Technical Education and Skills Development Authority

LABOR MARKET INTELLIGENCE REPORT

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THE TVET TRAINER

in the Future of Work and Learning

Issue no. 2 | Series of 2021
Technical Education and Skills Development Authority (TESDA)

EXECUTIVE SUMMARY

Responding to the future of work requires a high-quality, future-focused TVET system. Central to this system are our TVET trainers, who should not only possess technical skills and industry experience, but also have the required transversal, cross-occupational, digital and effective pedagogical skills and competencies. Apart from these skills, trainers also need to possess good personal characteristics that will set them to become a great or effective TVET teachers.

TESDA has been addressing the skills requirements of TVET trainers through the Philippine TVET Trainers-Assessors Qualification Framework, Trainers Methodology (TM) Levels I and II, and the development of regional lead assessors and regional lead trainers for the TESDA qualifications. The qualifications and standards set forth in these programs and policies help ensure the quality of TVET delivery.

TESDA has developed several trainers through the offering of TM I and II courses, and the issuance of National TVET Trainers Certificates. The Tourism sector has the greatest number of NTTC holders. But while still in the pandemic, there is a need to develop and qualify more trainers in the new normal priority sectors. The Human Health/Health Care sector needs to have more qualified trainers, as this will support the need for more health workers that will help combat the pandemic.

While the standards and curricula for TVET trainers are addressing most of the skills requirements, TESDA may look into developing the trainers' capability to teach learners with special needs, as well as improve their transversal skills. Several recommendations have been conveyed on the domains of expertise that need to be developed for TVET personnel, as well as in fulfilling their continuing professional development requirements.

I. Background

Discussions on the future of work mentions how the pervasiveness and advancement of technology and computational power will impact jobs and employment. Popularly called the Fourth Industrial revolution (4IR), the technological advancements have resulted in automation of tasks. The automation of tasks can lead to both gains and losses. Gains in terms of improving productivity, and to new labor demand for higher-order tasks. Losses because there are workers that are at high risk of displacement. The Asian Institute of Management in 2019 has reported that 67.9 percent of jobs in the Philippines are at risk of being automated, and 64.8% of workers are at high risk of losing employment. In the study by the Asian Development Bank (ADB) that looked into the Information Technology-Business Process Outsourcing (IT-BPO) and Electronics sectors, it found that 24% of the current workforce in the 2 sectors could potentially be displaced by technologies related to 4IR. However, the ADB study estimates that there is a positive net impact on jobs for both sectors. In the pilot run of the Skills Needs Anticipation – Workplace Skills and Satisfaction Survey of TESDA in the IT-BPO and Construction sectors conducted in 2019, increase in employment is foreseen in both sectors in light of industry developments.

Given this context, addressing skills shortages and preparing the workforce should be given importance. In the ADB study, 52% of IT-BPO employers and 58% of Electronics manufacturing sector employers said that graduates in the past year are not well-prepared in terms of their education and/or training. In addition, some findings from the study are causes for concern, such as 1) some training institutions may be struggling to keep pace with the rate of change in skills demand, and 2) the mismatch in the perception of skills preparation between employers and training institutions. The 4IR highlights the call for learners to continuously immerse in skilling, upskilling and reskilling, and these will truly impact how technical-vocational education and training should be implemented.

With the COVID-19 pandemic affecting all nations and societies globally, limiting the movement and gathering of people to observe physical distancing and prevent the spread of the virus, the adoption of modern and digital technologies has accelerated. It has also compelled various sectors to think about new business models and practices in order to survive and thrive where more people will be working from home, travel less, or replace workers with robots. In a recent news article, economists said that millions of jobs in the United States (US) "have been shortchanged or wiped out entirely by the pandemic are unlikely to come back". Citing a report of the Pew Research Center, two-thirds of the unemployed in the US are seriously considering changing their occupation and field of work. In the Philippines, the July 2020 Labor Force Survey shows that unemployment rate is at 10%, accounting for 4.6 million jobless Filipinos. Given this scenario, then there would really be a need for massive skilling and training programs for the displaced workers so that they could be employed in industries and sectors that are in need of workers. Reskilling has also been identified as one of the government key thrusts in achieving economic recovery.

Since 2015, the United Nations Educational, Scientific and Cultural Organization (UNESCO) recognizes that teaching staff, i.e. teachers, instructors, trainers, play a critical role in ensuring the quality and relevance of TVET. Especially in this pandemic situation where massive skilling and training are necessary, the TVET teaching staff need to be equipped to be able to address the provision of large scale, high quality and relevant training. Among the recommendations in the ADB study that will affect TVET trainers are the development of training programs targeting skills for the 4IR, increased curriculum responsiveness, and upgrading training delivery through 4IR technology in classrooms and training facilities.

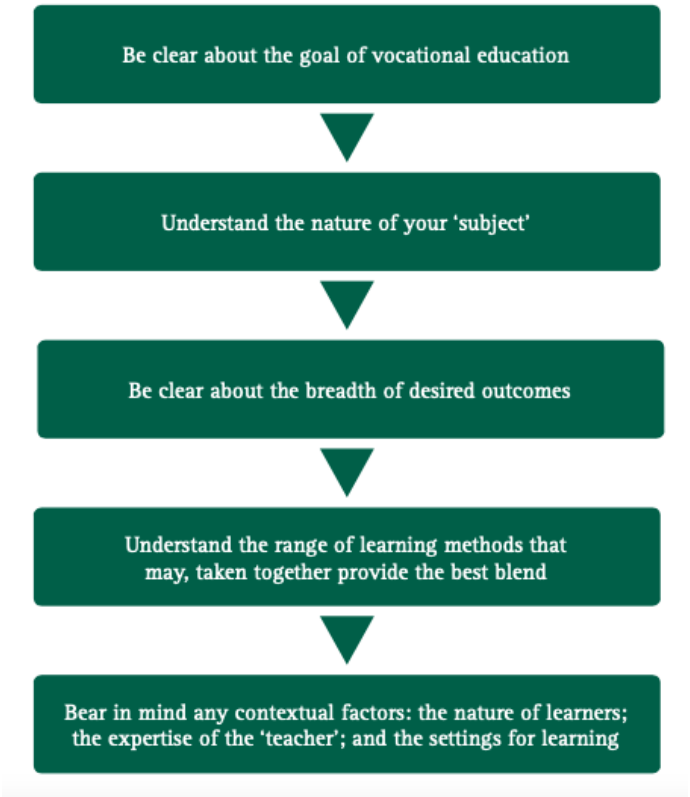
II. Skills of TVET Trainers

"Being a teacher is an essential connection between what is and what can be." -Teresa Thayer Snyder

The UNESCO-UNEVOC study discusses the characteristics of a "high-quality, future-focused TVET system, which puts importance not only on the technical skills but also on cross-occupational competencies (i.e. entrepreneurship), transversal skills (i.e. problem solving, collaboration), as well as emerging and future-oriented skills. Industry experience is critical, along with active, learner-centered pedagogy to build learners' cross-curricular skills and cross-occupational competencies. TVET trainers also need to be able to deliver TVET using alternative (e.g. digital) formats. They also need to know how to implement gender responsive/inclusive pedagogy, manage cultural/linguistic diversity and teach learners with special needs.

Vocational Pedagogy

A discussion on accessible and quality TVET should include a discussion on vocational pedagogy. Lucas (2014) defines vocational pedagogy as "the science, art and craft of teaching and learning vocational education". This is about what vocational teachers do when they teach in order "to meet the needs of learners and to match the context in which they find themselves" (Lucas, 2014). He adds that the discussion on vocational pedagogy is important because thinking about the wider goals of vocational education can help improve its status, and that vocational education should be seriously studied. This discussion can allow those directly involved in vocational education to develop tools and models that can help improve teaching and learning methods that will match the needs of learners and their context. Lucas, et al. (2012) developed the theoretical underpinning for vocational pedagogy where they asked the following fundamental questions:

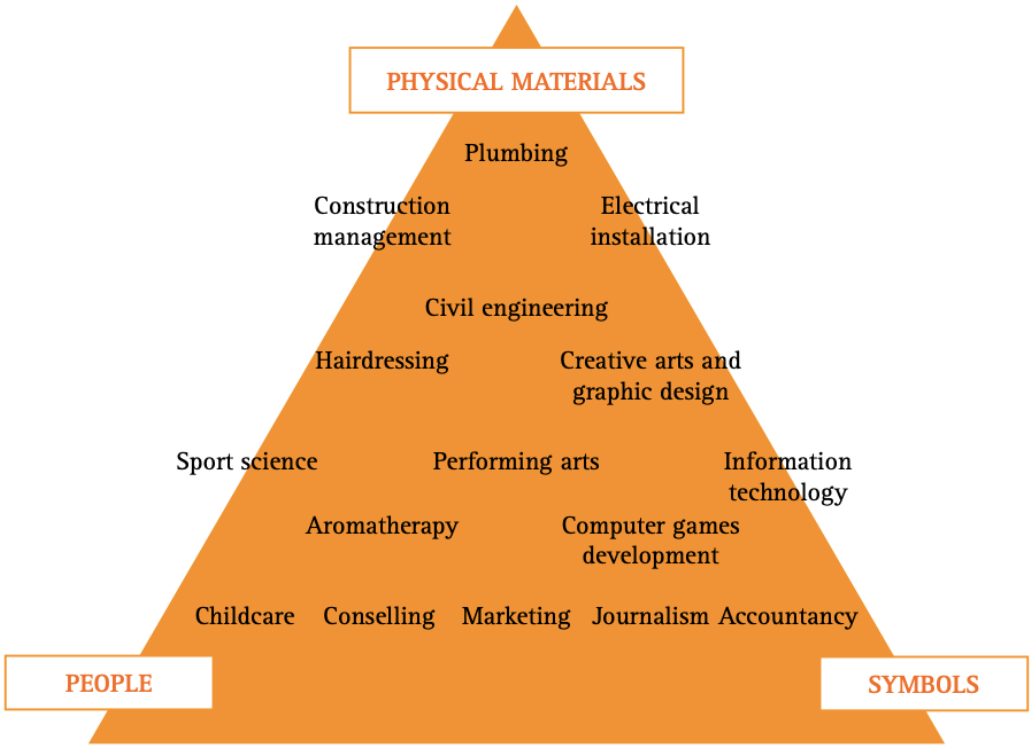


Understanding vocational pedagogy can help the way TVET teachers teach, thereby translating to improved learner outcomes in TVET, as well as improved TVET status and quality (UNESCO-UNEVOC, 2014).

Another concept related to vocational pedagogy is the concept of Signature Pedagogies developed by Lee Shulman. He refers to the nuances in the "habits of the mind, hand and heart" in the work practices and values in a field or profession. In the UNESCO-UNEVOC e-Forum on Vocational Pedagogy in 2014, one participant said that "the only real signature pedagogy is to actually do what the vocation in question requires when you are learning it." The signature pedagogy concept is useful in bringing together the vocational expertise and the teaching capability of TVET teachers (Lucas, 2014).

An attempt to differentiate and organize the kinds of vocational education is through the medium through which the work is expressed:

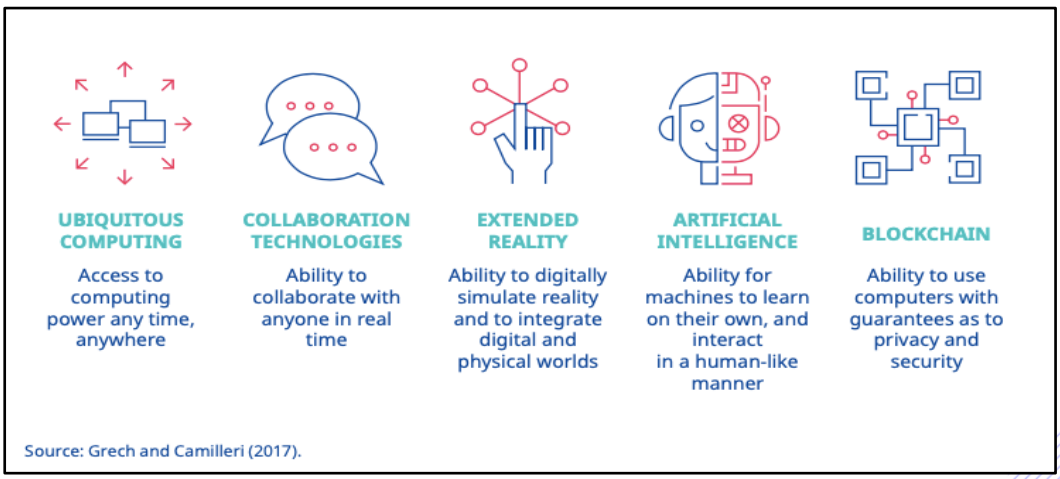
- physical materials – for example bricklaying, plumbing, hairdressing, professional make-up
- people – for example financial advice, nursing, hospitality, retail, and care industries
- symbols (words, numbers and images) – for example accountancy, journalism, software development, graphic design.



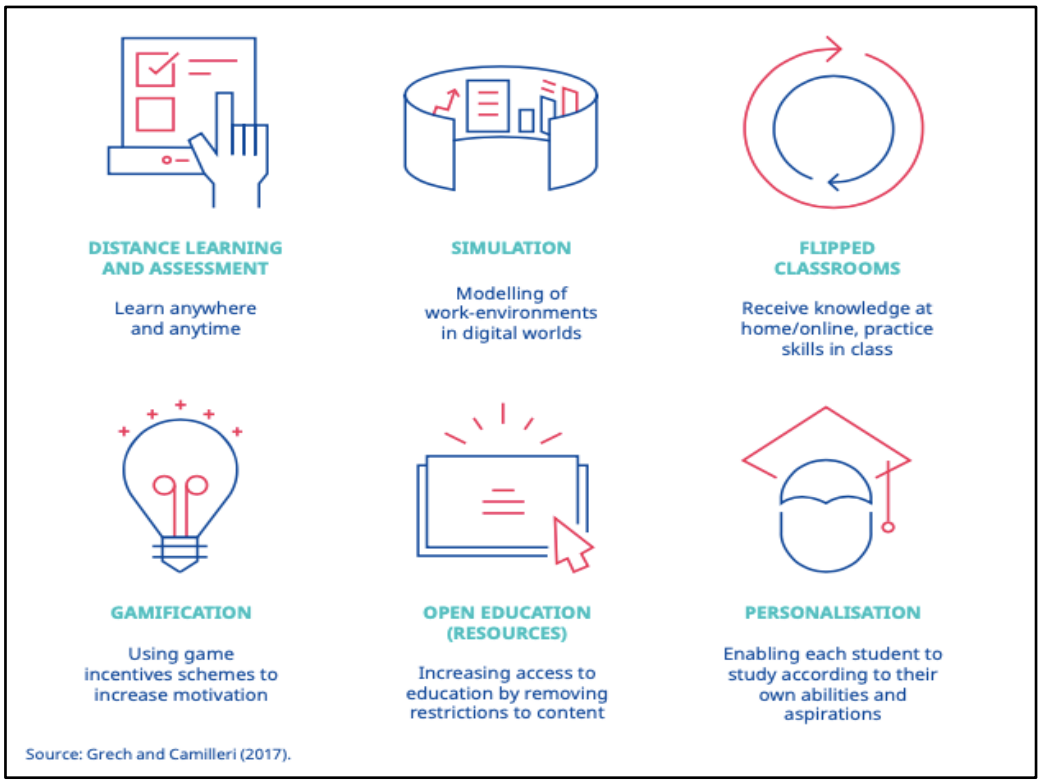
While traditional vocational education is focused on the skills and competencies in terms of vocational domains, recent developments impel that learners need to develop other competencies, such as those referred to as 21st century skills or transversal competencies.

Digital Competencies

Technological developments have been redefining the role of education. These have allowed education and training, including TVET, to become more accessible, along with redefining learning methods, assessment and even certification. Grech and Camilleri (2017) mentions technologies that drive digital transformation in TVET:



In addition, Grech and Camilleri (2017) also mentions areas of learning that are promising for TVET



With the COVID-19 pandemic still very much around, TVET programs could not be delivered in a face-to-face manner, and instead will utilize more technology- enabled and distance learning solutions for TVET services delivery. Crucial to this mode of TVET services delivery is the digital knowledge and digital skills of teachers, and how these skills are applied in the delivery of TVET content and curricula, as well as in the assessment of learning. TVET trainers need to be able to choose the right technological tools and even the right methodologies to support and enhance the teaching and learning in TVET. This practice is informed by the trainer's "understanding of how knowledge can be constructed and how technology- oriented competencies can be developed using a variety of available tools, as well his/her ability to adapt new emerging technologies to learning processes" (UNESCO-UNEVOC, 2020).

The COVID-19 pandemic has highlighted the necessity for digital TVET. Director Perla Lucas of the National TVET Trainers Academy (NTTA) emphasized the need for trainers to be adept in navigating digital materials in order to improve their training delivery online not only during the pandemic but also because of the Fourth Industrial Revolution. She also said that there are required investments not only in the human capital but also in the facilities and equipment.

However, the International Labour Organization (ILO) recommends that a broad range of professionals be involved from the creation and provision of digital TVET, and for it to be truly effective and sustainable:

- **Instructional designers**: these professionals design learning pathways that may involve a mix of school- and work-based learning. Their role also involves commissioning and managing learning components, such as distance learning and simulation-learning experiences.
- **Teachers**: these professionals mainly guide individuals through a set of learning experiences. With digital technology, their role is increasingly not to deliver information, but to assist in processing and interpreting information. In larger courses, teachers may be supported by community moderators or teaching assistants.
- **Media creators**: these professionals assist in the creation of digitally enabled learning experiences. Media design may include photography, web design, filming, 3D modelling or any other creative works that may be required when providing the courses.
- **Assessment and skills experts**: just-in-time learning requires unbundling courses into distinct skills and creating assessment tools that allow assessing these distinct skills (ILO, 2020).

Skills for other roles and functions

Other than those mentioned above, the ILO defines the following roles and responsibilities of a TVET trainer:

- Planning, organizing and delivering off-the-job training in TVET institutions within the framework of the overall apprenticeship programme;
- Interacting with their counterparts in partner enterprises in order to ensure optimal coordination between the off-the-job and on-the-job elements of the training programme;
- Monitoring the learning progress and skills development of apprentices on a regular basis; and
- Updating their knowledge, skills and competence in their own professional field and adapting their training methods on a regular basis.

Personal Characteristics

In a UNESCO-UNEVOC virtual conference, the participants suggested the following personal characteristics of a great TVET teacher:

- passionate and dedicated
- a great facilitator
- a leader of learning
- an excellent communicator
- a motivator
- a positive thinker
- a creative problem-solver
- ICT-literate
- respectful of learners, prepared to show care for learners' well-being and able to identify their needs
- a lifelong learner and reflective practitioner
- able to evaluate delivery and impact
- personally well-rounded – fair, empathic, patient, stable, reliable
- kind
- a listener
- strict and coherent

III. Developing TVET Trainers

As the key actors in ensuring the quality and relevance of TVET, trainers need continuous professional development in order for TVET systems to be able to work in the context of globalization, technological and societal changes, a dynamic labor market, and most recently the COVID-19 pandemic. A critical component of a resilient TVET system is the presence of highly qualified workforce of vocational teachers and trainers. Professional development ensures that vocational teachers and trainers remain to be qualified. However, "with the rapid rate of change currently being experienced, TVET trainers learn on the fly and at their point of need. While in a pandemic, teachers'/trainers were forced to deliver their training via flexible delivery methods. TVET trainers had to comply on how to teach in this method. Likewise, professional development training is also being delivered in this method. Doucet, et al., outlined ways by which professional development is happening during this pandemic:

1. Professional Learning Communities - Colleagues helping colleagues with planning, learning technologies, remote pedagogy, feedback strategies and ways of assessing.
2. Webinars offered by teacher experts.
3. Schools, where possible, providing one-on- one, online, or telephone support from IT, either internally or from outside experts.
4. Social media platforms in which teachers, school and system leaders, and education organizations around the world are sharing resources, processes and learnings as they address education needs in this uncertain time.

In addition, there are also online courses available for teachers/TVET trainers that they can access to gain professional development. Neal (2020) shared some eamples of online teacher professional development courses on flexible learning that are being offered by the Commonwealth of Learning (COL):

Flexible Skills Development
Facilitating Online Courses
Blended Learning in the Classroom

Furthermore, there are various resources available online for TVET trainers to learn more about education technology tools that they can utilize for flexible learning delivery, such as open textbooks, Open Educational Resources (OERs), Massively Open Online Courses (MOOCs) and other technologies for education. The COL has compiled some of these resources in Annex A.

The UNESCO-UNEVOC also has a site that lists the OER repositories for TVET, where one can go to find digital materials that others have already created.

IV. Career path of TVET Trainers

In a study conducted by the GIZ on TVET personnel in the ASEAN (2018), TVET personnel in an institution is generally composed of TVET teachers, TVET school managers, and TVET in-company trainers.

For teachers/trainers, some countries have further distinctions, such as theory, practice or integrated teacher. Others distinguish based on "the kind of vocational context (e. g. internships, work preparation programs, apprenticeships) and assign specific role sets (e. g. instructor, supervisor, teacher, tutor, and coach)." There are also distinctions based on titles (e. g. junior – senior teachers; theory – practice – integrative teachers) and employment status, i.e. "teachers can be employed as civil servants, government employees or contract teachers."

For TVET school managers, distinctions are defined based on hierarchy and function. Larger institutions, apart from having a school director and deputy director, there also heads of division, departments, sections, etc.

The study also recommends the following domains of expertise/areas of competency for TVET personnel:

DOMAIN OF EXPERTISE	Theory	Practice
Professional domain	Subject specific technical / expert knowledge	Subject-specific teaching methods („Fachdidaktik")
TVET pedagogy	e.g. VET psychology; teaching and learning methods; assessment theory	e.g. teaching skills; assessment skills and techniques; (integrative) use of digital media
TVET management	e.g. knowledge on school organization and links to external stakeholders; ability to reflect on own practice („reflective practitioner")	e.g. skills to collaborate / network with key stakeholders (esp. companies); motivation and commitment for continuous improvement of school environment

Source: GIZ, 2018

(1) Professional domain in the respective vocational area;
(2) TVET pedagogy primarily covering curricular, teaching and learning and assessment dimensions and
(3) TVET management covering tasks within the TVET institutions and with external stakeholders.

All areas comprise both theoretical knowledge and the practical skills to transfer the respective knowledge into practice. In addition, one could add a further dimension related to the development of attitudes, commitment and values. The domains of expertise are applicable for all types of TVET personnel, but the focus will differ depending on the role or function being performed. The TVET trainer would have its focus on the upper two domains, while a school manager would likely focus on the bottom domain.

V. TVET Capacity

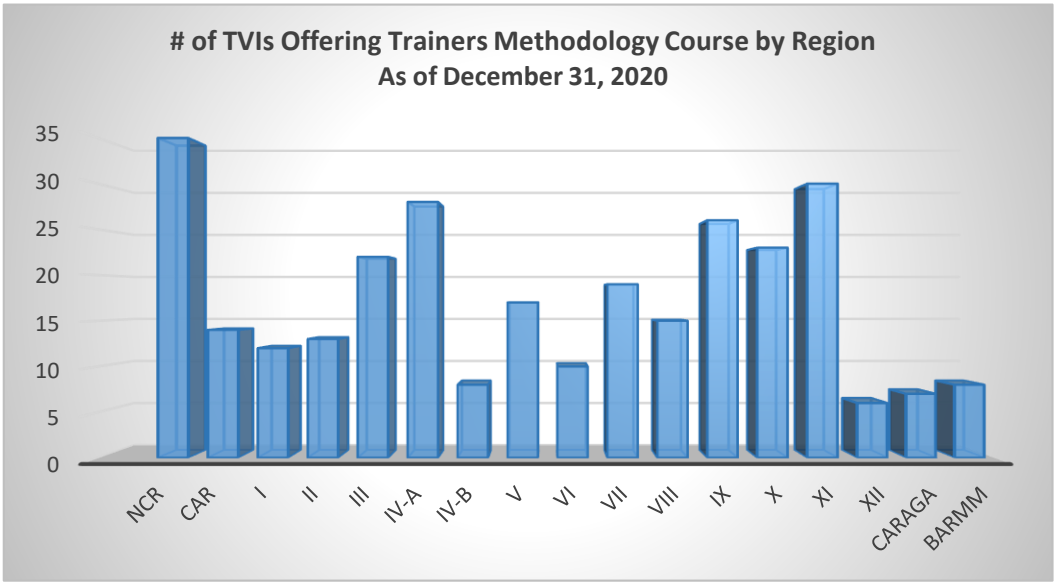
The succeeding data/statistics on TVET trainers are presented:

Table 1. Number of TVET Providers Offering Trainers Methodology Course: 2020

REGION	# OF INSTITUTION	# OF INSTITUTION by CLASSIFICATION					COURSE/REGISTERED PROGRAM	
		HEI	LGU	SUC	TTI	TVI	TM I	TM II
NCR	35	6	0	0	4	25	30	5
CAR	14	0	1	0	7	6	13	1
I	11	1	0	0	6	4	10	1
II	13	0	0	3	8	2	10	3
III	22	3	1	0	6	12	22	
IV-A	28	2	0	0	10	16	27	1
IV-B	8	1	0	0	5	2	8	
V	17	1	0	1	10	5	15	2
VI	10	1	0	0	6	3	9	1
VII	19	3	0	0	5	11	18	1
VIII	15	1	0	0	8	6	15	
IX	26	2	0	1	5	18	26	
X	23	1	0	1	9	12	23	
XI	30	4	0	0	10	16	30	
XII	6	0	0	0	3	3	5	1
CARAGA	7	1	0	0	4	2	6	1
BARMM	8	1	0	0	4	3	8	
TOTAL	292	28	2	6	110	146	275	17

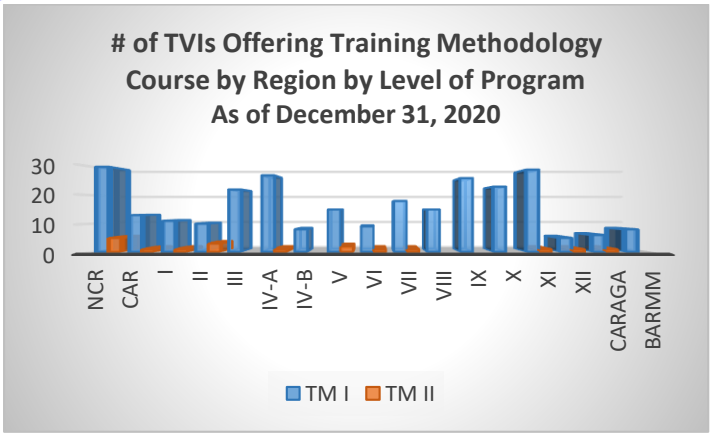
Source: 2020 data from TESDA Training Management Information System (T2MIS) of MITD-ROMO

Table 1 shows the total number of TVIs offering Trainers Methodology Course nationwide as of December 31, 2020. There are a total of 292 registered programs offered by the TVIs wherein 93.86% of them are TM I program and only 6.14% are TM II program.



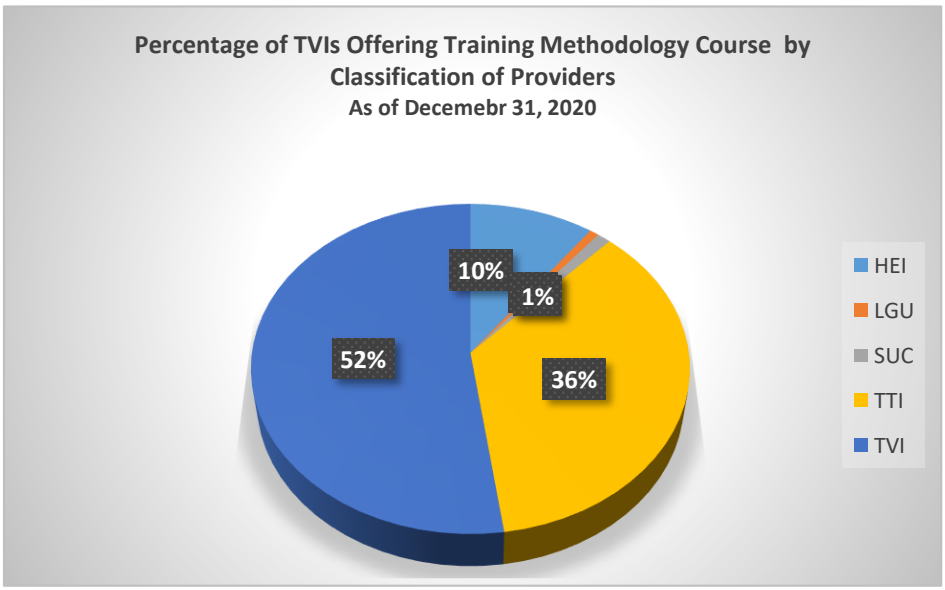
NCR, regions 3, 4-A, 9, 10, and 11 are prominent in the number of TVIs offering TM course with TVIs offering more than 20 TM courses/programs. In contrast, regions 4b, 12, CARAGA, and BARMM has the lowest number of TVIs offering TM courses with less than 10 registered training programs in TM I and almost nothing in TM II.

Of the total number of TVIs offering TM Course, TESDA-NCR has the highest number of TVIs offering TM Course where 30 programs are registered for TM I and only 5 programs registered for TM II. Region XI is the second highest and Region IV-A landed third in offering TM Courses. While regions 4-B, 12, CARAGA, and BARMM have the lowest with 8, 6, 7, and 8, respectively. Only few LGUs and SUCs offer TM Course.



The total number of institutions by classification is 292 with 94% of course/registered program consists mostly of TM I. No course/registered program for TM-II from regions 3, 4-B, 8-10, and BARMM.

TM II is evidently the least offered level of program among the regions in which regions 3, 4-b, 8, 9, 10, and BARMM are non-existent. TM I remains the dominant level of program as of December 31, 2020.



From the graph, it can also be inferred that most of the TM course (level I and II) are being offered by the TVIs (52%), followed by TTIs (36%) and HEIs (10%) while LGU and SUC are the least available provider for TM courses.

TVI is the highest provider for NCR, regions 3, 4-A, 7, 9, 10, and 11. The number of providers per region is generally sporadic. However, TTI and TVI are present in all regions. LGU and SUC are the least available provider for offering training methodology course, 98% of all course providers are from HEI, TTI, and TVI.

Table 2. Total Number of NTTC Holders by Sector: 2018-2020, by Sector

Sector	2018	2019	2020
Agriculture, Forestry and Fishery	2,074	2,900	3,570
Automotive and Land Transportation	2,728	2,981	2,890
Construction	3,234	3,749	3,888
Electrical and Electronics	5,630	6,135	5,393
Footwear and Leathergoods	-	1	2
Furnitures and Fixtures	11	19	18
Garments	885	963	918
SCDOS	2,820	3,063	2,864
HVACR	416	417	369
Human Health/Health Care	3,142	3,195	2,977
ICT	1,037	1,023	813
Maritime	322	168	167
Metals and Engineering	3,173	3,731	3,629
Utilities	20	35	33
Processed Food and Beverages	720	695	563
Tourism (Hotel and Restaurant)	13,125	13,325	10,248
TVET	-	-	
Visual Arts	31	36	33
Wholesale and Trading	79	95	93
Logistics	-	1	1
Total	39,447	42,532	38,469

Source: 2020 data from TESDA Certification Office

Table 2, on the other hand, showed the total number of National TVET Trainers Certification (NTTC) Holders by sector. It is significant to note, that **Tourism Sector** has the highest number of NTTC holders among the sectors, with 33.27% in 2018, 31.32% in 2019, and 26.64% in 2020. **Tourism** has the largest proportion among all trades, but it evidently decreased by **23% in 2020** which might be an impact of the pandemic.

Tourism evidently exhibits the most prevalent NTTC holder by sector, followed by construction, SCDOS, HH/HC, and ME. Tourism is one of the identified priority sectors in the NTESDP. However, since the start of the pandemic period, the priority sectors have shifted to Agriculture, Construction, and Human Health/Health Care. In 2020, it can be seen that the Agriculture sector rose in terms of number of NTTC holders.

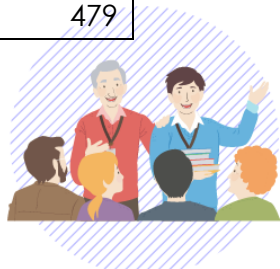
The TVET number of NTTC holders from 2018 to 2019 increased by 8% (from: $\frac{(42532-39447)}{39447}$) but decreased by 10% 2019 to 2020 (from: $\frac{(42532-38469)}{42532}$) probably due to the COVID-19 pandemic.

Agriculture, Automotive, Construction, Electrical, Metals, and Tourism trades are consistently dominant throughout the 3-year period. However, Agriculture, Forestry, and Fishery displayed the highest increase with 40% from 2018 to 2019 and 23% from 2019 to 2020. ICT, Maritime, and Processed Food and Beverages are the only trades that are on a steady decline.

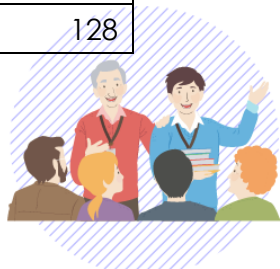
Agriculture and Construction are the only trades that exhibits steady rise among all sectors throughout the 3-year period. Although footwear and leather goods are also steadily increasing. While ICT, Maritime, and Processed Food and Beverages are the only trades that are on a steady decline.

Table 3. Total Number of NTTC Holders by Qualification: 2020

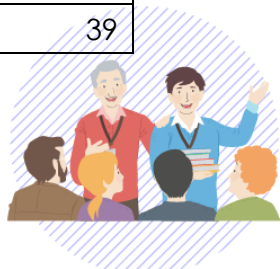
Qualification	No. of NTTC Holder
Computer Systems Servicing NC II	2,309
Shielded Metal Arc Welding (SMAW) NC II	2,226
Bread and Pastry Production NC II	2,083
Cookery NC II	1,760
Food and Beverage Services NC II	1,718
Housekeeping NC II	1,655
Electrical Installation and Maintenance NC II	1,551
Driving NC II	1,408
Organic Agriculture Production NC II	964
Bookkeeping NC III	880
Electronics Products Assembly and Servicing NC II	850
Caregiving NC II	837
Hilot (Wellness Massage) NC II	813
Automotive Servicing NC II	779
Dressmaking NC II	765
Events Management Services NC III	713
Agricultural Crops Production NC II	606
Carpentry NC II	575
Agricultural Crops Production NC III	533
Massage Therapy NC II	518
Visual Graphic Design NC III	504
Food Processing NC II	479



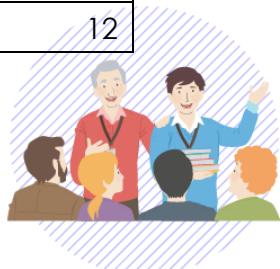
Qualification	No. of NTTC Holder
Domestic Work NC II	467
Health Care Services NC II	458
Masonry NC II	447
Front Office Services NC II	444
Beauty Care Services (Nail Care) NC II	440
Bartending NC II	432
Beauty Care NC II	415
Electrical Installation and Maintenance NC III	391
Hairdressing NC II	389
Gas Metal Arc Welding (GMAW) NC II	353
Animal Production (Poultry-Chicken) NC II	337
Technical Drafting NC II	334
Shielded Metal Arc Welding (SMAW) NC III	334
Gas Tungsten Arc Welding (GTAW) NC II	328
Motorcycle/Small Engine Servicing NC II	324
Tile Setting NC II	294
Animal Production (Swine) NC II	293
Commercial Cooking NC III	280
Housekeeping NC III	277
RAC Servicing (DomRAC) NC II	270
Barista NC II	263
Plumbing NC II	261
Food and Beverage Services NC III	225
HEO (Forklift) NC II	204
HEO (Wheel Loader) NC II	199
HEO (Hydraulic Excavator) NC II	198
Tourism Promotion Services NC II	172
Ships' Catering (Ships' Cooks) NC III	167
Driving (Passenger Bus/Straight Truck) NC III	162
Horticulture NC III	159
Tailoring NC II	153
Security Services NC II	152
Scaffold Erection NC II	151
Machining NC II	134
Animal Production (Ruminants) NC II	128



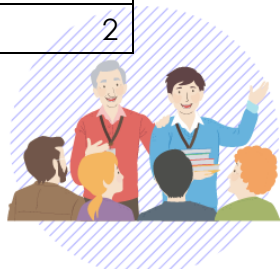
Qualification	No. of NTTC Holder
Flux Cored Arc Welding (FCAW) NC II	123
Construction Painting NC II	122
Pipefitting NC II	122
Pharmacy Services NC III	122
HEO (Rigid On-Highway Dump Truck) NC II	118
PV Systems Installation NC II	116
Mechatronics Servicing NC II	108
Rice Machinery Operations NC II	107
Commercial Cooking NC IV	105
Automotive Servicing NC III	103
2D Animation NC III	103
HEO (Backhoe Loader) NC II	101
Emergency Medical Services NC II	101
Heavy Equipment Operation (Bulldozer) NC II	93
Customer Services NC II	93
Agroentrepreneurship NC II	87
Animation NC II	84
Barangay Health Services NC II	83
RAC Servicing (PACU-CRE) NC III	77
Scaffolding Works (Supported Type Scaffold) NC II	75
Aquaculture NC II	74
Carpentry NC III	69
Instrumentation and Control Servicing NC II	69
HEO (Motor Grader) NC II	66
Tour Guiding Services NC II	65
Pest Management (Vegetables) NC II	64
Masonry NC III	63
Shielded Metal Arc Welding (SMAW) NC IV	57
Travel Services NC II	50
Grains Production NC II	49
Driving (Articulated Vehicle) NC III	46
3D Animation NC III	45
Slaughtering Operations (Swine) NC II	45
Automotive Servicing NC IV	43
Rubber Production NC II	39



Qualification	No. of NTTC Holder
Slaughtering Operations NC II	39
Agroentrepreneurship NC III	37
Medical Transcription NC II	35
Beauty Care NC III	35
HEO (Road Roller) NC II	33
Mechatronics Servicing NC III	33
Hairdressing NC III	32
HEO (Truck Mounted Crane) NC II	30
PV Systems Servicing NC III	30
Electrical Installation and Maintenance NC IV	30
Electric Power Distribution Line Construction NC II	27
Instrumentation and Control Servicing NC III	26
Heavy Equipment Servicing (Mechanical) NC II	25
Pipefitting (Metallic) NC II	25
Rigging NC I	25
HEO (Rough Terrain Crane) NC II	24
Animal Health Care and Management NC III	23
Landscape Installation and Maintenance (Softscape) NC II	23
Microfinance Technology NC II	22
Photography NC II	22
Plumbing NC III	19
Gas Metal Arc Welding (GMAW) NC III	19
Furniture Making (Finishing) NC II	18
Consumer Electronics Servicing NC III	17
Dental Laboratory Technology Services (Fixed Dentures/Restorations) NC II	17
HEO (Rigid Off-Highway Dump Truck) NC II	16
Transport RAC Servicing NC II	16
Broadband Installation (Fixed Wireless Systems) NC II	16
Drying and Milling Plant Servicing NC III	15
Biomedical Equipment Services NC II	14
CNC Lathe Machine Operation NC II	14
Dental Laboratory Technology Services (Removable Dentures/Appliances) NC II	13
Machining NC III	13
Automotive Wiring Harness Assembly NC II	12



Qualification	No. of NTTC Holder
CNC Milling Machine Operation NC II	12
Barbering NC II	12
Fish Capture NC II	11
HEO (Crawler Crane) NC II	11
Reinforcing Steel Works NC II	11
Web Development NC III	11
Illustration NC II	11
HEO (Tower Crane) NC II	10
Beauty Care Services (Nail Care) NC III	10
Mechatronics Servicing NC IV	9
Agricultural Machinery Operation NC II	6
Automotive Body Painting/Finishing NC I	6
Construction Painting NC III	6
Land-based Transport Refrigeration Servicing NC II	6
CNC Milling Machine Operation NC III	6
Agroentrepreneurship NC IV	5
Automotive Body Repairing NC II	5
HEO (Transit Mixer) NC II	5
Food and Beverage Services NC IV	5
HEO (Gantry Crane) NC II	4
PV System Design NC III	4
Game Programming NC III	4
Medical Coding and Claims Processing NC III	4
Telecom OSP Installation (Fiber Optic Cable) NC II	4
CNC Lathe Machine Operation NC III	4
Real Estate Services NC II	4
Bamboo Production NC II	3
Milking Operation NC II	3
Seaweeds Production NC II	3
Gas Welding NC II	3
Lifeguard Services NC III	3
Automotive Electrical Assembly NC II	2
Footwear Making NC II	2
Cable TV Installation NC II	2
CAD/CAM Operation NC III	2



Qualification	No. of NTTC Holder
Performing Arts (Ballroom Dancing) NC II	2
Sanitary Landfill Operations NC II	2
Sanitary Landfill Operations NC III	2
Sugarcane Production NC II	1
HEO (Articulated Off-Higway Dump Truck) NC II	1
HEO (Paver) NC II	1
Ophthalmic Lens Services NC II	1
3D Game Art Development NC III	1
Warehousing Services NC II	1
Flux Cored Arc Welding (FCAW) NC III	1
Lifeguard Services NC II	1
Local Guiding Services NC II	1
Electric Power Distribution Operation and Maintenance NC III	1
Electric Power Distribution Operation and Maintenance NC IV	1

The qualifications with the greatest number of NTTC holders are Computer Systems Servicing NC II, Shielded Metal Arc Welding (SMAW) NC II, and Bread and Pastry Production NC II. Of the top 10 qualifications, 5 out of the 10 qualifications are in the Tourism (Hotel and Restaurant) sector. Only the Organic Agriculture Production NC II, the 10th qualification with the most number of NTTC holders, belongs to one of the priority sectors (Agriculture) during this pandemic period.

VI. TESDA's Programs for TVET Trainers

A. The Philippine TVET Trainers-Assessors Qualification Framework (PTTQF)

The PTTQF's objective is develop a pool of technical trainers and assessors that are competent in trade qualifications, and training and assessment methodologies. This is to ensure the consistency of the delivery of quality TVET.

The PTTQF defines the TVET trainer as a professional who enables a learner or a group of learners to develop competencies in performing a particular trade or technical work. Towards this end, a TVET Trainer may assume various roles such as training facilitator, competency assessor, training designer and developer and training supervisor.

The PTTQF articulates the following objectives for TVET trainers:

1. Enumerate the competency requirements at different qualification levels of TVET Trainers.
2. Be motivated to pursue continuous self-development in competencies related to the competency requirements at various qualification levels of the technical-vocational education and training.
3. Demonstrate and be certified on the required competencies of a given qualification level prior to performing role specific to that level.

Table 4 below provides the details of the PTTQF per level:

Qualification Levels	**Trainer Qualification I: Trainer/ Assessor**	**Trainer Qualification II: Training Designer/ Developer**	**Trainer Qualification III: Training Mentor**	**Trainer Qualification IV: Master Trainer**
Definition	Conducts technical training and competency assessments	Designs and develops curriculum, courses and instructional materials	Supervises, develops and mentors technical trainers	Extends the body of knowledge in the field of technical vocational education and training.
Entry Requirements	• BS Graduate or Equivalent • Certified in NC Level that will be handled	• BS Graduate or Equivalent • Certified in the NC Level that will be handled • With portfolio of relevant actual work outputs	• BS Graduate or Equivalent • Certified in the highest available NC Level in the Training Regulation • With portfolio of relevant actual work outputs	• MS Graduate or Equivalent • Certified highest available NC Level in the Training Regulation • With portfolio of relevant actual work outputs
Basic Competency Requirements	1. Communication 2. Apply math and science principles in technical training 3. Apply environmental principles and advocate conservation 4. Utilize IT Applications in technical training 5. Work in teams 6. Apply work ethics, values and quality principles 7. Work effectively in vocational education and training 8. Foster and promote a learning culture 9. Ensure a healthy and safe learning environment 10. Maintain and enhance professional practice 11. Appreciate cost-benefits of technical training 12. Understand and analyze global labor markets			

Core Competency Requirements	1. Plan Training Sessions 2. Facilitate learning Sessions 3. Supervise Work-Based Learning 4. Conduct Competency Assessment 5. Maintain Training Facilities 6. Utilize electronic media in facilitating training	1. Facilitate Development of competency standards 2. Conduct Training Needs Analysis 3. Develop training curriculum 4. Develop learning materials 5. Develop assessment tools 6. Design and Develop maintenance system of training facilities 7. Develop Learning Materials for e-learning	1. Facilitate development and review of training policies and procedures 2. Develop and execute training plans 3. Prepare and manage training budgets 4. Nurture and capacitate trainers/ assessors 5. Evaluate trainers/assessors performance 6. Lead and Coordinate training/ assessment evaluation 7. Facilitate assessment moderation 8. Lead and coordinate training/assessment	1. Institutionalize TVET systems and processes institutions/enterprises 2. Conduct research on TVET 3. Promote, advocate and strengthen industry and TVET linkages 4. Provide professional development to TVET experts
Trainer's Curriculum	Course on Training Methodologies and Assessment	Course on Training Design and Development	Course on Supervision and Development of Trainers	Continuing Professional Education

B. Training Regulations (TRs)

1. Trainers Methodology (TM) Level I

There are two (2) TRs under Level I: one is for Trainer/Assessor, and the other is for In-Company Trainer. The TM Level I for Trainer/Assessor consists of competencies a TVET trainer performing functions of trainer and assessor must achieve, while the TM Level I for In-Company Trainer consists of competencies that a person must achieve to perform the duties and responsibilities of In-Company Training in the implementation of various work-based training delivery mode, such as DTS, dualized, and apprenticeship. Both TRs share the same basic competencies, but differ in the core competencies:

Trainer/Assessor	In-Company Trainer
• Plan training sessions • Facilitate learning sessions • Supervise Work-based learning • Conduct competency assessment • Maintain training facilities • Utilize electronic media in facilitating training	• Perform job analysis • Prepare for training • Conduct training • Conduct end-of-training assessment

2. Trainers Methodology Level II

The TM Level II consists of competencies a TVET trainer or technical trainer performing functions as training designer/developer must achieve. As with the TM Level I, the basic competencies in the TM Level II are the same. The difference is in the core competencies.

While the qualification framework provides the competencies for TM Levels III and IV, there are still no TRs for these qualifications.

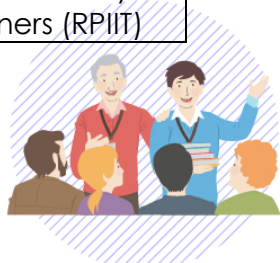
C. Development of Regional Lead Assessors and Regional Lead Trainers

Each time that a new TR is developed, or a previously developed TR is updated, the National TVET Trainers Academy is tapped to capacitate the regional lead trainers (RLTs). The RLTs are required to conduct multiplier training in order to increase the number of trainers for the qualification.

VII. Mapping of Competencies/Skills Requirements vis-à-vis TESDA TM Qualifications and Programs

Table 5 provides the mapping of competencies/skills requirements for trainers against the existing TRs on Trainers Methodology and other TESDA programs for trainers:

Competency/Skill/ Experience	TM I (Trainer/Assessor)	TM I (In-Company Trainer)	TM II	Remarks
Technical	1	1	1	TESDA, through the NTTA, provides in-service training for trainers based on Philippine development goals, Presidential directives, the NTESDP, OPLAN, priority sectors, qualifications. The NTTA also looks at the TESDA Labor Market Intelligence Reports. Skills Maps will also be looked into. The NTTA is also looking at bite-sized competencies that can be provided to the trainers.
Emerging and future-oriented	1	1	1	
industry experience	1	1	1	TESDA Circular No. 51 s. 2017, or the Guidelines on Providing Equivalent Industry Work Experience to Teaching Experience, and Dualized Training Program/Dual Training System, Technical Consulting, International Industry Immersion and International Training Modalities, specifies the importance of industry work experience as part of the requirements for the issuance of the National TVET Trainers Certificate (NTTC). Industry work experience is also provided in Section 3 of the TRs. The NTTA monitors the implementation of the Regional Program Industry Immersion of Trainers (RPIIT)



Competency/Skill/ Experience	TM I (Trainer/Assessor)	TM I (In-Company Trainer)	TM II	Remarks
				and also arranges its own industry immersion programs.
Pedagogy/Andragogy				
active, learner-centered	1	1	1	
gender responsive	1	1	1	-TM I TRs looks deeper into the requirements on Gender Advocacy and Development than TM II. -TESDA Abot Lahat looks into the flexibility in the delivery of TVET services. -TESDA issued guidelines in the implementation of Community-Based Trainer Recognition and Community-Based Trainers Methodology Course in order to recognize and develop community-based trainers in order to address the increasing number of trainees in community-based programs.
inclusive pedagogy	1	1	1	
managing cultural/linguistic diversity	1	1	1	
teaching learners with special needs				TM I looks into the resources, equipment and support services available for trainees with special needs as an underpinning knowledge in the Supervised Work-based Learning but not so much on how to teach learners with special needs.
vocational pedagogy	1	1	1	
Digital/technology-oriented competencies	1	1	1	
Cross-occupational	1	1	1	The STEM in TVET project with the ILO, and the Work Ready Now project with the EDC/USAID has incorporated the training on cross-occupational and transversal skills in their respective programs.
Transversal				

Competency/Skill/ Experience	TM I (Trainer/Assessor)	TM I (In-Company Trainer)	TM II	Remarks
planning, organizing and delivering off-the-job training	1	1	1	Competencies on planning, organization and delivery coincides with the trainer role.
interacting with counterparts in partner enterprises	1	1	1	
monitoring the learning progress and skills development	1	1	1	
updating knowledge, skills and competence in own professional field				-TESDA, through the NTTA, offers skills upgrading programs, as well as various professional programs that extend to supervisors, administrators, registrars, and other non-teaching staff in TTIs. This is also related to the provision of technical and emerging/future skills. -There are also challenges in the delivery of skills upgrading programs through online/distance learning modality due to connectivity and technical issues, digital literacy, focusing, motivation, feeling isolated.
adapting training methods	1	1	1	The training methods consider contextual and experiential learning methods, and dependent on the medium through which the work is expressed. Appropriate training methods are used based on the level and characteristics of learners.
passionate and dedicated				
a great facilitator	1	1		
a leader of learning	1	1	1	
an excellent communicator	1	1	1	
a motivator	1	1	1	

Competency/Skill/ Experience	TM I (Trainer/Assessor)	TM I (In-Company Trainer)	TM II	Remarks
a positive thinker	1	1	1	
a creative problem-solver	1	1	1	
respectful of learners, prepared to show care for learners' well-being and able to identify their needs	1	1	1	
a lifelong learner and reflective practitioner	1	1	1	
able to evaluate delivery and impact	1	1	1	
personally well-rounded – fair, empathic, patient, stable, reliable				
kind				
a listener	1	1	1	
strict and coherent				

Note: 1 indicates presence of competency/skill in the TM qualification

From this table, it can be inferred that most of the competencies identified in several literature and reports are already being addressed by TESDA. However, some competencies/skills such as teaching learners with special needs, and on developing the trainers' transversal skills need to be considered in improving the competencies of the TVET trainers.

VIII. Way Forward

To be responsive to the future of work requires a high-quality, future-focused TVET system. Central to this system are our TVET trainers, who should not only possess technical skills and industry experience, but also have the required **transversal, cross-occupational, digital and effective pedagogical skills and competencies**. Apart from these skills, trainers also need to possess good personal characteristics that will set them to become a great TVET teacher.

TESDA is committed to developing and upgrading the skills and competencies of TVET trainers and assessors, as they are critical elements of quality TVET delivery. The authority has set from the TVET trainers qualification framework, developed training regulations on Trainers' Methodology Level I for Trainer/Assessor and In-company Trainer, and also the Trainers Methodology Level II for Training Designer/Developer, and established programs for developing the pool of trainers and assessors through the implementation of RLTs for the technical competencies. Much awaited, however, are the TRs for Trainers Methodology Levels III and IV in order to complete the Philippine TVET trainer landscape.

Much of what literature and reports about the skills of TVET trainers are being addressed by the standards and qualifications that were set by the Authority. It is hoped that the programs to develop TVET trainers continue to be sustained, such as those that require the National TVET Trainers Academy and the National Institute for TESD to be sensitive to labor market signals, so that these offices can continue to support the skills upgrading of, and provision of industry immersion experiences for trainers. There is also a need to develop more trainers in the identified priority industries/sectors and qualifications, especially in the new normal. The tourism sector still has the greatest number of NTTC holders. While there is an increase in the number of trainers in the agriculture sector, there is a need to develop and qualify more trainers in the Human Health/Health Care, as this will support the need for more health workers that will help combat the pandemic.

Digital and technological skills of trainers have been more emphasized now that the world is still in the midst of the pandemic, in order to be able to continue the TVET training even while face-to-face gatherings are prohibited. However, issues on access to resources such as hardware, software and internet connectivity for TVET trainers, and even the issues or disadvantages of online/distance learning in TVET need to be addressed, in order to acquire the maximum benefit of ICTs for TVET delivery.

In general, the TVET trainer standards and curricula are addressing the learner-centered, gender responsive and inclusive pedagogy/andragogy requirements. However, TVET also needs to be responsive to other specific requirements of those in the vulnerable sectors, like persons with disabilities (PWDs), women, IPs, as these are also part of the target clientele of the agency. This is to make TVET programs more inclusive.

The future of work also recognizes the importance of **transversal skills,** and TVET trainers can be more effective if provided with opportunities for them to develop these skills either through formal or applied training.

As a way forward, the following recommendations are put forth:

- For the skills of TVET trainers, the understanding of vocational pedagogy in the context of the kind of vocational education should be emphasized. However, vocational education during this time of pandemic requires trainers to be able to deliver training through distance learning modalities, thus requiring the adaptation of curricula to the digital world.

  There is an existing program for trainers on facilitating e-learning sessions, but it would be of great help if these will be complemented with the knowledge on distance learning and assessment, simulation, flipped classrooms, gamification, open educational resources and personalization.

The importance of developing personal (i.e. passionate, dedicated, fair, empathic, patient, stable, reliable, kind) and transversal (i.e. problem solving, collaboration) characteristics and skills of trainers cannot be overemphasized, and TVET trainers can be more effective if provided with opportunities for them to develop these skills. In order to address more effectively the equity of TVET programs, TESDA may consider initiating programs that will look into developing the capability of TVET to be more responsive to learners with special needs.

- It is also important to consider developing the domains of expertise among TVET personnel, such as the professional domain in their respective vocational area, TVET pedagogy and TVET management, but will differ in focus depending on their function.

- It is also important to continue the system of identifying the training needs of TVET trainers, and to make sure that they participate in continuing professional development. While in a pandemic, TVET trainers should participate in: 1) webinars and online courses, 2) social media platforms (i.e. UNESCO-UNEVOC) to be informed and also share resources processes and learnings, and professional learning communities. If expertise and resources are available in and through the institution or the enterprise, these resources may be tapped as well. TESDA may also consider broadcasting professional development webinars in social media platforms so that these webinars will have larger reach, especially from among the trainers of private TVIs.

- Further, the ongoing review of the Philippine TVET Trainers Qualification Framework should align the framework on the required competencies of the trainers recognized internationally.

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