaner, Public Area Cleaner, Attendant, Room/Cabin Attendant/Room Maid, Laundry Attendant, Housekeeping Attendant and Butler.</i>	
	44. Provide Housekeeping Services	Provide Housekeeping Services to Guests covers skills and knowledge required to provide a range of general housekeeping services to guests.	This self-paced course is one of the competencies in Housekeeping NC II.
	45. Guest Room Attendant Servicing	Guest Room Attendant Servicing covers skills and knowledge required from housekeeping attendants. This course focuses on cleaning and preparing rooms for incoming guests in a commercial accommodation establishment.	This self-paced course is one of the competencies in Housekeeping NC II.

Sector	Online Courses	Course Description	Remarks
	46. Valet Servicing	Valet Servicing covers skills and knowledge required to provide valet/butler services in a commercial accommodation establishment.	This self-paced course is one of the competencies in Housekeeping NC II.
	47. Laundry Servicing	Laundry Servicing covers skills and knowledge required to work in an "on-premise" laundry section in a commercial accommodation establishment.	This self-paced course is one of the competencies in Housekeeping NC II.
	48. Public Area Attendant Servicing	Public Area Attendant Servicing covers skills and knowledge required in cleaning public area facilities and equipment. It includes selecting and setting up of equipment and materials, cleaning dry and wet areas, and maintaining and storing cleaning equipment and materials.	This self-paced course is one of the competencies in Housekeeping NC II
	49. Deal With Intoxicated Guests		
TVET (10 courses) Trainers Methodology I		<i>The Trainers Methodology Level I consists of competencies a TVET trainer or assessor must achieve, such as plan training sessions, facilitate learning sessions, supervise work-based learning, conduct competency assessment, maintain training facilities and utilize electronic media in facilitating training.</i>	
		<i>A person who has achieved this qualification is competent to be a TVET Trainer / Technical Trainer, Training Facilitator / Coordinator and Competency Assessor.</i>	
Deliver Training Session	50. Plan Training Session	Plan Training Session covers competence required to plan training session, including identification of learner's requirements, preparation of session plan and instructional materials, organization of learning, teaching and assessment resources.	This self-paced course is part of the cluster Trainers Methodology I - Deliver Training Session.
	51. Facilitate Learning Session	Facilitate Learning Session covers competence required to deliver Competency-Based Training Session, including preparation of training session, conduct of pre-assessment, training session facilitation, conduct competency assessment and review delivery of training session.	This self-paced course is part of the cluster Trainers Methodology I - Deliver Training Session.
	52. Utilize Electronic Media in Facilitating Training	Utilize Electronic Media in Facilitating Training covers competence required in advance training environment using electronic media in facilitating training, including operation and maintenance of the equipment.	This self-paced course is part of the cluster Trainers Methodology I - Deliver Training Session.
Conduct Competency Assessment (COC2)	53. Trainers Methodology I - Conduct Competency Assessment	Conduct Competency Assessment covers competence required to conduct National Assessment. It details the requirements for organizing assessment activities, preparing the candidate, gathering and evaluating evidence, making	This self-paced course is part of the cluster Trainers Methodology I - Conduct Competency Assessment.

Sector	Online Courses	Course Description	Remarks
		assessment decision, recording and providing feedback on assessment outcome.	
TM1 Basic Competencies	54. Foster and Promote Inclusive Learning Culture *		Course currently hidden for update of content
	55. Apply Work Ethics, Values and Quality Principles *		Course currently hidden for update of content
	56. Utilize IT Application in Technical Training *		Course currently hidden for update of content
	57. Lead Workplace Communication *		Course currently hidden for update of content
	58. Develop and Promote Appreciation for Costs and Benefits of Technical Writing *		Course currently hidden for update of content
Trainers Methodology II	59. Trainers Methodology II - Curriculum Development	Curriculum Development covers knowledge, skills and attitude required to develop, modify/customize training curriculum. It includes establishing training requirements, identifying the learner, and developing, modifying, customizing and finalizing training curriculum.	This self-paced course is one of the competencies in Trainers Methodology II.

Annex 2. Number of enrolled users per course as of December 31, 2017

SECTOR/COURSE	2017	2016	2015	2014	2013	2012	2011	TOTAL	COMPLETERS as of 1st quarter 2017 ¹
AGRICULTURE									
1. Fruit Grower	4,040	1,640	1,783	2,524	183			10,170	2,893
AUTOMOTIVE									
2. Diesel Engine Tune Up	4,122	2,890	3,416	5,011				15,439	1,023
3. Automotive Battery Servicing	2,339	1,867	2,427					6,633	525
ELECTRICAL AND ELECTRONICS									
Cellphone Servicing *	2,723	5,161	5,956	10,204	1,141	769		25,954	7,035
4. Solar Night Light Assembly	6,003	2,570	3,814	528				12,915	1,259
ENTREPRENEURSHIP									

5. STAR Online Training Program	9,608	100						9,708	896
6. Managing Your Personal Finances	9,119	57						9,176	3,877
HUMAN HEALTH / HEALTH CARE									
Massage Therapy NC II									
7. Performing Swedish Massage	5,847	9,363	11,922					27,132	3,684
8. Performing Shiatsu Massage	1,566	3,386	4,572					9,524	2,495
9. Performing Thai Massage	1,109	1,954	2,869					5,932	1,752
HEATING, VENTILATION AND AIR CONDITION									
10. Packaged Air Conditioner Unit Servicing	4,200	5,419	6,430	9,655				25,704	19,832
INFORMATION AND COMMUNICATION TECHNOLOGY									
Computer Hardware Servicing/Computer System Servicing NC II *	Update	Update	22,884	28,849	4,013	4,497	80	60,323	
ICT Courses									
11. Animation (3D DIGITAL)	7,232	8,327	11,179	4,705				31,443	13,642
12. Basic Computer Operation	13,004	24,580	21,093	25,474	2,757	12		86,920	73,348
13. SMART Android Mobile Apps Development for Beginners	3,541	3,481						7,022	4,642
14. SMART Technopreneurship 101	1,785	87						1,872	67
15. Web Development using HTML5 and CSS3	12,958	21,224	24,809	39,569	1,833			100,393	77,997
16. CAD / CAM Operation *	893	16,455	21,058	6,461				44,867	15,942
Microsoft Online Courses									
Game Development									
17. Developing 2D Games with HTML5	715	1,219	1,682					3,616	4,064
18. Developing 2D & 3D Games with Unity	980	2,017	2,735					5,732	6,315
19. Game Production Basics	1,509	3,522	4,931					9,962	11,842
20. C# Fundamentals for Beginners	5,006	5,664	7,176					17,846	18,741
21. Software Development Fundamentals	5,236	8,421	7,658					21,315	23,305
Udacity - Google Courses									
22. Android Development for Beginners	2,875	5,676	1,965					10,516	12,536
23. UX Design for Mobile Developers	547	874	343					1,764	2,060
Udemy Courses									

24. Android 4.0 Programming in Java	278							278	
LIFELONG LEARNING SKILLS									
25. Job Interview Skills Training Course	1,489							1,489	
26. How to Build Confidence in Your Abilities	1,232							1,232	
MARITIME									
27. Ships' Catering NC III (Update)	2,762	3,329						6,091	1,196
SOCIAL, COMMUNITY DEVELOPMENT AND OTHER SERVICES									
28. Beauty Care Services (Nail Care) NC II	2,266	5,151	2,647					10,064	872
TOURISM									
Bread and Pastry Production NC II									
29. Preparing Cakes	9,528	7,019	19					16,566	2,102
Cookery NC II									
Prepare and Cook Hot Meals (COC1)									
30. Preparing Stocks, Soups, and Sauces	2,279	9						2,288	30
31. Preparing Poultry and Game Dishes	697	1						698	31
32. Preparing Seafood Dishes	595	1						596	20
33. Preparing Egg Dishes	813	1,953	1,322					4,088	1,768
34. Preparing Starch Dishes	271	713	213					1,197	576
35. Preparing Vegetable Dishes	707	2,108	2,096					4,911	1,804
36. Preparing Meat Dishes	401							401	
Preparing Cold Meals (COC2)									
37. Preparing Appetizers	499	1,462	12					1,973	2,299
38. Preparing Salads and Salad Dressing	678	2,125	15					2,818	1,015
39. Preparing Sandwiches	2,651	7,141	11,739					21,531	1,283
Preparing Sweets (COC3)									
40. Preparing Desserts	2,102	7,926	5					10,033	660
Food and Beverage Servicing NC II									
41. Bus Boy Servicing	1,176	423	418	786	109	52		2,964	708
42. Room Attendant Servicing	2,934	3,141	3,163	4,209	916	1,028		15,391	1,970
43. Waiter Servicing	3,832	4,040	4,750	7,477	2,695	129		22,923	1,461
Housekeeping NC II									

44. Provide Housekeeping Services to Guests	6,631	9,620	3,736	1,626				21,613	2,211
45. Guest Room Attendant Servicing	3,494	2,800	3,991	6,325	1,025	725		18,360	1,656
46. Valet Servicing	667	796	944	2,219	671	43		5,340	3,752
47. Laundry Servicing	1,014	1,613	1,702	3,281	3			7,613	6,425
48. Public Area Attendant Servicing	665	462	570	905				2,602	623
49. Deal With Intoxicated Guests	20							20	
TVET									
TRAINERS METHODOLOGY I									
Deliver Training Session (COC1)									
50. Plan Training Session	4,747	8,166	229					13,142	686
51. Facilitate Learning Session	629	1,766	9,764					12,159	14,344
52. Utilize Electronic Media in Facilitating Training	372							372	55
Conduct Competency Assessment (COC2)									
53. Conduct Competency Assessment	494	654	335					1,483	58
TM1 Basic Competencies									
54. Foster and Promote Inclusive Learning Culture *	57	2						59	18
55. Apply Work Ethics, Values and Quality Principles *	247	11						258	52
56. Utilize IT Application in Technical Training *	311	14						325	66
57. Lead Workplace Communication *	221	9						230	35
58. Develop and Promote Appreciation for Costs and Benefits of Technical Writing *	86	5						91	121
TRAINERS METHODOLOGY II									
59. Curriculum Development	1,155	2,507	3,021	11,857				18,540	12,522
TOTAL	64,957	210,921	221,393	171,665	15,346	7,255	80	791,617	370,191

¹ Inactive users for more than 120 days are automatically unenrolled

* - course currently hidden for update of content

Blank - Course not yet published on the said year

Annex 3. Report highlights of the focus group discussions (FGDs)

Report Highlights

1. There are advertisements in the eTESDA courses distracting users.
2. Mobile limitations are existent in eTESDA courses.
3. Internet connection problems are prevalent among users with the occasional accessibility problems as well.
4. Course content are basic and provides limited information although this varies across different courses.
5. Users are hopeful for a Filipino language compatibility for courses.
6. File formats can be restrictive for those without the proper programs to access them such as with PDFs on mobile.
7. Instructions after completing eTESDA courses are unclear and confusing.
8. Examinations and tests are repetitive.
9. There is a lack of downloadable content for offline use and learning. Online connectivity is necessary each time.
10. Backtracking features are non-existent; thus, preventing learners to review older lessons as they progress.
11. There are suggestions for creating audiobook versions so as to allow mobile listening of lessons.
12. Another suggestion is to create a mobile application for eTESDA available through Google Play Store.
13. OFWs are unaware of the existence of eTESDA; thus, limiting the options of repatriated OFWs hoping to settle locally.
14. There should be difficulty levels since different individuals have different educational backgrounds.
15. Several courses are wordy and heavy in text. Some links are dead and are not updated regularly.
16. IPR issues exist on reference links.
17. A suggestion was raised to implement a dashboard for online classes being led by an instructor.
18. eTESDA should not use a “one-size-fits-all” kind of course formatting.
19. There should be an assessment to employment scheme feature.
20. Several respondents hope to see foreign language courses offered by eTESDA.
21. Several respondents find eTESDA to be convenient and allow them to be productive during their free time at home/work.
22. Several respondents find the registration process slow.
23. User experience is poor and discourages learning because of added frustration.
24. A high learning curve exists in some eTESDA courses because of the user interface. This is especially noticeable to older generations.
25. There should be an online assessment and certification feature available.
26. Videos are not buffering sometimes, and are slow to load.
27. The Basic Computer Operations (BCO) course features only MS Word. There should be MS PPT and MS Excel as well.
28. On-the-Job-Training (OJT) could be applied for some eTESDA courses for practical application of studies.
29. Course content is elementary and does not offer higher level topics similar to those already having graduate degrees.
30. eTESDA courses should follow international standards.
31. Catered primarily to the poor and is limited use to the middle class.
32. Application of skills-based lessons such as cookery could be costly.
33. Soft skills courses should be offered such as Early Child Development.
34. There should be a classroom based total demonstration for practical purposes.
35. Shoemaking should be added. This is in line to addressing local market needs or create ones.

Annex 4. Report highlights of the key informant interviews (KIIs)

Report Highlights

Affiliated Institution: Department of Information and Communications Technology

Session 1: Services

1. There is an existing Memorandum of Understanding (MoU) between eTESDA and DICT's Tech4ED. This is the only collaboration existent between the DICT and eTESDA.
2. DICT's cybersecurity division is taking action to teach students in universities through the involvement of CHED and DepEd. Currently, there is an existing Masters in Cybersecurity degree being offered by Holy Angel in Pampanga. There are likewise explorations to partner with eTESDA for digital literacy.
3. The training arm of DICT serves seminars for IT professionals in the country. Competency standards are parallelized with TESDA's.
4. Out of the 1,000+ assessed training instructors for ICT, only 20% were able to pass DICT's competency standards.
5. CSC certification for IT professionals under DICT's assessment is equivalent to the CSC Professional Level certification.
6. Luzon fiber optics is currently in development for implementation by the DICT.
7. TESDA centers are handled separately from DICT centers.
8. As cybersecurity is an important facet of the digital economy, the DICT has a published Cybersecurity Roadmap which identifies Critical Information Infrastructure (CII).
9. There is a lack of consciousness of cybersecurity issues in the Philippines in general.
10. There should be a separate ICT Chapter on the Philippine Development Plan instead of distributing ICT provisions or goals across various sectoral chapters.
11. Under the Tech4ED program, the DICT does not create courses but are instead partnering with organizations for free. The program aims to develop Rural Impact Sourcing Hubs through increased reach from the use of internet.

Session 2: Infrastructure

1. The three goals of the DICT Infrastructure division is to: (1) improve policy and regulation, (2) provide investments in infrastructure, and (3) push demand for ICT.
2. With the implementation of the Free WiFi Law, there has already been 1000+ beneficiary sites established. However, delays are met with permits (challenges in policy present under the Government Procurement Law.)
3. Currently, there are 80 bidders for 81 provinces to implement DICT infrastructure projects nationwide.
4. Conflict areas are being reached by the DICT's Free WiFi implementation.
5. There is an existing Memorandum of Agreement (MoA) between the DICT and the DPWH to have access for underground lines and wires for internet connectivity.
6. As a policy recommendation, there should be a separate internet law for the Philippines now incorporating as well the NTC frequencies..
7. Telecommunications line should be retaken from private companies back to the government under the DICT in order to secure the country's ICT backbone.
8. There is a need for dedicated connections and with the proper legal use of the terms "CIR" or Committed Information Rate that sets a minimum internet speed as compared to the more commonly marketed "Up to" system that sets a maximum internet speed.
9. It would take Php114 million to properly retrofit the Philippine ICT infrastructure although only Php67 million has been budgeted by DBM.
10. Of the 60,000 towers needed for proper ICT infrastructure, the Philippines currently has just 10% or 6,000 towers.
11. Instead of creating more towers, there is the alternative to use passive repeaters to resolve obstructions from buildings.
12. For the government, there should be a single data center managed by the DICT to lessen costs across government digital services.

13. There is a suggestions for having a state-owned telecommunications player to resolve high costs from private companies. Although, plantilla positions under the DICT is lacking for this endeavor.

Report Highlights

Affiliated Institution: Technical Education and Skills Development Authority (TESDA)

1. Singapore is the regional leader for e-education with their virtual classrooms.
2. There was potentially a partnership with Coursera but it did not proceed particularly because their courses are for a fee and government requires free education be offered.
3. The eTESDA program started off as a project, and remains to be so, thus it has limited funds and staffing to expand.
4. There are topic experts that are being interviewed during the creation of courses.
5. In the tourism sector, there is an ASEAN standard being followed for countries that includes the Philippines as well. This affects the tourism courses being offered by eTESDA.
6. During the early stages of the eTESDA program, there were only 3 courses being offered; thus, eTESDA did not apply any screening for quality for additional courses leading to an interim period of courses having poorer quality.
7. At present, since the eTESDA program has already a longer list of courses offered, there is a quality screening being applied.
8. There is no online assessment being provided at present. Instead, eTESDA users need to take the face-to-face certification process as with the traditional TESDA.

Report Highlights

Affiliated Institution: Employers Confederation of the Philippines (ECOP)

1. ECOP has conducted a study of the Philippine labor market job mismatch in 2015.
2. Among the industry key employment generators identified are tourism, automotive, and hospitality sectors.
3. Labor in the Philippines has been characterized by jobless growth despite rising GDP growth rates in the past years.
4. The manufacturing sector is badly hit by the job mismatch. Technical skills across low-, medium-, and high-skilled jobs are affected in both males and females.
5. The inadequacy of the old school system of the Philippines that restricted workers from going abroad has now been corrected by the K-12 system.
6. The inadequate information concerning the labor market causes information asymmetry and thus leads to job mismatch.
7. Industry associations manage their own training systems instead of relying on government services or programs.
8. eTESDA's tourism is popular but does not address fundamental issues.
9. Linking schools with industries through On-the-Job Training (OJTs) are needed.
10. Several eTESDA courses fail to meet present industrial standards in practice and are often outdated or obsolete. Companies would need then to provide additional training to workers that last, on average, for 6 months.
11. There is a lack of employers in rural areas; thus, creating localized labor surpluses.
12. There is an existing challenge for digital connectivity because of ICT deficiencies.
13. TESDA facilities, in general, are often outdated. There is a large potential for the use of Virtual Reality equipment to provide updated learning following industry standards internationally.
14. There is very limited partnerships between eTESDA and private organizations.
15. As a policy recommendation, training should be institutionalized and educational linkages strengthened.

Report Highlights

Affiliated Institution: Consuelo Foundation Philippines

1. Consuelo foundation is one of the pioneers of e-learning in the world since 2000. In contrast, eTESDA emerged as a brainchild in 2007. Several countries and international organizations has since been partnering with Consuelo Foundation.
2. There are 6000+ courses available under Consuelo foundation's roster although these are not offered online. These courses are regularly updated with user feedback, and industry standardization.
3. Courses utilize interactive videos and programs that sustain interest and effectively deliver quality learning to their beneficiaries.
4. Courses are completed, on average, for about a week with a staff of just 6-8 persons.
5. The foundation maintains at least 5 years monitoring for their beneficiaries.
6. 86% of graduates of their courses are employed within 6 months.
7. Consuelo foundation's model is to address formative skills first through life skills.
8. Under the lack of IT infrastructure, options for intranet usage is being applied for offline availability.
9. Consuelo foundations develops their own sets of courses and are catered primarily to out-of-school-youth, and the marginalized.
10. The Consuelo model is from the grassroots-adapted education to the Filipino context. They do this through partnerships with institutional experts on different courses.
11. The TESDA regulation standard is impracticably too rigid to address evolving standards and needs.
12. Soft skills largely unaddressed by eTESDA is the primary focus of Consuelo foundation. The rationale behind this is that learners need to have the foundation first to absorb more complex information and skills.
13. Soft skills lead to employability and trainable individuals.
14. Courses created by Consuelo Foundation are owned by no one and could, in effect, be regarded as under the Creative Commons License.
15. The last known interaction with eTESDA was in 2015.
16. Innovation should be unrestricted. Perchance, mobile workshops being developed now by Consuelo Foundation is among these innovative means to deliver learning to the marginalized or last-mile consumers from far-reaching areas.

Report Highlights

Affiliated Institution: Blas F. Ople Policy Center & Training Institute

1. The private sector is faster to respond in the overseas job market than the government does.
2. An increasing trend of employed household services workers abroad has been observed since the early 2000s.
3. New markets that are in demand for health service workers are countries with aging populations such as Japan and several countries across Europe.
4. New Zealand, in particular, has a spike for construction labor demand following recent calamity damages.
5. Several economies have been imposing nationality requirements that are restrictive for many Overseas Filipino Workers (OFWs).
6. Low-skilled workers that are often underage have the least restrictions to be sent abroad and are therefore the most vulnerable of OFWs. In contrast, high-skilled workers that are more capable to defend themselves are often the most regulated.
7. Chinese market is looking for English Speaking teachers.
8. There is a contracting labor market overseas except for aging economies.
9. There is optimism in the build, build, build to create more jobs locally.
10. Legal age distortions are observed in Mindanao to illegally send OFWs often coming from the vulnerable sector of society.
11. Blas Ople is contributing to education through course offerings although it is not done online.
12. Foreign language requirements are often the greatest barrier restricting OFWs.
13. Recruitment agencies are the only entry points for skilled workers to work abroad.
14. There are skewed incentives and disincentives present in the policy background.
15. There exists a gender disparity for female and male workers wherein there is no available low-skilled work for males.
16. eTESDA has to work more closely with the private sector as awareness of the program is limited among OFWs.
17. There has to be a feedback mechanism in the eTESDA course program.
18. Job skills that are expected to grow under the Fourth Industrial Revolution includes animation, multimedia, fitness (Middle East), and sports science (China).
19. Older populations experience fear in digital equipment that is often rooted culturally from what is unknown to them.

Annex 5. How to enroll in e-TESDA

Here's how to create an account and how to enroll in a course:

Steps 1 and 3: How to create an account

1. First, go to the eTESDA website at 'www.e-tesda.gov.ph'.
2. On the TESDA Online Program website, click on the 'Not Yet Registered, Click Here' hyperlink.
3. Fill-out the form, fields marked with asterisk (*) are mandatory. One cannot proceed with the registration unless the user provides the information. After filling out the form, click on the 'Create My New Account' button. Register by creating a new account and filling out the form. The form has six (6) parts with the following contents:
 - i. Choose your username and password
 - The password must have at least 8 characters, at least 1 digit(s), at least 1 lower case letter(s), at least 1 upper case letter(s), at least 1 non-alphanumeric character(s) such as as *, -, or #
 - ii. More details
 - Email address, Firstname, Surname, City/Town and Country
 - iii. Personal Information
 - Sex, Civil Status, Employment Status (before the training), Birthdate, Birthplace, Highest Educational Attainment, Age group
 - iv. Complete Permanent Mailing Address
 - Number, Building, Street, Barangay, District, City/Municipality, Province, Region, Contact Number
 - v. Learner/Trainee/Student (Clients) Classification
 - Classification on what best describes you; choices include student, out-of-school youth, indigenous people, TVET Trainer, Micro-Entrepreneur, Farmer/Fisherman/Agriculture, Persons with Disabilities, Oversees Filipino Worker (OFW), OFW Dependent, Returning/Repatriated OFW, Informal Workers, TESDA Alumni (graduate of TVET course)
 - For persons with disability, identify type of disability (Hearing Disability, Visual Disability, Speech Impairment, Disability due to Chronic Illness, Orthopedic (Musculoskeleton) Disability)
 - vi. Privacy Disclaimer
 - Click 'agree' or 'disagree' for the statement *'I hereby allow TESDA to use/post my contact details, name, email, cell phone/landline nos. and other information I provided which may be used for employment opportunities and other purposes'*

Fields marked with asterisk (*) are mandatory. You cannot proceed with the registration unless you provide the information. After filling out the form, click on the "Create my new account" button after providing the CAPTCHA letters. The CAPTCHA is for preventing abuse from automated programs. Simply enter the words in the box, in order and separated by a space. If you are not sure what the words are, you can try getting another CAPTCHA or an audio CAPTCHA. Once you have successfully created an account, you will be sent a confirmation email.

This full form has been implemented this February of 2018 only. Previous registration form will ask only for email address, name and location, thus, limiting the agency and other interested researchers to conduct complete profiling of the users. With the new form, old students are directed to update their information by completing the full form once they go online.

Steps 4 and 8: How to enrol a course

4. Log-in username and password. Before you can enrol in a course, make sure that you had created an account in the TOP website. Log-in to the TOP website using your registered username and password. Once logged in, you will be taken to the TOP front page (click Courses). The list of available courses is displayed on this page. Click on the link of the course that you want to enrol in.
5. Click courses from the TOP frontpage. The list of available courses is displayed on this page.
6. Click on the link of the module you wish to take. Select desired course from the list of course offerings.
7. Next, click on the link of the module you wish to take. On the bottom of the enrolment options, under the selected course, click on the “Enrol me” link.
8. After confirming, you are now enrolled in the course or module. You will see the complete list of the lessons where you enrolled.