

# Technical and vocational education and training in the Philippines: In retrospect and its future directions

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### **Abstract**

The Technical Education and Skills Development Authority (TESDA) is the government agency tasked to manage and supervise technical education and skills development in the Philippines. In retrospect, we answered the research question: “What is the status of TVET in the Philippines as managed and supervised by TESDA and its future directions towards SDG#4? We described the evolution, goals, objectives, accomplishments, and challenges of TVET in the Philippines. We used the Philippine Qualifications Framework as the underpinning model which establishes a standard for education and training providers. We adopted the descriptive research design and the qualitative archival research approach. Findings revealed that TVET in the Philippines began when it was introduced in the Philippine education system in 1927. There were considerable accomplishments and outcomes of TVET in the Philippines in the past years such as setting the direction of TVET in the Philippines and promulgating relevant standards. These strategic efforts contributed to the employment of TVET graduates, improving the quality of their skills needed by the industry, and having a clearer policy direction on how TVET is implemented in the country. Problems and challenges encountered in the supervision and implementation are related to the poor quality of graduates, low employment of graduates, as well as weak structural and policy implementation as shown by the lack of closer coordination among the TVET stakeholders. We recommended aligning the curriculum development of TVET with the present Philippine Development Plan 2022-2028 and the needs of the industry including the demands of Industry 4.0 to strengthen TVET in the Philippines and align its future direction with SDG#4.

**Keywords:** TVET, PQF, sustainability, quality education, lifelong learning, Industry 4.0

## **Background of the Study**

The United Nations launched the 2030 Agenda for Sustainable Development in 2015 which consists of 17 goals and 169 related targets aimed at tackling the global grand challenges of our era. This includes poverty, health and well-being, quality education, gender equality, decent work, and climate change. These 17 Sustainable Development Goals (SDGs) were the result of cross-sector collaboration among multiple stakeholders from 193 countries, including representatives of governments, companies, and civil societies. The ultimate objective of the Agenda is to stimulate immediate action to protect our planet and ensure a more sustainable future for all (Lu et al., 2015).

Among these 17 SDGs is SDG 4: Quality Education and Lifelong Learning. It has seven defined indicators and eight targets namely, ensure quality primary and secondary education, ensure quality early childhood development and pre-primary education, ensure affordable and quality technical, vocational, and tertiary education, and increase youth and adult relevant skills, among others. The targets include the proportion rate of youth and adults in formal and non-formal education and training, the participation rate in organized learning by sex, the proportion of youth and adults with information and communication technology skills, etc. Ensuring access to primary and secondary, tertiary, and technical-vocational education are three of the seven defined Quality Education indicators (UN Sustainable Development Goals Report, 2017; Report of the Inter-Agency and Expert Group on Sustainable Development Goal Indicators (E/CN.3/2016/2/Rev.1), 2016, as cited in Edralin and Pastrana, 2022). Several of the SDGs have placed prominence on the need to enhance the role of technical and vocational education and training (TVET).

Various colleges and universities in the Philippines, aside from formal degree programs also provide TVET programs certified by the Technical Education and Skills Development Authority (TESDA). Before the implementation of tri-focalized education, these higher education institutions (HEIs) offer certificate and diploma programs either as terminal courses or laddered to a four-year bachelor's degree. (Wu, Bai, & Zhu, 2019).

The Philippine Quality Framework (PQF) through E.O. Series 2012 was established as a national policy. It describes the levels of educational qualifications and sets the standards for qualification outcomes. It is a quality-assured national system for the development, recognition, and award of qualifications based on standards of knowledge, skills, and values

acquired in different ways and methods by learners and workers of a certain country. This national policy covers all sectors, levels, and modes of delivery of the Philippines' tri-focalized education system: basic education, technical vocational education, and training (TVET), higher education; and all institutions and systems which provide training, specializations, skills, and competencies, professional experience or through life-long learning (TESDA, 2012).

On the other hand, TESDA is the government agency tasked to manage and supervise technical education and skills development in the Philippines. It was created under Republic Act 7796, otherwise known as the "Technical Education and Skills Development Act of 1994". The said Act integrated the functions of the former National Manpower and Youth Council (NMYC), the Bureau of Technical-Vocational Education of the Department of Education, Culture and Sports (BTVE-DECS), and the Office of Apprenticeship of the Department of Labor and Employment (DOLE). TESDA's vision is to produce transformational leaders in the technical education and skills development of the Filipino workforce; while its mission is to set the direction, promulgate relevant standards, and implement programs geared toward a quality-assured and inclusive technical education and skills development and certification system (<https://www.tesda.gov.ph>).

In a study by Wu, Bai, & Zhu (2019), it was found that there are various opportunities for improvement of TVET in the Philippines such as infrastructure development, re-skilling, and upskilling of workers aligned with international standards. These initiatives are intended to reduce the gap or mismatch of skills of Filipino skilled workers against international competitors. It was further noted from the same study that these graduates are not attractive to employers because of the big proportion of poor-quality graduates and the inappropriateness of the curriculum versus industry requirements. This revealed that the quality of TVET in the Philippines needs substantial improvement to be able to contribute to achieving SDG#4.

### **Statement of Research Problem**

We examined in retrospect TVET in the Philippines. We aimed to answer the main question: "What is the status of TVET in the Philippines as managed and supervised by TESDA and its future directions towards SDG#4?"

## Specific Research Objectives

More specifically, this paper sought to answer the following objectives:

1. Describe briefly the evolution, goals, and objectives of TVET in the Philippines.
2. Analyze the accomplishments of TVET in the Philippines as managed and supervised by TESDA in the past five years in terms of:
  - 2.1 setting the directions of TVET in the Philippines;
  - 2.2 promulgating relevant standards for TVET in the Philippines; and
  - 2.3 implementing programs geared towards a quality-assured and inclusive.
  - 2.4 technical education and skills development and certification system for TVET in the Philippines.
3. Examine the problems and challenges encountered in the management and supervision of TVET in the Philippines, in terms of:
  - 3.1 gaps in the quality of graduates of TVET programs in the Philippines.
  - 3.2 employment of TVET graduates.
  - 3.3 structural and policy implementation of TVET in the Philippines.
4. Propose policies and strategies to strengthen TVET in the Philippines and align its future directions towards SDG#4.

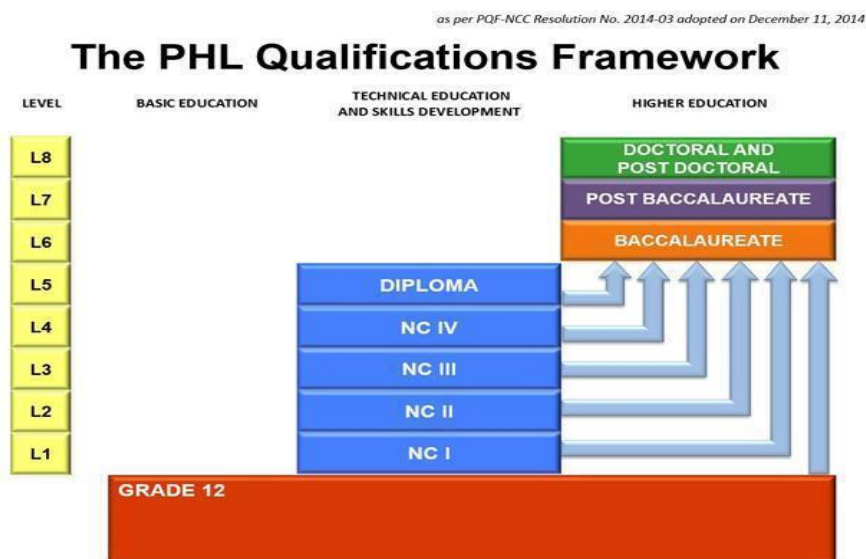
## Theoretical Framework

### *Conceptual Frameworks*

The Philippine Qualifications Framework (PQF) shown in Figure 1 is the underpinning model of this study.

#### **Figure 1.**

#### *The Philippine Qualifications Framework*



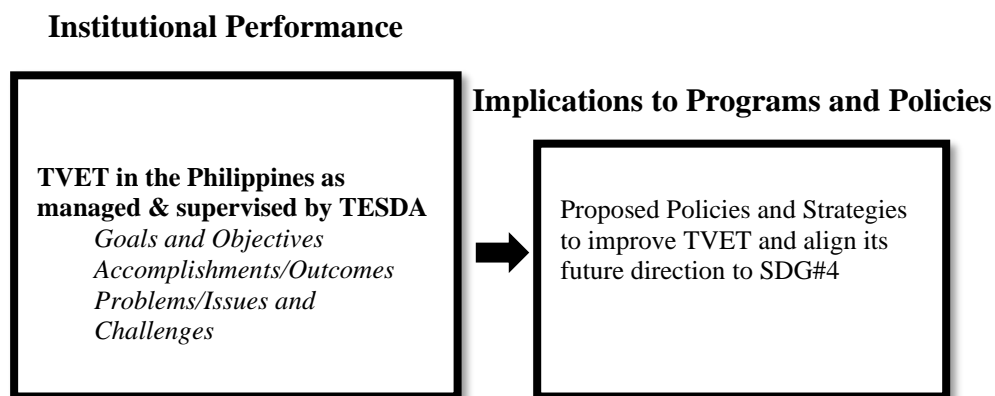
The PQF has eight (8) levels of qualifications differentiated by descriptors of expected learning outcomes along three domains: knowledge, skills, and values; application; and degree of independence. It has sub-frameworks corresponding to the subsystems of the education and training system. For example, TESDA's subsystem covers National Certificates (NC) I through IV corresponding to the first four levels while the Commission on Higher Education Subsystem covers Baccalaureate, Postgraduate Diploma, Master, and Doctorate that correspond to Levels VI to VIII. The two Sub-systems interface in the provision of qualifications at Level V. (National Government Portal, n.d.)

### ***Operational Framework***

The operational framework shown in Figure 2 below which in retrospect analyzed TVET in the Philippines as managed and supervised by TESDA is anchored on the Philippine Quality Framework. As an output of the study, policies, and strategies were proposed to improve TVET and align its future direction to SDG#4.

**Figure 2.**

### ***Operational Framework***



### **Propositions of the Study**

Based on the above operational framework, the following propositions were answered qualitatively:

1. There are substantial accomplishments/outcomes of TVET in the Philippines as managed and supervised by TESDA for the past 5 years.
2. There are several problems and challenges related to the quality of graduates, employment graduates, as well as structural and policy implementation of TVET in the Philippines as managed and supervised by TESDA.

## **Methodology**

### ***Research Design and Approach***

We adopted the descriptive research design as we described briefly TVET's evolution, goals, objectives, accomplishments/outcomes in the past five years, as well as its challenges and problems in the Philippines as managed and supervised by TESDA. This analysis enabled us to recommend policies and strategies to improve TVET and align its future direction to SDG#4.

We used qualitative archival research as our approach to this scholarly inquiry. We collected the needed information from published reports and documents available from the archives and the websites of concerned institutions and interpreted the narratives from these sources (Creswell and Creswell 2018).

### ***Research Data Collection and Sources of Data***

Our research team gathered primary and secondary data primarily from TESDA's printed and online official reports, published special studies by the Asian Development Bank (ADB), scholarly journal articles, Handbooks on International Standards, and documents of other organizations involved with TVET in the Philippines.

### ***Research Ethics Approaches***

We relied mainly on the primary and secondary data available to the public either printed or online. Therefore, the informed consent of the concerned institutions was not needed, and we have no conflict of interest in doing this research.

### ***Method of Data Analysis***

We have employed content analysis in this qualitative study. In analyzing the narrative and statistical reports, we found key themes and patterns and sought answers to our research objectives (Saunders, Lewis, & Thornhill, 2019; Creswell and Creswell 2018).

## Results and Discussion

### Brief evolution, goals, and objectives of TVET in the Philippines

#### *Brief Evolution of TVET in the Philippines*

In retrospect, the historical development of TVET in the country is a result of political, social, and economic factors that are reflected in this brief narrative.

#### **Development of TVET from 1927- 1994: The Early TVET, Bureau of Technical Vocational Education (BTVE), and the National Manpower and Youth Council (NMYC)**

Technical and Vocational Education and Training were introduced in the Philippine education system in 1927 during the American colonial period through Commonwealth Act No. 3377. In 1966, the Manpower Development Council (MDC) was created which evolved into the National Manpower and Youth Council (NMYC). Thereafter, NMYC established Regional and Provincial Training Centers (School-based TVET was composed of technical high schools and post-secondary institutions under the Bureau of Technical and Vocational Education (BTVE); while center-based TVET consisted of a network of regional and provincial training centers managed and operated by the NMYC (Baldoz,2023).

TVET was restructured in the 1970s with the Executive Department issuance of Presidential Decree No.6-A, titled Educational Development Decree of 1972. In 1979, the Bureau of Vocational Education (BVE) was restored, and consequently, the Education Act of 1982 formed the Bureau of Technical and Vocational Education (BTVE) operating three years after its inception (Baldoz,2023).

TVET's contemporary transformation started in 1985 with the changes in training delivery modes classified into school-based and center-based. The former includes schools under the jurisdiction of the BTVE; while the latter is comprised of a network of local training centers supervised by NMYC. Thus, TVET was entrusted to two government agencies-BTVE and NMYC until TESDA was formed in 1994 under a legislative act of Congress (Peano & et. al., 2008).



## **From 1994 to present: Reforms in Philippine Education System and RA 7796 - TESDA Act of 1994**

Upon the initiative of the late Senator Edgardo Angara, who was then the President of the Philippine Senate, the Congressional Commission for Education (EDCOM) was established in 1994. The most notable structural reform was the “tri-focalization” of education in the Philippines. This led to the creation of the Department of Education (DepEd) through RA 9155 for Basic Education (Grade School to High School); the Technical Education and Skills Development Authority through RA 7796 otherwise known as the TESDA Act of 1995; for TVET and the Commission on Higher Education (CHED) under R.A. 7722 or the Higher Education Act of 1994 for Higher Education (tertiary education - collegiate to graduate studies) (Baldoz, 2023).

The overarching short-term and long-term objective of TVET in the Philippines is to ensure national development through accelerated human capital development by providing lifelong learning opportunities for all. It was mandated in RA 7796 that TESDA will provide relevant, accessible, high-quality, and efficient technical vocational education and training opportunities for Filipinos to meet the skills requirements for economic and social development. This act is following the Congressional Commission for Education (EDCOM) objectives which are to review and assess the education and human resources training system of the nation (UNESCO-UNEVOC, 2019).

### **TESDA Vision-Mission**

TESDA’s strategic vision is to become the “transformational leader in the technical education and skills development of the Filipino workforce”. To achieve this, it has formulated a statement of purpose or mission, which states: “sets direction, promulgates relevant standards, and implements programs geared towards a quality-assured and inclusive technical education and skills development and certification system” ([www.tesda.gov.ph](http://www.tesda.gov.ph)).

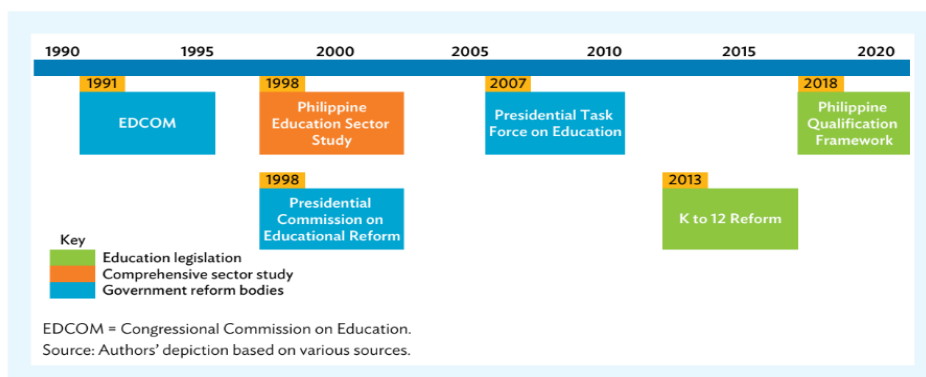
As the lead agency in TVET in the Philippines, TESDA is expected to provide relevant, accessible, high-quality, and efficient technical education and skills development in support of the development of Filipino mid-level manpower responsive to and following the Philippine development goals and priorities as embodied in Section 2 of the TESDA

Act of 1994. In pursuit of its mandate, TESDA enables the Filipino skilled workforce to be more employable, productive, and flexible to the changing requirements of industry and the labor market, both domestically and overseas. With employable TVET qualifications, individuals are empowered, become self-reliant, and are capable of supporting themselves and their families ([www.tesda.gov.ph](http://www.tesda.gov.ph)). In this regard, TESDA plays the role of being the sole authority, enabler, manager, and promoter of TVET (Necesito, Santos, & Fulgar, 2010).

### Accomplishments and Outputs of TVET in the Philippines in the past five years as managed and supervised by TESDA

**Figure 3.**

*Time Frame of Selected Reform Milestones*



*Source: Asian Development Bank. (2021)*

The TVET and tertiary education both improved in the Philippines in recent years and thus gave credibility to the “tri-focalized” education system initiated in the reforms in 1994. The commissioned study by ADB (2021) tracked these accomplishments for three decades as shown in Figure 3, indicating the timeframe of selected reform milestones from 1990-2020. As reported by TESDA, the number of TVET providers in 2017 was a high of 3,930 servicing about 1.5 million a year on average (<http://www.tesda.gov.ph>). In 2017, the TVET certification rate was estimated at 92.9%, surpassing TESDA's target for the year by around 8 percentage points. However, it decreased by 0.7 percentage points in 2018, to 92.4% (Reyes, et. al., 2019). Its popularity is considered the driving force for sustainable development.

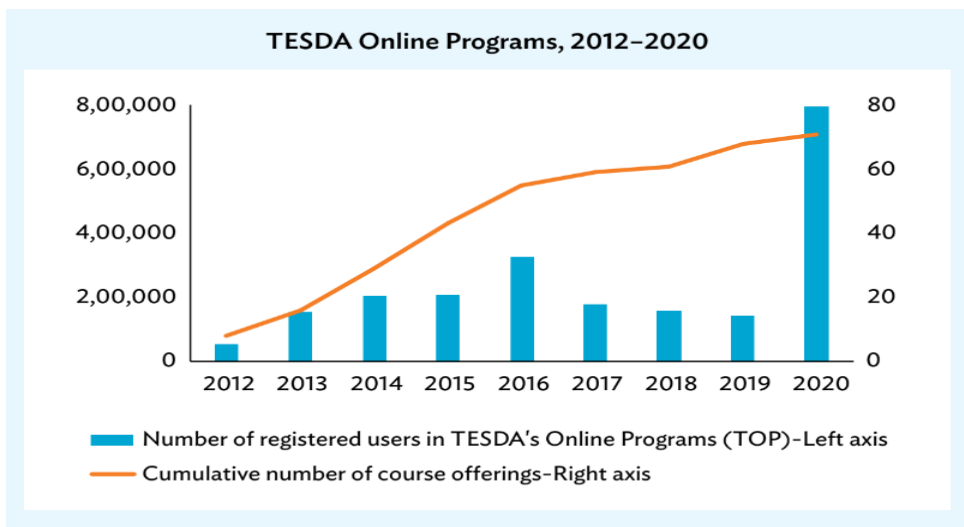
TVET is also highly considered in strategic and operational priorities of the G20, the Organization for Economic Co-operation and Development (OECD), and multilateral organizations such as the International Labour Organization (ILO), UNESCO, ASEAN, and SEAMEO (Paryono, 2017). Using TESDA's goals and objectives as metrics or qualitative measures of its mission, below are its major accomplishments in recent years:

### *Setting the directions of TVET in the Philippines*

TESDA's primordial mission is to set the direction of TVET in the Philippines. This entails the crafting of a dual strategy. On one hand, is the pursuit of global competitiveness of Filipino workers; and on the other is contributing to the improvement of social equity and poverty alleviation consistent with the Long-term Development Plan (2023-2028) of the country (TESDA, 2017d).

#### **Figure 4.**

*TESDA Online Programs, 2012-2020*



*Source: Asian Development Bank. (2021)*

TESDA initiated the TOP in 2012-an open-source educational platform to make TVET more available. Enrollment in TOP increased during the Covid-19 lockdowns because of its accessibility to trainees. During the inception of the Covid-19 Pandemic, TESDA designed a Flexible Learning System (FLS) modality in rolling out its programs. This

infrastructure, together with TOP has attracted both local as well as foreign workers (OFW) who were displaced in their workplaces and saw the need to re-tool and upskill once the pandemic is over (ADB, 2021).

These directions for TVET as spearheaded by TESDA are supported by the views of Jacob (2003) and Samonte Jr. et al (2020) who both argued that training and development have taken on a broad range of applications. In recent years, these ongoing efforts emerged as a formal business function, an integral element of strategy, and a recognized profession with distinct theories and methodologies (Jacob, 2003). As further opined by (Samonte Jr. & et. al., 2020), organizations today create a corporate culture that supports the continual learning and development of their workforce. More companies of all sizes have embraced continual improvement, continuous learning and development, and other efforts that promote employee growth and acquiring a highly skilled workforce (Inc Magazine, 2020). These skills have become a global requirement of the 21st-Century economy.

### *Promulgating relevant standards*

The Philippine Qualifications Framework (PQF) which is aligned with the ASEAN Quality Framework (AQFW) is the main basis of TESDA to establish relevant and specific standards for TVET providers- school-based and center-based institutions.

Sustainable practices have become a priority in TVET and the general education landscape. For TVET to be engaged and carefully aligned with the Philippine government's commitment to the UN-SDGs, dynamics of industry requirements, analyzing and understanding the occupational landscape and changes brought by green economic activities are important. Thus, through the supervision of TESDA, TVET as the major producer of the workforce that is later on absorbed in these industries is responsible for developing a significant number of the workforce for creating, re-creating, and transforming resources, often with environmental implications. When reoriented towards sustainable development, TVET not only affords scientific and technical skills, but also facilitates understanding, motivation, and support to apply them to create a sustainable future (UNESCO-UNEVOC, 2012). The Philippines addressed these plans for a greener future in their 1990 "Philippines Strategy for Sustainable Development (PSSD)" supplemented in 2004 with their "Enhanced Philippine Agenda 21 (EPA)." They have adopted their policies and strategies which they have

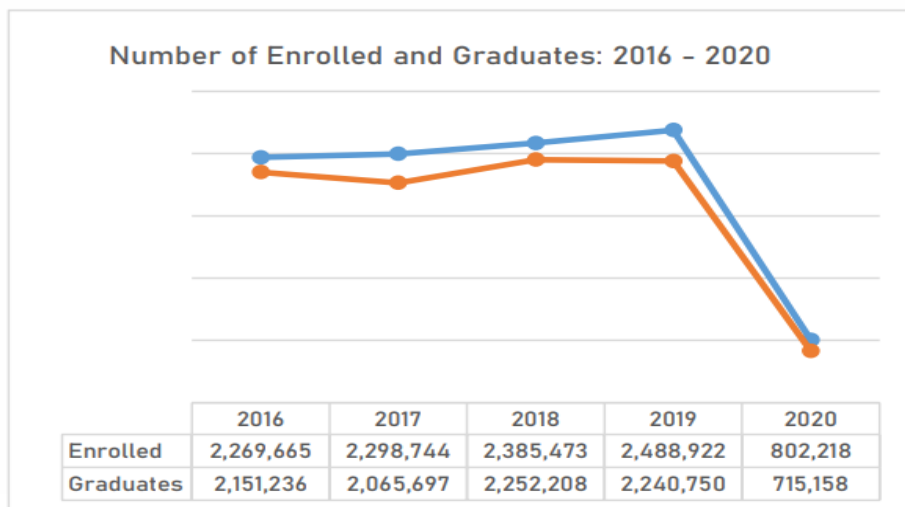
committed more than 20 years ago to the UN Agenda (Baumgarten & Kunz, 2016).

*Implementing Programs geared towards a quality-assured and inclusive technical education and skills development and certification system for TVET in the Philippines.*

### Increased Enrolment and Graduates in TVET Programs

**Figure 5.**

*Number of Enrolled and Graduates: 2016-2020*



Source: TESDA. (2021) TVET Fact Sheet; TESDA TVET Statistics 2016-2020

The data from TEDSA (2021) in Figure 5 shows a constant increase in the total number of enrollees and graduates from 2016 to 2019. However, enrollment and graduates in 2020, presented a remarkable decline because of the pandemic. There is also a small reduction in completion rate of around 4.4% and 0.9%, respectively from 2018 to 2019 and 2019 to 2020. Females outpaced males in both enrollments and graduates with an average difference of 6.3% from 2016 to 2020 (TESDA, 2021).

**Table 1.**

*Number of Enrolled and Graduates by Sector: 2016-2020*

SECTOR	2016		2017		2018		2019		2020	
	ENROLLED	GRADUATES	ENROLLED	GRADUATES	ENROLLED	GRADUATES	ENROLLED	GRADUATES	ENROLLED	GRADUATES
Agriculture Forestry and Fishery	83,922	78,957	111,148	101,471	136,209	132,215	184,866	157,421	160,699	132,110
Automotive and Land Transportation	156,926	145,395	173,017	149,761	142,126	129,106	157,717	142,286	56,081	46,750
Chemicals / Plastics / Petrochemicals	44	59	969	950	283	278	249	193	221	221
Construction	90,557	89,315	97,007	83,649	100,109	98,012	101,953	87,135	35,577	34,745
Decorative Crafts	2,440	2,437	4,957	4,876	1,867	1,641	5,533	5,354	1,347	1,248
Electrical and Electronics	199,779	179,179	155,467	136,164	187,210	170,691	201,211	172,286	61,539	58,338
Footwear and Leathergoods	87	84	1,828	2,100	427	415	519	507	127	84
Furniture and Fixtures	605	580	695	663	94	281	1,062	971	230	206
Garments	41,299	38,079	46,141	40,538	52,123	49,331	41,797	38,141	14,477	11,973
Heating, Ventilation, Airconditioning and Refrigeration	10,364	9,740	9,137	7,308	8,322	7,087	8,852	7,790	1,780	1,635
Human Health / Health Care	104,551	97,293	138,203	123,117	138,030	137,642	144,234	127,850	27,961	26,820
Information and Communication Technology	162,864	164,277	202,690	185,201	123,022	118,308	78,882	71,119	25,233	21,034
Logistics	20	20	-	-	187	80	369	103	65	16
Maritime	5,355	4,600	7,344	6,061	7,580	5,658	11,072	8,887	5,480	4,909
Metals and Engineering	118,726	110,509	140,345	119,091	113,562	114,989	116,394	98,831	41,189	39,858
Processed Food and Beverages	144,067	140,603	101,629	96,957	71,612	67,476	75,164	70,085	28,571	26,333
Social, Community Development and Other Services	175,085	164,475	524,239	504,267	233,466	221,863	233,750	216,535	59,428	56,266
Tourism (Hotel and Restaurant)	506,032	465,385	557,203	484,103	585,714	549,285	571,527	517,142	125,411	105,927
TVET	12,557	10,071	18,339	11,057	17,090	17,759	18,417	15,965	13,210	10,625
Utilities			110	84	1,624	1,671	1,046	842	1,167	1,231
Visual Arts	1,886	1,935	1,505	1,248	1,193	1,125	730	621	323	193
Wholesale and Retail Trading	4,521	3,926	6,771	7,031	3,590	2,498	2,809	2,522	890	921
Pyrotechnics			-	-	195	164	530	496	228	174
OTHERS	447,978	444,317	-	-	459,838	424,633	530,239	497,668	140,984	133,541
<b>Total</b>	<b>2,269,665</b>	<b>2,151,236</b>	<b>2,298,744</b>	<b>2,065,697</b>	<b>2,385,473</b>	<b>2,252,208</b>	<b>2,488,922</b>	<b>2,240,750</b>	<b>802,218</b>	<b>715,158</b>

Source: TESDA. (2021) TVET Fact Sheet; TESDA TVET Statistics 2016-2020.

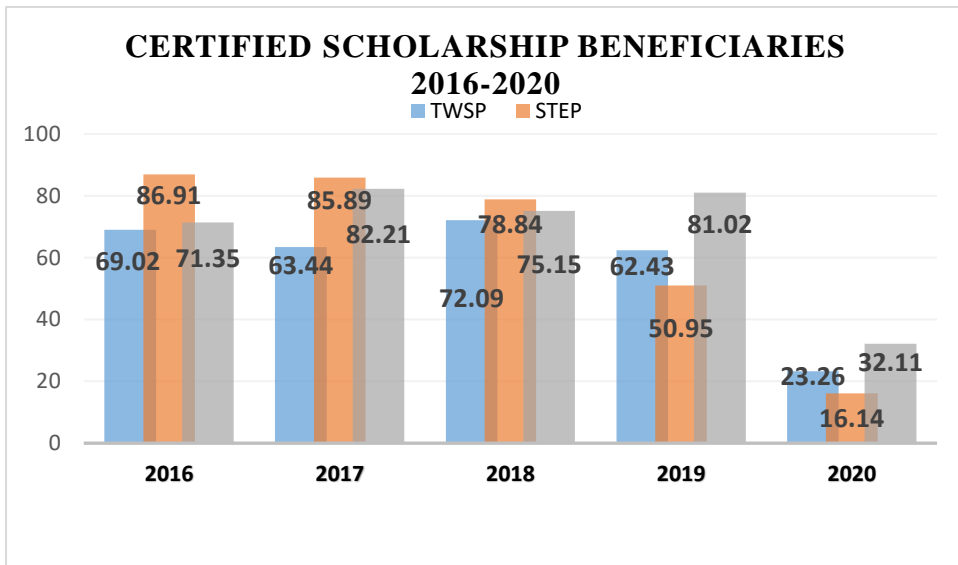
Table 1 shows the total of TVET-enrolled students and graduates per sector from 2016-2020. Sectors with the most number enrolled as well as graduates also logged the most number of assessed and certified graduates except for the Metals and Engineering sectors.

In 2017, TVET aimed to expand to both public and private HEIs. It implemented the PQF specifically post K-12 graduates effective AY 2018/2019 entering TVET programs Level 3-5. Moreover, TESDA, through the support of the legislature, introduced Republic Act 10931 or the Universal Access to Quality Tertiary Education Act (UAQTEA). It 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). Private Higher Education Institutions (PHEIs) which offer school-based TVET programs likewise participated in this initiative. It attracted TVET students who are Senior High School graduates who want further skill training (NCII-IV) or Level 4 and 5 of the PQF. These certificate and diploma programs are ladderized into Level 6 under PQF which is the formal undergraduate academic degree in colleges and universities. 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 any TVET course since the law's effectiveness are ineligible. The UAQTEA supported 60,352 TVET enrollees in 2019 (TESDA, 2020).

**Scholarship Programs by Beneficiary-TWSP, STEP, and PESFA:2016-2020**

**Figure 6.**

*Certified Scholarship by Beneficiary-TWSP, STEP, and PESFA:2016-2020*



Source: TESDA. (2021) TVET Fact Sheet; TESDA TVET Statistics 2016-2020.

The three major scholarships offered by TESDA are presented in Figure 6. These are the Training for Work Scholarship (TWSP), Special Training for Employment Program (STEP), and Private Education Student Financial Assistance (PEDFA). The comparative data show that STEP has the highest number of beneficiaries for the three-year period 2016-2018, followed by TWSP and PESFA for the same period. The two scholarship programs TWSP and STEP started to decline in 2019 and all three programs also exhibited a drastic decrease in number due to the Covid-19 pandemic in 2020. These scholarship programs were evaluated and revealed that STEP and PESFA have positive impacts on completion rates which may be attributed to the provision of training allowance.

Based on the first set of findings that were presented, our first proposition that “there are substantial accomplishments/outcomes of TVET in the Philippines for the past 5 years as managed and supervised by TESDA” is confirmed. Our claim is supported by Wu, Bai, & Zhu (2019), in their study on TVET, that in spite of the challenges and issues, there is a



substantive development of TVET in the Philippines. Moreover, Necesito, Santos, & Fulgar (2010) observed that in the Philippines, TESDA performs the role of being the sole authority, enabler, manager, and promoter of TVET.

These findings showed that TVET's strategic vision as administered by TESDA was able to deliver its mission and achieve its main goals and objectives. The TVET system is reflected in the Quality Assured Technical Education and Skills Development Framework or QATESDF which adheres to the principles of the PQF between levels 1-5 through the issuance of NC1- 5 correspondingly. Moreover, this framework is based on the National Technical Education and Skills Development Plan which is anchored on national priorities as spelled out in the Philippine Development Plan and Investment Priorities (<https://www.tesda.gov.ph>).

As an outcomes-based system, Philippine TVET operates within the PQF (which is aligned with the ASEAN Quality Framework) on the basis of quality standards developed by industry experts ( both in the Philippines and ASEAN) and accepted among ASEAN Member States (AMS) through the Mutual Recognition Arrangement (MRA). This results in increased labor productivity and enables greater mobility of Filipino workers thereby increasing their employment opportunities. These two outcomes are the main objectives of TVET in the Philippines.

## **Problems and challenges encountered in TVET in the Philippines**

### ***Gaps in the quality of graduates of TVET programs in the Philippines***

#### **Mismatch of skills of TVET graduates with the demand of the industry**

The Education for Sustainable Development (ESD) reported in 2014 that center-based training accounted for 51% of TVET enrollment. A close second (46%) was community-based training, while enterprise-based programs accounted for only a very small proportion (3%) of total training programs implemented (Orbeta, 2016). The post-secondary TVET has a higher labor market relevance and adaptability than the universities. Despite this development, TVET graduates in the Philippines still need relevant technologically advanced fields; are of varying quality; and often

need retraining (World Bank 201,71). Although in the past there was a high demand for low skills (TVET graduates) Filipino service workers (POEA, 2008-2012), the current situation demands that the Philippines should produce more high-end skilled graduates to enhance its global competitiveness as the majority of OFW are employed in jobs requiring low-ed skills.

### Skills-job mismatches limit TVET graduates' employability

Table 5 presented that for the 12-year average for each delivery mode, the institution-based graduates obtained the highest at 73.4%, followed by center-based (67.4%) and enterprise-based (66.7%). The ADB study (2021) found mismatches in these rates. Adopting a work-based model, the same ADB study revealed that only about 1/3 are aligned with the targeted post-training work tasks of their program (ADB, 2021). These skills-job misalignments restrict the graduates' acceptance in the job market and show that TVET curricular programs and training facilities do not fit the specific industry requirements and standards.

**Table 2.**

*Employment Rate of TESDA Graduates by Training Venue in 2013-2020*

Survey Round	Coverage:	National Employment Rate	Employment Rate By Delivery Mode		
	CY Graduates		Institution -based	Community -based	Enterprise -based
2005	2004	48.7	*	49.7	54.1
2008	2006	44.9	**	**	46.6
2011	2009	60.9	61.1	56.4	83.1
2013	2010	65.9	65.4	66.3	69.7
2012	2011	62	59.9	64.5	68.7
2013	2012	65.3	62.1	72.5	72.1
2014	2013	65.4	65.6	67.9	52.2
2015	2014	66.2	64.2	69.9	67.4
2017	2016	71.9	73.2	70	71.5
2018	2017	68.58	69.6	66.17	73.34
2019	2018	84.2	83.7	85.8	67.2
2020	2019	70.5	69.5	71.7	74.2

**Notes:**

\* 2005 IES: School-based = 46.4%; Center-based = 48.8%

\*\* 2008 IES: School-based = 47.0%; Center-based = 39.2%; Community-based programs - not included

## **Employment of TVET graduates**

Table 2 illustrates the national employment rate of TESDA graduates by training venue for the period 2013 - 2020. The national average of 64.54% for the 12 years ranged from 44.9 % in 2006 to 84.2% in 2019. The highest national average registered during the period starting in 2017 was 71.9% up to 84.2% (2019) and 20.9% (2020). The only significant change is in the volume of employment from all the delivery modes. The decrease in the cumulative 12-year national average is mainly due to the Covid-19 pandemic closures of all educational institutions including TESDA.

Moreover, the graduate performance can be explained by the pivotal implementation of the PQF effective 2016 and peaked in 2019 all above its mean with the first batch of K-12 graduates entering TVET in 2016 and graduating in 2016 in senior high school. This explains why institution-based graduates registered high employment of 83.7% as compared to years prior to senior high school –TVL track (K-12). Community-based TVET graduates likewise improved at 85.8% mainly from TVET schools attributable to vouchers granted by the national government through TESDA and LGUs.

The employment rate of TESDA graduates by sector from 2018-2020 as shown in Table 6 indicates a higher percentage (92.5%) of employed are in the utilities, decorative arts, wholesale and retail trading, and garments sectors; while 72.5% were in construction, human/health care and tourism at 72.5%; and about 65.6% in ICT, Maritime, Electrical and Electronics sectors. These data indicate that TVET graduates are more employed in low-skills-based jobs (e.g., retail and trading) than high-skills-based jobs (e.g., ICT, electronics, and metals, and engineering).

**Table 3.***Employment Rate of TESDA Graduates by Sector in 2018, 2019, and 2020*

Sector	Employment Rate by Survey Round		
	2020	2019	2018
Agriculture, Forestry, and Fishery	77.11	88.57	79.35
Automotive and Land Transportation	76.01	85.12	75.83
Construction	74.57	76.23	70
Decorative Crafts	100		94.46
Electrical and Electronics	68.55	82.61	65.89
Footwear and Leathergoods	82.9	100	97.24
Garments	83.55	86.67	76.59
Heating, Ventilation, Airconditioning, and Refrigeration	74.39	100	87.23
Human Health/Health Care	71.92	88.39	71.35
Information and Communication Technology	64.46	83.54	72.23
Language	64.42	88.89	70.47
Maritime	55.34	88.72	73.28
Metals and Engineering	68.82	82.56	64.24
Processed Food and Beverages	73.4		58.62
Social, Community Development, and Other Services	64.15	86.02	77.81
Tourism (Hotel and Restaurant)	67.42	82.43	60.14
TVET	87.8	86.59	83.51
Utilities	100	47.85	
Visual Arts	50.5	93.22	
Wholesale and Retail Trading	90.98	88.69	67.73
Others	72.25	72.73	66.44
<b>Total</b>	<b>70.51</b>	<b>84.15</b>	<b>68.58</b>

Source: Study on the Employment of TVET Graduates (SETG), TESDA - Planning Office

Source: TESDA. (2021) TVET Fact Sheet; TESDA TVET Statistics 2016-2020

### **Public perception that TVET is inferior when compared with that of formal /higher education.**

Those who were only taught at secondary school or below were compared with TVET graduates. These graduates were also compared with those who pursued a university education. TVET graduates are more likely to be employed and receive a higher wage than those who only studied at secondary school or below (Vandenberg & Laranjo, 2021). Skilled workers have a low degree of international skills, thus lacking skill advantages among international competitors. People's work tasks often mismatch with their level of skills. Among the ten competitive industries planned to develop in the Philippines, many skilled workers migrate to other industries as their level of skills fails to reach standards (Wu et. al., 2018).

This finding suggests that the TVET, as designed in the PQF for Levels 1-5 and intended "to provide a formal certification that a person has successfully achieved specific learning outcomes relevant to the identified academic, industry or community requirements", failed to confer an "official recognition of value in the labor market and in further education and training" (<https://www.tesda.gov.ph>). Seemingly, higher education (at least a baccalaureate degree under Level 6 of the PQF) is still the preferred option for employment opportunities although the PQF offers various pathways for employment given a specific set of competencies required for the job.

### **Lower Employment of TVET Graduates**

According to Rayan (2015), graduates chose to seek employment rather than start a business of their own. There are variations in terms of income across the different regions of the country. The ADB-commissioned study (2021) revealed the increase in employment trend and inversely decreasing trend in unemployment in certain parts of the country against the national average. This shows that more Filipinos are actively seeking employment, which is a good performance economic metric. However, overall, there still persists the lower employment situation of TVET graduates since the majority of them (74%) were without a job prior to entering TVET training (ADB 2021).

It was also revealed in the study of Talento, et. al. (2022) that there were more women participating in TVET programs (57%), and most likely getting employed given a minimum college-level qualification.

### **Wide disparity in Pay of TVET graduates**

Based on the labor force survey data in the Philippines for 2015, TVET graduates earned higher wages compared to those who only completed secondary school. Nonetheless, for graduates who took both TVET and at the tertiary level, wages were lesser compared to those who studied only tertiary level. Olfindo (2018) in his study indicated there may be a “penalty” for including TVET in university education. He showed in the study, that the propensity score matching (PSM) generated similar results. However, statistical significance was not achieved, and balancing properties were not achieved under certain requirements. As an example, graduates of TVET earned higher wages than those with only a secondary school education, although the findings were statistically significant, a test of balancing properties was not fulfilled. (Olfindo, 2018).

Furthermore, the impact of TVET on wages in the Philippines using data from the Labor Force Survey of 2014 revealed similar significant effects for TVET graduates relative to those who completed only secondary school. However, the estimates did not control economic background, parents’ education, or other factors that might account for differences in ability (Olfindo, 2018).

### **Structural and Policy Implementation of TVET in the Philippines**

*Lack of coordination among government agencies regarding the Philippine Credit Transfer System (PCTS) and ladderized progression of TVET to provide pathways and equivalencies to formal education.*

The tri-focalized system of education in the Philippines introduced in 1994 through various legislative acts resulted in having three distinct agencies (i.e. DepED, CHED, and TESDA)

focusing on basic education, higher education, and TVET, respectively. Although these recent education reforms have boosted the TVET sector's growth, TVET short-term certificate programs are not yet ladderized to formal education. There is still no "equivalency system" by which these TVET programs are given credit in a formal bachelor's degree at the tertiary level. Major challenges in the implementation of programs in the TVET system include the policies, curriculum, practices, and in providing the needed resources (Alto et. al., 2017).

The PQF describes the levels of educational qualifications and sets the standards for qualification outcomes. It is a quality-assured national system for the development, recognition, and award of qualifications based on standards of knowledge, skills, and values acquired in different ways and methods by learners and workers of the country (PQF,2018). However, one of its main objectives is to develop pathways for transition from Level 5 to 6 (bachelor's degree) in the framework and greater mobility of TVET graduates certified by TESDA (<https://www.tesda.gov>). Our findings indicate that this ladderization or equivalency system has not been finalized and working. (<https://www.tesda.gov>).

***Lack of voluntary quality assurance systems from third-party auditors or agencies to support TESDA.***

Sub-standard or non-compliance to third-party accreditation, audits, and certification of TVET programs remain a problem for TESDA to improve TVIs as TVET providers in the Philippines. As of 2017, there were 7,102 TVET programs comprising 38% of those registered with TESDA have been terminated. (TESDA, 2017a). The process of voluntary accreditation designed to promote quality and continuous improvement among TVET institutions through periodic review and evaluation (Cheman et al., 2018) also failed to capture the interest of private TVIs in the country.

The TVET framework anchored on the Quality Assured Technical Education and Skills Development Framework (QATESDF) adheres to the PQF and other frameworks from the national government such as the National Skills Technical, Education and Skills Development Plan which is based on national priorities spelled out in the Philippine Development Plan (2023-

2030). Such compliance requires the entire TVET framework to be operationalized in a QMS to ensure continual improvement (<https://www.tesda.gov.ph>). Based on the data gathered, seemingly only the TESDA –as an agency is certified to ISO 9001:2010 QMS, but not a majority of the private TVIs subject themselves to voluntary accreditation.

***Failure of TESDA certification to make a difference in the income of graduates and basis for hiring, wage structure, and merit-based promotion system in the industry***

Studies reveal that TESDA certifications were insignificant in alleviating the income of gainfully employed TVET-certificated graduates as compared to those who do not have the qualification (TESDA, 2015; TESDA, 2011, 2017b, 2018, 2019). Orbeta (2016) concludes that it remains a challenge for TESDA to show the industry to give value to these national certifications (NCs) issued by TESDA in their corporate policies on recruitment, employment hiring, merit-based promotion, as well as in wage and salary administration (Orbeta, 2016).

Given these analyses of available data, our second proposition that “there are several problems and challenges related to the quality of graduates, employment graduates, as well as structural and policy implementation of TVET in the Philippines” is confirmed. This is supported by Wu, Bai, & Zhu (2019), in their study on Technical Education and Training in the Philippines. They argued that the infrastructure of TVET is yet to be strengthened, in spite of the substantive development of TVET in the Philippines. Our skilled workers are not competitive in the global market since they have a low degree of international skills caliber. In the ten competitive industries that were planned to be developed in the Philippines, many skilled workers decide to migrate to other industries since their level of skills fails to attain international standards.

**Proposed policies and strategies to strengthen TVET in the Philippines and align its future direction with SDG#4**

TVET and tertiary education have both improved in the Philippines in recent years. In 2017, the TVET certification rate was estimated at 92.9%, surpassing TESDA's target for the year by around 8% points. This however decreased by 0.7 percentage points in 2018, at 92.4% (Reyes, et.



al., 2019). Its popularity is considered the driving force for sustainable development.

TVET is also highly considered a strategic and operational priority of the G20, the OECD, and multilateral organizations such as the ILO, UNESCO, ASEAN, and SEAMEO (Paryono, 2017).

Moreover, under UN-SDG 4: Quality Education and Lifelong Learning, ensuring access to primary and secondary, tertiary, and technical-vocational education are three of the seven defined Quality Education indicators (UN Sustainable Development Goals Report, 2017; Report of the Inter-Agency and Expert Group on Sustainable Development Goal Indicators (E/CN.3/2016/2/Rev.1), 2016).

In this context and founded on the results of our study, we propose the following policies and strategies to improve TVET in the Philippines and align its future direction with SDG #4.

1. Align the curriculum development of TVET with the present Philippine Development Plan 2022-2028 and the needs of the industry including the demands of Industry 4.0.
  - 1.1. Harmonize and coordinate the three levels of the “tri-focalized education system “ in the Philippines initiated in 1994 and amended through the implementation of the PQF in 2012 aimed at aligning with the AQFW. This will allow TVET graduates to proceed to formal education at the tertiary level. This requires equivalency and a credit system through the Philippine Credit Transfer System (PCTS) for the three sectors- DepED (Senior High School-TVL track), TESDA, and CHED. TESDA sub-system covers NC1 through IV corresponding to the first four levels of the PQF, while the CHED sub-system covers Baccalaureate, postgraduate diploma to Doctorate that corresponds to Levels 6 to 8 of the Philippine Qualifications Framework. The two sub-systems interface in the provision of diploma programs at Level 5. This is the contentious point in the PQF which needs harmonization and coordination between the two government agencies.
  - 1.2. Expand qualification standards of TVET (Levels 3-5) using international standards such as the European Quality

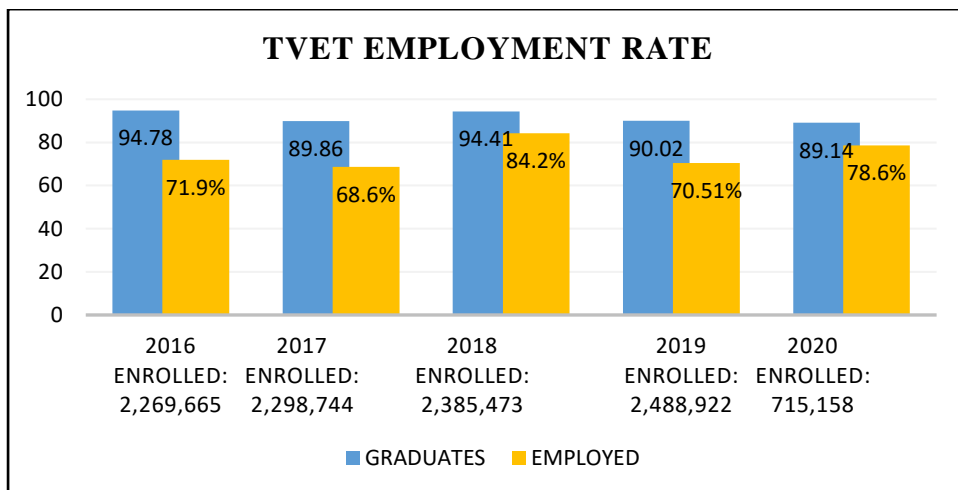
Framework to increase the potential of Filipino workers in gaining employment in high-skills jobs abroad. This answers one of the main objectives of the PQF which is to dovetail domestic qualification standards with the international qualifications framework (<https://www.TESDA.gov.ph>).

- 1.3. Develop and improve learning materials in line with international standards. These materials must be continuously improved and updated based on recent trends in international education frameworks, and standards (e.g., Education for Sustainable Development (ESD), global citizenship education with an emphasis on human rights among others, and social inclusion, environmental sustainability, and social justice in the curriculum) (NEDA, 2023). These are concrete measures to align TVET with the UN-SG Agenda 2030, particularly SDG # 4 (Quality Education and Lifelong Learning).
2. Strengthen linkages and partnerships of TVET training institutions and industry in the area of apprenticeship/On-the-Job Training (OJT) to enhance practical skills and knowledge of state-of-the-art technology and increase labor productivity.
  - 2.1. Improve enterprise-based training (EBT) as a contemporary modality in TVET delivery. This proposed measure aims to incorporate the existing programs under the EBT administered by TESDA and expand the provision of training programs implemented within companies. The program can be a mix of workplace training and classroom-based learning following the German Model of Dual-Learning in TVET education (NEDA, 2023).
  - 2.2. Reinforce partnerships among colleges and universities offering TVET, TESDA, and TVET Institutions, including linkages with industry associations, other government agencies, NGOs, and social enterprises. This must ensure TVET programs and initiatives will cater to community needs and priorities including entrepreneurship in various industries such as agri-business, hospitality and services, Information Technology, and construction among others.

- 2.3. Enact laws and formulate policies for apprenticeship to meet the industry provision in internship stipulated in the Labor Code. This will support the recommendation for improving TVET with TESDA as the main enabling agency.
3. Enhance employment opportunities and labor productivity as the ultimate metrics of the Quality-Assured Philippine Technical Education System by which the Philippine TVET system operates under PQF.
  - 3.1. Increase employment opportunities by improving the quality of TVET training by TESDA and other TVET – certificate and diploma-granting institutions (colleges and universities, private institutions) under the supervision of TESDA and accrediting bodies such as the International Organization for Standardization (ISO), and other industry-based accrediting agencies. This entails developing alternative assessment and certification methods. Strengthening TVET through school-based and training institutions will be achieved through scholarships and voucher systems similar to the scheme in Senior High School. This means increasing the budgetary resources of TESDA which comes from the national budget ( General Appropriation Act).
  - 3.2. Improve labor productivity through the revision of the Labor Productivity Act of 1993 to make it responsive to the present time. This initiative will achieve more effective and wider cooperation among institutions like DOLE, DAP, TESDA, DEPED, CHED, and State Colleges and Universities (SUCs) and Private Higher Education Institutions (PHEIs).

**Figure 7:**

*TVET Employment Rate: 2006-2021*



*Source: TESDA (2021). TVET fact sheet; TESDA TVET Statistics-2017-2021-Revised  
 TESDA (2021). TVET fact sheet; TESDA TVET Statistics-2016-2020-Revised*

The data in Figure 7 shows that for the last five years, 7 out of every 10 (74.76%) TVET graduates were employed. The highest employment rate was recorded in the survey round of 2019 (84.2%) wherein 8 out of every 10 TVET graduates were employed and a large decrease in the employment rate was observed in 2020 with a 13.7% decrease. This can be attributed to the impact of the Covid19 pandemic which resulted in a slowdown in general economic activity, as seen also in the decrease in the national employment rate for the period 2018:2021.

**Conclusion**

In retrospect, the historical development of TVET in the country has its beginnings when it was introduced in the Philippine education system in 1927 through Commonwealth Act No. 3377, which is a result of the dynamics of political, social, and economic factors. TVET in addition to general education, involves the education and training process in learning technologies and related sciences as well as the acquisition of practical skills and knowledge concerning occupations in various sectors of economic and social life.

Over the years, the government implemented major reforms throughout the education sector, including TVET. With this effort, TVET developed from a non-formal to formal education, and its training delivery was classified into school-based and center-based. There were two main government agencies responsible for TVET until TESDA was created in 1994 to combine the departments concerned with TVET management (Peano & et. al., 2008).

The overarching short-term and long-term objective of TVET in the Philippines is to ensure national development through accelerated human capital development by providing lifelong learning opportunities for all. It was mandated in RA 7796 that TESDA will provide relevant, accessible, high-quality, and efficient technical vocational education and training opportunities for Filipinos to meet the skills requirements for economic and social development. In this regard, TESDA plays the role of being the sole authority, enabler, manager, and promoter of TVET (Necesito, Santos, & Fulgar, 2010).

Following the PQF standpoint, the TVET and tertiary education both improved in the Philippines in recent years and thus gave credibility to the “tri-focalized” education system initiated in the reforms in 1994. TVET is also highly considered a strategic and operational priority of the G20, the OECD, and multilateral organizations such as the ILO, UNESCO, ASEAN, and SEAMEO (Paryono, 2017).

There are substantial accomplishments and outcomes of TVET in the Philippines for the past five years as managed and supervised by TESDA. This is supported by Wu, Bai, & Zhu (2019) in their study on Technical Education and Training in the Philippines, that in spite of the challenges and issues, there is a substantive development of TVET in the Philippines. Concretely, through TESDA, some of these achievements are setting the direction of TVET in the Philippines, promulgating relevant standards, and implementing programs geared towards a quality-assured and inclusive technical education and skills development and certification system for TVET in the Philippines. More importantly, the Asian Development Bank study (2021) reported that the two-pronged strategy of TVET in the Philippines is anchored in the National Technical Education and Skills Development Plan 2018–2022 and aligned with the Philippine Development Plan 2017–2022 (as revised to 2022-2028). These firmly defined the roles of TESDA and the importance of TVET in nation-building and economic development.

There are several problems and challenges related to the quality of graduates, employment graduates, as well as structural and policy implementation of TVET in the Philippines. This is also supported by Wu, Bai, & Zhu (2019). They argued that the infrastructure of TVET is yet to be strengthened, in spite of the substantive development of TVET in the Philippines. Our skilled workers are not competitive in the global market since they have a low degree of international skills caliber. In the ten competitive industries that were planned to be developed in the Philippines, many skilled workers decide to migrate to other industries since their level of skills fails to attain international standards.

Moreover, the Philippine society gives more importance to degrees and diplomas earned in higher education than TVET certificates. TVET is generally considered inferior education. Our society does not fully appreciate the value of TVET in the labor market. Structural unemployment which is due to the mismatch of labor supply and industry demand, exists in the Philippines labor market. Graduates of TVET face a limited employment market, which is largely caused by the poor quality of TVET and the irrelevance of school learning with enterprise work practices (Wu et. al., 2019).

Finally, TVET in the Philippines over the years has gone a long way towards helping address access to education for all. As managed by TESDA, millions of Filipinos have been provided technical-vocational skills for employment and/or self-employment, especially in the poor sector of society. TVET's goals, objectives, and program implementation, which needs further improvements, are clearly aligned and in pursuit of SDG #4 which is geared toward quality education.

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