

Profile of Training and Skilling Programs in the Philippines

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Abstract

This study is undertaken as part of the Youthworks PH initiative by the Philippine Business for Education. It aims to address five research questions, namely: (a) what are the existing training programs for the priority sectors of YouthWorks PH (construction, manufacturing, and tourism); (b) how responsive are the current training programs to the needs of industries; (c) is there industry demand for new National Certificates (NCs) in specific sectors, and for what level and occupation; (d) how did the Covid-19 pandemic change the landscape of training programs in the country; and (e) what are the emerging industry sectors brought about by the Covid-19 pandemic. We use secondary data and interviews with relevant stakeholders, particularly with training providers in YouthWorks PH priority sectors. TVET providers are overwhelmingly private, but public providers account for a larger share of graduates. Most TVET graduates are products of either community-based or institution-based TVET programs. TVET programs and graduates are concentrated in a few occupational sectors, the dominant sector being Tourism (Hotel and Restaurant). Likewise, demand for assessment leading to a National Certificate is concentrated in relatively few qualifications. The government offers several scholarships promoting TVET access. The issues on the responsiveness of current programs according to the respondents revolves around: (a) the lack of demand particularly for construction; (b) weaknesses in the design of financing programs; (c) perception about quality of training schools, trainers and assessors; and (d) training content. Industry respondents noted demand for skills standardization in prefabricated construction, supervisory-level construction jobs, and nursing assistance. Restrictions due to Covid-19 resulted in the suspension or scaling down of training programs. Some providers have provided online modules but lack of access to appropriate digital devices or the internet among students hinder remote learning. Covid-19 caused the emergence of online food selling and made digital skills valuable. The study recommends pursuing an information campaign to promote construction jobs; reviewing and rationalizing TVET financing programs; reviewing the TVET content; tapping industry practitioners as trainers and assessors; investing in flexible learning modalities; and promoting regular dialogue between the government, employers, and TVET providers.

Keywords: TVET, technical-vocational education, training

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1. Introduction

In 2017, the Philippines's youth, defined as persons aged 15 to 24 years, consisted of 19.99 million people and comprised 19.05 percent of the population (PSA 2018). Among them, 3.84 million young people, or nearly one-fifth (19.23 percent) of the youth population, were not in employment and not in education or training (NEET). NEETs are youth who are not accumulating human capital either through education or in the labor force, and as such are at risk of facing disadvantages and exclusion throughout their life as adults (OECD 2020). Understanding the opportunities and constraints the NEETs are facing are critical in crafting effective interventions that will improve their changes for a better life in the future.

The Philippine Business for Education (PBEd) in partnership with the United States Agency for International Development (USAID) implements YouthWorks PH, a five-year (2018-2023) project which aims to provide work-based training to marginalized youth. YouthWorks PH's three priority sectors are construction, manufacturing, and tourism and hospitality. In 2019, PBEd, the Technical Education and Skills Development Authority (TESDA), and the Philippine Institute for Development Studies (PIDS) entered into a tripartite partnership for policy research. The partnership endeavors to fill gaps in quantitative and qualitative studies through a series of research focusing on the NEET and the training and skilling landscape in the Philippines, with the objective of supporting policy interventions and providing a knowledgebase for advocacy efforts.

This paper's objective is to address the following research questions:

1. What are the existing training programs for the priority sectors of YouthWorks PH?
2. How responsive are the current training programs to the needs of industries?
3. Is there industry demand for new National Certificates (NCs) in specific sectors? For what level and occupations?
4. How did the Covid-19 pandemic change the landscape of training programs in the country?
5. What are the emerging industry sectors brought about by the Covid-19 pandemic?

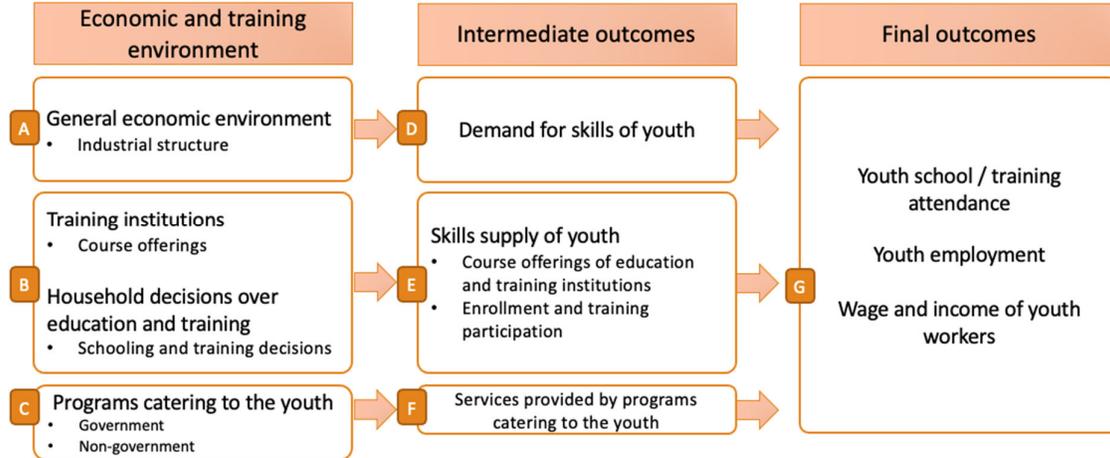
2. Methodology

Conceptual Framework

Figure 1 a provides conceptual framework describing the comprehensive environment surrounding the youth being NEET – the focus of the series of studies.

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Figure 1. Conceptual framework



To understand the employment, education, and training outcomes of the marginalized youth, one must understand the underlying economic development structure, the education and training environment, and the household decision of schooling and training. It also requires cataloging the programs offered that cater to the youth. The underlying general economic development determines the industrial structure that, in turn, determines the demand for skills. On the flip side of this is the supply of skills. The supply of skills is the product of the interaction of courses offered by the education and training institutions and the enrollment and participation decisions of households. Unsatisfied with market outcomes, often the government and non-government organizations implement programs aimed at altering educational and employment outcomes of the youth. The programs are characterized by the services offered to the youth. The final outcomes will consist of: (a) school/training attendance, (b) employment and unemployment, and (c) wage and income of youth workers.

While the framework provides the general environment for the NEET, this study will focus on the training landscape. In the describing the training landscape only cells B, C, E, and F of Figure 1 will be covered.

Research Design

The study analyzed secondary data to provide a background information on the overall training landscape and document reviews were done to describe existing government programs promoting access to TVET training. A roundtable discussion (RTD) with stakeholders and informant interviews (KIIs) with training providers were conducted to gather primary data on the views of private sector employers, relevant government agencies, and other stakeholders around the study's research questions. The KII with TESDA informants was focused on the process of developing and updating Training Regulations (TRs).

One RTD and four KIIs were done. Because of the pandemic, all activities were done via online video conferencing. The RTD was conducted on November 26, 2020. Meanwhile, the KIIs were conducted on November 26, November 28, December 11, and December 15, 2020. A total of 21 respondents participated in the RTDs and KIIs. The respondents were selected from the three priority sectors identified by YouthWorks PH, namely, construction, manufacturing, and tourism. Specifically, the respondents represent two manufacturing firms; one hospitality firm; one construction firm; one construction, real estate and hospitality conglomerate; one

manpower agency; one human resource association; one non-government organization (NGO), and two government agencies (TESDA and the Department of Labor and Employment). A summary of the participants and the guide questions used for the KIIs with training providers and TESDA informants, are appended in Appendices A, B, and C, respectively.

Limitations of the study

Because of limitations in time and resources, the KIIs were limited to YouthWorks PH program partners rather than a more diverse set of firms in the priority sectors. The research team was also not able to interview other types of training providers, such as public and private TVIs, and more providers of community-based programs. However, because of the nature of the research questions, it is deemed that private sector employers that also provide TVET training are best suited to answer them. The selection of respondents limits the range of experience captured by the study.

3. Available training programs

3.1. Characteristics of TVET program offerings, providers and graduates

TVET programs by sector

In 2019, there were 16,125 TESDA-registered TVET programs provided by 4,387 TESDA-registered training providers. Table 1 shows the sectoral distribution of registered TVET programs based on TESDA’s occupational classification (i.e., programs involving similar competencies for related occupations form a sector). Tourism (Hotel and Restaurant) is the top sector, accounting for more than a quarter (27 percent) of TVET programs. Out of 25 sectors, those in the top 10 in terms of number of registered programs make up 94.1 percent of all registered programs in 2019. The other sectors in the top 10 are Metals and Engineering; Electrical and Electronics; Social, Community and Other Services (SCDOS); Construction; Agriculture, Fishery and Forestry (AFF); Automotive and Land Transportation; Human Health/Health Care; Language and Culture; and Information and Communication Technologies (ICT). Data on whether these programs are covered by a Training Regulation or not is not readily available.

Table 1. Distribution of registered TVET programs by sector, 2019

Sector	Freq.	Percent
Tourism	4,356	27.0
Metals and Engineering	1,509	9.4
Electrical and Electronics	1,386	8.6
Social, Community Development and Other Services	1,336	8.3
Construction	1,328	8.2
Agriculture Fishery and Forestry	1,320	8.2
Automotive and Land Transportation	1,211	7.5
Human Health/Health Care	1,181	7.3
Language and Culture	837	5.2
Information and Communication Technologies	712	4.4
TVET	292	1.8
Garments and Textile	254	1.6
Processed Food and Beverages	143	0.9
Heating, Ventilation, Air conditioning and Refrigeration	120	0.7
Maritime	93	0.6
Wholesale and Retail	19	0.1
Aviation	11	0.1
Visual Arts	6	0.0
Furniture and Fixtures	5	0.0
Logistics	3	0.0
Utilities	3	0.0
Chemicals/Plastics/Petrochemicals	0	0.0

Decorative Crafts	0	0.0
Footwear and Leather Goods	0	0.0
Pyrotechnics	0	0.0
Total	16,125	100

Source: TESDA (2021a).

TVET providers by region and type

Table 2 presents the regional distribution of these TVET providers, while Table 3 shows their distribution according to type of provider. Some two-fifths (40.8 percent) of TVET providers are concentrated in just three regions: National Capital Region and the neighboring regions of Region IV-A and Region III. Moreover, TVET providers are overwhelmingly private. Nine out of 10 TVET providers (90.8 percent) are private institutions, made up mainly of private training schools (77.9 percent) and private Higher Education Institutions (HEIs). Meanwhile, TESDA Technology Institutes (TTIs) and local government units (LGUs) are the main public TVET providers. Despite the private sector's dominance in TVET provision, the majority of TVET graduates (60.5 percent) come from public providers.

Table 2. Registered TVET providers per region, 2019

Region	Freq.	Percent
National Capital Region (NCR)	752	17.1
IV-A (CALABARZON)	530	12.1
III (Central Luzon)	509	11.6
VII (Central Visayas)	338	7.7
X (Northern Mindanao)	290	6.6
V (Bicol)	232	5.3
XI (Davao Region)	222	5.1
I (Ilocos)	217	4.9
VI (Western Visayas)	202	4.6
XII (SOCSKSARGEN)	186	4.2
IX (Zamboanga Peninsula)	173	3.9
VIII (Eastern Visayas)	143	3.3
II (Cagayan Valley)	135	3.1
IV-B (MIMAROPA)	128	2.9
Cordillera Administrative Region (CAR)	121	2.8
Bangsamoro Autonomous Region in Muslim Mindanao (BARMM)	109	2.5
XIII (CARAGA)	99	2.4
Overseas	1	0.0
Total	4,387	100.0

Source: TESDA (2020c).

Table 3. TVET Training providers and graduates by type, 2019

	Freq.	Percent
A. Training provider type		
Public	404	9.2
TESDA Technology Institutes	164	3.7
Local Government Units	132	3.0
State Universities and Colleges	76	1.7
Department of Education-Supervised	16	0.4
Local Colleges and Universities	10	0.2
Government-Owned and Controlled Corporations/Government Financial Institutions	3	0.1
Skills Training Centers	2	0.0
National Government Agencies	1	0.0
Private	3,983	90.8
School/Institution	3,419	77.9
Higher Education Institutions	551	12.6
Enterprise/Company	8	0.2
NGO/Foundation	5	0.1
Total	4,387	100.0

B. Number of graduates		
Public	1,354,721	60.5
Private	886,029	39.5
Total	2,240,750	100.0

Source: TESDA (2020c).

TVET graduates by delivery mode

There are three main modes of delivery for TVET programs: institution-based, enterprise-based, and community-based. Institution-based programs refer to TESDA-registered programs delivered in TESDA Technology Institutions (TTIs), Private Technical Vocational Institutions (TVIs), Higher Education Institutions (HEIs), Public TVIs such as State Universities and Colleges (SUCs), Local Colleges and Universities (LUCs) and training centers established by the local government unit (LGU). Enterprise-based programs refer to TVET programs delivered in the enterprise which maybe in-plant or stand-alone, or maybe linked with a training provider. These include apprenticeship programs, learnership programs, and Dual Training System (DTS). Community-based programs refer to TVET programs that are primarily addressed to poor and marginalized groups – those who cannot access formal training provisions. Community-based training programs may be delivered in an informal or formal setting in the community and are implemented with TESDA assistance. TESDA recently introduced a fourth delivery mode category called “Monitored” training programs. Monitored training programs are defined as skills training programs that have a TVET component conducted by other National Government Agencies (NGAs) and other skills training which have to be reported to TESDA (TESDA n.d.g). This category started to appear in TESDA TVET statistics for 2019.

TESDA reports that there were about 2.24 million graduates of TVET programs in 2019 (TESDA 2019c). Table 4 shows the distribution of graduates according to TVET program delivery mode. Community-based training programs produced the greatest number of graduates (46 percent). Close to one-third (31.3 percent) were graduates of institution-based programs, while under a fifth (18.9 percent) graduated from “monitored” training programs. Only 3.9 percent graduated from enterprise-based training programs.

Table 4. TVET graduates by delivery mode, 2019

Delivery mode	Freq.	Percent
Community-based	1,030,095	46.0
Institution-based	701,042	31.3
Monitored	422,771	18.9
Enterprise-based	86,842	3.9
Total	2,240,750	100.0

Source: TESDA (2020c).

TVET graduates by occupational sector

Table 5 shows the distribution of 2019 TVET graduates of all ages and those considered youth (i.e., persons aged 15-24 years). Tourism-related programs account for nearly one-quarter of 2019 TVET graduates, the largest share by any sector. The top 10 sectors in terms of number of graduates are Tourism (23.1 percent); Others (22.2 percent); SCDOS (9.7 percent); Electricians and Electronics (7.7 percent); AFF (7 percent); Automotive and Land Transportation (6.3 percent); Human Health/Health Care (5.7 percent); Metals and Engineering (4.4 percent); Construction (3.9 percent); and ICT (3.2 percent). About half (51.6 percent) of 2019 TVET graduates are youth, and nearly one-third (30.5 percent) took a Tourism-related program. Youth make up the majority of graduates in five of the top 10 sectors. These are Tourism (68.2

percent); Electrical and Electronics (71.9 percent); Automotive and Land Transportation (58.7 percent); Metals and Engineering (59.6 percent); and ICT (66.9 percent).

Table 5. TVET graduates by sector among all ages and youth, 2019

Sector	All ages		Youth (15-24 years)		Share of youth among graduates (percent)
	Freq.	Percent	Freq.	Percent	
Tourism (Hotel and Restaurant)	517,142	23.1	352,727	30.5	68.2
Others	497,668	22.2	178,048	15.4	35.8
Social, Community Development and Other Services	216,535	9.7	95,331	8.2	44.0
Electrical and Electronics	172,286	7.7	123,946	10.7	71.9
Agriculture, Forestry and Fishery	157,421	7.0	67,624	5.9	43.0
Automotive and Land Transportation	142,286	6.3	83,580	7.2	58.7
Human Health/Health Care	127,850	5.7	49,140	4.3	38.4
Metals and Engineering	98,831	4.4	58,878	5.1	59.6
Construction	87,135	3.9	39,237	3.4	45.0
Information and Communication Technology	71,119	3.2	47,559	4.1	66.9
Processed Food and Beverages	70,085	3.1	24,753	2.1	35.3
Garments	38,141	1.7	16,437	1.4	43.1
TVET	15,965	0.7	5,584	0.5	35.0
Maritime	8,887	0.4	4,335	0.4	48.8
Heating, Ventilation, Airconditioning and Refrigeration	7,790	0.3	4,091	0.4	52.5
Decorative Crafts	5,354	0.2	1,008	0.1	18.8
Wholesale and Retail Trading	2,522	0.1	1,595	0.1	63.2
Furniture and Fixtures	971	0.0	607	0.1	62.5
Utilities (Water Supply, Sewerage, Waste Management, etc.)	842	0.0	283	0.0	33.6
Visual Arts	621	0.0	362	0.0	58.3
Footwear and Leather Goods	507	0.0	136	0.0	26.8
Pyrotechnics	496	0.0	441	0.0	88.9
Chemicals/Plastics/Petrochemicals	193	0.0	34	0.0	17.6
Logistics	103	0.0	15	0.0	14.6
All programs	2,240,750	100.0	1,155,751	100.0	51.6

Source: TESDA (2020c), TESDA (2021b), and authors' calculation.

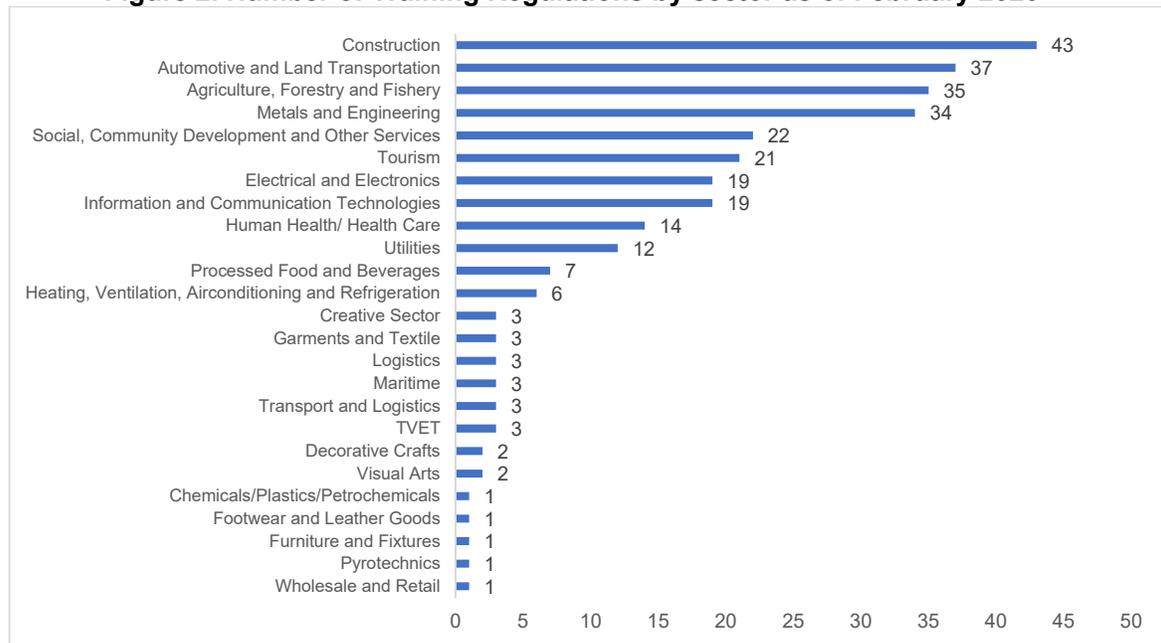
TVET programs with Training Regulations

Training Regulations (TRs) are guidelines that govern the curriculum design and delivery of TVET programs leading to a work qualification, as well as arrangements for the competency assessment and certification of persons pursuing the qualification. TRs are developed by relevant industry experts and promulgated by the TESDA Board. At the core of each TR are the competency standards which describe the knowledge and skills required to perform a particular occupation (see Box 1 for a discussion of the content of TRs). Individuals who are assessed to be competent in all of the competencies of a qualification as specified in its TR are awarded a National Certificate (NC), valid for five years. There are four NC levels (I, II, III and IV) which represent increasing levels of knowledge and skills, range of competency application (from limited/routine to wide/non-routine), and degree of independence. TVET programs with TRs are registered to TESDA as “with Training Regulation” (WTR) programs, while those without TRs are registered as “without Training Regulation” (NTR) programs.

As of February 2020, TESDA had 296 promulgated TRs. Figure 2 shows their distribution into occupational sectors. TRs are concentrated in a relatively small number of sectors. The top four sectors account for 50.3 percent of the TRs. Construction has the greatest number of TRs at 43,

followed by Automotive and Land Transportation (37), AFF (35), Metals and Engineering (34), SCDOS (22), and Tourism (21). Notably, there are 13 sectors with three or fewer TRs.

Figure 2. Number of Training Regulations by sector as of February 2020



Source: TESDA (2020a).

Graduates in WTR TVET programs

In terms of number of graduates, 760,532 graduated from WTR programs in 2018, the most recent year with readily available data (TESDA 2019a). The qualification with the greatest number of graduates was Bread and Pastry Production NC II, followed by Shielded Metal Arc Welding (SMAW) NC II, Food and Beverage Services NC II, *Hilot* (Wellness Massage) NC II, and Cookery NC II, as shown in Table 6. Graduates are concentrated in a small number of qualifications, with the top 20 WTR qualifications accounting for 71.3 percent of all graduates. The sectors represented largely echo the same top sectors in Table 5, such as Tourism, SCDOS, Metals and Engineering, Automotive and Land Transportation, and Human Health/Health Care. Table 6 also shows the top 20 WTR qualifications by sex. Among males, the top qualifications tend to belong to Metals and Engineering, Automotive and Land Transportation, Electrical and Electronics, and Construction. Meanwhile, among females, the top qualifications tend to belong to Tourism, Human Health/Health Care, and SCDOS. Tourism programs also appear among the top programs for male graduates, but they tend to rank higher for female graduates.

Table 6. Top 20 WTR programs/qualifications by number of graduates, 2018

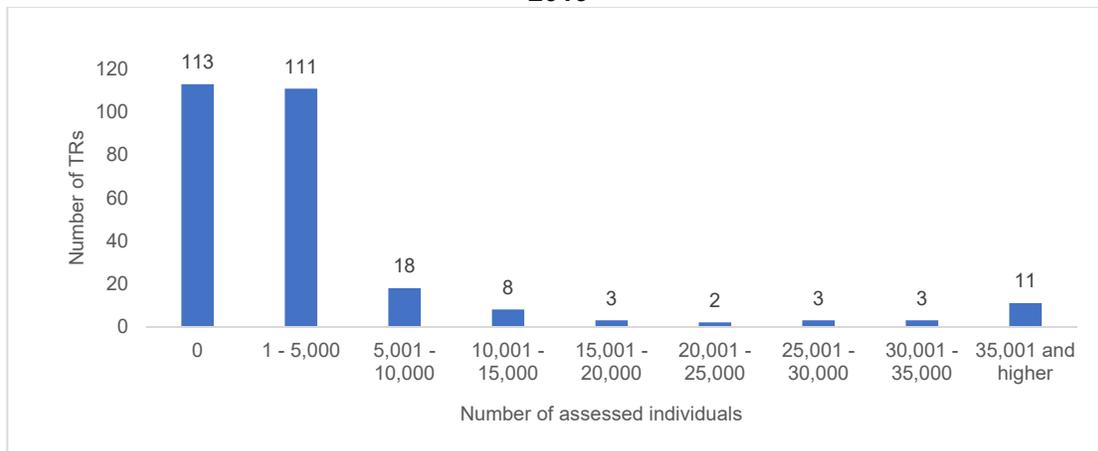
All sexes		Male		Female				
Total		760,532		390,665		369,867		
Qualification	Sector	%	Qualification	Sector	%	Qualification	Sector	%
Top 20 qualifications		71.3	Top 20 qualifications		72.7	Top 20 qualifications		82.0
Bread and Pastry Production NC II	Tourism	7.8	Shielded Metal Arc Welding (SMAW) NC II	Metals and Engineering	10.6	Bread and Pastry Production NC II	Tourism	12.5
Shielded Metal Arc Welding (SMAW) NC II	Metals and Engineering	6.0	Shielded Metal Arc Welding (SMAW) NC I	Metals and Engineering	7.2	Food and Beverage Services NC II	Tourism	8.0
Food and Beverage Services NC II	Tourism	6.0	Driving NC II	Automotive and Land Transportation	6.1	Hilot (Wellness Massage) NC II	Health Care	7.9
Hilot (Wellness Massage) NC II	Human Health/Health Care	5.2	Electrical Installation and Maintenance NC II	Electrical and Electronics	5.4	Housekeeping NC II	SCDOS	7.2
Cookery NC II	Tourism	5.2	Food and Beverage Services NC II	Tourism	4.1	Cookery NC II	Tourism	7.0
Housekeeping NC II	SCDOS	4.9	Automotive Servicing NC I	Automotive and Land Transportation	4.1	Computer Systems Servicing NC II	Electrical and Electronics	4.4
Driving NC II	Automotive and Land	4.2	Computer Systems Servicing NC II	Electrical and Electronics	3.9	Dressmaking NC II	Garments	4.2
Computer Systems Servicing NC II	Electrical and Electronics	4.2	Cookery NC II	Tourism	3.5	Contact Center Services NC II	ICT	4.2
Shielded Metal Arc Welding (SMAW) NC I	Metals and Engineering	4.1	Automotive Servicing NC II	Automotive and Land Transportation	3.4	Domestic Work NC II	SCDOS	3.9
Electrical Installation and Maintenance NC II	Metals and Engineering	3.0	Bread and Pastry Production NC II	Tourism	3.4	Bookkeeping NC III	SCDOS	3.2
Contact Center Services NC II	ICT	2.9	Carpentry NC II	Construction	2.9	Caregiving NC II	Human Health/Health Care	3.0
Dressmaking NC II	Garments	2.2	Hilot (Wellness Massage) NC II	Human Health/Health Care	2.8	Events Management Services NC III	Tourism	2.5
Automotive Servicing NC I	Automotive and Land Transportation	2.2	Housekeeping NC II	SCDOS	2.7	Driving NC II	Automotive and Land	2.3
Organic Agriculture Production NC II	AFF	2.1	Electronics Products Assembly and Servicing NC II	Electrical and Electronics	2.6	Organic Agriculture Production NC II	AFF	2.2
Bookkeeping NC III	SCDOS	2.0	Organic Agriculture Production NC II	AFF	2.0	Beauty Care Services (Nail Care) NC II	SCDOS	2.2
Domestic Work NC II	SCDOS	1.9	Tile Setting NC II	Construction	1.8	Trainers Methodology Level I	TVET	2.0
Electronics Products Assembly and Servicing NC II	Metals and Engineering	1.9	Contact Center Services NC II	ICT	1.8	Health Care Services NC II	Human Health/Health Care	1.6
Automotive Servicing NC II	Automotive and Land Transportation	1.9	Masonry NC II	Construction	1.7	Massage Therapy NC II	Human Health/Health Care	1.4
Caregiving NC II	Human Health/Health Care	1.8	Trainers Methodology Level I	TVET	1.4	Bartending NC II	Tourism	1.3
Events Management Services NC III	Tourism	1.7	Scaffold Erection NC II	Construction	1.3	Barista NC II	Tourism	1.2
Other qualifications		28.7	Other qualifications		27.3	Other qualifications		18.0

Source: TESDA (2019a). Note: SCDOS = Social, Community Development, and Other Services.

Assessment demand in WTR TVET programs

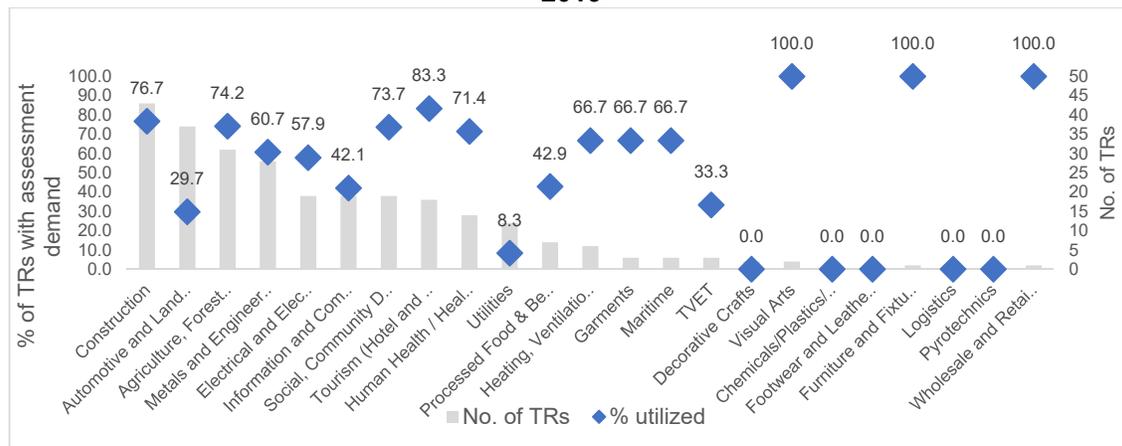
Demand for assessment across WTR qualifications is uneven. Figure 3 shows the distribution of WTR qualifications by number of individuals assessed in 2019. We consider only qualifications whose TRs had been promulgated before 2019, i.e., excluding those whose TRs were developed in 2019 or later.¹ Out of 272 WTR qualifications by end-2018, only 159 or 58.5 percent saw demand for assessment in 2019. Among WTR qualifications with assessment demand, most (111) had between one and 5,000 assessed individuals. Just 48 TRs had assessed individuals greater than 5,000, and only 11 had assessed individuals greater than 35,000. Figure 4 illustrates the proportion of WTR qualifications with assessment demand across TVET sectors. Of the 10 sectors with the greatest number of TRs, those with the lowest proportion of TRs with assessment demand are Utilities (8.3 percent), Automotive and Land Transport (29.7 percent), and ICT (42.1 percent).

Figure 3. Distribution of Training Regulations by number of individuals assessed, 2019



Note: TRs consist of those that had been promulgated before 2019. Individuals assessed consist of those that were assessed in 2019. Source: TESDA (2020b) and authors' calculation.

Figure 4. Proportion of Training Regulations with assessed individuals by sector, 2019



Note: TRs consist of those that had been promulgated before 2019. Individuals assessed consist of those that were assessed in 2019. Source: TESDA (2020a, 2020b) and authors' calculation.

¹ We consider that it takes time to set up a program, produce trainers and assessors, and graduate learners after a TR is promulgated.

3.2. TVET qualifications in YouthWorks PH priority sectors

As mentioned earlier, YouthWorks PH’s priority sectors are tourism, construction, and manufacturing.² Of the promulgated TRs as of February 2020, there were 21 WTR programs in tourism, 63 WTR programs in construction, and 104 WTR programs in manufacturing. These qualifications are listed in Appendices D, E, and F, respectively.

Table 7 below shows the top ten Tourism-related qualifications terms of number of graduates in 2018. Tables 8 and 9, meanwhile, show the top 20 construction- and manufacturing-related qualifications in 2018 by number of graduates. The most recent readily available data on graduates by qualification is from 2018. The top five Tourism-related qualifications in 2018 in terms of graduates were Bread and Pastry Production NC II, Food and Beverage Services NC II, Cookery NC II, Housekeeping NC II, and Events Management Services NC III. For construction, the top five were Shielded Metal Arc Welding (NCs I and II), Driving NC II, Electrical Installation and Maintenance NC II, and Carpentry NC II. For manufacturing, the top five were Shielded Metal Arc Welding (NCs I and II), Driving NC II, Computer Systems Servicing NC II, and Electrical Installation and Maintenance NC II.

Table 7. Top 10 tourism-related TVET qualifications with training regulations by number of graduates, 2018

Qualification	No. of graduates
Bread and Pastry Production NC II	59,487
Food and Beverage Services NC II	45,411
Cookery NC II	39,698
Housekeeping NC II	36,951
Events Management Services NC III	13,197
Bartending NC II	9,702
Barista NC II	8,538
Tourism Promotion Services NC II	4,595
Front Office Services NC II	3,475
Housekeeping NC III	2,750

Source: TESDA 2019a

² TESDA’s classification of TVET qualifications into occupational sectors does not include a manufacturing sector. To capture manufacturing-related TVET qualifications, we use TESDA’s 2019 Labor Market Intelligence Report (LMIR) for the manufacturing sector (TESDA 2019c), which identifies qualifications related to occupations employed in manufacturing industries. These qualifications span nine TESDA occupational sectors (i.e., Agriculture, Forestry and Fishery; Automotive and Land Transportation; Chemicals/Plastics/Petrochemicals; Electrical and Electronics; Footwear and Leather Goods; Garments; Heating, Ventilation, Airconditioning and Refrigeration; Metals and Engineering; and Processed Food and Beverages). Manufacturing in this sense is understood as an industrial sector (i.e., a group of similar economic activities performed by establishments employing a range of occupations) rather than as an occupational sector (i.e., a group of similar skills and functions performed by workers). The same is done to capture construction-related qualifications. TESDA’s 2019 LMIR for the construction sector (TESDA 2019b) identifies construction-related programs spanning four TVET occupational sectors (i.e., Construction, Metals and Engineering, Electrical and Electronics, and Automotive and Land Transportation). For tourism, however, we capture only qualifications that fall under Tourism as an occupational sector given that TESDA’s most recent LMIR for the tourism sector (TESDA 2016) does the same. Finally, for all three sectors, we limit qualifications to those with Training Regulations (WTRs).

Table 8. Top 20 construction-related TVET qualifications with training regulations by number of graduates, 2018

Qualification	Sector	No. of graduates
Shielded Metal Arc Welding (SMAW) NC II	Metals and Engineering	45,780
Driving NC II	Automotive and Land Transportation	32,251
Shielded Metal Arc Welding (SMAW) NC I	Metals and Engineering	31,214
Electrical Installation and Maintenance NC II	Electrical and Electronics	22,770
Carpentry NC II	Construction	12,471
Tile Setting NC II	Construction	8,269
Masonry NC II	Construction	7,280
Structural Erection NC II	Construction	5,276
Pipefitting (Metallic) NC II	Construction	4,659
Plumbing NC II	Construction	3,156
Technical Drafting NC II	Construction	2,970
HEO (Hydraulic Excavator) NC II	Construction	2,571
HEO (Backhoe Loader) NC II	Construction	2,190
HEO (Forklift) NC II	Construction	2,121
Gas Tungsten Arc Welding (GTAW) NC II	Metals and Engineering	2,026
Gas Metal Arc Welding (GMAW) NC II	Metals and Engineering	1,954
HEO (Wheel Loader) NC II	Construction	1,806
Masonry NC I	Construction	1,738
Construction Painting NC II	Construction	1,668
HEO (Rigid On-Highway Dump Truck) NC II	Construction	1,534

Source: TESDA (2019a, 2019b).

Table 9. Top 20 manufacturing-related qualifications with training regulation by number of graduates, 2018

Qualification	Sector	No. of graduates
Shielded Metal Arc Welding (SMAW) NC II	Metals and Engineering	45,780
Driving NC II	Automotive and Land Transportation	32,251
Computer Systems Servicing NC II	Electrical & Electronics	31,612
Shielded Metal Arc Welding (SMAW) NC I	Metals and Engineering	31,214
Electrical Installation and Maintenance NC II	Electrical & Electronics	22,770
Dressmaking NC II	Footwear & Leather Goods	16,839
Automotive Servicing NC I	Automotive and Land Transportation	16,609
Electronics Products Assembly and Servicing NC II	Electrical & Electronics	14,607
Automotive Servicing NC II	Automotive and Land Transportation	14,136
Motorcycle/Small Engine Servicing NC II	Automotive and Land Transportation	4,870
Food Processing NC II	Processed Food & Beverages	4,497
RAC Servicing (DomRAC) NC II	Heating, Ventilation, Airconditioning and Refrigeration	3,485
Driving (Passenger Bus/Straight Truck) NC III	Automotive and Land Transportation	2,492
Mechatronics Servicing NC II	Electrical & Electronics	2,314
Gas Tungsten Arc Welding (GTAW) NC II	Metals and Engineering	2,026
Gas Metal Arc Welding (GMAW) NC II	Metals and Engineering	1,954
Instrumentation and Control Servicing NC II	Electrical & Electronics	1,465
Machining NC II	Metals and Engineering	1,044
Tailoring NC II	Footwear & Leather Goods	842
Electrical Installation and Maintenance NC III	Electrical & Electronics	786

Source: TESDA (2019a, 2019c).

Box 1. Content of Training Regulations

Training Regulation documents consist of four sections. The first section contains the description of the qualification, which identifies the qualification (e.g., Masonry NC II), lists the competencies associated with the qualification, and identifies the occupations which persons with the qualification will be competent for.

The second section contains the Competency Standards section, which specifies the following.

- **Units of Competency of the qualification.** A unit of competency corresponds to a basic function that a person competent in the qualification must be able to perform. Each unit of competency, in turn, is composed of “elements”, which are specific actions that a person must be able to perform to be competent in a basic function. Each element has corresponding performance criteria (the standards required when performing the basic function), required knowledge, and required skills. Units of competency are categorized into basic, common, or core. Roughly, basic competencies are those which are required of workers in all industries, common competencies are those which are required of workers in a particular industry/sector, and core competencies are those which are specific to the qualification or occupation.
- **Range of Variables,** which provides the different settings, contexts, or requirements in which the basic function may be performed.
- **Evidence Guide,** which provides information necessary for assessing competence in the basic function, including aspects of the competency that are required to be demonstrated in the assessment, resources to be provided during assessment, assessment methods, and assessment context (e.g., workplace, assessment center, etc.).

The third section contains the Training Arrangements, which sets guidelines for TVET providers in designing training programs for the qualification. It specifies guidelines for the following:

- Curriculum design (e.g., duration, learning activities, and assessment methods per element)
- Training delivery (i.e., modes of training delivery allowed)
- Trainee entry requirements
- List of tools, equipment, and materials; training facilities (e.g., lecture room, practical training area, etc.);
- Trainers’ qualifications.

Finally, the fourth section contains the National Assessment and Certification Arrangements, which includes, among others, the qualifications to apply for assessment, and the qualification of competency assessors.

Candidates who pass the assessment in all units of competency are awarded a National Certificate, while those who do so only in some units of competency may gain Certificates of Competency (COCs). A COC is issued to individuals who demonstrate competence in a particular unit of competency or cluster of units of competency. A candidate may accumulate COCs in order to earn an NC. NCs and COCs are valid for five years. Upon expiry, the holder must apply for renewal at the TESDA Provincial Office.

3.3. National government programs promoting access to TVET

The national government has several programs that promote access to TVET. We discuss each one in turn.

Universal Access to Quality Tertiary Education

Republic Act no. 10931 or the Universal Access to Quality Tertiary Education Act (UAQTEA) of 2017 provides free TVET to learners in any TESDA-registered TVET program leading to a non-degree certificate or diploma offered by State-run Technical-Vocational Institutions (STVIs). The program covers the cost of tuition and other school fees, instructional materials allowance, living allowance, assessment fee, and starter tool kits. Students who have a bachelor’s degree, have a certificate or diploma equivalent to NC III or higher, or who fail in any TVET course since the law’s effectivity are ineligible. The UAQTEA supported 60,352 TVET enrollees in 2019 (TESDA 2020b).

Tertiary Education Subsidy

Republic Act no. 10931 also established the Tertiary Education Subsidy (TES) which provides a subsidy to learners in post-secondary TESDA-registered TVET programs offered in TESDA-recognized public or private TVIs, subject to prioritization and availability of funds. Learners in private schools or TVIs are eligible for free tuition and other school fees, instructional materials allowance, room and board allowance, and cost of assessment. Beneficiaries must not have availed of other government-funded student financial assistance programs outside of Free TVET. Learners from families included in *Listahanan 2* (DSWD's poverty registry) are prioritized. Those from families not in *Listahanan 2* are ranked according to their estimated per capita income based on required proof of income documents. Data on TES beneficiaries in 2019 is not readily available.

Training for Work Scholarship Program

The Training for Work Scholarship Program (TWSP) of TESDA aims at ensuring the availability of qualified workforce with particular focus on high demand areas and also encouraging the Technical and Vocational Institutions (TVIs) to offer these specific programs. The program provides free training and assessment. Beneficiaries should be at least 18 years by the end of the program. In 2019, TWSP supported 293,844 enrollees (TESDA 2020b).

Private Education Student Financial Assistance

The Private Education Student Financial Assistance (PESFA) of TESDA provides financial assistance to marginalized but deserving students of technical-vocational courses. Beneficiaries must be at least 15 years at the start of the training program, must have completed high school, and must have an annual family income below PhP300,000. Beneficiaries receive free tuition, student allowance, book allowance, and free assessment. In 2019, PESFA supported 20,689 TVET enrollees (TESDA 2020b).

Special Training for Employment Program

The Special Training for Employment Program (STEP) of TESDA provides community-based specialty training program to promote employment through entrepreneurial, self-employment and service-oriented skills training. Beneficiaries must be at least 15 years at the start of the training program, and must not be a concurrent beneficiary of other government scholarship programs. Beneficiaries receive free skills training and assessment, free entrepreneurship training, starter toolkits, and training allowance. In 2019, STEP supported 111,333 enrollees (TESDA 2020b).

Tulong-Trabaho Scholarship Program

The *Tulong-Trabaho* Scholarship Program of TESDA aims to strengthen the qualifications of the workforce to meet the challenge of evolving workplaces and address unemployment and job-skills mismatch. Beneficiaries receive free training in Selected Training Programs (STPs), free assessment and training allowance. Target recipients include NEET who are at least 15 years of age, displaced workers, the long-term unemployed, and employed workers who intend to develop skills. Recipients may apply or be nominated by TESDA-recognized industry boards or associations, subject to screening. STPs are approved by the TESDA Board and selected based on labor market intelligence reports, data on employment opportunities and jobs-skills matching, Human Resource Development Roadmaps, National Technical Education and Skills Development Plan, Joint Industry Roadmaps of the Department of Trade and Industry and private sector, changes in technologies and emergence of new business models. It is noteworthy that in February 2019, Republic Act no. 11230 was signed into law establishing a *Tulong-Trabaho* Fund. The fund is supposed to finance training fees including transportation

allowance and laboratory fees for selected training programs determined by TESDA also targeting the NEETs. The law essentially codifies the scholarship program into law. Data on the number of beneficiaries of this program is not readily available.

Barangay *Kabuhayan* Skills Training Program

The Barangay *Kabuhayan* Skills Training Program (BKSTP) of TESDA provides training scholarship to residents of fourth, fifth, and sixth class municipalities in support of Republic Act no. 9509 or the Barangay Livelihood and Skills Training Act of 2008 (Barangay *Kabuhayan* Act). The law mandates the creation of a livelihood and skills training center in every fourth, fifth, and sixth class municipality with the task of providing educational activities to prepare beneficiaries for employment or entrepreneurship. BKSTP benefits include free skills training, free assessment, and training allowance. Beneficiaries should reside in target municipalities and be at least 15 years of age. Training programs are identified by the local government and conducted in the community (TESDA 2018a).

Rice Extension Services Program

The Rice Extension Services Program (RESP) of TESDA provides training scholarships to rice farmers affected by the implementation of Republic Act no. 11203 of 2019 or the Rice Tariffication Law. The law created the Rice Competitiveness Enhancement Fund (RCEF) to improve rice farmers' competitiveness amidst the liberalization of rice trade. 10 percent of the RCEF's PhP10 billion annual budget is allotted for rice extension services, particularly to teach skills on rice farming, seed production, and farm mechanization. Seventy percent of this budget is allotted to TESDA (Republic Act no. 11203 2019). TESDA's RESP supports Farm Field School training programs, WTR TVET programs related to rice production and technologies, and new and emerging technology programs. Training providers include the Philippine Rice Research Institute (PhilRice), the Philippine Center for Postharvest Development and Mechanization (PhilMech), the Agricultural Training Institute (ATI), TTIs, SUCs, LUCs, and LGU training centers. Target beneficiaries are rice farmers listed in the Registry System for Basic Sectors in Agriculture (RSBSA) of the Department of Agriculture, and rice cooperatives and associations. RESP benefits include free training, allowance, and assessment fees (TESDA 2019g). The program supported 10,610 enrollees in 2019 (TESDA 2020b).

***Tsuper Iskolar* Program**

The *Tsuper Iskolar* Program is a training scholarship program implemented by TESDA and funded by the Department of Transportation (DOTr). It aims to develop the skills of public transportation workers affected by the DOTr's Public Utility Vehicle Modernization Program (PUVMP). Target beneficiaries are public transportation industry workers, and including workers who were displaced because of the PUVMP. Beneficiaries must be at least 18 years at the end of the training program, must have reached high school level, and have reading and writing abilities. The scholarship provides free skills training, assessment, entrepreneurship training, and allowance (TESDA 2019f). The program supported 9,760 enrollees in 2019 (TESDA 2020b).

JobStart Philippines

JobStart Philippines of DOLE is a full-cycle employment facilitation service for youth NEETs involving life skills training, technical skills training, and internship. The program, which was institutionalized by the Jobstart Philippines Act of 2016 (Republic Act no. 10869), aims to shorten the youth's transition from school to work. Qualified beneficiaries are youth 18-24 years of age, with a high school level education, are NEET at the time of registration, and have less than one year of accumulated work experience (DOLE 2017). LGU-based Public

Employment Services Offices (PESOs) screen potential beneficiaries, administer life skills training, and conduct matching with partner employers. Beneficiaries receive free training, allowance during life skills training and technical training, and a stipend of 75 percent of the minimum wage during the internship.

Educational Assistance Loan Program

The Social Security System's Educational Assistance Loan Program (Educ-Assist) provides loans for either college degree, TVET or aviation programs for SSS members or their dependents. To qualify, the member-borrower must be below 60 years old, must have a monthly basic salary or income of PhP25,000 or below, and must have posted at least 36 months of contributions. For a two-year TVET course, beneficiaries may avail a maximum of PhP10,000 per semester/trimester or net assessment balance, whichever is lower. Data on the number of beneficiaries of this program is not readily available.

Sustainable Livelihood Program

The Department of Social Welfare and Development's Sustainable Livelihood Program (SLP) provides grants to working-age members of poor households to engage in microenterprise or wage employment. The program prioritizes *Pantawid Pamilya* beneficiary households. One of the grants offered is the Skills Training Fund, a training grant worth a maximum of PhP15,000 per person. Beneficiaries can use the grant to acquire skills and/or gain qualifications to practice a trade. In 2019, 4,674 individuals received the Skills Training Fund grant (DSWD 2020).

3.4. *Enterprise-based training programs of RTD and KII respondents*

Four of the five firms interviewed in our RTD and KIIs operate training programs. Firms offer training courses that are related to their line of business. Most of the training programs lead to a National Certificate qualification. For instance, a construction company offers programs such as Carpentry NC II, Masonry NC II, and several NC II's on heavy equipment operation, while a hospitality firm offers programs on Food and Beverage Services NC II and Housekeeping NC II. Meanwhile, a manufacturing firm offers a program on fish processing which leads to a training certificate but not an NC qualification.

Some firms (hospitality and manufacturing) provide training through apprenticeship programs, wherein trainees are paid 75 percent of the minimum wage during the program. In other firms (construction), the trainees are new hires who undergo training prior to starting in their jobs. Some firms have their own training school which are financed by the company's corporate foundation and/or by utilizing government TVET scholarships such as the Training for Work Scholarship Program (TWSP) or Private Education Scholarship Financial Assistance (PESFA). One training school runs a Technical-Vocational-Livelihood (TVL) track Senior High School (SHS) program offering home economics and industrial arts courses. The school also provides skills training to SHS cross-enrollees from partner national high schools through the Department of Education's Joint Delivery Voucher Program-Technical Vocational Livelihood (JDVP-TVL).

Firms find their trainees by partnering with high schools, local governments, government agencies, or other firms. One company accepts apprentices from student beneficiaries of DOLE's Special Program for the Employment of Students (SPES). Other trainees are walk-in applicants. Firms absorb some or all of the trainees once they complete the training program. Firms with apprenticeship programs absorb their apprentices who complete the program and

the prescribed probationary period. In the case of the SHS program, only about half of students proceed to employment while the rest pursue a college education.

Finally, the sole NGO respondent provides skills trainings targeting poor communities in Manila. They provide trainings on automotive and bread and pastry production in partnership with technical-vocational schools and TESDA. To take advantage of the Covid-19 pandemic, the NGO started a training program on the production of face masks and personal protective equipment. Trainees are provided with a sewing machine and starter kits to allow them to produce and sell the products themselves.

4. Responsiveness of training programs to industry needs according to RTD and KII respondents

We prefaced the discussion of responsiveness of training programs by citing data on vacancies in YouthWorks PH priority sectors from the Philippine Statistics Authority’s 2017/2018 Integrated Survey on Labor and Employment (ISLE), a nationwide survey of establishments with at least 20 workers. Table 10 shows that about nine out of ten vacancies in manufacturing and accommodation and food services (the closest to Tourism) from July 2017 to June 2018 were for entry-level positions. In the construction sector, entry-level vacancies were slightly lower (84.5 percent) and junior-level vacancies were slightly higher (13.7 percent) compared to the first two sectors. Moreover, more than a quarter (27.3 percent) of vacancies reported across all industries were reported to be hard-to-fill. About two out of every five vacancies (41.9 percent) in construction establishments were reportedly hard-to-fill, the highest rate among YouthWorks PH priority sectors.

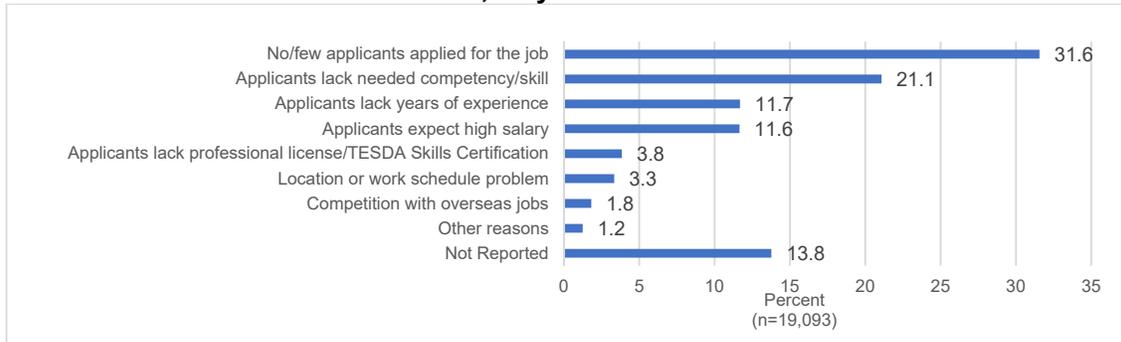
Figure 5 shows the distribution of reasons cited by survey respondents for why hard-to-fill vacancies were such. The top reason (31.6 percent) is that there are no or few applicants for the job, followed by applicants lacking the needed competency/skill for the position (21.1 percent). Applicants lacking years of experience was also a major reason (11.7 percent). Regrettably, data disaggregated by sector is not readily available.

Table 10. Number of job vacancies, position of vacancies, and proportion of hard-to-fill vacancies in establishments with at least 20 workers in YouthWorks PH priority sectors, July 2017-June 2018

	No. of vacancies	Position				Hard-to-fill vacancies (%)
		Entry-level (%)	Junior (%)	Senior (%)	Executive (%)	
All industries	811,775	87.1	10.9	1.7	0.3	27.3
Manufacturing	115,068	91.4	7.1	1.3	0.2	22.5
Construction	26,732	84.5	13.7	1.7	0.0	41.9
Accommodation and food service activities	32,806	90.2	7.3	2.2	0.3	18.1

Source: 2017/2018 Integrated Survey on Labor and Employment (ISLE) (PSA 2020a).

Figure 5. Reasons for hard-to-fill vacancies in establishments with at least 20 workers, July 2017-June 2018



Source: 2017/2018 Integrated Survey on Labor and Employment (ISLE) (PSA 2020b).

Respondents from the private sector had different responses when asked whether they considered training programs as responsive to industry needs. The responses can be grouped into the following themes.

Low demand for construction-related trainings

Both of the two construction firms interviewed noted that there is relatively low demand among youth for construction-related training programs. They confirmed the observation from PSA's ISLE data that construction jobs are hard-to-fill. The first construction firm noted that students tend to prefer hospitality and tourism-related programs over construction programs. The second construction firm report experiencing difficulties in finding students for their construction programs despite offers of free tuition and a job afterwards. To recruit trainees, the latter firm reports going to provinces where construction jobs have better acceptability among youth than those who live in cities.

The respondents attribute the low demand for construction trainings to unfavorable perceptions about construction jobs among youth and their parents. The prevailing perception is that construction jobs are lowly, dirty, and dead-end jobs. To address this, respondents recommended educating parents and students through information campaigns that highlight better conditions in construction jobs. They note that construction workers nowadays tend to earn higher wages and are increasingly using power tools in place of hand tools. These information drives can also communicate opportunities career advancement in construction jobs, such as by highlighting stories of workers that managed to lead successful careers in construction. One respondent for instance cited a construction training graduate who started as a rank-and-file employee and rose to become manager by earning an engineering degree through the Expanded Tertiary Education and Equivalency Program (ETEEAP) of the Commission on Higher Education (CHED). The government can also help by providing more scholarships for construction-related training programs.

Lack of allowance support and insufficient scholarship amount

Firms that tap government financial assistance programs raised the issue of the sufficiency of the support that these programs provide. One firm reported that even with free tuition thanks to TESDA's TWSP, youth are still reluctant to undergo training absent an allowance to support them in the course of their training. The firm approached other government agencies that can provide the allowance but was unsuccessful in finding a partner. Some respondents also said that the scholarships or vouchers are barely enough to cover the cost of the training program, which include trainers' salaries and the cost of training materials. The firm running a SHS

program reports that JDVP-TVL vouchers, which are worth PhP12,550 per student, are not enough to cover training costs, and that the gap is bridged by funding from the company's foundation. Not all training schools are backed by a corporate foundation, and these schools really have to make ends meet. Another respondent reported of an unsuccessful partnership effort between an industry association and TESDA. The partnership would have involved TESDA providing TWSP scholarship to trainees nominated by firms on one hand, and on the other, nominating firms hiring at least 80 percent of graduates. The value of the scholarship became an issue as it was reported to be only half of the actual training cost. As a result, no training institution was willing to provide the training. Respondents recommended that government revisit the size and coverage of the financial assistance packages it provides.

Giving greater emphasis on soft skills and work attitude

Other respondents believe that training programs should give greater emphasis on teaching soft skills in addition to hard skills. These include communication skills, work attitude, and discipline. A hospitality firm for instance noted that many workers do not get past entry-level positions because they lack communication skills and discipline. Meanwhile, a manufacturing firm said their production jobs are relatively easy to learn, and what they value are workers who are disciplined, hard-working and willing to follow instructions. The respondent observed that younger workers tend to fall short on discipline and compliance to authority.

Flight of skilled workers

Finally, some respondents from the construction and hospitality sectors noted that many workers leave their company to work in bigger cities or leave the country to work overseas after gaining qualifications such as NCs as well as employment experience. The flight of skilled workers contributes to labor supply gaps and necessitate training programs that continuously produce qualified workers. A construction sector respondent suggested increasing the number of construction trainees so that a substantial number of construction training graduates remain in the country even if many go overseas. However, the lack of applicants for construction skill training remains to be a hurdle.

5. Industry demand for new NCs or training regulations according to RTD and KII respondents

Box 2. Training Regulation development process

We describe the process of development of Training Regulations (TRs) based on our interview with TESDA program officers and reference documents shared by our TESDA informants. This is illustrated in Figure 6. The process starts with the conduct by TESDA of regional/national sectoral consultations with industry associations and relevant government agencies in order to identify skills requirements of industries. Industry partners or associations may also approach TESDA to recommend the development of training qualifications.

Based on industry recommendations, the Direction Setting Committee of the TESDA Board (DSC) deliberates on priority sectors and training qualifications. The TESDA Board observes the following criteria for prioritizing training qualifications (TESDA 2019e):

- Priority needs of the industry/sector;
- Nationwide application in terms of public interest/welfare;
- Employment generation and investment opportunities; and
- Criteria for skills standardization and certification, i.e.,
 - Requiring a relatively long period of education or training;
 - Performance of the competency affects and endangers people's lives and limbs; and
 - Competency involves the handling of complex equipment, tools and supplies.

Skills that are approved by the TB-DSC as priority are endorsed to the full TESDA Board. If approved, the TESDA Board issues a resolution formalizing the prioritization of these skills for TR development. This signals TESDA's Qualifications and Standards Office (QSO) to initiate the actual TR development process.

For each priority skill, the QSO organizes a panel of technical experts (called TESDA Experts Panel or TEP) who are tasked with formulating the training regulation. TEP members are nominated by the relevant industry association/organization. A TEP usually has six to eight members. TESDA orients TEP members on the TR development process and provides the templates for them to work with. Our informants note that the technical panel are the "content experts" while TESDA staff are the "process experts" who facilitate the TR development process. But TESDA staff may also conduct desk research that contributes to content development. Currently guidelines entitle TEP members to an honorarium of Php2,000 per meeting. Once completed, the draft TR undergoes validation with industry practitioners and other stakeholders. The validators review the TR's content and discuss its wider impacts on the competency standards of the related occupation. After validation, the TEP finalizes the TR and develops the corresponding competency assessment tools (CATs).

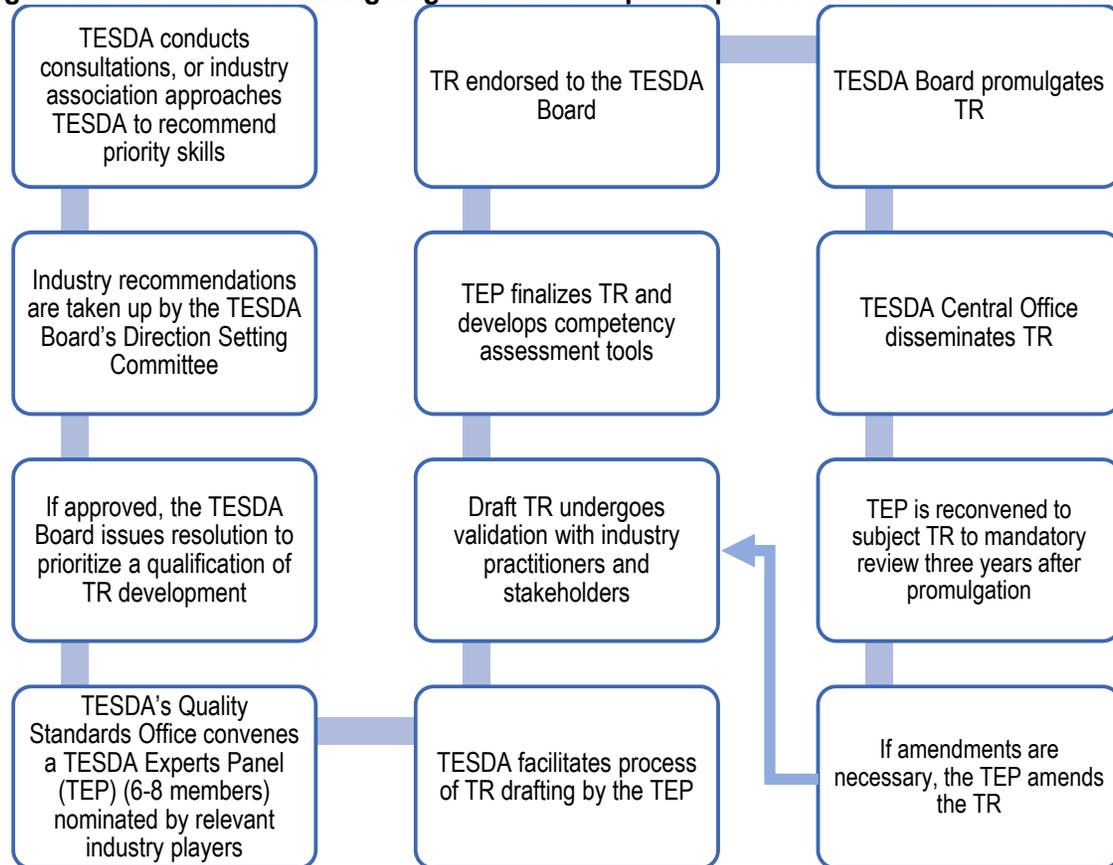
The TEP endorses and presents the TR and CATs to the TESDA Board's Standards Setting and Systems Development Committee (SSSDC). The SSSDC deliberates and approves the TR, and endorses it to the full TESDA Board for promulgation. TESDA's Central Office disseminates the promulgated TR to regional and provincial offices. Our TESDA informant said that developing the TR itself commonly takes 1.5-2 months, depending on the number of units of competency to be developed. One informant for instance mentioned that the TR for Emergency Medical Services NC II (promulgated in 2013) took a relatively long time to finish because it has 17 core units of competency. The informant added that among the component sections of a TR, the Training Arrangements section is somewhat hard to write. Nonetheless, TR development must be performed within process cycle time specified in the TESDA's quality manual.

Our informants note that the identification of priority skills for TR development can also be the result of TESDA's research on new and emerging skills, or of the passage of a law requiring the development of a qualification. For instance, Republic Act no. 10691 of 2016 – which amends the Public Employment Service Office (PESO) Act of 1999 – gives DOLE the responsibility to set qualification standards for PESO personnel. DOLE initiated the recommendation to prioritize Public Employment Services (PES) for TR development. The TESDA Board formally prioritized PES in June 2019, and promulgated the TR developed for Public Employment Services NC IV in December 2019.

TRs undergo mandatory review every three years from their date of promulgation. The following factors are considered for updating TRs: technology change; environmental/occupational health and safety standards; and compliance with mutual recognition arrangements, regional industry group competency standards, or international conventions and protocols. However, TESDA may review and update the TR earlier than three years if significant changes occur within the three-year review cycle. TESDA reconvenes the TEP and members consider whether there are recent developments that need to be incorporated into the TR. If found necessary, the TEP amends the TR. From there, the subsequent steps are the same as for a new TR. Once promulgated, the amended TR supplants the previous version. Existing NC holders of the qualification will undergo competency assessment for the new TR once their NC expires.

Regular attendance in meetings by the commissioned experts was mentioned as a challenge in TR development. Experts are unavailable at times because they have their own full-time jobs. This in turn can slow down the TR development process. Informants shared their recent experience in producing the competency standards for Contract Tracing Level II, which was developed to standardize the training of contact tracers employed during the Covid-19 pandemic. TESDA worked with the Department of Health and staff of Baguio City Mayor Benjamin Magalong ("contact tracing czar" of the Philippine National Task Force Against Covid-19). The technical experts commissioned were themselves frontliners, which posed challenges to convening the panel. Despite this, the TR was drafted within the process cycle time. The TR was reportedly being finalized after having undergone validation. The competency assessment tools had yet to be completed at the time of the interview.

Figure 6. Flowchart of Training Regulation development process based on KII with TESDA



When asked whether there is demand for new qualifications (NCs) or Training Regulations in their sector, only one industry respondent cited an emerging area where skills may need to be standardized, namely, prefabricated construction in the construction sector. Most industry respondents brought attention to other issues around Training Regulations rather than the need for new ones. Their responses fall under the following themes.

Updating training regulations

Some respondents noted that training regulations need to be updated because they may not be up to speed with current industry practices or technologies. For instance, a construction firm claimed that the Carpentry NC II still requires the use of hand tools such as hammers and saws when their company has shifted to power tools.³ Similarly, the NC II for the lineman course reportedly still requires the use of a wooden pole,⁴ when most utility poles are now concrete and require a different set of equipment. Meanwhile, a hospitality firm said that the hospitality industry is fast-changing in terms of the demands of tourists as well as technologies. This requires that training regulations be updated, though the respondent did not specify which ones needs updating.⁵

Quality of training schools

The hospitality sector informant believed that training regulations for the hospitality and tourism sector are not being implemented uniformly by training schools across the country. In addition, the respondent believes that there are training schools whose facilities are not up to par with industry standards. These result in differences in quality of training graduates, or graduates lacking the required skills when they become employed. The informant noted the importance of ensuring that industry standards are taught in schools uniformly in order to help tourism establishments to keep up with industry standards, such as the ASEAN Tourism Standards.

Another firm running a training school voiced a similar sentiment. The informants report that their TWSP allocation from TESDA decreased significantly because of the government's thrust to maximize the utilization of TESDA Provincial Training Centers (PTCs). However, they are concerned about the quality of training provided in PTCs. They believe that trainers in PTCs are not industry-based and may not be up-to-date with the latest technology. Their impression is that PTCs and public schools in general may lack the necessary equipment and facilities based on their interactions with public school students. Public schools have a role to play especially in rural areas where there not as many private schools, but their linkage with industry must be improved to ensure the education they provide is up-to-date.

Tapping industry practitioners as trainers and assessors

One of the recommendations raised was for TESDA to give preference to current industry practitioners to become trainers and assessors over government employees or retired industry

³ Crosscut saws and claw hammers (hand tools) are among the required tools for Carpentry NC II. Portable circular saws (a power tool) are also required (TESDA 2018d, p. 66).

⁴ The TR for Transmission Line Installation and Maintenance NC II actually requires the use of a steel pole (TESDA 2017d, p. 68).

⁵ The top five WTR Tourism-related qualifications in 2018, and their date of promulgation, are: Bread and Pastry Production NC II (July 2009), Food and Beverage Services NC II (December 2013), Cookery NC II (October 2014), Housekeeping NC II (December 2013), and Events Management Services NC III (November 2007). These TRs have not been amended since their promulgation (TESDA 2020a).

practitioners. Furthermore, current practitioners must be immediately accredited and no longer be subjected to assessment. In response, our TESDA informants said that they require prospective assessors and trainers to undergo training and assessment on training methodology⁶ to ensure uniformity in the conduct of training and assessment. Moreover, they note that industry experience is already a requirement to become a trainer or assessor, though being a current industry practitioner is not (see Box 3 for discussion of TESDA’s requirements for TVET trainers and assessors in WTR programs). Finally, they have pointed out that there is the practice of invoking the “grandfather clause” that certifies industry practitioners who have been involved in the development of the assessment tools.

Enhancing industry-government dialogue and industry voice in the TESDA Board

Finally, a respondent suggested that regular conversations between the government, industry and the academe should be organized in order for industry players to better convey their specific needs. The respondent, who belongs to the construction sector, also suggested that the construction sector be given a seat in the TESDA Board.⁷

Experience in requesting NCs

One of the construction sector respondents mentioned that TESDA supported the Philippine Constructors’ Association’s (PCA) request to develop competency standards for the qualifications of Construction Trade Supervision Level IV (2018), Construction Site Supervision Level IV (2018), and Basic 3D Building Information Management Level III (2020). The former two qualifications, in particular, were developed with the objective of meeting industry demand for construction supervisors in view of the government’s flagship infrastructure projects under Build, Build, Build (TESDA 2018b). All three qualifications lead to a training certificate but not an NC. Training providers may use the competency standards to develop training curricula for these qualifications and register their programs to TESDA as “No Training Regulation” (NTR) programs. TESDA also supported PCA by allocating scholarships for these programs.

Box 3. Requirements for TVET Trainers and Assessors in WTR training programs

This box describes TESDA’s requirements to practice as trainer or assessor for WTR TVET programs.

National TVET Trainer Certificate

Prospective trainers and assessors for WTR TVET programs must hold a National TVET Trainer Certificate (NTTC) Level I in order to practice. NTTCs are issued by TESDA Regional Offices. In order to attain NTTC Level I, the candidate must meet three requirements:

1. Must hold an NC in the same training program and level to be handled, but not lower than NC II.
2. Must hold a Trainers Methodology Certificate I (TMC I). This is achieved by passing the assessment for the Trainers Methodology Level I (TM I) program.
3. Must possess the industry work experience required (IWER) as specified in the TR of the qualification to be handled (TESDA 2014a).

The NTTC is valid as long as the NC is valid.

Trainers Methodology Level I program

The TM I program is a 264-hour WTR program. The program teaches six units of competencies:

⁶ There is a TR on training methodology for in-company trainer.

⁷ The TESDA Board has eight seats representing government, six seats for the labor sector, four seats for the employer sector, two seats for the business and investor sector, and two seats for the education and training sector.

1. Planning training sessions
2. Facilitating learning sessions
3. Supervising work-based learning
4. Maintaining training facilities
5. Utilizing electronic media for facilitating training
6. Conducting competency assessment.

Short of passing the assessment in all units of competency, a candidate can get a COC 1 (Deliver Training Session) if s/he passes the assessment for Units 1-5, and a COC 2 (Conduct Competency Assessment) if s/he passes the assessment for Unit 6 (TESDA 2011).

To enroll in a TM I program, applicants must satisfy the following entry requirements:

1. Minimum requirements for education, employment experience, and teaching experience
2. Must hold an NC level higher than the qualification to be handled provided that level exists
3. Must possess appropriate and effective written and oral communication skills
4. Must possess the IWER as specified in the TR of the qualification to be handled. This requirement was included in 2017 (TESDA 2017a).

Industry work experience required (IWER)

For WTR TVET programs that require industry work experience from trainers, the IWER ranges from six months to five years (see Annex A of TESDA 2017b). Among the top 20 WTR programs in 2018 in terms of graduates require, five programs require trainers to have two years of industry work experience, three programs require three years, and another three programs require one year (see Table 11). For eight of the top 20 WTR programs, the IWER for trainers is optional.

Table 11. Industry work experience required from trainers in top 20 WTR TVET programs in terms of 2018 graduates

No. of years	Qualification		
1	Automotive Servicing NC I	Driving NC II	Organic Agriculture Production NC II
2	Bread and Pastry Production NC II	Automotive Servicing NC II*	Dressmaking NC II*
	Electrical Installation and Maintenance NC II	Caregiving NC II*	Electronics Products Assembly and Servicing NC II*
	Food and Beverage Services NC II	Computer Systems Servicing NC II*	Shielded Metal Arc Welding (SMAW) NC I*
	Hilot NC II	Domestic Work NC II*	Shielded Metal Arc Welding (SMAW) NC II*
	Housekeeping NC II		
2.5	Contact Center Services NC II		
3	Bookkeeping NC III	Cookery NC II	Events Management Services NC III

Note: * = optional. Source: TESDA (2005a, 2005b, 2007a, 2007b, 2009, 2013a, 2013b, 2013c, 2013d, 2014b, 2014c, 2015, 2018c, n.d.a, n.d.b, n.d.c, n.d.d, n.d.e., n.d.f).

In 2017, TESDA institutionalized a work experience credit equivalency system. This system accords equivalent work experience credits to experience gained in teaching, industry immersion (local and international), Dual Training Program or Dual Training System, technical consulting, and international training. Trainers can use these credits to fulfill the IWER of the qualification they are teaching. Trainers with insufficient work experience were given a grace period of equivalent to the length of the IWER of their qualification to meet the IWER requirement (TESDA 2017b, 2017c).

In 2019, TESDA relaxed IWER rules for TM I enrollment and NTTC provision. Prospective trainers with insufficient IWER were allowed to enroll in the TM I course provided they meet all of the other entry requirements for the program. Once securing certification (TMC I), they can be issued a Provisional NTTC (PNTTC). Current trainers holding an NTTC but with insufficient IWER can be also be issued a PNTTC when the apply for re-accreditation. PNTTC holders have to meet the IWER for their qualification within the grace period of two years or the length of the IWER indicated in the TR, whichever is longer (TESDA 2019d).

Accreditation of assessors

Apart from securing NTTC I, prospective assessors must also gain accreditation from TESDA as a Competency Assessor. The requirements are:

1. Must be a practitioner of the occupation/occupation/trade or a teacher/instructor/trainer in the trade area for at least two years, or as defined in the implementing guidelines of the qualification
2. Must hold an NC at the same or higher level in the relevant qualification
3. Holder of NTTC I or COC 2 for TM I
4. For new applicants, must have conducted assessment of at least 10 candidates under the supervision of a Lead Assessor
5. For accredited competency assessors applying for renewal and whose qualification had undergone a TR amendment, s/he shall be required to conduct assessment of two candidates for the related qualification under the supervision of a Lead Assessor (TESDA 2020d).

Accreditation is valid until the expiry of the assessor's NC, upon which the assessor must file for renewal.

6. Impacts of Covid-19 on training programs and skills demanded

Impacts of Covid-19 on training programs

Respondents that operate training schools reported being forced to suspend all face-to-face classes due to community quarantine measures by the government. At the time of the interviews, one of these schools was able to resume face-to-face classes in November 2020 because it is located in an area under Modified General Community Quarantine. The other training school had not been able to do so at the time of the interview because it is located in a General Community Quarantine area where only selected TVET programs are allowed to resume based on TESDA guidelines. Meanwhile, the two firms running apprenticeship programs were able to continue their apprenticeships because their businesses remained open. However, they had to scale down their operations and reduce the number of apprentices. TESDA allowed enterprise-based training in sectors that were allowed to operate by the Inter-Agency Task Force on Emerging Infectious Diseases (IATF). The manufacturing firm scaled down operations in order to implement physical distancing in the workplace, while the hospitality firm is operating at only 30 percent of their capacity because of a slump in demand from travelers and tourists. The latter firm reported that many apprentices felt unsafe to go to the workplace or were not allowed by their parents to report back. Meanwhile, the NGO sector respondent said that they resumed face-to-face trainings in November 2020 with only 10 students per batch.

To facilitate remote learning, some of the training providers (in the construction and hospitality sectors) reported converting the theory component of their training modules into videos and/or electronic materials that are available online. However, hands-on and practical activities, which are critical for teaching practical skills, cannot be done online and still require learning in the laboratory or workplace. For heavy equipment operation programs, a construction firm said that online simulators are available that can allow students to experience equipment operation remotely, but noted that these simulators are very costly to acquire.

To the extent that training providers have made learning materials available online, learning may still be hindered by lack of access to adequate digital devices and/or internet connectivity, especially among trainees that belong to poor or low-income families. For instance, the firm running a SHS program noted that despite learning modules being available online, 80 percent of their students still choose to get physical copies of their modules from the school, primarily due to lack of digital device or internet connectivity. Students with gadgets may face financial constraints that keep them from paying for internet access. Furthermore, some students and parents still prefer learning using physical modules despite having internet access.

New skills demanded and emerging subsectors

Some respondents mentioned digital skills (i.e., proficiency in the use digital devices and applications) when asked to identify new skills that the pandemic has created demand for from employers. Digital marketing skills can allow establishments like restaurants to promote their products online especially in social media platforms. Another respondent mentioned the need to cultivate the ability for self-learning among students. Students' reliance on a teacher for their learning presents a challenge in situations, such as in a pandemic, wherein the teacher is not physically present.

In addition, one construction firm (which diversified into the health care sector) mentioned that they were piloting an “auxiliary nursing services” program which can produce individuals who are skilled to serve as nursing assistants. Their objective is to help fill the demand for medical frontliners in hospitals.⁸

Only online food selling was mentioned by any of the respondents as an emerging industry subsector. Online food selling emerged due to stay-at-home restrictions coupled with restaurants being ordered to close or operate at limited capacity. One respondent mentioned that home cooking has cost advantages (e.g., absence of rental costs) that make it more competitive than restaurants. Unemployed restaurant workers or people with cooking skills can take advantage of this and put up their own food business.

Recommendations for supporting trainees and training providers during Covid-19

From the construction sector, a suggestion was to allow Mobile Training Programs (MTP) to deliver trainings, especially those that require hands-on activities. MTPs were suspended due the pandemic. Another suggestion was for the government to provide financial assistance to trainees for purchasing digital learning devices and mobile data for educational purposes, in order to enable students with financial constraints to pursue remote learning. Finally, the government can support training institutions that are pursuing blended learning approaches through efforts to improve the country's Internet infrastructure, and by coming up with regulations or guidelines on blended learning.

7. Summary of findings

TVET landscape in the Philippines

Using secondary data, we find the following key features of TVET provision in the country:

- There were over 16,000 registered TVET programs and 2.2 million TVET graduates in 2019. TVET programs and graduates are concentrated in a handful of occupational sectors, namely: Tourism; Metals and Engineering; Social, Community Development and Other Services (SCDOS), Construction; Agriculture, Fishery and Forestry; Automotive and Land Transportation; Human Health/Health Care; and Information and Communications Technology.
- Tourism-related programs are the dominant TVET programs — accounting for over a quarter of registered programs and just under a quarter of TVET graduates.
- Youth make up half of TVET graduates. Of the top 10 TVET sectors in terms of graduates, youth account for the majority of graduates in Tourism, Electrical and Electronics, Automotive, Metals and Engineering, and ICT.

⁸ At the time of the interview, the firm was working to register the program to TESDA as an NTR program.

- Community-based training is the dominant mode of TVET delivery in terms of number of graduates, followed by institution-based training.
- Private TVET providers — consisting mostly of private TVIs — outnumber public providers by a ratio of nine to one. However, public providers produce the majority (60.5 percent) of TVET graduates, indicating that public providers have larger trainee populations.
- There were 296 TVET programs with a Training Regulation (WTR) as of February 2020. But just 20 TVET programs account for 71 percent of over 760,000 graduates of WTR TVET programs in 2018.
- Among males, the most in-demand programs tend to belong to Metals and Engineering, Automotive and Land Transportation, Electrical and Electronics, and Construction. Among females, the most-in-demand programs tend to belong to Tourism, Human Health/Health Care, and SCDOS. Tourism programs also appear among the top programs for male graduates, but tend to rank higher for female graduates.
- The national government has several financing programs that promote access to TVET. Most are scholarships covering tuition, allowance, and assessment fees. Notably, several programs target the same clients.

Available training programs in YouthWorks PH's priority sectors

As of February 2020, there were 21 tourism-related WTR programs, 63 construction-related WTR programs, and 104 manufacturing-related WTR programs. The top five tourism-related programs in 2018 in terms of graduates were Bread and Pastry Production NC II, Food and Beverage Services NC II, Cookery NC II, Housekeeping NC II, and Events Management Services NC III. For construction, the top five were Shielded Metal Arc Welding (NCs I and II), Driving NC II, Electrical Installation and Maintenance NC II, and Carpentry NC II. For manufacturing, the top five were Shielded Metal Arc Welding (NCs I and II), Driving NC II, Computer Systems Servicing NC II, and Electrical Installation and Maintenance NC II.

Responsiveness of current training programs to current industry needs

Our key informant interviews revealed that collaboration of employers and training providers comes in two forms. One is through employers providing TVET through apprenticeships. Another is through training schools attached to companies. The latter is observed among large construction companies.

On the responsiveness of current training program to industry needs, the concerns raised by our respondents revolve around the following issues:

- **Lack of demand for construction-related jobs and trainings among youth.** Our informants attribute this to the low image of construction jobs.
- **Weakness in the design of financing programs.** While tuition is provided by several financing programs, there are those that do not provide an allowance needed for transportation and sustenance. This is particularly critical for students that come from low-income backgrounds. Additionally, this issue is critical for small training schools that have no large parent company partner that often have corporate social responsibility funds to support it. Many TVIs are dependent on government financing programs, but without a training allowance, many prospective trainees are effectively excluded from availing of these programs.
- **Concern about quality of training schools, trainers and assessors.** Some perceive that training schools fall behind in terms of facilities, and equipment, and that trainers

and assessors are not fully aware of industry needs unlike industry-based experts/practitioners.

- **Perceptions on training content.** Some employers point out that entry-level workers are falling short on soft skills such as communication skills and workplace discipline. There is also a perception that many aspects of TRs are not up to date with current industry practices or technologies.

Demand for new NCs

TESDA revealed that there is an established process cycle for developing TRs within which developing new NCs are included. TESDA shared their recent experience in developing TRs for contact tracing, indicating some responsiveness to the prevailing needs. From the industry side, it was pointed out that there is an emerging demand for a TR on prefabricated construction for the construction sector. There is also a need for training for supervisory level in the construction sector in response to the government's Build, Build, Build program. In the health care sector, there is demand for nursing assistants in hospitals due to Covid-19. For most other respondents, rather than new NCs, they pointed out that the needs are:

- Updating of TRs
- Improving the quality of training schools
- Tapping industry practitioners as trainers and assessors
- Enhancing industry-government dialogue.

Impact of Covid-19 on the training landscape, skills demanded, and emerging sectors

The Covid-19 pandemic and the ensuing community quarantines forced the suspension of training activities in training schools. Those with apprenticeship programs were able to continue because their business remained open. Some training providers pursued remote learning by shifting course materials online. But practical learning with materials and equipment to large extent still require presence in the training facility. Some of the practical learning could be done through online simulations, but training institutions lack resources to acquire the technology. Even when training institutions provide online learning, trainees face lack of access to appropriate digital access devices and internet connection.

Restrictions to movement and operation of food service establishments gave rise to online food selling, particularly for food prepared at home. Covid-19 also forced consumers to do their purchases online. In this environment, respondents see that workers increasingly require digital skills. This means not just operating computers, but also doing things such as online product advertising.

8. Recommendations

Given the foregoing, the following are recommended:

1. **Undertake information campaigns to improve the image of construction-related jobs.** There is a prevailing low image for TVET which is highlighted in the case of construction. Industry associations needs to pursue information campaigns targeted to youth and parents to encourage their interest for construction-related jobs. The government can help by partnering with the construction industry in information campaigns and in providing more scholarships for the sector.

2. **Reconfigure and rationalize TVET financing programs.** The government needs to review, together with private TVET providers, existing financing programs particularly those that only provide tuition and do not provide an allowance. Allowance for daily subsistence and transportation are critical for TVET financing programs that are targeted for low-income youths. The private sector, in particular large companies, and the government should explore cost-sharing mechanisms for financing programs that do not include allowances. Moreover, there are numerous financing programs many of which are targeting the same clientele. There is a need to rationalize these programs to avoid duplications, confusion, and likely waste of scarce resources.
3. **Review the content of TVET curricula.** With the private sector pointing out the lack of communication skills and workplace discipline among TVET graduates, TESDA needs to review the sufficiency of teaching communication skills and workplace discipline in the Training Regulations.
4. **Tap industry practitioners as trainers and assessors and exposure of school-based trainers and assessors to industry practices.** There is a perception that trainers and assessors tend to not be updated with current industry practices. It would be advisable to tap industry practitioners as trainers and assessors (i.e., to become NTTC holders) and promote continuous exposure of current trainers and assessors to industry practices.
5. **Invest in flexible learning modalities for training providers with due consideration to access capacities of targeted trainees.** The pandemic has highlighted the need for developing flexible learning modalities. This includes converting materials into online or modular formats for online delivery and asynchronous modalities. There is a need for investing in these modalities including (a) infrastructure, and (b) the training trainers to deliver in these modalities. There should be flexibility in delivering the practical aspects of the training. Finally, the modalities must give due consideration to the access issues of targeted trainees including providing digital devices and connectivity for remote learning.
6. **Continue to promote regular dialogue between the government, employers, and TVET providers.** With a rapidly changing labor market and training landscape, the government should continue to promote regular dialogue with employers, workers and TVET providers as a step to ensuring that needs and issues of stakeholders are addressed in TVET policies. These dialogues will also be useful for constant updating of the TRs to keep pace with the changing needs of industry.

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Appendices

Appendix A. Roundtable discussion and key informant interview dates, respondents, and sectors represented

Activity	Date	Designation	Organization	Sector/industry
KII	26-Nov-20	Senior vice president	Conglomerate	Construction and hospitality
KII	26-Nov-20	HR manager	Conglomerate	Construction and hospitality
KII	26-Nov-20	HR officer	Conglomerate	Construction and hospitality
KII	26-Nov-20	HR officer	Conglomerate	Construction and hospitality
KII	26-Nov-20	Director	Conglomerate training arm	Construction and hospitality
RTD	26-Nov-20	General manager	Manpower cooperative	Human resources (hospitality and tourism)
RTD	26-Nov-20	General manager	Construction company	Construction
RTD	26-Nov-20	Director	Construction company training arm	Construction
RTD	26-Nov-20	HR director	University and HR association	Human resources
RTD	26-Nov-20	President	HR association	Human resources
RTD	26-Nov-20	Program officer	HR association	Human resources
RTD	26-Nov-20	Division head	TESDA	Government
RTD	26-Nov-20	Program officer	TESDA	Government
RTD	26-Nov-20	Division head	DOLE	Government
RTD	26-Nov-20	Program officer	DOLE	Government
RTD	26-Nov-20	Program officer	Humanitarian organization	Non-government organization
RTD	26-Nov-20	Officer	Fish canning company	Manufacturing
KII	28-Nov-20	General manager	Hotel company	Hospitality and tourism
KII	11-Dec-20	HR manager	Fish canning company	Manufacturing
KII	15-Dec-20	Program officer	TESDA	Government
KII	15-Dec-20	Program officer	TESDA	Government

Appendix B. Guide questions for the roundtable discussion and key informant interviews with training providers

- Existing training programs for YouthWorks PH priority sectors
 - What are your existing training programs?
 - Are you engaged with any type of work-based training program?
 - Who are your target trainees?
 - How are these trainings financed?
 - How many completed the training in the last few batches?
 - Where do the graduates go for employment?
- Responsiveness of training programs to industry needs
 - How responsive are existing training programs to industry needs? Are you able to fill vacancies with skilled applicants? If not, why?
 - What are your recommendations for improving the responsiveness of training programs to industry needs? What key reforms should be done in the skills training policy field?
- Industry demands for new National Certificates (NCs)
 - Is there industry demand for new NCs?
 - Do you have experience in expressing needs for new NCs to TESDA? If yes, can you describe it?
 - How do you assess the signaling of industries for their demand for technical-vocational graduates? How can this be improved? What can you suggest to fast track the creation and implementation of new NCs to respond to its demand?
- Impacts of Covid-19
 - How did Covid-19 change your training programs in terms of mode of delivery, types of program in demand, and prospective trainees?
 - Did Covid-19 create demand for new skills requiring new trainings?
 - What are the emerging industry subsectors brought about by Covid-19?
 - What are your recommendations for improving the responsiveness to emerging training needs due to Covid-19?
 - How can the national government help you and your trainees cope better with the challenges created by Covid-19?

Appendix C. Guide question for the key informant interview with TESDA informants

1. Process of TR development and review

- What is the process for developing new training regulations?
- How is this process initiated?
- Who are the people and sectors involved?
- How are industry stakeholders engaged?
- How are new TRs implemented?
- What is the process for reviewing and updating TRs?

2. Recent experience in TR development

1. Can you share with us any recent experience you have in developing a TR?
2. What were the drivers of this process?
3. Anything else notable from this experience?

3. How do you think the TR development process can be improved?

- How do you think the TR development and review process can be improved?

4. Comment on industry feedback

What are comments on the following feedback from industry respondents?

1. “Let industry practitioners lead development and implementation of new TRs. Government’s role is to finance and administer these activities.”
2. “Give preference to current industry practitioners to become trainers and assessors.”
3. “Immediately accredit current practitioners to become assessors. Do not subject them to assessment.”

Appendix D. Tourism-related TVET programs with TESDA training regulations

Program	NC I	NC II	NC III	NC IV	Total
Attraction and Theme Parks Operation	x				1
Barista		x			1
Bartending		x			1
Bread and Pastry Production		x			1
Commercial Cooking/Food Production			x	x	2
Cookery		x			1
Events Management Services			x		1
Food and Beverage Service		x	x	x	3
Front Office Services		x	x	x	3
Housekeeping		x	x	x	3
Local Guiding Services		x			1
Tour Packaging Services		x			1
Tour Promotion Services		x			1
Travel Services		x			1
Total	1	11	5	4	21

Appendix E. Construction-related TVET programs with TESDA training regulations

Program	NC I	NC II	NC III	NC IV	Total
Construction sector					
Carpentry		x	x		2
Construction Lift Passenger/Material Elevator Operator		x			1
Construction Painting		x	x		2
Heavy Equipment Operation (HEO) (Bulldozer)		x			1
HEO (Mechanical)		x			1
HEO (Articulated Off-Highway Dump Truck)		x			1
HEO (Backhoe Loader)		x			1
HEO (Concrete Pump)		x			1
HEO (Concrete Stacker)		x			1
HEO (Crawler Crane)			x		1
HEO (Forklift)		x			1
HEO (Hydraulic Excavator)		x			1
HEO (Motor Grader)		x			1
HEO (Overhead and Gantry Crane)			x		1
HEO (Paver)		x			1
HEO (Rigid Off-Highway Dump Truck)		x			1
HEO (Rigid On-Highway Dump Truck)		x			1
HEO (Road Roller)		x			1
HEO (Rough Terrain Crane)			x		1
HEO (Screed)	x				1
HEO (Tower Crane)			x		1
HEO (Transit Mixer)		x			1
HEO (Truck Mounted Crane)			x		1
HEO (Wheel Loader)		x			1
Masonry	x	x	x		3
Pipefitting (Metallic)		x			1
Plumbing	x	x	x		3
PV System Design			x		1
PV Systems Installation		x			1
PV Systems Servicing			x		1
Reinforcing Steel Works		x			1
Rigging	x				1
Scaffolding Works (Supported Type Scaffold)		x			1
Structural Erection		x			1
System Formworks Installation		x			1
Technical Drafting		x			1

Tile Setting		x				1
Land Transportation sector						
Driving		x				1
Metals and Engineering sector						
Shielded Metal Arc Welding (SMAW)	x	x	x	x		4
Gas Metal Arc Welding (GMAW)	x	x	x			3
Flux Cored Arc Welding (FCAW)	x	x	x			3
Gas Tungsten Arc Welding (GTAW)		x		x		2
Submerged Arc Welding (SAW)	x	x				2
Gas Welding	x	x				2
Electrical and Electronics sector						
Electrical Installation and Maintenance		x	x	x		3
Total	9	36	15	3		63

Appendix F. Manufacturing-related TVET programs with TESDA training regulations

Qualification	NC I	NC II	NC III	NC IV	Total
Agriculture, Forestry and Fishery sector					
Rubber Processing NC II		x			1
Rubber Production NC II		x			1
Automotive and Land Transportation sector					
Auto Engine Rebuilding NC II		x			1
Automotive Body Painting/Finishing NC I	x	x	x		3
Automotive Body Repairing NC II		x			1
Automotive Electrical Assembly NC II		x	x		2
Automotive Mechanical Assembly NC II		x	x		2
Automotive Servicing NC I	x	x	x	x	4
Automotive Wiring Harness Assembly NC II		x			1
Driving (Articulated Vehicle) NC III			x		1
Driving (Passenger Bus/Straight Truck) NC III			x		1
Driving NC II		x			1
Forging NC II		x	x		2
Foundry Melting/Casting NC II		x	x		2
Foundry Molding NC II		x	x		2
Foundry Pattern Making NC II		x	x		2
Heat Treatment NC II		x			1
Laboratory and Metrology/Calibration Services NC II		x	x		2
Metal Stamping NC II		x			1
Moldmaking NC II		x			1
Motorcycle/Small Engine Servicing NC II		x			1
Painting Machine Operation NC II		x			1
Plastic Machine Operation NC II		x	x		2
Process Inspection NC II		x	x		2
Tinsmithing (Automotive Manufacturing) NC II		x			1
Chemicals/ Plastics / Petrochemicals sector					
Chemical Process Operations NC III			x		1
Electrical & Electronics sector					
Computer Systems Servicing NC II		x			1
Consumer Electronics Servicing NC III			x	x	2
Electrical Installation and Maintenance NC II		x	x	x	3
Electronics Back-End Operation NC II		x			1
Electronics Front-of-Line Operation NC II		x			1
Electronics Products Assembly and Servicing NC II		x			1

Electronics/Semiconductor Production Line Machine Servicing NC III			x		1
Hard Disk Drive (HDD) Front-of-line Operation NC II	x				1
Instrumentation and Control Servicing NC II	x	x		x	3
Mechatronics Servicing NC II	x	x		x	3
Semiconductor Back-End Operation NC II	x				1
Semiconductor Front-of-Line Operation NC II	x				1
Footwear & Leather Goods sector					
Dressmaking NC II	x				1
Fashion Design (Apparel) NC III			x		1
Footwear Making NC II	x				1
Tailoring NC II	x				1
Heating, Ventilation, Airconditioning and Refrigeration sector					
Air Duct Servicing NC II	x				1
Ice Plant Refrigeration Servicing NC III			x		1
Land-based Transport Refrigeration Servicing NC II	x				1
RAC Servicing (DomRAC) NC II	x				1
RAC Servicing (PACU-CRE) NC III			x		1
Transport RAC Servicing NC II	x				1
Metals and Engineering sector					
CAD/CAM Operation NC III	x				1
CNC Lathe Machine Operation NC II	x	x			2
CNC Milling Machine Operation NC II	x	x			2
Flux Cored Arc Welding (FCAW) NC I	x	x	x		3
Gas Metal Arc Welding (GMAW) NC I	x	x	x		3
Gas Tungsten Arc Welding (GTAW) NC II		x		x	2
Gas Welding NC I	x	x			2
Machining NC I	x	x	x		3
Mechanical Drafting NC I	x				1
Plant Maintenance NC I	x				1
Press Machine Operation NC I	x				1
Shielded Metal Arc Welding (SMAW) NC I	x	x	x	x	4
Submerged Arc Welding (SAW) NC I	x	x			2
Tool and Die Making NC II		x			1
Processed Food & Beverages sector					
Fish Products Packaging NC II		x			1
Food Processing NC I	x	x	x	x	4
Slaughtering Operations (Large Animal) NC II		x			1
Slaughtering Operations (Swine) NC II		x			1
Total	12	55	29	8	104