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

*Madeline Dumaua-Cabauatan, Sylwyn C. Calizo,
Francis Mark A. Quimba, and Lachmi C. Pacio*



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

Madeline Dumaua-Cabauatan, Sylwyn C. Calizo Jr.,
Francis Mark A. Quimba, and Lachmi C. Pacio

PHILIPPINE INSTITUTE FOR DEVELOPMENT STUDIES

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Abstract

Education and training for productive employment plays a crucial role in the social and economic plans of a developing country such as the Philippines. Technical and Vocational Education and Training (TVET) in the Philippines has been viewed as a tool to 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, especially those in the remotest places, the Technical Education and Skills Development Authority (TESDA) introduced Information and Communications Technology (ICT) into TVET and launched the TESDA Online Program (TOP) in 2012. TESDA is the first Philippine institution to offer Massive Open Online Courses (MOOC). 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 Filipinos to have access and use online technical education offered free by the TOP. It also acknowledges the unlimited opportunities by TOP through its courses and the potential number of users and 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, TESDA, information and communications technology, digital literacy*

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E-Education in the Philippines: The case of Technical Education and Skills Development Authority Online Program¹

*Madeline Dumaua-Cabauatan, Sylwyn C. Calizo Jr., Francis Mark A. Quimba,²
and Lachmi C. Pacio³*

1. Introduction

Education and training for productive employment plays a crucial role in the social and economic plans of a developing country such as the Philippines. Technical and Vocational Education and Training (TVET) in the Philippines 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 2.3 million TVET enrollees under the Philippines' Technical and Education and Skills Development Authority (TESDA), where 2.2 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, especially those in the remotest places. Building additional TVIs to address this need requires a lot of investment and time. With the advent of information and communications technology (ICT), fast tracking the expansion of the scope through e-learning becomes a likely possibility. E-learning also increases the absorptive capacity of TVIs to deliver TVET programs and services valuable as the growing percentage of Filipinos with internet connection is at 63.6 percent (NTC 2016; Global Digital Report 2018).

In response to the expanding reach of TVET in the Philippines, TESDA initiated in 2011, and officially launched in 2012, the TESDA Online Program (TOP) – the first Philippine platform to offer Massive Open Online Courses (MOOC). 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 Filipinos to have access and use online technical education offered free by the TOP. Likewise, in an attempt to study the contribution of these online courses to personal and national development, ICT initiatives on online course were described. These initiatives showed how technical education became more accessible and inclusive for all. The study further stresses the role that TESDA plays in offering different online courses that have enabled last mile consumers – individuals or households that are willing yet unable to pursue their human aspirations following a mixture of financial, geographic, or cultural obstacles – to enroll in them conveniently and affordably.

¹ This study forms part of the Diginomics I Project of the Consumer Unity and Trust Society (CUTS). A shortened version of this research appears as a case study in the CUTS Philippine Country Report: "Going digital: From innovation to inclusive growth in Philippines."

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³ e-TESDA Project Management Unit. Technical Education and Skills Development Authority (TESDA)

1.1 TESDA Mandate, Vision, and Mission

TESDA was established through Republic Act (RA) No. 7796 or 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 (LGUs), and TVIs in the skills development of Filipinos. 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 of 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 (Villenes 1991) – was meant to reduce overlapping skills development activities initiated by various public and private sector agencies, and to provide national directions for the Philippines’ TVET system.

The TVET system involves, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills relating to occupation in various sectors. It comprises organized programs as part of the school system (formal) and organized classes outside the school system (informal) approaches (UNESCO 2016).

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 TVIs 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 TVIs register their programs with TESDA before offering these to the public. Likewise, these registered education institutions report outputs of training programs to TESDA.

1.2 TVET Quick Facts

As of December 2017 (Dela Rama 2018), there are 263 training regulations developed by TESDA with the different industries. There are 3,966 TVIs with 9.0 percent from the public sector. There are 15,243 TVET programs registered with TESDA. From the 1.4 million applicants assessed in 2017, about 1.3 million (92.9%) were certified. In achieving such results, TESDA established its assessment and certification infrastructure that comprises of an estimated 1,503 assessment centers with manpower consisting of 5,798 competency assessors and 35,172 certified trainers.

1.3 TVET Delivery Modes

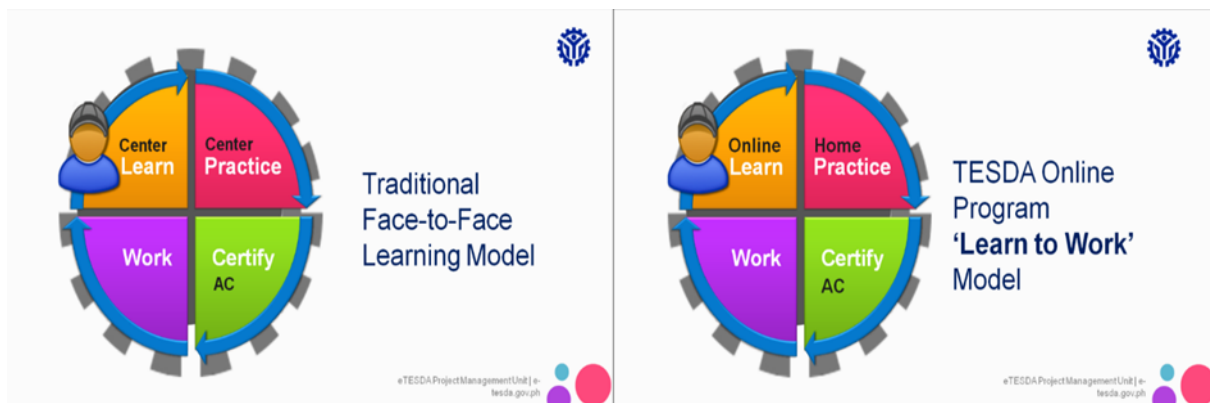
The TVET can be delivered through institutions with registered programs, enterprise-based or community-based organizations, mobile training, and the TOP. Institution-based training refers to the delivery of programs by public and private training institutions. Enterprise-based training programs, on the other hand, are implemented within companies and firms or through dual training arrangements and apprenticeship schemes. Meanwhile, community-based training delivery is conducted at the local or community level, mostly in partnership with the LGUs and the Non-Governmental Organizations (NGOs). Individuals of any level aged 18 years old and above can join these programs.

2. The TESDA Online Program (TOP) for TVET

2.1 Concept and Learning Model

Formulating strategies to enhance and develop the delivery of TVET in the Philippines, TESDA launched the TOP in 2012. The TOP has since been headed by the e-TESDA Project Management Unit. The TOP 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 ICT must be integrated in vocation education. Conceptualized in 2008, the 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 the online program hybrid learning model of the ‘learn to work’ model (Figure 1) as an alternative to the traditional classroom-based ‘face-to-face learning model.’

Figure 1 Classroom to online learning models



Source: e-TESDA Project Management Unit

The TOP utilizes an open education resource framework that aims to make technical education⁴ accessible and inclusive using ICT. The objectives include: (1) to broaden access and opportunities to quality TVET by harnessing technology; (2) to improve quality of TVET delivery through standardized content of TVET programs; (3) to increase absorptive capacity of TVIs; and, (4) expand TESDA services beyond borders (Dela Rama 2018). The program was conceived to provide opportunities to Filipinos anytime and 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.

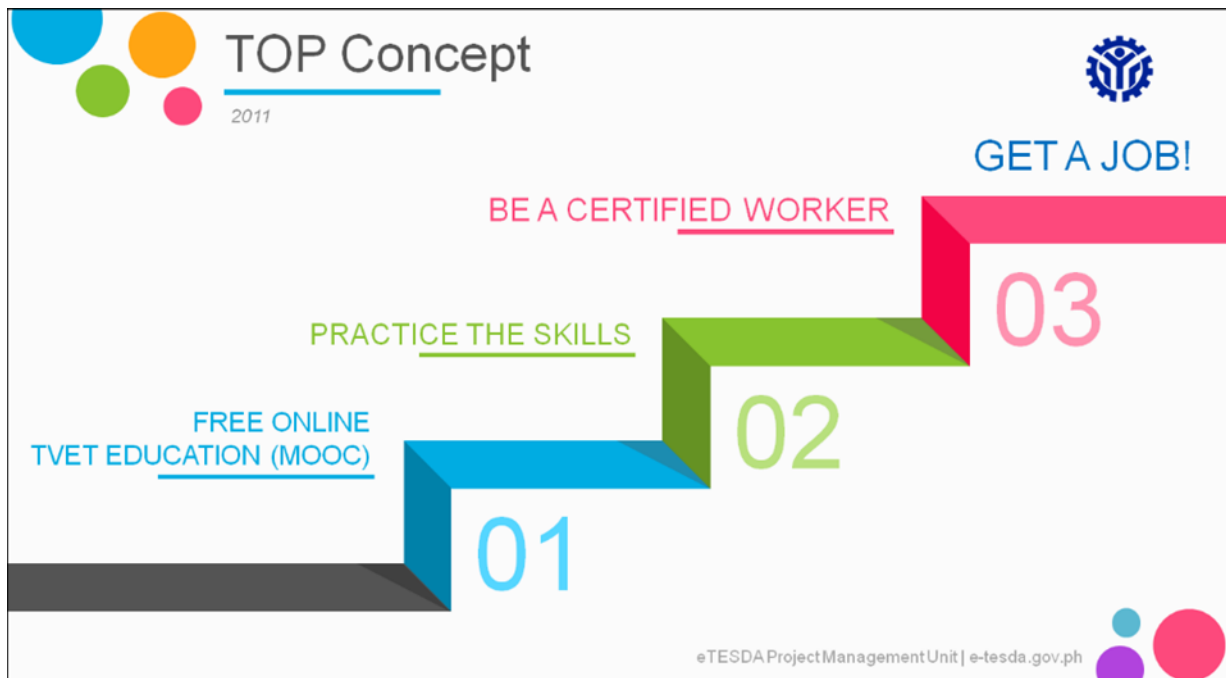
The TOP process, to put it simply, is to access the free online TVET education (MOOC), practice the skills at home or anywhere else, be a certified worker⁵ and, eventually, get a job (Figure 2). In fact, the goal is to “*learn at your own pace, in your own time, at your own place*”

⁴ 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 or middle-level workers by providing them with a broad range of general education, theoretical, scientific, artistic, and technological studies, social services and related jobs skills training (RA 7796 1994).

⁵ Under the Philippine TVET Qualification and Certification System (PTQCS), competencies (knowledge, skills, attitudes, and values) are assessed to determine the qualification level of individuals. Qualification levels are awarded as National Certificate (NC) I to IV, in order of increasing rank. Under the PTQCS, individuals that have accumulated a defined number of achieved units of competency are awarded a Certificate of Competency (COC) which can lead to an NC once they have undergone the Full National Qualification assessment.

– relearn the lessons over and over for mastery, apply or practice the learning in a similar workplace, be assessed and certified, and earn or get a job applying the skills learned in gainful activities.

Figure 2 Concept of the TESDA Online Program (TOP)



Source: e-TESDA Project Management Unit

2.2 Coverage of TVET clients

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

Students may include high school graduates, secondary school dropouts, 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 need skills upgrading and/or acquiring new skills are included. Overseas Filipino Workers (OFWs) who decide to return home or to look for better job opportunities are also potential TOP clients. The TOP provides a way for TESDA to expand its coverage to other parts of the country and throughout the world.

2.3 Registration and Enrollment

The TOP 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 or enrollees can then browse through the wide range of categories from hard to soft skills courses being offered.

Figure 3 Platform to accessing the TOP



Source: e-TESDA 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 the TOP). Applicants, once successfully registered, will receive a confirmation e-mail.

2.4 Course offerings and sectoral orientation

As of February 2018, the TOP offers 59 online courses across different fields from agriculture to electronics, entrepreneurship to maritime, and tourism to ICT learning (Table 1). These courses are lodged in the current facility website that is dedicated solely for the TOP and a host to 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). A complete list of course offerings and its descriptions are provided in Annex 1.

Table 1 Number of e-TESDA course offerings (as of February 2018)

Sector	Number of Courses	Percentage
Agriculture	1	1.7
Automotive	2	3.4
Electrical and Electronics	1	1.7
Entrepreneurship	2	3.4
Human Health and Healthcare	3	5.1
Heating, Ventilating, Air Conditioning, and Refrigeration	1	1.7
Information and Communications Technology	14	23.7
Lifelong Learning Skills	2	3.4
Maritime	1	1.7
Social, Community Development, and Other Services	1	1.7
Tourism	21	35.6
TVET	10	16.9
TOTAL	59	100.0

Source: e-TESDA Project Management Unit

In the early stages of the TOP, there were only eight courses in three sectors being offered (Table 2). These include courses in ICT, food and beverage servicing, and housekeeping (e.g., basic computer operation, room attendant servicing, waiter servicing, and valet servicing, among others.) 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 TOP course offerings, a screening process has been applied to guarantee quality learning.

Table 2 Cumulative number of course offerings (as of February 2018)

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

Source: e-TESDA Project Management Unit

2.5 e-Learning Materials

The developers of the learning materials are guided by five things when making the learning modules namely: (1) alignment with existing training regulations of TVET or TESDA; (2) learner-center; (3) easily understood; (4) appropriate for self-paced learning; and, (5) innovative. Furthermore, to ensure the adequacy of the course contents, the online courses were developed not only by the in-house development team but also through massive consultations with subject matter experts. The e-TESDA unit also partnered with private organizations such as Microsoft Online, Intel, Udacity-Globe, SMART, Coca-Cola Philippines, Udemy, and Consuelo Foundation through sharing of course programs or through developing relevant online courses (Table 3). The e-learning materials together with computer-based instructions were distributed to the different e-TESDA centers for an online and offline utilization.

Table 3 e-TESDA's private partners in course development for the TOP

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 Interviewing 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 Enrollment, Assessment, and Certification

The TOP requires no fees when users take courses; however, it does not issue online training certificates. Once users finish the online course which has a corresponding training regulation, they may opt to take the ‘face-to-face’ assessment for national certification at any TESDA-accredited assessment center or venue.

OFWs who have completed online courses are assessed onsite. This is to empower OFWs by upgrading their skills from vulnerable jobs to decent ones and increase their income opportunities. To sustain the onsite assessment program, TESDA develops select OFW’s capabilities to become competency assessors. This likewise involves the use of the online course on ‘conduct assessment’ and the use of smart applications such as Skype or Facebook for online lecture and submission of videos and assignments.

2.7 Governance and Management

The TOP is handled by the e-TESDA Project Management Unit yet this ad hoc unit has been assigned to different offices in the past years – from the Office of the Director General to the Office of the Deputy Director General for TESDA Operations. Today, e-TESDA is currently managed by an Executive Director on a concurrent basis. The Executive Director is assisted by two permanent staff alongside eight other staff hired on a job order⁶ or on a contractual basis. From among the permanent staff, one functions as the focal person for the TOP while the other is in-charge of the system, customer relations, and data collation. The non-permanent staff

⁶ Job order staff under the Philippine government is defined as “piecework (pakyaw) or intermittent or emergency jobs such as clearing of debris on the roads, canals, waterways, etc. after natural/man-made disasters/occurrences and other manual/trades and crafts services such as carpentry, plumbing, electrical, and the like. These jobs are of short duration and for a specific piece of work.” As defined under CSC-COA-DBM Joint Circular No. 1, series of 2017. “Rules and Regulations Governing Contract of Service and Job Order Workers in the Government.” [https://www.dbm.gov.ph/wp-content/uploads/Issuances/2017/Joint%20Circular/CSC-COA-DBM%20JOINT%20CIRCULAR%20NO.%201%20\(1\).pdf](https://www.dbm.gov.ph/wp-content/uploads/Issuances/2017/Joint%20Circular/CSC-COA-DBM%20JOINT%20CIRCULAR%20NO.%201%20(1).pdf)

includes one project developer and training manager, one executive producer, two writers, one research associate, one multi-media developer, one administrative assistant, and one technical staff. The staff that manages the day-to-day operations have changed more often – moving to more permanent job opportunities when vacancies arise.

The e-TESDA unit monitors and assists the e-TESDA centers through the training of managers and trainers in the development of e-learning modules. With the growing demand for TOP and the current management structure, TESDA requested the Department of Budget and Management (DBM) in 2017 for e-TESDA to become a permanent division handling all e-TESDA programs and projects. The proposed division is managed by an Executive Director who will also be the overall Project Manager to be assisted by 11 permanent staff for two (2) identified units namely the (1) courseware development unit and the (2) research, training, and support services unit.

3. Statistics on the TOP

3.1 Registration

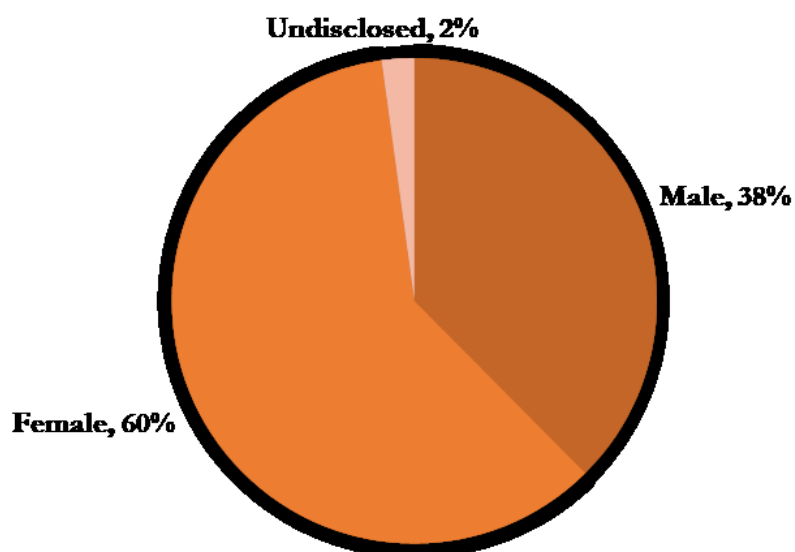
Current statistics from e-TESDA recorded that as of December 2017, about 1.1 million Filipinos were registered online and 791,617 (71.0%) were enrolled in any of the TOP courses since 2012 (Table 4). The majority of registered users are female (60.0%) with male users accounting for 38.0 percent and the rest are undisclosed (Figure 4). About 76.2 percent of sessions occur in the Philippine whereas 23.8 percent are overseas (Table 5).

Table 4 Number of registered TOP users and enrollees

Indicator	Number of Registered Users	Number of Enrollees
Yearly increase, non-unique users	(As of December 2017)	(As of December 2017)
2012	49,880	7,335
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: e-TESDA Project Management Unit

Figure 4 Distribution of TOP users by sex, 2017



Source: e-TESDA Project Management Unit

Table 5 Number of registered TOP users per location (as of December 2017)

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, China	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
TOTAL	1,114,445	100.0

Source: e-TESDA Project Management Unit

3.2 Enrollment

Courses that have gained popularity since its establishment are those in ICT (51.0%), in tourism (20.7%), TVET (5.9%), health (5.4%), and electronics (4.9%) (Table 6). As of May 2017, 46.8 percent of the enrollees (370,191) have already completed the courses they were enrolled in. Complete list of enrollees from 2011 to 2017 by sectoral orientation is provided in Annex 2.

Table 6 Number of enrollees and completers by course offering (as of December 2017)

Sector	Number of Enrollees	Percentage of Enrollees	Number of Completers	Percentage of Completers	Completers/ Enrollees ¹ (%)
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 Healthcare	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 Communications 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

Source: e-TESDA Project Management Unit

¹ Completers as of May 2017

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

In 2018, data was gathered on a small cross-section (4,018 observations) of TOP users in the Philippines who registered during the period of January 8 to 22 to obtain further information on educational attainment, age group, and location of the TOP users (Table 7). The majority of users are female (62.9%), are college graduates (65.0%), followed by Grade 10 and below (16.0%), those with technical-vocational education (12.0%), and senior high school (6.0%).

Most users are located in the National Capital Region (NCR) at 34.2 percent whereas Visayas and Mindanao comprise 23.1 percent combined. Notably from Luzon, 30.9 percent are located near the vicinity of NCR particularly from Region III (Central Luzon) and from Region IV-A (CALABARZON).

Table 7 Selected TESDA TOP statistics (January 8-22, 2018)

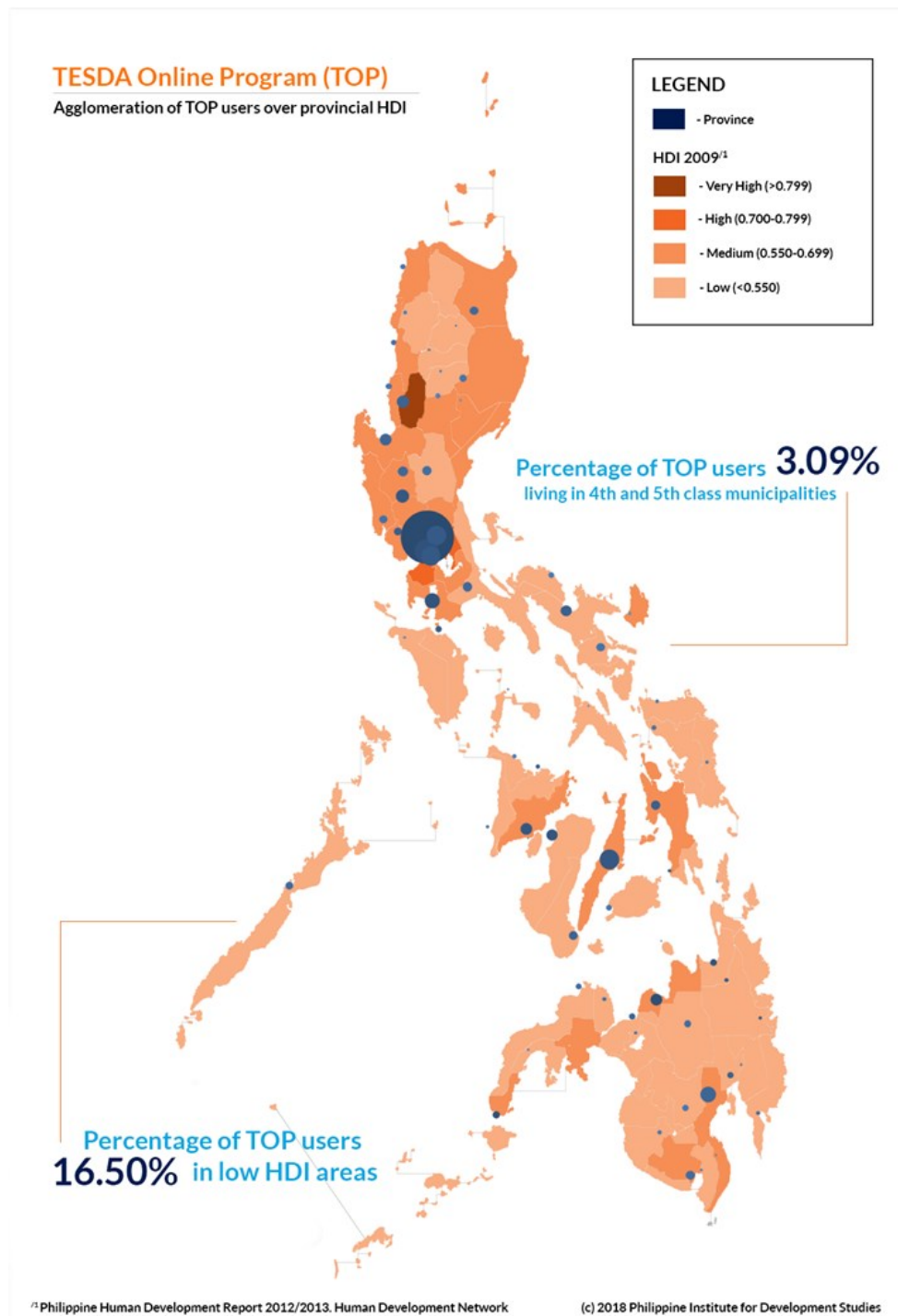
Indicator	Number of Registered Users	Percentage
Total, unique users	4,018	100.0
Sex		
Male	1,491	37.1
Female	2,527	62.9
Highest Educational Attainment		
Doctorate Level	11	0.3
Masters Degree	77	1.9
College Degree	2,602	64.8
Technical-Vocational	471	11.7
Senior High School	230	5.7
Grade 10 and below	627	15.6
Age Group		
17 years old and below	34	0.8
18-24	1,315	32.7
25-34	1,750	43.6
35-44	747	18.6
45-54	143	3.6
55-64	27	0.7
65 years old and above	2	0.1
Location		
Autonomous Region in Muslim Mindanao (ARMM)	6	0.1
Cordillera Administrative Region (CAR)	92	2.3
National Capital Region (NCR)	1,373	34.2
Region I (Ilocos Region)	116	2.9
Region II (Cagayan Valley)	79	2.0
Region III (Central Luzon)	428	10.7
Region IV-A (CALABARZON)	812	20.2
Region IV-B (MIMAROPA)	56	1.4
Region V (Bicol Region)	133	3.3
Region VI (Western Visayas)	158	3.9
Region VII (Central Visayas)	243	6.1
Region VIII (Eastern Visayas)	76	1.9
Region IX (Zamboanga Peninsula)	47	1.2
Region X (Northern Mindanao)	125	3.1
Region XI (Davao Region)	154	3.8
Region XII (SOCCSKASARGEN)	71	1.8
Region XIII (Caraga Region)	49	1.2

Source: Authors' calculations based on the perception survey from January 8-22, 2018

While TOP statistics indicate a larger proportion of beneficiaries relatively better off (i.e., located in NCR and are college graduates), the TOP still is able to benefit those that can be considered as last mile consumers – those that have a lower level of education (i.e., 21.0% for senior high school and Grade 10 and below.) To further analyze the reach of the TOP, the location of the registered users was explored. Overlaying the location of the 4,018 users from the cross-section data of the TOP with the Human Development Index (HDI) of each province

in the country shows that 16.5 percent of TOP users are residing in low HDI areas, and 3.1 percent of TOP users live in 4th and 5th class municipalities (Figure 5).⁷

Figure 5 Agglomeration of TOP users over provincial HDI



Source: Authors' rendition based on the analysis of the perception survey and primary data collection gather from January 26-February 6, 2018

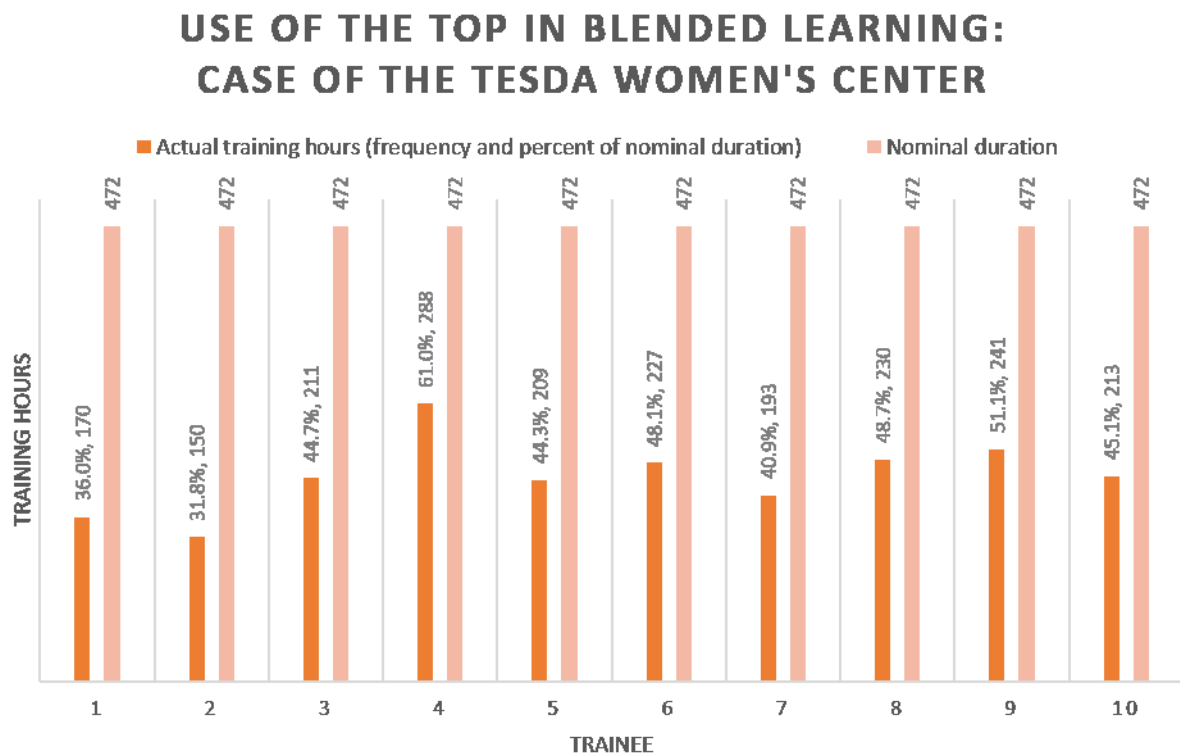
⁷ Under the Philippine Standard Geographic Code (PSGC) system, municipality class is based on the average annual income generated for the past four fiscal years. Particularly, 4th class municipalities have an average annual income of PhP300,00-PhP499,999 while 5th class municipalities at PhP100,000-PhP299,999. Meanwhile, 6th class municipalities are those with less than PhP100,000. The 4th, 5th, and 6th class municipalities have the lowest average annual incomes.

4. Analysis of the TOP

4.1 Results of previous TOP studies

In 2015, a study done in collaboration with the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) and with the support of the TESDA Women's Center, explored the use of the TOP in blended training programs (Macapagal and Peralta 2016). A total of 51 women trainees of the pilot testing of the TESDA blended food and beverage 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 the average, trainees spent 213 hours to complete the blended food and beverage services (NC II) as compared to the nominal duration of 472 hours in the regular program – making the TOP more efficient as it completes the same course program at just 45.2 percent of the nominal duration (Figure 6). Also, trainees have a 100.0 percent certification rate; thus, signifying that all online participants ultimately acquire their certifications and take on the final exams in accredited TVIs.

Figure 6 Use of the TOP in blended learning: Case of the TESDA Women's Center



Source: Technical Education and Skills Development Authority (TESDA)

Two studies were already conducted by the e-TESDA Project Management Unit to assess the relevance of the TOP courses to the learners and to map the number of registered users who have undergone the national assessment (Dela Rama 2018). The following studies are aimed at improving the services offered by the TOP:

1. 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. From 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 their course. From those who were assessed, 1,241 (92.4%) passed the national assessment. The lack of awareness of what the national assessment is has been the main reason why the majority of the respondents did not go through it. The survey study was conducted from February 23 to April 26, 2017.

Some of the key findings of the study suggested 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 in order to increase their participation in the assessment and certification process instead of settling for just learning and the acquisition of new skills; and,

2. 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. The survey was conducted from July 9-27, 2017. Only 201 (17.0%) of the respondents were able to finish at least one course but 99.5 percent responded that the course materials helped improve their skills while 35.3 percent perceives the online learning materials as extremely helpful. Generally, the completed courses were found to be very relevant to their daily activities or to their self-improvement. It has also been relevant at their work places or at their business, and for them to share their knowledge to their family, community, and school.

4.2 Perception Survey (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 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 – profiling their experiences and perception of the TOP.

The survey was a self-administered electronic set of questions gathered online through the TOP portal. The questionnaire was uploaded to the portal for two weeks from January 26, 2018 to February 6, 2018 for any registered user to respond. Only those enrolled in any of the TOP courses were shortlisted to answer further questions on certification, employment, and income levels. In addition, a focus group discussion and interviews were conducted on selected invitees from the perception survey respondents.

4.2.1 Respondent profile

A total of 592 registered users responded to the questionnaire with 55.2 percent of them being male, 54.4 percent being single, 64.6 percent having an educational attainment of at least college undergraduate, 43.6 percent aged 25-34 years old, and 28.9 percent residing in NCR. The majority of the respondents are willing to go through the questionnaire but only 218 (36.8%) were shortlisted as enrolled in at least one TOP course (Table 8).

Table 8 Respondent profile of TOP users answering the perception survey

Characteristics	Frequency	Percentage
Total unique users	592	100.0
Sex		
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
Highest Educational Attainment		
Postgraduate (Masters/Doctorate)	16	2.7
College Graduate	236	39.9
College Undergraduate	130	22.0
Technical-Vocational Graduate	43	7.3
Technical-Vocational Undergraduate	22	3.7
High School Graduate	104	17.6
High School Undergraduate	34	5.7
Elementary Graduate	6	1.0
Elementary Undergraduate	1	0.2
Location		
Autonomous Region in Muslim Mindanao (ARMM)	4	0.7
Cordillera Administrative Region (CAR)	11	1.9
National Capital Region (NCR)	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 IV-A (CALABARZON)	128	21.6
Region IV-B (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
Overseas	29	4.9
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 years old and above	0	0.0
Interview Screener Question: Are you willing to go through the questionnaire?		
Yes	568	95.9
No	24	4.1
Enrollment Screener Question: Only those enrolled in any one of the courses		
Yes	218	36.8
No	374	63.2

Source: Perception survey conducted by PIDS and e-TESDA from January 26-February 6, 2018

4.2.2 Enrollees (Purpose, Benefits, Course, and Status)

From the 218 respondents shortlisted, 122 of them (56.0%) enrolled in the TOP for skills upgrading or enhancement, 41 (18.8%) for employment, 16 (7.3%) for a possible raise in income, 16 (7.3%) for personal use, interest, or hobby, 13 (6.0%) for a job requirement, and 3 (1.4%) for promotion (Table 9). Majority of the enrollees identified convenience (78.0%), learning at their own pace (71.1%), and unlimited access to materials (56.9%) as the main benefits of enrolling in the TOP. Only 48.6 percent found the TOP affordable despite access to it being free. This could be attributed to the high prices of internet services making access to the TOP costly. Moreover, popular courses are those in ICT (31.2%), tourism (26.1%), and entrepreneurship (11.9%). Having these three as the popular courses comes as no surprise as it has already been observed in earlier sample surveys conducted by e-TESDA (Dela Rama 2018).

Table 9 TOP enrollees' courses, purpose, and perceived benefits

Questions	Frequency	Percentage
Total unique users	218	100.0
Why did you choose to use e-TESDA?		
Credit towards a degree taken	5	2.3
Employment	41	18.8
Promotion	3	1.4
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
Income increase	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
Number of enrolled students per course		
Agriculture	6	2.8
Automotive	16	7.3
Electrical and electronics	8	3.7
Entrepreneurship	26	11.9
Human Health and healthcare	6	2.8
Heating, ventilating, air conditioning and refrigeration	6	2.8
Information and Communication Technology	68	31.2
Lifelong learning skills	0	0.0
Maritime	5	2.3
Social, Community Development, and Other Services	0	0.0
Tourism	57	26.1
TVET	20	9.2

Source: Perception survey conducted by PIDS and TESDA from January 26-February 6, 2018

4.2.3 Assessment and Certification

Out of the 218 enrollees, only 39 (17.9%) has completed their respective courses. From these 39 completers, 18 (46.2%) took the national assessment – all but one (94.4%) passed (Table 10). There were 15 passers awarded by TESDA with certifications of NC II (88.2%), and one each with an NC I and an NC II. These results are consistent with previous e-TESDA studies

estimating a 92.4 percent passing rate for those who have learned from the TOP and then took the national assessment after course completion (Dela Rama 2018).

Table 10 TOP enrollees' status, assessment, and certification

Indicator	Frequency	Percentage
Total unique users	218	100.0
Course status		
Ongoing	179	82.1
Completed	39	17.9
<i>Of which:</i>		
National assessment not taken	21	53.9
National assessment taken	18	46.2
<i>Of which:</i>		
Failed national assessment	1	5.6
Passed national assessment	17	94.4
<i>Of which, certification awarded by TESDA was:</i>		
NC I	1	5.9
NC II	15	88.2
NC III	1	5.9

Source: Perception survey conducted by PIDS and TESDA from January 26-February 6, 2018

4.2.4 Challenges and Opportunities on the TOP

From among the 71 respondents who answered the question on challenges and opportunities in accessibility, about 35 enrollees (49.3%) identified their internet connection as one of the main challenges faced in terms of accessibility. Issues on internet include slow speed, expensive/costly data usage, unstable data connection, and no internet access (Table 11). Other identified challenges are the lack of instructions after completing the course specifically on assessment and certification procedures (7.0%) and registration issues such as forgetting their username and password and accomplishing tedious forms (7.0%).

Table 11 Challenges and opportunities in accessibility

Indicator	Frequency	Percentage
Total unique users	218	100.0
No response	147	67.4
With response:	71	32.6
<i>Of which:</i>		
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
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 their username and password and long processes)	5	7.0
Security issues	1	1.4
Skills and familiarity on TOP usage	1	1.4
Problems accessing videos	3	4.2

Source: Perception survey conducted by PIDS and TESDA from January 26-February 6, 2018

4.2.5 Bottlenecks and Barriers Affecting TOP Users' Performance

Major bottlenecks and barriers of doing online learning in the TOP possibly affecting the performance of respondents include speed and cost of internet connection (22.9%) and time management and motivation to finish the course (16.1%). Other issues on access (7.5%) such as language, website interface, lack of device, lack of finances, disability, and registration issues were also identified pointing to the need for some aspects of the TOP to be improved (Table 12).

Table 12 Bottlenecks and barriers affecting TOP users' performance

Indicator	Frequency	Percentage
Total unique users	218	100.0
No response	158	72.5
With response:	60	27.5
<i>Of which:</i>		
No internet, expensive/costly, unstable data connection	27	45.0
Time management, motivation, and work schedule issues	19	31.7
Insufficient assessment or online quizzes	2	3.3
Issues on interface and website access	2	3.3
No illustrations or videos	2	3.3
No device	2	3.3
Lack of finances	2	3.3
Course content	1	1.7
Disability	1	1.7
Language	1	1.7
Registration issues	1	1.7

Source: Perception survey conducted by PIDS and TESDA from January 26-February 6, 2018

4.2.6 Overall Experience and Satisfaction Ratings

From a score scale of 1 (lowest) to 5 (highest), enrollees have mostly given a very high (5) and a high (4) satisfaction rating (83.5%) (Table 13). Respondents rated both their experience online and in registration with a weighted mean score of 4.45, the highest score, and the course curriculum with a 4.31, the lowest score. On the aggregate, TOP users gave an overall weighted mean score of 4.41.

Table 13 TOP users' overall experience and satisfaction ratings on the TOP

Indicator	Satisfaction ratings (5 being the highest and 1 being the lowest)					Weighted Mean Score
	1	2	3	4	5	
Total unique users (218 respondents)						
User experience	1	2	30	51	134	4.44
<i>Row percentage</i>	<i>0.5</i>	<i>0.9</i>	<i>13.8</i>	<i>23.4</i>	<i>61.5</i>	<i>100.0</i>
Registration experience	2	2	29	48	137	4.45
<i>Row percentage</i>	<i>0.9</i>	<i>0.9</i>	<i>13.3</i>	<i>22.0</i>	<i>62.8</i>	<i>100.0</i>
Online experience	2	3	27	49	137	4.45
<i>Row percentage</i>	<i>0.9</i>	<i>1.4</i>	<i>12.4</i>	<i>22.5</i>	<i>62.8</i>	<i>100.0</i>
Courses offered	1	3	32	53	129	4.40
<i>Row percentage</i>	<i>0.5</i>	<i>1.4</i>	<i>14.7</i>	<i>24.3</i>	<i>59.2</i>	<i>100.0</i>
Course curriculum	1	5	35	61	116	4.31
<i>Row percentage</i>	<i>0.5</i>	<i>2.3</i>	<i>16.1</i>	<i>28.0</i>	<i>53.2</i>	<i>100.0</i>
Relevance of course to actual needs	2	4	30	52	130	4.39
<i>Row percentage</i>	<i>0.9</i>	<i>1.8</i>	<i>13.8</i>	<i>23.9</i>	<i>59.6</i>	<i>100.0</i>
Overall	2	3	31	52	131	
<i>Row percentage</i>	<i>0.9</i>	<i>1.4</i>	<i>14.2</i>	<i>23.7</i>	<i>59.8</i>	
Overall weighted mean score						4.41

Source: Perception survey conducted by PIDS and TESDA from January 26-February 6, 2018

4.2.7 Limitations of the perception survey

About 85.0 percent of the respondents have enrolled in 2018; hence, measuring the impact of the TOP in terms of employment and income is limited. Although 57.0 percent of them are currently employed during enrollment in the TOP, most have not declared their income. To further measure the impact of the TOP, a graduate tracer survey can be conducted provided with the full list of all TOP completers since 2012 to know the degree of absorption of graduates in employment and to determine the TOP's income effect.

4.2.8 Focus Group Discussion and Interviews of Perception Survey TOP users

In addition to the analyses already taken from the TOP perception survey, a combination of a focus group discussion (FGD) and remote interviews (i.e., telephone and online) were conducted with the 218 shortlisted perception survey respondents to further probe additional questions. From a total of 145 invitations, 30 (20.7% success rate) individuals participated with the majority residing in Luzon or NCR. At least one representative each for Visayas, Mindanao, and OFWs was ensured. Highlights of the FGD results can be found in Annex 3.

Several FGD participants have found the TOP to be convenient and also allows them to be productive during their free time at home. This is particularly true for a number of respondents who want to upgrade their skills but are unable to do so at a traditional school because of the lack of time. FGD participants also identified resolving internet connection issues as a priority for improving the TOP. This access problem results in video content buffering slowly or even access to resource materials and files.

The FGD also reveals some of the factors that might have affected time management of the students or their motivation. One major factor that might affect the motivation to finish the course is the buffering time resulting from slow internet connection. The lack of downloadable content is likewise problematic as users will need access to the internet at all times in order to learn. Other issues raised include the lack of a Filipino language version for some courses, instructions being unclear, wordy texts, and frustrations in navigating the interface.

There seems to be a need to clearly identify the learning objectives of the courses in order to set the expectations of the students. This is based on two divergent themes from the FGD participants. On the one hand, some participants mentioned their difficulty in doing technical courses because of the high learning curves while, on the other hand, some described courses to be elementary and lacking stratification of difficulty levels. Regardless of the observation, both indicates a lack of introductory information on the course which the students could read to set their expectations before enrolling in the course.

4.3 Key Informant Interviews (KII) with Industry, Government, and Civil Society

Apart from the FGD conducted on the perception survey TOP users, there were also a number of key informant interviews (KII) conducted with representatives from industry, government, and civil society.⁸ The KII supplements the results of the surveys and the FGD particularly in taking the perspective of industry players, related government agencies, and the insights of NGOs as part of civil society (see Annex 4.)

⁸ In accordance to the data privacy policy of PIDS and in compliance to the data consent granted by participants of the KIIs, the name of the institutions, persons, and organizations will be kept in confidentiality.

Generally, KII participants deemed the TOP to be useful and beneficial but its contents may need updating and major improvements. For instance, participants described the Philippine labor market to be characterized by a jobless growth despite rising GDP growth rates and that this is further aggravated by the job mismatch hitting heavily the manufacturing sector (Annex 4 A10-A11). Information asymmetry in the labor market causes these job mismatches to occur (Annex 4 A12). The TOP has the potential to aid in resolving this mismatch problem but industry representatives find that several TOP courses, at present, fail to meet industry standards and TESDA facilities have been found to be outdated (Annex 4 B1-B2). Respondent private organizations cite TESDA's rigid regulation standard and limited partnership with industry and the private sector (Annex 4 D5-D6) to be the cause of this.

Companies and industry associations rely instead on managing their own training systems, for instance, by retraining workers which lasts, on average, for six months (Annex 4 D7-D8). Awareness amongst OFWs, as mentioned by an NGO focused on OFWs (Annex 4 B3), is also a concern for improving the TOP's reach abroad. Older populations may also be challenging to reach as the elderly age groups tend to experience fear in digital equipment – rooted culturally from what is unknown to them (Annex 4 B4). Despite all these, the TOP still remains to have great potential especially with Virtual Reality – a technology, narrated by a TVI, utilized by Singapore in their virtual classrooms – can help resolve outdated TESDA facilities (Annex 4 C11-C12).

5. Discussions and Conclusion

5.1 Course Offerings in the TOP

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 the TOP which implies that they have some of the basic hardware and even software requirements for learning ICT skills. Since the TOP requires the practice or 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 (1.3%) in Table 6. 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 appropriate 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 equally insightful to see the proportion of enrollees in a given course who were able to complete the course. From Table 6, these would be heating, ventilating, air conditioning, and refrigeration, ICT, 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 respective jobs. It may as well be because obtaining these skills would make the student more marketable or employable. A more detailed analysis is required to test these hypotheses which is beyond the scope of this paper.

Following a 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 by specifically catering to the needs and characteristics of the registered users.

5.2 Impact on training costs 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 costs and time spent going to the training area might still be substantial. Results of the earlier studies conducted on the TOP show that it 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 (Macapagal and Peralta 2016).

The cost of access is also an important issue as only 49.0 percent of the respondents of the perception survey found the TOP affordable despite being provided for free. This is because TOP users would still need a reliable internet connection in order to fully appreciate the learning materials in the TOP. This observation points to the need for a reliable internet infrastructure for e-education to be effective. While outside the purview of TESDA, it would do well to coordinate with the Department of Information and Communications Technology (DICT) to ensure that ICT infrastructure development projects are on track.

In two separate surveys internally conducted by e-TESDA, they estimated the passing rate of TOP users who have opted to undergo through the national assessment upon completing the online course to be high (above 90.0%). This addresses the concern that online learning may not be as effective as face-to-face learning – a high passing rate despite the lack of an online forum where students can interact with each other 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 their own pace, students can spend more time learning the topics in which they need more instruction rather than spend time on topics they are already familiar with. This can easily be observed in classroom learning where students of different backgrounds are lumped together and are instructed in the same manner and pace. In the traditional classroom learning, the instructions are given only once whereas in online learning, there is the opportunity for course mastery.

5.3 Conclusion

The TOP offers unlimited opportunities through its courses and potential number of users and 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 or 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 towards full accessibility in technical education and skills development, both online and offline, is an idea that has come to be implemented and be realized. More can still be done through building courses in complete packages, institutionalization of the TOP through blended programs in TESDA. Likewise, increased involvement with technology partner institutions for course upgrading, capacity-building for trainers, and the development of better e-learning materials will help.

6. Proposals to improve e-TESDA

This section provides a summary of recommendations to improve the TOP based on the existing studies, stakeholder consultation, feedback from TOP users, and reports from e-TESDA. For each of the succeeding proposals, a SWOT (strength, weaknesses, opportunities, and threats) analysis will be provided as a means of assessing the validity of each recommendation.

6.1 TESDA to continuously lobby for the institutionalization of e-TESDA

The increasing demand for online courses and availing of the online assessment indicate the high interest in the TOP. Being the first Philippine MOOC, the TOP should go to the next level through the institutionalization of an e-TESDA division with plantilla positions for recommendation to the DBM. The e-TESDA unit has already submitted its proposal to become a permanent division supported by evidence-based justification. Staff recruitment and development, management, and leadership are important in securing quality and sustainable TOP.

Table 14 SWOT analysis on the recommendation for the institutionalization of e-TESDA

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 brings a fresh outside perspective ▪ Clear delineation of work for staff ▪ Staff development plan in place ▪ Adequate and reliable ICT infrastructure ▪ Established clients ▪ Increasing enrollment of students ▪ Well established online courses ▪ Continuous course development ▪ Adequate facilities for training and accommodation 	<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
Opportunities	Threats
<ul style="list-style-type: none"> ▪ High demand for TESDA online courses ▪ Linkages with industry and private agencies ▪ Employment opportunities of graduates ▪ National development 	<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 courses

As the TOP continuously develops relevant and practical course offerings, there is a need to ensure that all online curricula and program content meets, or even exceeds, 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 labor market needs so as to produce globally competent Filipinos with acquired 21st century skills.

Table 15 SWOT analysis on the recommendation for the continuous development of quality online courses

Strengths	Weaknesses
<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 	<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
Opportunities	Threats
<ul style="list-style-type: none"> ▪ High demand for TESDA online courses ▪ Linkages with industry and private agencies ▪ Employment opportunities for graduates ▪ National development 	<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 and linkages

e-TESDA must establish strong collaborations with private organizations, employers, key stakeholders, labor market and industry representatives, and government itself by encouraging them to take part in skills development through the utilization of ICT. Partnerships and linkages are more effective approaches to skills development. The success of E-TESDA also relies on a stable and efficient internet connection. It would do well for TESDA to coordinate with DICT in order to enhance the usability of the interface.

Table 16 SWOT analysis on the recommendation for strengthening partnerships and linkages

Strengths	Weaknesses
<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 	<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
Opportunities	Threats
<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 	<ul style="list-style-type: none"> ▪ Competing interests ▪ Conflict or vested interest of funding sources ▪ Political color

6.4 Promote the TOP through advocacy activities

There is a need to intensify the 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 of the TOP. Promotional face-to-face campaigns to reach the targeted disadvantaged groups in rural areas can be programmed in coordination with schools, LGUs, and private institutions.

Table 17 SWOT analysis on the recommendation for promoting the TOP

Strengths	Weaknesses
<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) 	<ul style="list-style-type: none"> ▪ Limited funds ▪ Poor promotional strategies ▪ Unable to recognize target beneficiaries ▪ Lack of marketing plan
Opportunities	Threats
<ul style="list-style-type: none"> ▪ Coordination with schools and local government ▪ Partnership with Non-Government Organizations (NGOs) and private institutions 	<ul style="list-style-type: none"> ▪ Lack of cooperation from school and Local Government Units (LGUs) ▪ Division of resources and labor

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Annex 1 e-TESDA course offerings and their descriptions (as of February 2018)

Sector	#	Course Name	Course Description	Remarks
Agriculture (1 course)	01	Fruit Grower	Fruit grower covers lessons 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)	02	Automotive Battery Servicing	Automotive battery servicing covers the competencies required to service, remove, replace, test, and charge automotive batteries.	This self-paced course is part of Automotive Servicing NC II.
	03	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)	--	Cellphone Servicing	--	Not counted as a course and is currently hidden for update of content.
	04	Solar Night Light Assembly	Solar night light assembly covers knowledge and skills needed to assemble, test, and troubleshoot solar night lamps. This material can also be used to deepen one's understanding on the process and the system used for tuning solar energy into consumable energy using solar-powered generation technology.	This learning material is a self-paced course.
Entrepreneurship (2 courses)	05	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	--
	06	Managing Your Personal Finances	Managing your personal finances covers lessons on making sound financial 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 the Consuelo Foundation.
Human Health and Healthcare (3 courses)	--	Course 1: Foundations of Massage Practice	This is 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 a single modality.	Not counted as a course.
	--	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 – pre-massage, massage proper, and post-massage.	Not counted as a course.
	07	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.
	08	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.
	09	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	#	Course Name	Course Description	Remarks
Heating, Ventilating, Air Conditioning, and Refrigeration (1 course)	10	Package 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.
Information and Communications Technology (14 courses)	--	--	--	--
ICT Courses	--	Computer Hardware Servicing/ Computer System Servicing NC II	--	Not counted as a course and is currently hidden for update of content.
	11	Animation (3D Digital)	Animation (3D Digital) covers the competence required for 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 cover the competencies required to operate a personal computer (PC) by starting the PC, logging in, using and working with files, folders, and programs, saving work and shutting 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.	Includes video content, grades section, and students cannot proceed to the next lesson until the current lesson is marked complete.
	14	SMART Technopreneurship 101	SMART Technopreneurship 1010 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 HTML 5 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	#	Course Name	Course Description	Remarks
Game Development	--	--	Game development is done in partnership with Microsoft Corporation, Ltd. Its qualification consists of competencies that a person must achieve to program stand-alone computer game applications. A person who has achieved this qualification is competent to be employed in a game programmer, technical game designer, game tester, tools programmer, and/or game play scripter.	--
	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 competencies 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. Competencies include tool usage, documentation, debugging, and testing techniques in support of the programing 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 in Google	--	--	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. A person who has achieved this qualification is competent to be employed as an Android developer.	--
	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.
Udemy Courses	24	Android 4.0 Programming in Java	Create an Android app after taking this course in Android development. Students will learn everything from basic concepts of Android programming to creating games and simulations. This class is a beginner-intermediate course ideally for those with prior knowledge in Java as those tools will assist in building and Android app from scratch.	This self-paced material is developed in partnership with Udacity

Sector	#	Course Name	Course Description	Remarks
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 practical common interview questions in this class. This course is relevant to anyone in the job market whether completely new, re-entering, or advancing their 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 the International Labour Organization (ILO). This course focused specifically on the preparation of nutritionally balanced diet and on the supervision/administration of galley area.	The is 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 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 center and must demonstrate competence in all units/clusters of core units of the qualification. 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 finished 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 center and must demonstrate competence in all units/clusters of core units of the qualification. A person who has achieved this qualification and awarded a 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 (junior chef) and assistant cook.	--

Sector	#	Course Name	Course Description	Remarks
Cookery NC II Prepare and Cook Hot Meals	--	--	The cluster 'prepare and cook hot meals' is composed of seven (7) courses. Individuals aspiring to be awarded the qualification of Cookery NC II must acquire a certificate of competency (COC) in all clusters of core units of the qualification. Candidates may apply for assessment in any accredited assessment center.	--
	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.
	33	Preparing Egg Dishes	Preparing egg dishes covers competencies 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.
Cookery NC II – Prepare Cold Meals	--	--	The cluster 'prepare cold meals' is composed of three (3) courses. Individuals aspiring to be awarded the qualification of Cookery NC II must acquire a certificate of competency (COC) in all clusters of core units of the qualification. Candidates may apply for assessment in any accredited assessment center.	--
	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.

Sector	#	Course Name	Course Description	Remarks
	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.
Cookery NC II – Prepare Sweets	--	--	The cluster ‘prepare sweets’ is composed of one (1) course. Individuals aspiring to be awarded the qualification of Cookery NC II must acquire a certificate of competency (COC) in all clusters of core units of the qualification. Candidates may apply for assessment in any accredited assessment center.	--
	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.
Food and Beverage Services NC II	--	--	Food and beverage services NC II qualification consists of competencies that a person must achieve to provide food and beverage service to guests. To attain the national qualification of food and beverage services NC II, the candidate may apply for assessment in any accredited assessment center and must demonstrate competence in all units/clusters of core units of the qualification. A person who has achieved this qualification and awarded a national certificate (NC) is competent to be employed as bus boy, room attendant, waiter and food and beverage service attendant.	--
	41	Bus Boy Servicing	Bus boy servicing covers knowledge, skills, and attitude 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 attitude required to received 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 attitude required to receive and handle guest concerns, promote food and beverage products, prepare dining room/restaurant area for service, and to take orders.	This self-paced course is one of the competencies in Food and Beverage Services NC II.
Housekeeping NC II	--	--	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 guests, and laundry linen and guest clothes to a range of accommodation services. To attain the national qualification of Housekeeping NC II, the candidate may apply for assessment in any accredited assessment center and must demonstrate competence in all units/clusters of core units of the qualification. A person who has achieved this qualification is competent to be employed as junior cleaner, assistant cleaner, assistance public area cleaner, cleaner, public area cleaner, attendant, laundry attendant, housekeeping attendant and butler.	--

Sector	#	Course Name	Course Description	Remarks
	44	Provide Housekeeping Services	Provide housekeeping services to guests covers skills and knowledge required to provide a range of general housekeeping services.	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.
	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	--	--	The Trainers' Methodology Level 1 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 trainings. A person who has achieved this qualification is competent to be a TVET trainer, technical trainer, training facilitator/coordinator, and competency assessor.	--
Deliver Training Session	50	Plan Training Session	Plan training session covers competence required to plan training sessions including identification of learners' 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 sessions 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 environments 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.

Sector	#	Course Name	Course Description	Remarks
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 assessment decisions, recoding and providing feedback on assessment outcomes.	This self-paced course is part of the cluster Trainers' Methodology I – Conduct Competency Assessment
TM1 Basic Competencies	54	Foster and Promote Inclusive Learning Culture	--	Course is currently hidden for update of content.
	55	Apply Work Ethics, Values, and Quality Principles	--	Course is currently hidden for update of content.
	56	Utilize IT Applications in Technical Training	--	Course is currently hidden for update of content.
	57	Lead Workplace Communication	--	Course is currently hidden for update of content.
	58	Develop and Promote Appreciation for Costs and Benefits of Technical Writing	--	Course is 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 May 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 and Healthcare									
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, Air Conditioning, and Refrigeration									
10. Packaged Air Conditioner Unit Servicing	4,200	5,419	6,430	9,655	-	-	-	25,704	19,832
Information and Communications Technology									
Computer Hardware Servicing/ Computer System Servicing NC II*	Update	Update	22,884	28,849	4,013	4,497	80	60,323	Update
ICT Courses									
11. Animation (3D Digital)	7,232	8,327	11,179	4,705	-	-	-	31,443	13,642
12. Basic Computer Operations	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

Sector / Course	2017	2016	2015	2014	2013	2012	2011	Total	Completers (as of May 2017) ¹
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

Sector / Course	2017	2016	2015	2014	2013	2012	2011	Total	Completers (as of May 2017) ¹
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 Service 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 user for more than 120 days are automatically unenrolled

* Course is currently hidden for update of content

- Course not yet published on that year

Annex 3 Highlights of the focus group discussion (FGD) with TOP users

Highlights of the focus group discussion (FGD) with TOP users

A. ICT issues and observations:

1. Internet connection problems are prevalent among users with the occasional accessibility problems.
2. Videos are not buffering sometimes and are slow to load.
3. File formats can be restrictive for those without the proper programs such as with PDFs on mobile.
4. Mobile limitations are existent in e-TESDA courses.

B. Comments on TOP content

1. Course content are basic and provides limited information although this varies across different courses.
2. Course content is elementary and does not offer higher level (postgraduate) topics.
3. The Basic Computer Operations (BCO) course features only MS Word. There should be MS PPT and MS Excel as well.
4. A high learning curve exists in some TOP courses because of the user interface. This is especially noticeable with older generations.
5. There should be difficulty levels since different individuals have different educational backgrounds.
6. e-TESDA courses should follow international standards.
7. Examinations and texts are repetitive.

C. Suggestions for TOP improvement

1. There are suggestions for creating audiobook versions so as to allow mobile listening of lessons.
2. Another suggestion is to create a mobile application for e-TESDA available through Google Play Store.
3. A suggestion was raised to implement a dashboard for online classes being led by an instructor.
4. There should be a classroom based total demonstration for practical purposes.
5. There should be an online assessment and certification feature available.
6. On-the-Job-Training (OJT) could be applied for some TOP courses for practical application of studies.
7. There should be an assessment to employment scheme features.
8. Users are hopeful for a Filipino language compatibility for courses.
9. Several respondents hope to see foreign language courses offered by e-TESDA.
10. Shoemaking should be added. This is in line to addressing local market needs or create ones.
11. Soft skills courses should be offered such as Early Child Development.

D. General remarks

1. Application of skills-based lessons such as cookery could be costly.
2. Instructions after completing e-TESDA courses are unclear and confusing.
3. Several courses are wordy and heavy in text. Some links are dead and are not updated regularly.
4. There are advertisements in the e-TESDA courses distracting users.
5. Backtracking features are non-existent; thus, preventing learners to review older lessons as they progress.
6. There is a lack of downloadable content for offline use and learning.
7. Catered primarily to the poor and is of limited use to the middle-class.
8. e-TESDA should not use a “one-size-fits-all” kind of course formatting.
9. Intellectual Property Rights (IPR) issues exists on reference links.
10. OFWs are unaware of the TOP; thus, limiting the options of repatriated OFWs hoping to settle locally.
11. Several respondents find e-TESDA to be convenient and allow them to be productive during their free time at home or work.
12. Several respondents find the registration process slow.
13. User experience is poor and discourages learning because of the added frustration.

Note: In accordance to the data privacy policy of PIDS, institutions, persons, and organizations will not be named.

Annex 4 Highlights of the key informant interviews (KII) with industry, government, and civil society

Highlights of the key informant interviews (KII) with industry, government, and civil society

A. Labor comments

1. An increasing trend of employed household service workers abroad has been observed since 2000.
2. 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.
3. There exists a gender disparity for female and male workers in the overseas job market wherein there is no available low-skilled work for males.
4. The private sector is faster to respond in the overseas job market than the government does.
5. Recruitment agencies are the only entry points for skilled workers to work abroad.
6. 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.
7. Several economies have been imposing nationality requirements that are restrictive for many OFWs.
8. Foreign language requirements are often the greatest barriers restricting OFWs.
9. There is a contracting labor market overseas except for aging economies.
10. Labor in the Philippines has been characterized by jobless growth despite rising GDP growth rates.
11. 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.
12. The inadequate information concerning the labor market causes information asymmetry and, thus, leads to job mismatches.
13. Linking schools with industries through on-the-job-trainings (OJTs) are needed.
14. New markets that are in demand for health service workers are countries with aging populations such as Japan and several countries across Europe.
15. New Zealand, in particular, has a spike for construction labor demand following recent calamity damages.
16. The Chinese market is looking for English Speaking teachers.
17. There is a lack of employers in rural areas; thus, creating localized labor surpluses.

B. Experiences and difficulties encountered with the TOP

1. Several TOP courses fail to meet present industrial standards in practice and are often outdated or obsolete.
2. TESDA facilities, in general, are often outdated.
3. e-TESDA has to work more closely with the private sector as awareness of the TOP is limited among OFWs.
4. Older populations experience fear in digital equipment that is often rooted culturally from what is unknown to them.

C. ICT issues and observations

1. In general, there is a lack of consciousness of cybersecurity issues in the Philippines.
2. From the 60,000 towers needed for proper ICT infrastructure, the Philippines only has 6,000 at present.
3. It would take PhP114 million to properly retrofit the Philippine ICT infrastructure although only PhP67 million has been budgeted by the DBM.
4. Instead of creating more cell towers, there is the alternative of using passive repeaters to resolve obstructions from buildings.
5. Telecommunications lines should be retaken from private companies back to the government in order to secure the country's ICT backbone.
6. There should be a separate internet law for the Philippines incorporating the NTC frequencies.
7. There is an existing challenge for digital connectivity because of ICT deficiencies.
8. Under the lack of IT infrastructures, options for intranet usage is being applied for offline availability.
9. 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.
10. With the implementation of the Free WiFi Law, there has already been 1000+ beneficiary sites established. However, delays have been met with the processing of permits (challenges in policy under the Government Procurement Law).
11. Singapore is the regional leader for e-education with their virtual classrooms.
12. There is a large potential for the use of Virtual Reality equipment to provide updated learning following industry standards internationally.

D. General Remarks

1. There has to be a feedback mechanism in the TOP.
2. Job skills that are expected to grow under the Fourth Industrial Revolution includes animation, multimedia, fitness (Middle East), and sports science (China).
3. Legal age distortions are observed in Mindanao to illegally send OFWs often coming from the vulnerable sectors of society.
4. Soft skills, largely unaddressed by TESDA, often lead to employability and trainable individuals.
5. The TESDA regulation standard is impracticably too rigid to address evolving standards and needs.
6. There are very limited partnerships between e-TESDA and private organizations.
7. Industry associations manage their own training systems instead of relying on government services or programs.
8. Companies would need then to provide additional training to workers that last, on average, for six months.
9. There are skewed incentives and disincentives present in the policy background.
10. There is optimism in the 'Build, Build, Build' program to create more jobs locally.

Note: In accordance to the data privacy policy of PIDS, institutions, persons, and organizations will not be named.

Annex 5 How to register and enroll in a TOP course

Directions on how to create an account and how to enroll in a TOP course

Steps 1 to 3: How to create an account

1. First, go to the e-TESDA 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 *, -, or #
 - ii. More details
 - Email address, First Name, 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, Microentrepreneur, Farmer/Fisherman/Agriculture, Persons with Disabilities, Overseas 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 (Musculoskeletal) 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 to 8: How to enroll in a TOP course

4. Log-in username and password. Before you can enroll 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 enroll 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 “Enroll 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.