IT-BPM INDUSTRY SKILLS PRIORITIZATION

FEEDBACK REPORT 2021

Feedback Report: IT-BPM Industry Skills Prioritization
(Conducted on August 5, 2021 via Zoom Conference)

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I. Background

The Philippines' Information Technology and Business Process Management (IT-BPM) sector is considered as one of the country's largest job generators in the past four years, having 1.3 million full time employees in 2020 while indirectly impacting the employment of about 4.3 million people (Leechiu Property Consultants, Inc., 2021 as cited in IBPAP, 2021). Despite the impact of the COVID-19 pandemic, the IT-BPM sector has managed to sail through 2020 by posting employment and revenue growth.

However, IT-BPM is the most affected by the changing technological landscape across the world, prompting the need for skills enhancements and/or retraining within the workforce. For an industry whose service output largely hinges on the quality of its human capital, having relevant and quality training programs are crucial.

Thus, TESDA as the authority in technical education and skills development in the Philippines ensures to address the needs of the industries in the development of its programs and standards. In response, a Memorandum of Agreement was signed between TESDA and the IT & Business Process Association of the Philippines (IBPAP) on September 11, 2019 and a joint Technical Working Group was formed to operationalize the partnership. Some of the identified priority skills needs from the TWG and Core Group meetings were already part of the TESDA Tulong Trabaho.

Still, relative to the agency's thrust towards demand driven TVET, TESDA aims to map the skills needs of the whole industry and analyze the sub sectors to identify and validate information. Through this activity, TESDA, together with the industry associations and concerned government agencies will assess the current and future skills needs as well as initiate training programs to develop skills requirements needed by the IT-BPM sector.

II. Objectives

The consultation intends to collect information on the current situation of the IT-BPM sector in order to determine the necessary training related support and programs for the sector.

Specifically, it intends to:

1. Determine the challenges and opportunities in IT-BPM;
2. Present and validate the skills map for IT-BPM; and
3. Determine the priority skills requirements for the sector.

III. Attendees

The following organizations/agencies invited by the Planning Office were present in the Industry Consultation:

- IBPAP — IT & Business Process Association of the Philippines
- GDAP — Game Developers Association of the Philippines
- PSIA — Philippine Software Industry Association
- NICP — National ICT Confederation of the Philippines
- DOLE-BLE — Department of Labor and Employment - Bureau of Local Employment (Labor Market Information, Research, and Career Guidance Advocacy Division)
- NEDA — National Economic and Development Authority (Trade, Services, and Industry Staff)
- TESDA QSO — Qualifications and Standards Office
- TESDA PLO — Partnership and Linkages Office

Although no members from the Board of Directors and Secretariat of the Contact Center Association of the Philippines (CCAP) were able to join, one company represented the Contact Center and BPO subsector. However, there were no representatives from the Global In-House Center and Health and Information Management Services subsectors.

Additionally, the provincial directors from TESDA La Union and TESDA Romblon, as well as representatives from TESDA Pangasinan School of Arts and Trades, TESDA Pangasinan Technological Institute, Regional Training Center Tuguegarao, and TESDA Regional Offices in Palawan, Bohol, Cebu, and Negros Oriental joined the consultation as observers.

IV. Highlights of the Result

4.1 Presentation of the Industry Situationer

IT-BPM is one of the identified priority sectors in the National Technical Education and Skills Development Plan (NTESDP) 2018-2022. The sector has been experiencing continuous growth in the last 20 years. The 1.8 million employment projection of Bayan Academy in 2022, as cited in NTESDP 2018-2022, is already underway. It is expected that by 2022, there will be 1.5M full time employees and $30B revenue with a compound annual growth rate of 8%.

Likewise, the industry is one of the identified Key Employment Generators in the *Trabaho, Negosyo, Kabuhayan* (TNK) Blueprint of DOLE and DTI for the year 2017-2022 (DOLE JobsFit 2022 LMIR).

While some companies and businesses close down and are negatively affected by the pandemic, the industry continues thriving. In fact, the IT-BPM industry hired 23,000 new employees in 2020, a 1.8% increase compared to 2019.

Besides employment generation, IT-BPM continues to be essential to the Philippines in terms of export revenue (reported a 1.4% increase compared to 2019), countryside development, and talent upskilling.

Additionally, despite the challenge of some companies closing down to bring the operations back onshore, actions are being done to make the Philippines remain a prime investment destination for IT-BPM services. Thus, it is crucial to consider the industry demand, global players outsourcing their services, and ensure a skilled talent supply.

According to IBPAP, there is a particular focus on talent upskilling regarding digital and global leadership skills. A part of digital transformation is the observed shift from routinary skills to more mid level and specialized skills. There is an emergence in future jobs requiring complexity, higher cognitive skills, and technical competencies. The IT-BPM labor force should also embody an agile mindset of learnability, agility, and curiosity; leadership and collaboration skills; and digital savviness and readiness.

Thus, IBPAP continues to conduct various talent development initiatives including webinars and the promotion of training and certification programs where industry practitioners act as workshop trainers. With the strong partnership with the enablers in the industry and the national government, the IT-BPM industry remains competitive and resilient.

4.2 Challenges and Opportunities

Based on the questionnaire responses and the discussions made during the Industry Consultation on the skills requirements of the IT-BPM Industry, Table 1 presents the challenges and opportunities being experienced by the industry. These were divided into several aspects: Economic, Employment, and Education.

Table 1. Challenges and Opportunities in the IT-BPM Industry

Areas	Challenges	Opportunities
Economic	Pandemic (reduced budget/cost saving measures caused by economic downturn)	● Impact of WFH set up (new arrangements, automation of processes, realty cost savings) ● Opportunities to increase efforts on financial education to prepare employees (specifically in high earning jobs like BPO/SSC) for the impact of economic downturn)
	Delayed investments	
	Companies and brands closing down outsourced operations to bring back jobs onshore due to increasing operational costs in the Philippines	
	Industry competition	● Economic growth
	Emerging new technologies (i.e in the Healthcare Information Management Space)	● Investment in education and infrastructure ● Global requirement for medical coder

		● Volume of projects including mobile application projects caused by rising and existing business that adapt and incorporate IT solutions to keep running their businesses
	PEZA (requirements, rulings and limitations)	
	Restructuring (divisional and possible tax structure)	
	Long payment schedules (60 days, 90 days to pay)	● Investment bank and annuity style businesses thriving amidst the pandemic
Employment	Pandemic (health risks, technical limitations/adapting to WFH)	● Diversity of talent brought about by WFH/flexible work arrangement
	Upskilling of talent regarding new tools and technology	
	Most fresh graduates are considerably not the rigors of actual work	
	Lack of skilled manpower/skill shortage (i.e Certified medical coders, foreign language skills)	● Dedicated web developers, virtual assistants, QAs ● Interest of career shifters to Health Information Management Services (HIMS)
	Building leadership bench	● Restructures are creating new opportunities on the flip side ● New normal leadership capabilities development
	Challenges in recruiting and retaining people due to competitive environment	
	Yearly increase of turnover or employee attrition rate	
	Misconception or false image of BPO work	
	Labor law restrictions to fully support buy, build, and borrow model	
	Work permit of foreign nationals	
	Change of country leadership and potential change of economic policies and directions	● Opportunity to reinforce Philippines as an offshoring destination for multinational companies looking to optimize cost going forward to accelerate bouncing back from Covid-19 losses
	Identification of the required skills set to avoid workforce overproduction	
Education	Keeping engagement in learning and training in the new virtual environment	● Optimize support for remote learning to make it a norm
	Integrate new technologies and real work application in higher education	● Reskilling and upscaling of team members ● Adapting the new ways of working and leveraging new platforms
	Lack of alternate workshops and courses that can be used to prepare new hires. Companies had to create their own or rely	● Partnership between industry and academe on the adaption of future skills, upskilling/reskilling of talent

	on skills training found online which are mostly paid.	
	Subpar English language academic program in non-premiere college/university	● Workers confidence when communicating ● Workers English writing and speaking proficiency
	No college degree/diploma for BPO work	
	Lack of training for mental health issues services, digital marketing and latest web programming technologies	● Training opportunities to career shifters
	Updated curriculum for medical coding	
	Lack of TESDA certified trainers, training providers, and assessment center (i.e call center talent)	● Consider prior learning in certifying assessors and trainers
	Cascading national TESDA initiatives and programs to the provincial and regional level	
	Outdated Training Regulations	● TESDA's Development of Industry Boards

Additional inputs include the following:

- Some companies in the Information Technology subsector have in-house training while a lot of them are relying on skills training online (i.e Purple, Udemy). The needs are sometimes specific and difficult to be found locally, thus resorting to such activities even if online training is mostly paid. Some of their partner companies abroad, like in the US and Australia, also conduct free online courses/training for affiliated companies in the Philippines.
- The industry-academe partnership should further be strengthened especially in response to changing skills requirements of the industry.
- Identifying the quantity in which skill sets are required will avoid the overproduction of graduates. Thus, assessing the shortage of workers in the next few years will help determine the demand and if sufficient employment is available for the graduates.
- Skills requirements in the IT-BPM industry sometimes change on a month to month basis. Since the establishment of training programs in TESDA takes a long time, by the time the manuals are done, the skills may have already changed.

4.3 Skills Requirements

Technical Skills

Prior to the industry consultation for the IT-BPM industry, the TESDA Planning Office disseminated a questionnaire to IBPAP member associations, including the accomplishment of the industry's national skills map. The results were presented, then validated by IBPAP member associations and other industry players from the National ICT Confederation of the Philippines.

Table 2 shows the validated skills map that outlines the technical skills requirements of each subsector namely: (1) Animation, (2) Game Development, (3) Contact Center and BPO, (4) Information Technology and (5) Health Information Management Services.

Only the Global In-House Center (GICC) subsector does not have an input to the IT-BPM skills map as based on the timeline of GICC, determining the talent development skills of their subsector is part of the targets for the fourth quarter. Additional data regarding the skills requirements of their subsector will be reflected as data is made available.

Table 2. Technical skills requirements of the IT-BPM Industry

Subsector	Technical Jobs/Skills/ Qualifications	Jobs/Skills Immediately Needed (S: In the next 1-3 years; L: In the next 3-5 years)	Assess the Shortage of Workers in Filling-up the Skills Requirements (Low, L: <100; Medium, M: 100-500; High, H: >500)	Reasons/ Constraints in Filling-up the Skills Requirements	Recommended Action
Animation	2D Animation Artist	S, L	M	● No qualified applicants ● Prefer to work abroad	Training
	3D Animation Artist	S, L	M		
	Digital Ink and Paint Artist	S, L	M		
	Video Editor	L	M		
	Digital Background Painting				
	Japanese Anime for Animators				
	Japanese Anime for Assistant Animators (Cut-out and In-betweening techniques)				
	Motion Graphics Animation (for post-production)				
	Asset Modeling for eCommerce (3D models and textured assets)				
	Layout				
	Basic Storyboarding				
Game Development	Front End Game Developer	S, L	M		Training

	Role			Issues	Recommendations
	Back End Game Developer	S, L	M	● No qualified applicants ● Prefer to work abroad	
	2D Game Artist	S, L	M		
	3D Game Artist	S, L	M		
	UI/UX Game Artist	S, L	M		
	2D Game Animation		L		
	3D Game Animation		L		
	Video Editor	L	M		
Contact Center and BPO	Customer Service Representative	S, L	L, M	● Increasing competition in BPO companies/ ● saturated market ● Younger generation looking for more "prestigious" jobs	● Training, standardization, and certification ● Re-introduce/ re-educate regarding BPO work ● Showcase career path possibilities ● Invest on innovative recruitment ● DepEd/CHED partnership to strengthen English programs in Universities and to create college elective courses on customer service omnichannel, machine learning, and data mining
	Call Center Agents	S, L	M	● Increasing competition in BPO companies/saturated market ● Younger generation looking for more "prestigious" jobs	● Training, standardization, and certification
	Workforce Management	S, L	L, M	● No qualified applicants ● Seek higher pay ● Prefer to work abroad	● Training, standardization, and certification
	Computer Transcriptionist	S, L	M		
	Performance Management/Big Data Project Management	S, L	L, H		
	Machine Learning and Data Mining	S, L	L, H		
	QA/QE Testing	S, L	L, H		

	Customer Interaction Specialist	S, L	L, M		
	Subject Matter Expert	S, L	L, M		
	Training Quality Specialist	S, L	L, H		
	Business Process Improvement	S, L	L, H		
	Virtual Assistants	L	H		
	General Transcriptionist	L	M		
	Legal Processing Outsourcing	L	M		
	Engineering Services Outsourcing	L	H		
	Collaborative Internet Architectures	L	H		
	Knowledge Process Outsourcing	L	M, H	● Highly skilled workforce or specialized subject matter experts are more enticed to work for big corporations rather than outsourcing companies	
Information Technology	Software Developer (including specific programming languages)	S, L	H	● No qualified applicants ● Seek higher pay ● Prefer to work abroad	● Training, standardization, and certification
	Programming (including low code/no code development)	S, L	H		
	IT Specialist/Staff	L	H		
	Business Analyst	L	H		
	Application and Web Developer	L	H		
	Functional Industry Expertise	L	H		
	Computer System Analysis	L	H		
	Computer and Information Research Science	L	H		
	Front-End UI/UX	L	H		
	Linux and Cloud Administration	L	H		

	Augmented and Virtual Reality	L	H		
	Technical Support	L	M		9
	Database Administration	L	H		
	Administration and Maintenance	L	H		
	Testing and Data Collection	L	H		
	System and Database Server	L	H		
Health Information Management Services	Remote Healthcare Management	S, L	M, H	● Lack of training opportunities for career shifters, graduated of other courses, and graduates of healthcare allied courses ● Lack of skilled workers	● Training ● Pooling of certified trainers ● Needs Assessment Centers ● Training curriculum and certification must be adapted to industry requirements ● Ladderize the courses for the subsector
	Preventive Health	S, L	M, H	● Lack of training opportunities for career shifters, graduated of other courses, and graduates of healthcare allied courses ● Lack of skilled workers ● Salary demands	
	UM/UR (Administrative Staff)	S, L	M, H	● Lack of training opportunities for career shifters, graduated of other courses, and graduates of healthcare allied courses ● Lack of skilled workers ● Lack of certified workers ● Salary demands	
	UM/UR (Nurse Associate)	S, L	M, H		
	Medical Coding and Billing	S, L	M, H		
	Telemedicine (Trainee)	S, L	M, H		
	Telemedicine (Associate)	S, L	M, H		
	Worker's Compensation Management	S, L	M	● Lack of skilled workers	● Pooling of qualified graduates
	Medical Claims (Representative)	S	H	● Lack of training opportunities for career shifters, graduated of other courses, and graduates of healthcare allied courses ● Lack of skilled workers	● Training ● Pooling of certified trainers ● Needs Assessment Centers
	Medical Claims (Associate)	S	H		
	Health Information Management and Bioinformatics	L	M		

				● Lack of certified workers ● Salary demands	● Training curriculum and certification must be adapted to industry requirements ● Ladderize the courses for the subsector

Provided that some of the listed jobs/skills in Table 2 already have existing Training Regulations, which will be detailed in Section V, a recurring area of concern was the relevance of the TRs. Most of the IT-BPM related TRs are already outdated. Thus, the associations are expressing the urgency in revisiting the TRs and developed curriculums.

For instance, the programs for game developers and game artists, which initially takes 10 months to complete, may now be cut into shorter programs of approximately 1-2 months. This resulted from the changes in technology and the skills requirements of the game development subsector.

Further, 2D Animation NC III, 3D Animation NC III, and Animation NC II might need to be revisited as GDAP shared that the needs of the 2D and 3D animation artists in the animation subsector is different from the game development subsector in terms of use and tiers of quality. Game animation focuses more on character movements, commotion, attacks animation, and visual effects; whereas, the animation subsector is more concerned on showing a narrative.

However, depending on the scale of the game development studio, the game industry can also utilize the animators from the animation subsector (i.e cut scenes within games). Armed with basic knowledge and skills in animation, an animator can also learn the specifics of game animation.

The COVID-19 pandemic caused massive digitalization. Consequently, the Information Technology subsector observed a high demand for IT and software solutions. The demand for specific programming languages and the low code or no code development also comprises the priority technical skills of the IT subsector.

Despite the labor demand, all the identified priority jobs/skills in IT cite the absence of qualified applicants as one of the reasons/constraints in filling-up the requirements. Based on the consultation, this is due to the need for constant training. The representative of PSIA shared that the need for manpower pushed some member companies to resort to the conduct of their own in-house training to make applicants eventually qualify for the vacant positions.

Thus, to understand the IT landscape, the PSIA currently conducts a workforce survey with its members and other IT and software companies, where one of the goals is the identification of the priority skills needs in IT in the next 5 years.

For the whole IT-BPM Industry, relevant courses are more preferred in highly specialized jobs/positions. For instance, in the Health Information and Management Service subsector, most of the technical skills require being a graduate from healthcare allied courses. Even in the UM/UR (Nurse Associate) qualification, an applicant does not necessarily have to be a nursing graduate.

<u>Soft Skills</u>

Besides the identified technical skills, the following soft/essentials skills were validated based on the questionnaire responses and additional inputs were reflected as a result of the presented industry situationer:

- Complex Problem Solving
- English Writing and Speaking Proficiency
- Confidence in Speaking
- Critical Thinking and Decision Making
- Highly Driven (Self Motivated)
- People Management Skills
- Creativity
- Fundamental Leadership and Collaboration
- Presentation Skills

<u>Emerging Skills Associated to 4IR</u>

The following are the identified emerging skills related to Fourth Industrial Revolution:

- Community Management
- Digital Fluency/Digital Transformation (including Analytics and Digital Solutions)
- Machine Learning
- Social Media Accounts Management
- Customer Journey Mapping
- Agile Mindset of Learnability, Agility, and Curiosity
- Digital Savviness and Readiness

IT-BPM sector is a fast-changing industry, thus, in terms of emerging skills, IBPAP noted that being part of the labor force in the industry requires more than just digital literacy. In order to remain resilient, individuals and companies must learn to navigate the changes in digital and emerging technologies.

4.4 Possible Providers of the Program

The identified possible providers/partners for the IT-BPM programs include:

- In House Training Providers (i.e Syntactics Inc., Taktyl Studios, Teletech,)
- ASTRA (TVET)
- Member Companies serving as Training Service Providers (i.e Edulynx, JBW, and Medstar)
- Enterprise-Based
- IT-BPM Consultants

For the Global In-House Center, their training providers are usually international and the rates are expensive (in US dollars).

Meanwhile, across IBPAP, there are member organizations and even academic institutions that are providing training. Although the list may not still be exhaustive provided the limited number of survey participants and the limited time during the consultation, IBPAP expressed that TESDA can keep building the list along with the industry experts.

4.5 Other Affected Sector/Sub-industries

Some of the jobs and skills requirements in the IT-BPM sector are cross cutting among various industries. Table 3 shows the sub-industry employment categorized by subsector.

Table 3. Sub-industry employment per IT-BPM subsector

Subsector	Sub-Industry Employment
Animation	● Creative Sector ● Electrical and Electronics ● Visual Arts
Contact Center and BPO	● Creative Sector ● Electrical and Electronics ● Human Health/Health Care ● Logistics and Warehousing ● Tourism (Hotel and Restaurant) ● Utilities ● Wholesale and Retail Trading
Game Development	● Creative Sector ● Electrical and Electronics ● Visual Arts
Global In-House Center	● Focus would lean towards experience or capability to learn vs the course
Health Information Management Services	● Human Health/Health Care ● Information and Communication Technology (IT Providers, Call Center)
Information Technology	● Creative Sector ● Electrical and Electronics

	● Human Health/Health Care ● Logistics and Warehousing

In summary, most can be employed in the Creative, Electrical and Electronics, Visual Arts, and Human Health/Health Care industries.

V. Mapping of Skills Requirements vis-a-vis Existing TR

As mentioned, some of the technical jobs/skills requirements of the industry already have existing Training Regulations. However, due to the fast-changing nature of the industry as brought about by technological and digital advancements, most of these TRs are considered insufficient and outdated.

Listed below are the identified priority technical jobs/skills/qualifications of the industry and the equivalent qualification (WTR).

Table 4. Equivalent qualifications for the job/skills in the IT-BPM Industry, by subsector

Subsector	Technical Jobs/Skills/ Qualifications	Equivalent Qualification (WTR)	Remarks from the TESDA Planning Office and the QSO
Animation	2D Animation Artist	2D Animation NC III	● Amended 2018 ● As per ACPI, there is a suggestion to make a separate TR for Cut Out Animation
	3D Animation Artist	3D Animation NC III	● Amended 2018 ● As per ACPI, there is a recommendation for a trainee entry qualification since it is hard to get candidates/trainees now. It also suggested making separate TRs for the two cores: (1) Modelling and Texture Lighting and (2) Rigging/Animation/Final Render.
	Video Editor	Film and Video Postproduction NC III	
	Digital Ink and Paint Artist	- No available TR -	● In a TESDA Recognized Industry Boards meeting and also with Sec. Lapeña, ACPI was informed that they can propose a program and run it as NTR for the Tulong Trabaho program
	Digital Background Painting	- No available TR -	● In a TESDA Recognized Industry Boards meeting and also with Sec. Lapeña, ACPI was informed that they can propose a

			program and run it as NTR for the Tulong Trabaho program
	Japanese Anime for Animators	- No available TR -	● In a TESDA Recognized Industry Boards meeting and also with Sec. Lapeña, ACPI was informed that they can propose a program and run it as NTR for the Tulong Trabaho program
	Japanese Anime for Assistant Animators (Cut-out and In-betweening techniques)	- No available TR -	● In a TESDA Recognized Industry Boards meeting and also with Sec. Lapeña, ACPI was informed that they can propose a program and run it as NTR for the Tulong Trabaho program
	Motion Graphics Animation (for post-production)	- No available TR -	● In a TESDA Recognized Industry Boards meeting and also with Sec. Lapeña, ACPI was informed that they can propose a program and run it as NTR for the Tulong Trabaho program.
	Asset Modeling for eCommerce (3D models and textured assets)	- No available TR -	● In a TESDA Recognized Industry Boards meeting and also with Sec. Lapeña, ACPI was informed that they can propose a program and run it as NTR for the Tulong Trabaho program.
	Layout	- No available TR -	● ACPI is preparing a project proposal for Animation Production Layout as Recognized Industry Bodies (RIB) ● In a TESDA Recognized Industry Boards meeting and also with Sec. Lapeña, ACPI was informed that they can propose a program and run it as NTR for the Tulong Trabaho program.
	Basic Storyboarding	- No available TR -	● ACPI is preparing a project proposal for storyboarding (320 hrs; 8 weeks) as Recognized Industry Bodies (RIB) ● In a TESDA Recognized Industry Boards meeting and also with Sec. Lapeña, ACPI was informed that they can propose a program and run it as NTR for the Tulong Trabaho program
Game Development	Video Editor	Film and Video Postproduction NC III	
	2D Game Animation	2D Game Art Development NC III*	● GDAP has not been active in promoting these TRs under their association, thus subject for review and maybe separate into new TRs. ACPI can actively help on 2D/3D Game Art Development NC III but not in Game Programming.
	3D Game Animation	3D Game Art Development NC III*	
	2D Game Artist	2D Game Art Development NC III*	

	3D Game Artist	3D Game Art Development NC III*	
	Front End Game Developer	- No available TR -	
	Back End Game Developer	- No available TR -	● For consultation with GDAP
	UI/UX Game Artist	- No available TR -	
Contact Center and BPO	Customer Service Representative	● Contact Center Services NC II* ● Customer Service NC II*	
	Call Center Agents	Contact Center Services NC II*	● For consultation with CCAP
	Computer Transcriptionist	● Medical Transcription NC II* ● Contact Center Services NC II*	
	Customer Interaction Specialist	● Contact Center Services NC II* ● Customer Service NC II*	
	Workforce Management	- No available TR -	
	Performance Management/Big Data Project Management	- No available TR -	
	Machine Learning and Data Mining	- No available TR -	
	QA/QE Testing	- No available TR -	
	Subject Matter Expert	- No available TR -	
	Training Quality Specialist	- No available TR -	
	Business Process Improvement	- No available TR -	
	Virtual Assistants	- No available TR -	
	General Transcriptionist	- No available TR -	● Prioritized in 2015 (TB Resolution No. 2015-15) ● Initial meeting with visually impaired group initiated during the time of Dir. Marty in PLO. No TR developed.
	Legal Processing Outsourcing	- No available TR -	
	Engineering Services Outsourcing	- No available TR -	
	Collaborative Internet Architectures	- No available TR -	
	Knowledge Process Outsourcing	- No available TR -	
Information Technology	Software Developer (including specific programming languages)	● Web Development NC III* ● Game Programming NC III* ● Programming (.Net Technology) NC III* ● Programming (Oracle Database) NC III* ● Programming (Java) NC III	● Programming (Java) NC III was amended in 2021

	Programming (including low code/no code development)	● Programming (.Net Technology) NC III* ● Programming (Oracle Database) NC III* ● Programming (Java) NC III	● Programming (Java) NC III was amended in 2021
	IT Specialist/Staff	Contact Center Services NC II	● Jobs listed include IT Helpdesk
	Application and Web Developer	Web Development NC III*	
	Front-End UI/UX	Visual Graphic Design NC III	● With related units of competency ● Amended 2018
	Technical Support	Customer Service NC II*	
	Augmented and Virtual Reality	● 3D Animation NC III	● 3D Animation NC III was amended in 2018; As per ACPI,there is a recommendation for a trainee entry qualification since it is hard to get candidates/trainees now. It also suggested making separate TRs for the two cores: (1) Modelling and Texture Lighting and (2) Rigging/Animation/Final Render.
		● 3D Game Art Development NC III*	● GDAP has not been active in promoting these TRs under their association, thus subject for review and maybe separate into new TRs. ACPI can actively help on 2D/3D Game Art Development NC III but not in Game Programming.
	Business Analyst	- No available TR -	
	Functional Industry Expertise	- No available TR -	
	Computer System Analysis	- No available TR -	
	Computer and Information Research Science	- No available TR -	
	Linux and Cloud Administration	- No available TR -	
	Database Administration	- No available TR -	
	Administration and Maintenance	- No available TR -	● Electronic Medical Records/Electronic Health Records (EMR/EHR) Administration and Maintenance was prioritized in 2015 (TB Resolution No. 2015-15); For further consultation with HIMAP
	Testing and Data Collection	- No available TR -	
	System and Database Server	- No available TR -	
Health Information	Medical Claims (Associate)	Medical Coding and Claims Processing NC III*	

Management Services	Medical Claims (Representative)	Medical Coding and Claims Processing NC III*	
	Medical Coding and Billing	Medical Coding and Claims Processing NC III*	
	Health Information Management and Bioinformatics	- No available TR -	● Health Information Management Technician was prioritized in 2015 (TB Resolution No. 2015-15) ● For further consultation with HIMAP
	Preventive Health	- No available TR -	
	Remote Healthcare Management	- No available TR -	● For further consultation with HIMAP
	Telemedicine (Trainee)	- No available TR -	
	Telemedicine (Associate)	- No available TR -	
	UM/UR (Administrative Staff)	- No available TR -	
	UM/UR (Nurse Associate)	- No available TR -	
	Worker's Compensation Management	- No available TR -	

*Legend: * - refers to existing Training Regulations promulgated from 2012-2018 and had never been amended or superseded*

Majority of the identified priority jobs/skills requirements do not have available TRs as these can be considered as emerging qualifications. Given the Covid-19 pandemic and how it fast tracked the adoption of digital technologies, the IT-BPM industry calls for urgent actions regarding the skills needs of their labor force.

VI.   TVET Capacity

Listed below is a summary of the existing Training Regulations related to the identified priority jobs and skills in the IT-BPM industry during the sectoral consultation.

Table 5. Summary of equivalent qualifications (WTR) for the prioritized jobs/skills in the IT-BPM industry, by subsector

Subsector	Equivalent Qualification (WTR)
Animation	2D Animation NC III
	3D Animation NC III
	Film and Video Postproduction NC III
Game Development	Film and Video Postproduction NC III
	2D Game Art Development NC III

	3D Game Art Development NC III
Contact Center and BPO	Customer Service NC II
	Contact Center Services NC II
	Medical Transcription NC II
Information Technology	Game Programming NC III
	Programming (.Net Technology) NC III
	Programming (Oracle Database) NC III
	Programming (Java) NC III
	Web Development NC III
	Visual Graphic Design NC III
	3D Animation NC III
	3D Game Art Development NC III
	Customer Service NC II
	Contact Center Services NC II
Health Information Management Services	Medical Coding and Claims Processing NC III

Some of the Training Regulations apply and/or related to not just one specific subsector including 3D Animation NC III, Game Art Development NC III, Customer Service NC II, Contact Center Services NC II, and Film and Video Postproduction NC III.

- Enrolled and Graduated

Table 6. Total Number of Enrolled and Graduated in the IT-BPM related Training Regulations, by Region, by Qualification (WTR), as of June 2021

Region	Qualification (WTR)	Enrolled		Graduated	
		By Qualification	Total	By Qualification	Total
BARMM	Contact Center Services II	19	39	12	12
	Visual Graphic Design III	20			
CAR	Contact Center Services II	224	236	114	125
	Visual Graphic Design III	12		11	
NCR	Contact Center Services II	2,806	2, 870	3,595	3, 808
	Medical Transcription II	19		71	
	Programming (Java) III	45		120	
	Visual Graphic Design III			22	
Region I	Contact Center Services II	99	159	97	261
	Visual Graphic Design III	60		164	

Region	Qualification	Enrolled (By Qualification)	Enrolled (Total)	Graduates (By Qualification)	Graduates (Total)
Region II					
Region III	Contact Center Services II	202	202	183	335
	Game Programming III			25	
	Medical Transcription II			18	
	Visual Graphic Design III			109	
Region IV-A	Contact Center Services II	1, 107	1, 107	1, 443	1, 500
	Medical Transcription II			25	
	Visual Graphic Design III			32	
Region IV-B					
Region V	Contact Center Services II	225	250	469	492
	Medical Transcription II	25		23	
Region VI	Contact Center Services II	1, 244	1, 244	1, 285	1, 285
Region VII	Contact Center Services II	505	505	902	902
Region VIII	Contact Center Services II	388	388	232	232
Region IX	Contact Center Services II	451	451	421	421
Region X	Contact Center Services II	259	301	207	225
	Visual Graphic Design III	42		18	
Region XI	Visual Graphic Design III	122	122	62	62
Region XII	Visual Graphic Design III	25	25	25	25
Region XIII	Visual Graphic Design III	42	42		
Total:		7, 941		9, 685	

Legend: Gray filled rows are those without available data
Note: Data for graduates may include spillover
Source: TESDA Information and Communication Technology Office

NCR, Region VI, and Region IV-A have the most number of enrolled and graduates whereas only Regions II and IV-B do not have any enrolled or graduated in IT-BPM related Training Regulations as of June 2021. Most of the regions also utilize either Contact Center Services NC II or Visual Graphic Design NC III. Only NCR has enrolled and graduates for Programming (Java) NC III and only Region III has graduates for Game Programming NC III.

The highest number of enrolled and graduated is in NCR with a total of 2, 870, and 3, 808 respectively. Like other regions, it is being dominated by Contact Center Services NC II. Further, excluding the two regions without represented data, Region XII has the least number of enrolled with only 25 for Visual Graphic Design NC III. Meanwhile, BARMM has the least number of graduates, with only 12 for Contact Center Services NC II.

- Assessed and Certified

Table 7. Total Number of Assessed and Certified in the IT-BPM related Training Regulations, by Region, by Qualification (WTR), as of June 2021

Region	Qualification (WTR)	Assessed		Certified	
		By Qualification	Total	By Qualification	Total
BARMM					

CAR	Customer Services NC II	109	243	98	146
	Visual Graphic Design III	134		48	
NCR	Customer Services NC II	9	25	9	25
	Visual Graphic Design III	16		16	
Region I	Visual Graphic Design III	81	81	33	33
Region II					
Region III	Visual Graphic Design III	76	76	62	62
Region IV-A	Visual Graphic Design III	128	128	39	39
Region IV-B					
Region V	Customer Services NC II	9	57	9	57
	Medical Transcription II	48		48	
Region VI					
Region VII					
Region VIII					
Region IX					
Region X	Visual Graphic Design III	17	17	16	16
Region XI	Visual Graphic Design III	53	53	48	48
Region XII					
Region XIII	Visual Graphic Design III	73	73	32	32
Total:		753		458	

Legend: Gray filled rows are those without available data
Note: Data may include spillover
Source: TESDA Certification Office

For the total number of assessed and certified, 8 out of 17 regions (47%) do not have available data. As for the remaining regions, the top 3 highest assessment is in CAR, Region IV-A, and Region I, dominated by Visual Graphic Design NC III. The regions with the top 3 highest TVET certified individuals for IT-BPM related TRs are in CAR, Region III, and Region V.

Moreover, only Region V has assessed and certified for Medical Transcription NC II.

● Summary of Enrolled, Graduated, Assessed and Certified

Table 8. Summary of Enrolled, Graduated, Assessed and Certified in the IT-BPM related Training Regulations, by Qualification (WTR), as of June 2021

Qualifications (WTR)	Enrolled	Graduated	Assessed	Certified
2D Animation NC III				
3D Animation NC III				
Film and Video Postproduction NC III				
2D Game Art Development NC III				

	By Qualification	Total	By Qualification	Total	By Qualification	Total
3D Game Art Development NC III						
Customer Service NC II			127		116	
Contact Center Services NC II	7, 529		8, 960			
Medical Transcription NC II	44		137		48	48
Game Programming NC III			25			
Programming (.Net Technology) NC III						
Programming (Oracle Database) NC III						
Programming (Java) NC III	45		120			
Web Development NC III						
Visual Graphic Design NC III	323		443		578	294
Medical Coding and Claims Processing NC III						
Total:	**7, 941**		**9, 685**		**753**	**458**

Legend: Gray filled rows are those without available data

As reflected in Table 8, 9 out of 15 (60%) of the existing TRs that are related to the identified priority skills needs/requirements in the IT-BPM industry are unutilized and currently do not have any enrolled, graduated, assessed, and certified as of mid 2021. From these nine (9) TRs, a majority was promulgated from 2006 to 2015, with only Web Development NC III promulgated in 2018 and Film and Video Postproduction NC III promulgated in May 2021.

● Assessment Centers, Competency Assessors, and National TVET Trainer Certificate Holders

Table 9. Total Number of Assessment Centers, Competency Assessors, and National TVET Trainer Certificate (NTTC) holders in the IT-BPM related Training Regulations, by Region, by Qualification (WTR), as of June 2021

Region	Qualification (WTR)	Assessment Centers		Competency Assessors		Trainers	
		By Qualification	Total	By Qualification	Total	By Qualification	Total
BARMM	2D Animation NC III			1		2	
	3D Animation NC III				2	2	11
	Visual Graphic Design NC III			1		7	
CAR	2D Animation NC III	1		1		1	
	3D Animation NC III	2					
	Customer Service NC II	2	10	7	12	14	20
	Medical Transcription NC II	1		2		2	
	Web Development NC III	2		1		1	
	Visual Graphic Design NC III	2		1		2	
NCR	2D Animation NC III	1		5		18	
	3D Animation NC III	1	12	2	36	13	180
	3D Game Art Development NC III			1		1	

Region	Qualification						
	Customer Service NC II	2		9		26	
	Medical Transcription NC II	1		2		7	
	Game Programming NC III			1		2	
	Web Development NC III	1					
	Medical Coding and Claims Processing NC III			1		3	
	Visual Graphic Design NC III	6		15		109	
	Programming (Java) NC III					1	
Region I	2D Animation NC III	1					
	Web Development NC III	1	6		2		30
	Visual Graphic Design NC III	4		2		30	
Region II	Visual Graphic Design NC III					1	1
Region III	2D Animation NC III	1				7	
	3D Animation NC III					1	
	Customer Service NC II		5	1	14	7	64
	Visual Graphic Design NC III	4		13		44	
	Medical Transcription NC II					4	
	Game Programming NC III					1	
Region IV-A	2D Animation NC III	1		4		10	
	3D Animation NC III					3	
	Customer Service NC II		10	1	16	9	74
	Medical Transcription NC II	2				2	
	Visual Graphic Design NC III	7		11		48	
	Web Development NC III					2	
Region IV-B	Visual Graphic Design NC III	1				6	
	2D Animation NC III		1			3	11
	Customer Service NC II					2	
Region V	2D Animation NC III			1		1	
	Customer Service NC II	1		3		14	
	Medical Transcription NC II	1	2	1	5	3	22
	Web Development NC III					1	
	Visual Graphic Design NC III					3	
Region VI	2D Animation NC III			1		7	
	3D Animation NC III	1					
	Customer Service NC II	1				3	
	Medical Transcription NC II		4	2	6	4	33
	Visual Graphic Design NC III	2		3		16	
	Web Development NC III					3	
Region VII	2D Animation NC III			3		12	
	3D Animation NC III					1	
	Customer Service NC II		2	1	7	2	20
	Medical Transcription NC II	1				2	

Region	Qualification						
	Visual Graphic Design NC III	1		3		3	
Region VIII	3D Animation NC III	1	1			2	5
	Customer Service NC II					1	
	Visual Graphic Design NC III					2	
Region IX	2D Animation NC III		2	2	8	18	53
	3D Animation NC III			1		11	
	Web Development NC III	1		1		1	
	Visual Graphic Design NC III	1		4		21	
	Medical Transcription NC II					2	
Region X	Web Development NC III	1	1	1	3	2	23
	Visual Graphic Design NC III			2		20	
	Medical Transcription NC II					1	
Region XI	2D Animation NC III		8	2	16	6	78
	3D Animation NC III			1			
	Customer Service NC II			1		7	
	Medical Transcription NC II	1		1		2	
	Web Development NC III	2		2		1	
	Visual Graphic Design NC III	5		9		62	
Region XII	Medical Transcription NC II	1	3			1	21
	Visual Graphic Design NC III	2				20	
Region XIII	Visual Graphic Design NC III	3	3	2	2	14	16
	Web Development NC III					2	
Total:		70		129		662	

Legend: Gray filled rows are those without available data
Source: TESDA Certification Office

Several regions have Assessment Centers (ACs) but do not have any Competency Assessors (CAs), for instance, in the case of Region IV-B, Region VIII, and Region XII. These regions do not have any CAs in the listed Training Regulations in their area.

On the other hand, there are cases where there are CAs but do not have ACs. For example, BARMM has one CA each for 2D Animation NC III and Visual Graphic Design NC III but the region does not have ACs. Additionally, Region II does not have any AC and CA but has 1 NTTC holder for Visual Graphic Design NC III.

Meanwhile, the top 3 regions with the most number of ACs, CAs, and trainers are in NCR, Region IV-A, and Region XI.

- Summary of Assessment Centers, Competency Assessors, and NTTC Holders

Table 10. Summary of Assessment Centers, Competency Assessors, and National TVET Trainer Certificate (NTTC) holders in the IT-BPM related Training Regulations, by Qualification (WTR), as of June 2021

Qualifications (WTR)	Assessment Centers	Competency Assessors	Trainers
2D Animation NC III	5	20	85
3D Animation NC III	5	4	33
Film and Video Postproduction NC III			
2D Game Art Development NC III			
3D Game Art Development NC III		1	1
Customer Service NC II	6	23	85
Contact Center Services NC II			
Medical Transcription NC II	8	8	30
Game Programming NC III		1	3
Programming (.Net Technology) NC III			
Programming (Oracle Database) NC III			
Programming (Java) NC III			1
Web Development NC III	8	5	13
Visual Graphic Design NC III	38	66	408
Medical Coding and Claims Processing NC III		1	3
Total:	70	129	662

Legend: Gray filled rows are those without available data

Out of 15 listed TRs, five (5) do not have any Assessment Centers, Competency Assessors, and NTTC holders namely Film and Video Postproduction NC III, 2D Game Art Development NC III, Contact Center Services NC II, Programming (.Net Technology) NC III, and Programming (Oracle Database) NC III.

Thus, although Contact Center services NC II has the most number of enrolled and graduates (See Table 6), there is no assessed and certified for this TR, as what was also highlighted during the consultation.

● Registered Programs

Table 11. Total Number of Registered Programs in the IT-BPM related Training Regulations, by Region, by Qualification (WTR), as of August 2021

Region	Qualification (WTR)	Registered Programs	
		By Qualification	Total
BARMM	2D Animation NC III	2	6
	Contact Center Services NC II	2	
	Visual Graphic Design NC III	2	
CAR	2D Animation NC III	1	8
	Visual Graphic Design NC III	2	
	Medical Transcription NC II	1	

	Contact Center Services NC II	4	
NCR	2D Animation NC III	5	120
	3D Animation NC III	8	
	Contact Center Services NC II	68	
	Contact Center Services NC II – Mobile Training Program	4	
	Medical Transcription NC II	7	
	Finishing Course for Medical Transcription NC II	1	
	Game Programming NC III	1	
	Programming (Java) NC III	3	
	Visual Graphic Design NC III	23	
Region I	2D Animation NC III	1	19
	3D Animation NC III	1	
	2D Game Art Development NC III	1	
	Contact Center Services NC II	4	
	Medical Transcription NC II	1	
	Visual Graphic Design NC III	11	
Region II			
Region III	2D Animation NC III	2	57
	3D Animation NC III	2	
	Customer Service NC II	2	
	Contact Center Services NC II	24	
	Contact Center Services NC II – Mobile Training Program	4	
	Medical Transcription NC II	1	
	Game Programming NC III	3	
	Visual Graphic Design NC III	19	
Region IV-A	2D Animation NC III	3	53
	3D Animation NC III	1	
	Customer Service NC II	4	
	Contact Center Services NC II	36	
	Medical Transcription NC II	2	
	Visual Graphic Design NC III	7	
Region IV-B	Contact Center Services NC II	2	2
Region V	Contact Center Services NC II	10	13
	Customer Service NC II	1	
	Medical Transcription NC II	1	
	Finishing Course for Medical Transcription NC II	1	
Region VI	2D Animation NC III	1	19
	Contact Center Services NC II	14	
	Customer Service NC II	1	
	Medical Transcription NC II	1	
	Visual Graphic Design NC III	2	

Region	Program	Count	Total
Region VII	2D Animation NC III	1	25
	3D Animation NC III	2	
	Customer Service NC II	1	
	Contact Center Services NC II	15	
	Contact Center Services NC II – Mobile Training Program	3	
	Medical Transcription NC II	1	
	Game Programming NC III	1	
	Visual Graphic Design NC III	1	
Region VIII	Contact Center Services NC II	4	4
Region IX	2D Animation NC III	14	40
	3D Animation NC III	14	
	Contact Center Services NC II	2	
	Medical Transcription NC II	2	
	Visual Graphic Design NC III	8	
Region X	2D Animation NC III	1	10
	Medical Transcription NC II	1	
	Visual Graphic Design NC III	4	
	Contact Center Services NC II	4	
Region XI	2D Animation NC III	3	22
	Customer Service NC II	1	
	Contact Center Services NC II	2	
	Medical Transcription NC II	1	
	Finishing Course for Medical Transcription NC II	1	
	Web Development NC III	1	
	Visual Graphic Design NC III	13	
Region XII	Visual Graphic Design NC III	2	3
	Medical Transcription NC II	1	
Region XIII	Visual Graphic Design NC III	5	7
	Contact Center Services NC II	1	
	Medical Transcription NC II	1	
Total			408

Legend: Gray filled rows are those without available data
Mobile Training Program and Finishing Course are included as separate Programs
Source: TESDA Certification Office

Excluding Region II, the three (3) other regions with the least number of registered programs are in Region IV-B, Region XII, and Region VIII. Contrary to this, the top three (3) regions with the highest number of registered programs are in NCR, Region III, and Region IV-A.

- Summary of Registered Programs

Table 12. Summary of Registered Programs in the IT-BPM related Training Regulations, by Qualification (WTR), as of August 2021

Qualifications (WTR)	Registered Programs
2D Animation NC III	34
3D Animation NC III	28
Film and Video Postproduction NC III	
2D Game Art Development NC III	1
3D Game Art Development NC III	
Customer Service NC II	10
Contact Center Services NC II	192
Contact Center Services NC II – Mobile Training Program	11
Medical Transcription NC II	21
Finishing Course for Medical Transcription NC II	3
Game Programming NC III	5
Programming (.Net Technology) NC III	
Programming (Oracle Database) NC III	
Programming (Java) NC III	3
Web Development NC III	1
Visual Graphic Design NC III	99
Medical Coding and Claims Processing NC III	
Total:	408

Legend: Gray filled rows are those without available data

The five (5) TRs which do not have any registered programs were promulgated from 2012 to 2015, except Film and Video Postproduction NC III. A majority of the registered programs are in Contact Center Services NC II and Visual Graphic Design NC III, which both dominated the regions in terms of enrolled and graduates.

The list also contains 11 registered programs for the Contact Center Services NC II – Mobile Training Program found in NCR, Region III, and Region VII. Additionally, 3 registered programs for Finishing Course for Medical Transcription NC II are also included which are in NCR, Region V, and Region XI. (See Table 11)

It is also worth noting that all three (3) registered programs for Programming (Java) NC III is in NCR; following this, the only registered program for Web Development NC III and 2D Game Art Development NC III is in Region XI and Region I, respectively.

VII. Way Forward

The following are the recommended action items to cope up with the demands of the IT-BPM Industry.

- **Prioritization of IT-BPM Industry Skills**

  For the identified priority skills that do not have available TRs, there is an opportunity to formulate either a Full-blown Training Regulation or Competency Standards in order to remain relevant and competitive to the industry demands.

<u>Development of a Full-blown Training Regulation</u>

Skills requirements identified as needed in the next 1-3 years and 3-5 years that are of high demand (above 500 workers) in the assessment of worker shortage are recommended for the development of a full-blown TR, named as follows:

- System and Database Server
- QA/QE Testing
- Business Process Improvement
- UM/UR (Administrative Staff)
- Telemedicine (Trainee)
- Virtual Assistants
- Collaborative Internet Architectures
- Functional Industry Expertise
- Computer and Information Research Science
- Database Administration
- Testing and Data Collection

- Machine Learning and Data Mining
- Training Quality Specialist
- Preventive Health
- UM/UR (Nurse Associate)
- Telemedicine (Associate)
- Engineering Services Outsourcing
- Business Analyst
- Computer System Analysis
- Linux and Cloud Administration
- Administration and Maintenance
- Performance Management/Big Data Project Management

While the above mentioned skills requirements are those that meet the set criteria for the prioritization of the TESDA Board, it is recommended to get the support of the industry for the development of the full -blown training. This is due to the fact that during the consultation, the participants from the sector explained that TVET programs related to IT-BPM should be more flexible in terms of the fast changing requirements and current certifications that are acceptable to the industry.

Further, the Electronic Medical Records/Electronic Health Records Administration and Maintenance was prioritized in 2015 thru TESDA Board Resolution No. 2015-15, where the Administration and Maintenance qualification is included. This will be communicated to the Qualification and Standards Office as this was already prioritized by the TESDA Board.

<u>Development of a Competency Standard</u>

Skills requirements identified as needed in the next 1-3 years and 3-5 years that are of low demand (below 100 workers) and of medium demand (100-500 workers) in the assessment of worker shortage are recommended for the development of a Competency Standard, named as follows:

- Digital Ink and Paint Artist
- Back End Game Developer
- Workforce Management
- General Transcriptionist
- Knowledge Process Outsourcing
- Remote Healthcare Management
- Front End Game Developer
- UI/UX Game Artist
- Subject Matter Expert
- Legal Processing Outsourcing
- Worker's Compensation Management
- Health Information Management and Bioinformatics

According to the TESDA QSO, general transcriptionist was prioritized in 2015 thru the TESDA Board Resolution No. 2015-15, and an initial meeting with the visually impaired group was initiated during the time of Director Marty in the Partnership and Linkages Office.

Another qualification prioritized thru the TESDA Board Resolution No. 2015-15 was the Health Information Management Technician.

Since no TRs were developed for both qualifications and the consultation results suggest that these should be developed into a CS instead, further consultation with the industry is needed. This can be considered in the review of the Planning Office-Labor Market Information Division on prioritized qualification without Training Regulations

- **Review of Existing Training Regulations**

  As a representative of NICP shared, constant updating and upgrading of the Training Regulations alongside industry experts and practitioners is crucial as the initiatives of TESDA and the industry needs tend to be faster than the experienced technological changes.

  TESDA recognizes its importance, thus, the TESDA Circular No. 046 s.2021 "Implementing Guidelines on the Pre-Review and Evaluation of the Training Regulations" aims to ensure the relevance of the existing TRs vis-a-vis industry needs.

  As a start, out of the 15 TRs listed in Table 5, nine (9) existing TRs do not have any data for enrolled, graduated, assessed and certified as of June 2021. These TRs include 1) 2D Animation NC III; 2) 3D Animation NC III; 3) Film and Video Postproduction NC III; 4) 2D Game Art Development NC III; 5) 3D Game Art Development NC III; 6) Programming (.Net Technology) NC III; 7) Programming (Oracle Database) NC III; 8) Web Development NC III; and 9) Visual Graphic Design NC III.

  Majority of these were promulgated from 2006 to 2015 except Web Development NC III promulgated in 2018 and Film and Video Postproduction NC III promulgated in May 2021. To cover the other IT-BPM related TRs, it is recommended that all TRs promulgated from 2012 to 2018 be revisited.

  Table 13 list all the qualification (WTR) which can be reviewed against the related technical jobs/skills requirements in the industry.

Also added in the list are Medical Transcription NC II and Customer Service NC II which were promulgated in 2006 and 2008 respectively.

Table 13. List of for review Qualification (WTR) and related jobs/skills requirements of the IT-BPM Industry

Qualification (WTR)	Technical Jobs/Skills/Qualifications
2D Animation NC III	● 2D Animation Artist
3D Animation NC III	● 3D Animation Artist ● Augmented and Virtual Reality
2D Game Art Development NC III	● 2D Game Animation ● 2D Game Artist
3D Game Art Development NC III	● 3D Game Animation ● 3D Game Artist ● Augmented and Virtual Reality
Contact Center Services NC II	● Call Center Agents ● Computer Transcriptionist ● Customer Service Representative ● Customer Interaction Specialist ● IT Specialist/Staff
Customer Service NC II	● Customer Service Representative ● Customer Interaction Specialist ● Technical Support
Game Programming NC III	● Software Developer (including specific programming languages)
Medical Coding and Claims Processing NC III	● Medical Claims (Associate) ● Medical Claims (Representative) ● Medical Coding and Billing
Medical Transcription NC II	● Computer Transcriptionist
Programming (.Net Technology) NC III	● Programming (including low code/no code development) ● Software Developer (including specific programming languages)
Programming (Oracle Database) NC III	● Programming (including low code/no code development) ● Software Developer (including specific programming languages)
Visual Graphic Design NC III	● Front-End UI/UX
Web Development NC III	● Application and Web Developer

	• Software Developer (including specific programming languages)

Additional inputs were provided by the TESDA QSO regarding the TRs for the Animation and game Development subsectors. According to QSO, ACPI suggested that for 2D Animation NC III, there could be a separate TR for Cut Out Animation. As for 3D Animation NC III, there is a suggestion to have a separate TRs for (1) Modelling and Texture Lighting and (2) Rigging/Animation/Final Render. For the 2D and 3D Game Art Development NC III, the TR may be separated into new TRs where ACPI can actively work together with GDAP regarding game art, but not in Game Programming.

Further, 2D Animation NC III, 3D Animation NC III, and Animation NC II might need to be revisited as GDAP shared that the needs of the 2D and 3D animation artists in the animation subsector is different from the game development subsector in terms of use and tiers of quality. Game animation focuses more on character movements, commotion, attacks animation, and visual effects; whereas, the animation subsector is more concerned on showing a narrative.

Meanwhile, the programs for game developers and game artists, which initially takes 10 months to complete, may now be cut into shorter programs of approximately 1-2 months. This resulted from the changes in technology and the skills requirements of the game development subsector.

Although revisiting the TRs are crucial, a particular area of concern for the industry is the **duration of the whole process from reviewing to the actual implementation** of the revised version, still banking on the fast changing nature of the industry. The IT-BPM industry is expressing concern that since the development of training programs in TESDA takes a long time, by the time the manuals are done, the skills may have already been changed.

It is suggested that the Qualification and Standards Office consider the recommendations of the industry association on the specific gaps between the existing TRs and the requirements of the industry.

Further, TESDA has to make sure that upon the development of the Training Regulation, the infrastructure (e.g. Regional Lead Assessors, Regional Lead Trainers, etc) for the implementation of the program is also developed, to avoid the delays in the conduct of the programs. The Regional and Provincial Office, once received the guidelines for the implementation of the developed Training Regulations, should also conduct activities that will inform the concerned stakeholders in the area about the developed program.

- **Consideration for the Scholarship Provision**

The identified skills requirements are recommended to be considered in the prioritization of the allocation scholarship.

Furthermore, it is also worth noting that among the scholarship programs, the Tulong Trabaho program seems to fit the requirement of the sector, considering the nature of the sector in

terms of the emerging skills, fast changing technology, requirement for flexibility, and the certification requirement. The identified skills should form part of the review of the Selected Training Programs (STPs).

- **Explore the Establishment of Long term, Multi-Year Plans**

  The industry associations present during the consultation understand the need to conduct industry consultations and skills mapping validation. According to the TESDA Circular No. 001 s. 2021 or the Implementing Guidelines on the Skill Mapping and Prioritization of Skills Requirements, skills map should be reviewed every 3 years or as the need for emerging jobs/skills arise.

  However, IBPAP expressed their desire and commitment to find an opportunity to work together with TESDA in a more multi-year plan. For instance, this can be a 5-year plan for the IT-BPM industry, also subject to review in case of changes in the industry.

  The recommendation was based on the continuous digital transformation that is expected to only get more complicated in the years to come, in addition to the uncertainties caused by the COVID-19 pandemic. For IBPAP, this will better provide insight into the future of work towards upskilling talent development anchored on existing and emerging jobs.

  The Multi-Year Plan being proposed by the industry can be realized through the Industry Board. The Partnership and Linkage Office can work on this under the possible agreement with the industry associations.

- **Increase Capacity on Existing Training Regulations Regarding Accreditation and Certification**

  In the case of the IT-BPM industry, a member representing the Information and Technology subsector mentioned that most of the time, the manpower gets certifications from international certification programs. This is the case for the PSIA technical council in terms of providing preferred certifications.

  Thus, regarding vendor certification, IBPAP shared that TESDA can either support it or translate it into the Philippine setting (i.e. data analytics certification by Microsoft) so the ownership will be on TESDA.

  It is also noted that **certification programs should be comparable to the global standards**. A particular interest regarding this is on the needs of call center agents.

  The lack of Competency Assessors (CA) and Assessment Centers (AC) is also a concern in the industry. As shown in Table 10, 5 out of 15 TRs do not have any AC, CA, and NTTC holders namely Film and Video Postproduction NC III, 2D Game Art Development NC III, Contact Center Services NC II, Programming (.Net Technology) NC III, and Programming (Oracle Database) NC III.

Thus, although Contact Center services NC II has the most number of enrolled and graduates (See Table 6), there is no assessed and certified for this TR. The lack of CAs and ACs, particularly for call center agents (Contact Center Services NC II) does not provide the employers an accurate gauge of the graduates' skills. Therefore, most of the IT-BPO companies, according to a company working in the Contact Center and BPO company, do not consider it as an advantage even if a student graduated from Contact Center Services NC II. The curriculum also no longer addresses the basic requirements needed.

Considering this, TESDA should increase its capacity particularly on skills requirements that have corresponding TR/TVET programs. The ROPOTIs including the concerned Executive Offices should work to enhance the TVET capacity for the IT-BPM sector.

Likewise, it is worth noting the suggestion of the sector and the subsectors on the concept of vendor certification. While there is already a related mechanism in place, it is suggested that this will be further expanded and studied by the Qualification and Standards Office and the Certification Office to address the fast changing requirements of the IT-BPM sector. It is also crucial for the agency to consider the recognition of the vendor certificate or certifications that are internationally recognized for the sector as this is considered as the major requirement of the companies.

- Consider Prior Learning of Industry Trainers

Members of NICP provided insights on the possible reason for the lack of certified trainers in some IT-BPM programs. Based on TESDA guidelines, an individual is required to take the National Certification (NC) program and the Trainers Methodology course, then be a holder of the National TVET Trainer Certificate before being a certified TESDA trainer. The process may take approximately 5-6 months to complete, thus, increasing the difficulty of encouraging possible trainers to go through the process.

Therefore, it is recommended that the process for the trainer certification be reviewed, in light of considering prior learning and experience of the industry trainers. The National TVET Trainers Academy (NTTA) is recommended to take the lead in developing a concept to determine if the comments/inputs of the sector are acceptable based on existing policies. Further, a separate consultation regarding trainers requirements can be conducted by the NTTA to have the details on the matter.

- Strengthen TESDA National and ROPO partnership

The TESDA Circular No. 042 s.2021 or the Implementing Guidelines on the Area-Based and Demand-Driven TVET provides mechanisms for strengthening the partnership of the national and the regional and provincial Technical Education and Skills Development Committee (TESDC). A part of the implementation is the participation of ROPO Provincial Directors and the ROD Chief in the industry consultation and national skills mapping of TESDA Central Office.

The industry, particularly NICP, calls for the localization of the initiatives in mapping the skills needs of the industry. Moving to an area-based approach may speed up the process of identifying the needs and necessary programs to avoid the workers and companies resorting to online training.

Following this, the section on TVET capacity, specifically those that highlight the TRs per region could provide an insight on which areas to focus on regarding IT-BPM initiatives. For instance, most enrolled and graduates are in NCR, Region VI, and Region IV-A while those with the highest number of registered programs are also in NCR and Region IV-A (See Tables 6 and 11). In contrast, Region II does not have any registered programs for the identified TRs.

The data on TVET capacity may also be cross referenced to the area-based skills map currently being developed by the regional and provincial offices to assess whether IT-BPM is a priority industry in the area. Additionally, this can be balanced with the Digital Cities 2025 of IBPAP where many of the identified areas are in Regions I, III, and IV-A. Tuguegarao is also included in Region II where there is currently no registered program out of the 15 identified TRs.

It is recommended that personnel from the regional and provincial offices should also be trained on how the sector and the implementation of the programs are implemented.

- **Establish the Industry Boards (IB) and the Recognized Industry Boards (RIB)**

  According to IBPAP, the organization had been invited several times in the past to be established as an Industry Board including invitations from the NCR regional office, consultant in Laguna, and other areas. Thus, given the TESDA and IBPAP MOU, the TESDA Partnership and Linkages Office (PLO) shall proceed with the establishment of the Industry Board (IB) for the IT-BPM Industry. A part of the signed partnership as the IB is the monitoring and evaluation of the engagements.

  Following this, PLO is recommended to have discussion with IBPAP to provide clarity and the best approach/strategy concerning the IB and RIBs.

- **Input to the Philippine Skills Framework**

  The output for the TESDA's skills mapping process will serve as an input to the Philippine Skills Framework for the IT-BPM sector, focusing on the competencies for the specific jobs, and be included in the documentation of DTI.

VIII. References

Department of Labor and Employment (2018). JobsFit 2022 Labor Market Information Report. http://www.ble.dole.gov.ph/downloads/Jobsfit%20publications/JobsFit%202022%20Labor%20Market%20Information%20Report.pdf

IT & Business Process Association of the Philippines (2021). TESDA Industry Consultation - Industry Situationer [Presentation Slides].

Technical Education and Skills Development Authority (2018). National Technical Education and Skills Development Plan 2018-2022. https://drive.google.com/file/d/1hIcKeoeUynOPi6Z0ENOJfOoVlyOcSkD6/view

Quick LMI for IT-BPM (2021). [Draft Document].

TESDA Circular No. 2021-001: Implementing Guidelines on the Skill Mapping and Prioritization of Skills Requirements (2021). https://tesda.gov.ph/About/TESDA/27871

TESDA Circular No. 2021-042: Implementing Guidelines on the Area-Based and Demand-Driven TVET (2021). https://tesda.gov.ph/About/TESDA/27871

TESDA Circular No. 2021-046: Implementing Guidelines on the Pre-Review and Evaluation of the Training Regulations (2021). https://tesda.gov.ph/About/TESDA/2787

Annex. Technical Skills vis-à-vis Existing TR, Soft Skills, and Emerging Skills across the IT-BPM Subsectors

*With Available TESDA Training Regulations

[1] Recommended to run as NTR programs for Tulong Trabaho Program

[2] Already prioritized but for further consultation with subsectors   [3] Jobs requiring higher education

Animation

Job/ Skills Requirements and Corresponding TR

- 2D Animation Artist*
- 3D Animation Artist*
- Digital Ink and Paint Artist[1]
- Video Editor*
- Digital Background Painting[1]
- Japanese Anime for Animators[1]
- Japanese Anime for Assistant Animators (Cut-out and In-betweening Techniques)[1]
- Motion Graphics Animation (for post-production)[1]
- Asset Modeling for eCommerce (3D models and textured assets)[1]
- Layout[1]
- Basic Storyboarding[1]

Game Development

Job/ Skills Requirements and Corresponding TR

- Front-End Game Developer
- Back-End Game Developer
- 2D Game Artist*
- 3D Game Artist*
- UI/UX Game Artist
- 2D Game Animation*
- 3D Game Animation*
- Video Editor*

Contact Center and BPO

Job/ Skills Requirements and Corresponding TR

- Customer Service Representative*
- Call Center Agents*
- Workforce Management
- Computer Transcriptionist*
- Performance Management/Big Data Project Management[3]
- Machine Learning and Data Mining[3]
- QA/QE Testing
- Customer Interaction Specialist*
- Subject Matter Expert
- Training Quality Specialist
- Business Process Improvement
- Virtual Assistants
- General Transcriptionist[2]
- Legal Process Outsourcing[3]
- Engineering Services Outsourcing[3]
- Collaborative Internet Architectures
- Knowledge Process Outsourcing

Information Technology

Job/ Skills Requirements and Corresponding TR

- Software Developer (including specific programming languages)*
- Programming (including low code/no code development)*
- IT Specialist/Staff*
- Business Analyst[3]
- Application and Web Developer*
- Functional Industry Expertise
- Computer System Analysis[3]
- Computer and Information Research Science[3]
- Front-End UI/UX*
- Linux and Cloud Administration
- Augmented and Virtual Reality*
- Technical Support*
- Database Administration
- Administration and Maintenance[2]
- Testing and Data Collection
- System and Database Server

Health Information Management Services

Job/ Skills Requirements and Corresponding TR

- Remote Healthcare Management[3]
- Preventive Health[3]
- UM/UR (Administrative Staff)
- UM/UR (Nurse Associate)[3]
- Medical Coding and Billing*
- Telemedicine (Trainee)[3]
- Telemedicine (Associate)[3]
- Worker's Compensation Management
- Medical Claims (Representative)*
- Medical Claims (Associate)*
- Health Information Management and Bioinformatics[2,3]

Global In-House Center

Only the Global In-House Center (GICC) does not have an input to the IT-BPM skills map as based on the timeline of GICC, determining the talent development skills of their subsector is part of the targets for the fourth quarter. Additional data regarding the skills requirements of their subsector will be reflected as data is made available.

Soft Skills

Complex Problem Solving	English Writing and Speaking Proficiency	Confidence in Speaking	Critical Thinking and Decision Making	Creativity
Highly Driven (Self Motivated)	People Management Skills	Presentation Skills	Fundamental Leadership and Collaboration	

Emerging Skills

Community Management	Digital Fluency/Digital Transformation (including Analytics and Digital Solutions)	Social Media Accounts Management	Machine Learning
Customer Journey Mapping	Agile Mindset of Learnability, Agility, and Curiosity	Digital Savviness and Readiness	

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY

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