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Employability Skills of Senior High School Tech-Voc Students: A Measure of Industry Preparedness

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Abstract

Senior high school for technical-vocational education is one of the highlights of the enhanced Basic Education Curriculum of the Philippines. The relevance of Technical and Vocational Education and Training (TVET) in the economic growth of the country has increased the need for quality technical workers who should be industry-ready. Thus, this study sought to find out the industry preparedness of Technical-Vocational-Livelihood (TVL) students of a senior high school in the Philippines as a measure of their industry preparedness. It was identified based on the perception of the students and their immersion supervisors using four skill categories, namely general work habits, communication skills, technical skills, and technology literacy. The respondents were one hundred TVL students and twenty industry representatives. The instrument used was a checklist type of questionnaire; weighted mean and chi-square tests were used as statistical treatment. Students perceived that they were well-prepared in terms of general work habits, communication skills, and technical skills; yet, marginally prepared in technology literacy. The supervisors, however, perceived the preparedness of the students as "marginally prepared" in technical skills and technology literacy while "well-prepared" in the remaining category. The conclusion of this study revealed that the TVL students were prepared to face the labor industry in all four skill categories but needed to focus more on technology literacy and technical skills. The research has recommended that the TVL program should continue and maintain good performance in instructions and laboratory; that the program should continue utilizing the technical skills and technology literacy to the students and must focus on enhancing the students' acquisition of general work habits and communication skills.

Keywords: industry preparedness, employability skills, technical-vocational

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1. Introduction

The implementation of the recent modification in the basic education system in the Philippines has taken place. The K to 12 curriculum was enacted in 2013, introducing an extension of two years to the fundamental education curriculum of the nation. The K to 12 program was signed into law by former President Benigno Aquino III on May 15, 2013, under Republic Act (RA) 10533. The aforementioned program consists of a total of thirteen (13) years of foundational education, encompassing Kindergarten, six years of elementary education, four years of Junior High School, and two years of Senior High School. The primary objective of this program is to ensure that students are given the time to fully comprehend and master various concepts and skills. Additionally, the program intends to cultivate a mindset of continuous learning, thereby fostering lifelong learners. Ultimately, the program strives to provide graduates with

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the necessary knowledge and abilities to succeed in higher education.

Senior high school is part of the K to 12 curriculum. It is the additional two (2) years, the grades 11 and 12, which serve as preparation for the student for their chosen career and profession. Students can choose the particular tracks and strands based on their competence and interests. Preparing students after junior high school is very important to provide time for mastery of skills and concepts. It focuses on developing lifelong learners and preparing the graduate to apply the knowledge and mastery of skills in the future. Senior High School students have the option to choose from four distinct paths, which include academic, technical-vocational-livelihood, arts and design, and sports. Students engage in an immersive educational experience that encompasses earn-while-you-learn options, so facilitating their acquisition of pertinent exposure and practical experience within their selected field of study.

Moreover, the K to 12 curriculum provides students time to learn more about their special skills. According to Yap [1] in the official publication of the Senate of the Philippines, it was implemented in the country because the Philippines is one of the three countries that only offers a ten-year basic education. The issue of students facing challenges in the increasingly competitive global job market has long been recognized as a significant concern. The extended instructional process of the K to 12 educational curriculum is considered essential in providing Filipino children with a higher quality of education.

Moreover, the Technical-Vocational-Livelihood (TVL) track is a crucial component of the K to 12 curriculum, with the primary objective of providing students with the necessary skills and competencies to be prepared for future employment opportunities. This particular program primarily focuses on developing abilities that will enable learners to get certificates of competency (COC) and National Certifications (NC). These certifications are crucial for individuals seeking improved employment prospects in the fields of agriculture, electronics, and trade. This aspect is equally significant while seeking opportunities overseas, as the acquired abilities will provide students with the necessary preparation to enter the job market.

Consequently, the implementation of the K to 12 education system will adequately prepare students for the workforce. The provision of ample learning time for pupils will enable them to further explore and deepen their understanding of their individual areas of interest. In the future, individuals will be able to secure employment that aligns with their specific skills and abilities, even in the absence of a tertiary education. Furthermore, by extending the duration of secondary school by two years, students will complete their education and reach the age of eighteen, which is the legally permissible age for full-time employment. This will allow individuals to enhance their intermediate-level skills and enhance their chances of securing employment or pursuing entrepreneurship.

Getting students ready for life after secondary school is critical work. Yet how do schools know whether the function they are doing is having the coveted outcomes? A staggering measure of time and vitality is put resources into the accumulation and investigation of evaluation results and graduation information, yet schools frequently disregard asking students how they esteem the training they have gotten.

In addition, the government joins with numerous companies for technical and vocational courses to empower students to pick up skills in the field. It is enclosed in the curriculum known as student work immersion. The immersion trains students and strengthens their skills or expertise for their work in the future. It prepares students to work in companies. The coping demand for senior high school students to become job-ready is an impending question that this study answered. This study was focused on identifying the industry preparedness of TVL students as perceived by the students and their respective immersion supervisors. The industry preparedness was based on the four-skill category areas, namely general work habits, communication skills, technical skills, and technology literacy.

2. Literature Review

2.1 Work Readiness

According to the definition provided by Walker and Campbell (2), work readiness refers to the degree to which individuals who have completed their education are judged to possess the necessary traits and attitudes that enable them to be adequately prepared for and successful in the professional setting. Given the quickly changing nature of the working environment, the extent to which graduates are "work ready" is viewed as characteristic of their potential as long as employment and professional success. The fact that TVET institutions are equipping graduates with the qualities that make them work-ready has significant implications for graduate employment. They should be at par with the selection standards of the industry.

Thus, it is relevant to assess the capabilities of the students in accordance with their needed improvement as the labor industries require. The acquisition of insight and knowledge is a prerequisite for progress and development. This phenomenon might be characterized as the practice of perceiving, comprehending, and executing. The process of reflecting, analyzing, and taking action based on the outcomes derived from the analysis are fundamental characteristics inherent to human beings. The advancement of humanity has been reliant on the practice of evaluation, whether it occurs within an individual's own thoughts or through external means. That same context is where this study is focused.

Further, even though employers and employees work together in the direction of getting the job completed, the expectations and the values each holds are not continually communicated or understood. It is essential to understand this and be aware of some of those expectations.

Expectations of Employers. In the context of employment, it is generally anticipated by employers that once entry-level employees have acquired the necessary job-related skills and knowledge, they will exhibit a high level of competence in carrying out their assigned tasks. This entails demonstrating a certain level of autonomy and accountability by effectively managing their time without external prompts, evaluating their own performance on a daily basis, adhering to appropriate workplace conduct, and effectively addressing personal issues without allowing them to impede their professional responsibilities.

Expectations of Employees. Employees bring valuable contributions to the workplace through their expertise, their intellectual capabilities, and their dedication. In exchange, individuals can reasonably anticipate receiving comprehensive training, equitable and respectful treatment, clear communication regarding rules, policies, and modifications to their responsibilities, explicit delineation of work expectations, timely notification of matters directly impacting them, provision of acceptable and secure working conditions, a manageable workload, just compensation and benefits, a reasonable degree of autonomy in their tasks, and the opportunity to contribute suggestions that are duly considered.

In addition, employees anticipate equitable assessment of their work and recognition thereof, along with a decent chance to apply their expertise, abilities, training, or past experiences. Furthermore, they desire clarity regarding the integration of their job within the broader framework of the business.

Work dissatisfaction frequently arises when certain expectations are not met. One of the primary sources of frustration and discontentment arises from inadequate communication between management and personnel, encompassing insufficient feedback on employees' performance, excessive work demands, insufficient acknowledgment of their efforts, incongruity in labor values between employees and employers, interpersonal conflicts within the workplace that are challenging to resolve, and notably, a lack of sense of belonging, acceptance, or significance as an individual.

While employers generally aim to meet the expectations of their employees, they often lack awareness of these expectations due to infrequent and explicit communication. It is the responsibility of each employer and employee to speak about their expectations, in particular, if they need them to be met. Since supervisors

and managers regularly set the overall tone of the place of the job by making policies that affect the conditions and relationships of the workplace, it is usually their duty to be aware of things that contribute to a low-pressure environment. It is hoped that companies recognize the detrimental effects of excessive stress, prolonged overtime, and limited involvement in decision-making processes on employees. Nevertheless, in the event that employees no longer possess such concerns, it becomes their responsibility to effectively communicate their apprehensions to their respective employers.

Citing these employer-employee expectations helps them understand the expectations of employers in general and also look at the expectations of students when they become employees. Gaining a comprehensive understanding of these expectations would facilitate the TVL students' ability to enhance their readiness for employment. It is imperative to engage in a discourse around the expectations of Technical-Vocational-Livelihood (TVL) students in their capacity as employers. This discussion aims to identify unrealistic expectations and explore strategies for managing emotions in circumstances where these expectations are not fulfilled.

2.2 Skill Assessment Parameters

Going deeper into the study, the researchers provide vital information regarding the variables concerned. These variables are general work habits, communication skills, technical skills, and technology literacy.

2.2.1 General Work Habits

These skills are measured in accordance to what extent a student would perform in terms of the following: the ability to work in teams, motivation for success, ability to solve problems and to meet deadlines, the measure of acceptance of constructive criticism, ability to solve problems, confidence in abilities, ability to make decisions when necessary, and the ability to work independently.

Marr [3] in personal development stated that meeting cut-off dates is the single maximum vital aspect in comparing overall performance for a salaried position. When work requirements are not clear and do not have measurable goals, time limits are easy to overlook. A clean deadline is an objective. It prevents one from hiding what he misses. Missed cut-off dates lead to excuses. When one makes excuses, he loses an employer's self-belief and can be the primary to be let go. A business team is depending on each other. One team member's failure to satisfy a closing date endangers some other group members' ability to preserve the timetable. Each cut-off date is a hyperlink in a bigger chain. When one link fails, it compromises the whole chain. If one functions because of the vulnerable hyperlink in a business, his job is at risk of being lost. One forces his manager to search for reasons in the back of inefficient results. If one misses closing dates, he becomes a target. Other co-workers will resent him due to his failure reasons why they need to work harder in order to make up for the missed deadlines.

2.2.2 Communication Skills

According to the 2013 Job Outlook Report, a survey conducted by the National Association of Colleges and Employers involved 219 employers in the United States. The findings revealed that 49.7 percent of these employers considered conversation competencies to be the most desirable skill in their personnel. Interestingly, communication capabilities were identified as the most deficient skill observed in recent college graduates. Among the various highly desired talents, it was seen that 28.9 percent of respondents identified a lack of initiative, 27.2 percent noted a deficiency in collaborative skills, 20.8 percent identified a dearth of a strong work ethic, 11 percent detected a deficiency in analytical capabilities, and 8.7 percent identified a lack of technical ability [4].

One of the most significant shortcomings observed in contemporary graduates is to their proficiency in written communication across diverse audiences. Specifically, they struggle with effectively conveying their ideas persuasively, engaging in logical and critical thinking, and demonstrating responsible work habits in the absence of direct supervision. The financial impact of inadequate written communication in this specific region has been

approximated to exceed $1 billion per year for enterprises in the United States.

Since the results cited above were based on studies conducted among college graduates, how much more lacking in communication skills are the senior high school students? In that sense, communication skills in the TVL track, in this study, pertain to the abilities to get information, communicate with supervisors, peers, or subordinates, document and record information, have English language, contact with others, face-to-face discussions, active listening, reading comprehension, speaking, written comprehension, oral comprehension, oral expression, and deductive reasoning.

2.2.3 Technical Skills

Technical skills are the core of the overall assessment of the level of preparedness of TVL students in facing the labor industry. These are the abilities that play the most important part of the package. The study used different parameters in terms of technical skills since there is a variety of strands in the TVL track in the research locale. The said strands include shielded metal arc welding (SMAW), electrical installation and maintenance (EIM), bread and pastry production, cookery, and automotive servicing.

According to the training regulations (TR) of the Technical Education and Skills Development Authority (TESDA), the following are the common and core competencies of the TVL tracks involved in this study:

Shielded Metal Arc Welding. The Welding NC I (Shielded Metal Arc Welding) Qualification encompasses the necessary competencies required for welding carbon steel plate components in accordance with prescribed specifications, including layout, blueprints, diagrams, work orders, welding methods, or oral instructions, utilizing Shielded Metal Arc Welding (SMAW) equipment. The present qualification adheres to the AWS D1.1 Structural Welding Code, ASME IX Boiler and Pressure Vessel Code, API 1104 Code for Gas and Oil Pipeline Facilities, and ISO 9606-1 Qualification of Welders for Steel.

The competencies encompass a range of skills and abilities, such as the application of safety practices, the interpretation of drawings and sketches, the execution of industry calculations, the contribution to quality systems, the utilization of hand tools, the preparation of weld materials, the setup of welding equipment, the fitting up of weld materials, the repair of welds, and the welding of carbon steel plates using the Shielded Metal Arc Welding (SMAW) process.

Electrical Installation and Maintenance. The Electrical Installation and Maintenance NC II Qualification encompasses the necessary competencies for individuals to effectively install and maintain electrical wiring, lighting, and associated equipment and systems within residential houses/buildings, with a voltage limit of 600 volts.

The competencies encompass the following areas: proficiency in utilizing hand tools, executing measurements and calculations, preparing and interpreting technical drawings, adhering to quality standards, terminating and connecting electrical wiring and electronic circuits, conducting preliminary activities, performing wiring and cabling tasks for single-phase distribution, power, lighting, and auxiliary systems, installing electrical protective devices for distribution, power, lighting, auxiliary, lightning protection, and grounding systems, and installing wiring devices for floor and wall mounted outlets, lighting fixtures/switches, and auxiliary outlets.

Bread and Pastry Production. The Bread and Pastry Production NC II Qualification encompasses the necessary skills and competencies required for individuals to effectively clean equipment, tools, and utensils. Additionally, it involves the preparation, portioning, and plating of pastries, breads, and other dessert items to be served to guests in various hospitality establishments such as hotels, motels, restaurants, clubs, canteens, resorts, luxury lines/cruises, and related operations.

The competencies encompass the development and maintenance of industry knowledge, adherence to workplace hygiene protocols, proficiency in computer operations, implementation of workplace safety practices, delivery of effective customer service,

preparation and production of bakery products, preparation and production of pastry products, creation and presentation of gateaux, tortes, and cakes, preparation and display of petit fours, and presentation of desserts.

Cookery. The Cookery NC II Qualification is a set of abilities that individuals must attain in order to effectively sanitize kitchen spaces and proficiently cook both hot and cold meals, as well as desserts for patrons in diverse food and beverage service establishments.

The aforementioned competencies encompass fundamental skills in the production of bread and pastry, with a particular emphasis on the following proficiencies: upkeep and sanitation of kitchen facilities, creation of stocks, sauces, and soups, preparation of appetizers, salads, and dressings, assembly of sandwiches, cooking of meat, vegetable, egg, and starch dishes, handling of poultry and game, preparation of seafood dishes, creation of desserts, and packaging of pre-prepared foods.

Automotive Servicing. The Automotive Servicing NC I Qualification encompasses a range of abilities that individuals must attain in order to proficiently carry out fundamental engine repair tasks, as well as the removal and installation of vehicle components, for cars powered by both diesel and gasoline engines.

The competencies encompass the following areas: the application of appropriate sealant/adhesive, the movement and positioning of vehicles, the execution of mensuration and calculation tasks, the reading, interpretation, and application of specifications and manuals, the utilization and application of lubricants/coolants, the performance of shop maintenance duties, the estimation of job requirements, the interpretation and creation of technical drawings, the adherence to health, safety, and environmental procedures, the inspection of technical work quality, the maintenance of quality systems, the provision of work skill instructions, the identification and selection of original automotive parts and products, the execution of diesel engine and gas tune-up procedures, the removal and replacement of electrical/electronic units/assemblies, the removal and tagging of engine system components, the handling of automotive steering, suspension, and brake system components, and the handling of transmission system components.

2.2.4 Technology Literacy

Due to the increasing innovation in the industry, a vital skill that a technician must have is a sharpness or even a basic understanding of technology. Literacy in technology is the knowledge of engineering and technology, computers and electronics, analytical or scientific software, computer-aided design CAD software, interacting with computers, and electronic mail.

Research revealed that workers show a determined gap between the skills possessed and the skills needed in terms of the lack of transversal [5, 6], technical [7, 8], and employability skills [7]. In relation to the TVL program, it is evident that the technology within the country is not at par with international standards. Considering the possibility of evaluating local students prior to their graduation would indicate whether or not they are capable of meeting industry standards. However, weaknesses that were observed are significant factors to consider for both the students and the program.

Now, there are identified important stages in the assessment procedure. The determining criteria for assessing quality and identifying the appropriateness of employing relative or absolute standards, gathering pertinent data, and employing these criteria to ascertain value, quality, utility, effectiveness, or significance have been identified [9]. The determination of quality criteria in this study was based on the program's objectives and industry standards. Those measures or variables are general work habits, communication skills, technical skills, and technology literacy.

Undoubtedly, there has been a significant shift in the criteria used to evaluate the effectiveness of TVL in recent years. The criteria for evaluating the preparation of graduates from technology programs have been modified according to shifts in technological, economic, and social demands. Teaching the functioning of the current software would be rendered futile due to the rapid obsolescence of acquired skills and knowledge.

A research conducted in collaboration with the National Association of Colleges and Employers (NACE) reveals that employers across many industries seek similar skills in prospective job candidates. However, employers often report a deficiency of these desired skills in newly hired individuals. The study revealed that although good grades alone are unable to mitigate the hiring process, high-grade factor averages remain significant in evaluating job applications [4]. Non-technical abilities are seen essential in the contemporary labor market. However, despite the awareness among vocational researchers on employers' expectations from college graduates, there remains a significant disparity between these expectations and the actual skill set possessed by graduates [10].

Based on the findings of NACE study, businesses assert that the most effective way for graduates to distinguish themselves from their peers is by demonstrating exceptional qualifications in key skill areas that are highly valued in the industry. According to the Job Outlook, the preferred qualities, ranked in order of importance, are analytical capabilities, teamwork skills, communication skills, technical ability (relevant to one's field of study), and a strong work ethic.

To conclude, the list of related literature and studies cited above were all linked to the burden brought to the researchers to examine the preparedness of TVL students of a senior high school in the Philippines through the identification of their industry preparedness. This study can be a very good platform for addressing the gaps in curriculum implementation.

3. Methodology

The research design used in this study was a descriptive quantitative method that attempts to establish the significant difference between groups of subjects on the basis of criterion measures. Descriptive research describes data and characteristics of the population or phenomena the researchers aimed to study.

One hundred (100) student respondents had been selected for the study. Stratified random sampling was used. They were the TVL students enrolled at a senior high school in the Philippines. The student respondents came from the different strands of the TVL tracks with nine (9) respondents from shielded metal arc welding (SMAW), seventeen (17) from electrical installation and maintenance (EIM), forty-one (41) from home economics, and thirty-three (33) respondents from automotive servicing. They were the students who underwent immersion during the conduct of the study. Moreover, twenty (20) representatives from the linkage partners of the school in their immersion were also respondents to the study. They served as the industry respondents and were chosen purposively.

A questionnaire was used to determine the results of the study. Four skill categories were used to express the job preparedness of the students in terms of the required skills required by entry-level technical employees. The scale that was utilized in the survey to determine the student's preparedness was a 4-point scale of "well prepared", "marginally prepared", "somewhat prepared", and "not prepared". The training regulations (TR) of the Technical Education and Skills Development Authority (TESDA) were highly considered. Revisions and changes were strongly encouraged and were accepted by the researchers for the appropriateness of the questionnaire. After assessing the content and identifying any ambiguity in the items, several revisions, and final validation, the questionnaire was finalized, copied, and distributed. In the analysis of gathered data, mean and chi-square were utilized to establish significant differences among the parameters.

4. Results

The analysis and interpretation of data gathered about the industry preparedness of TVL graduating students were presented in the tables and organized according to the objectives of the study.

Table 1. Industry Preparedness of TVL Students in Terms of General Work Habits

Statements	Student		Rank	Industry		Rank
	WM	QD		WM	QD	
1. The ability to work in teams	3.71	WP	1	3.35	WP	1
2. The ability to meet deadlines	3.49	WP	5	3.25	WP	4.5
3. The ability to accept constructive criticism	3.18	MP	8	3.25	WP	4.5
4. The ability to have confidence in own competencies	3.51	WP	4	3.25	WP	4.5
5. The ability to make decisions when necessary	3.53	WP	3	3.15	MP	8
6. The ability to work independently	3.43	WP	7	3.25	WP	4.5
7. The ability to be organized	3.45	WP	6	3.30	WP	2
8. The ability and willingness to work beyond "normal" working hours	3.55	WP	2	3.20	MP	7
Average Weighted Mean	3.48	WP		3.25	WP	

Table 1 shows the weighted mean of 3.48 of the student respondents' evaluation of their general work habits. Along with their perception, industry respondents rated their general work habits with a weighted mean of 3.25. Both average weighted mean fell under the qualitative description "well-prepared." According to the students' perception, statement number 1 got the highest weighted mean accounting for 3.71. This showed that they had the ability to work in teams. It was remarkable on the perceived level of skill assessment that student-respondents saw themselves as well-prepared in all statements except for statement number 3, the ability to accept constructive criticism. The said statement got a weighted mean of 3.18 and was qualitatively described as "marginally prepared."

On the other hand, on the part of the industry respondents, they agreed with the students in statements number 1, 2, 4, 6, and 7. All those statements were rated "well-prepared." Complementing statement number 1, the industry perceived the students as most prepared in their ability to work in teams having the highest weighted mean of 3.35. They had rated the students as "marginally prepared" in their ability to make decisions and willingness to work beyond the normal working hours with a weighted mean of 3.15 and 3.20, respectively. Moreover, the industry marked the lowest ability of the students in decision-making.

Table 2. Industry Preparedness of TVL Students in Terms of Communication Skills

Statement	Student		Rank	Industry		Rank
	WM	QD		WM	QD	
1. The ability to communicate verbally with peers	3.37	WP	5	3.75	WP	1
2. The ability to communicate verbally with clients	3.22	MP	8	3.15	MP	7.5
3. The ability to write clearly	3.40	WP	4	3.50	WP	2
4. The ability to use proper grammar	3.26	WP	7	3.15	MP	7.5
5. The willingness to ask for clarification when necessary	3.31	WP	6	3.30	WP	3.5
6. The ability to listen with understanding	3.56	WP	1	3.30	WP	3.5
7. The ability to speak to groups	3.50	WP	2	3.25	WP	5
8. The ability to give constructive feedback to others	3.41	WP	3	3.20	MP	6
Average Weighted Mean	3.38	WP		3.33	WP	

The skill preparedness of the TVL students in terms of communication skills is shown in Table 2. The students perceived their preparedness with an average weighted mean of 3.38, "well-prepared," while the industry rated them with an average weighted mean of 3.33, also "well-prepared."

Statement number 6, on the student-respondents, got the highest weighted mean accounting for 3.56 showing their ability to listen with understanding. This was followed by statement number 7, with a weighted mean of 3.50 stating that students have the ability to speak to groups. The student's ability to communicate verbally with clients was marked with the lowest weighted mean of 3.22 but still fell under the descriptive rating "marginally prepared."

However, the industry rated the students with the highest weighted mean of 3.75, "well-prepared," in terms of their ability to communicate verbally with peers. They had agreed with the students when it comes to the ability to communicate verbally with clients along with the use of proper grammar.

Table 3. Industry Preparedness of TVL Students in Terms of Technical Skills

Strands	Student		Rank	Industry		Rank
	WM	QD		WM	QD	
1. Shielded-Metal Arc Welding	3.58	WP	3	3.00	MP	2.5
2. Electrical Installation and Maintenance	3.57	WP	4	2.75	MP	4
3. Home Economics	3.65	WP	1	3.97	WP	1
4. Automotive Servicing	3.62	WP	2	3.00	MP	2.5
Average Weighted Mean	3.61	WP		3.18	MP	

The main core of this study was skill preparedness in terms of technical skills. Table 3 shows the weighted means of the student respondents' evaluation as well as the industry respondents. SHS-TVL got an average weighted mean of 3.61, "well-prepared," as perceived by the learners but the industry rated them as "marginally prepared" with an average weighted mean of 3.18. This showed that the students' perception somehow differed from what is actually observed in the actual job setting.

Among the four strands offered in the locale, Home Economics rated themselves the highest with a mean of 3.65. All of the students perceived themselves as "well-prepared." However, among the strands, Electrical Installation and Maintenance got the lowest mean of 3.57. More importantly, the perception of the industry was quite different for the students. They have marked "marginally prepared" the three strands namely SMAW, EIM, and Automotive Servicing with the mean of 3.00, 2.75, and 3.00 respectively. Only the Home Economics strand was rated "well-prepared."

Table 4. Industry Preparedness of TVL Students in terms of Technology Literacy

Statement	Student		Rank	Industry		Rank
	WM	QD		WM	QD	
1. The ability to perform basic computer operation	3.30	WP	1	3.80	WP	1
2. The ability to manage computer files	3.21	MP	3	3.05	MP	5
3. The ability to use computer drawing software (CAD)	3.07	MP	7	2.60	MP	7
4. The ability to show skills in digital mechanical designing	3.15	MP	6	2.60	MP	7
5. The ability to use computerized numerical control CNC Programming software	2.97	MP	8	2.60	MP	7
6. The ability to interact with computers, to set-up functions, enters data, or process information.	3.16	MP	5	3.20	MP	3
7. The ability to use interconnected networks (internet).	3.28	WP	2	3.10	MP	4
8. The ability to use, transfer, or communicate through electronic mail	3.17	MP	4	3.20	MP	2
Average Weighted Mean	3.16	MP		3.02	MP	

Table 4 shows the weighted means of the students' skill preparedness in terms of technology literacy. Both the students and the industry scored the ability to perform basic computer operations highest among the statements. They had marked it "well-prepared" with a mean of 3.30 and 3.80 respectively. It was remarkable to note that the industry's perception was far higher than what was perceived by the students.

Moreover, the industry rated low on statements 3, 4, and 5 with a weighted mean of 2.60. It fell under the descriptive rating "marginally prepared." These three statements pertained to the ability to use computer drawing software (CAD), skills in digital mechanical designing, and the ability to use Computer Programming Software (CNC). The students agreed with the industry in the said statements.

Table 5. Summary of TVL Students' Industry Preparedness

Skill Category Areas	Students		Rank	Industry		Rank
	WM	QD		WM	QD	
1. General Work Habits	3.48	WP	2	3.25	WP	2
2. Communication Skills	3.38	WP	3	3.33	WP	1
3. Technical Skills	3.61	WP	1	3.18	MP	3
4. Technology Literacy	3.16	MP	4	3.02	MP	4
Average Weighted Mean	3.41	WP		3.20	MP	

The summary of TVL students' industry preparedness was shown in Table 5. Technical skills ranked 1 among the students' perceptions with a weighted mean of 3.61. It was marked as "well-prepared" contrary to the industry's perception of a weighted mean of 3.18, "marginally prepared." Both variables agreed with the general work habits that ranked second among the four skill category areas. The students rated themselves "well-prepared" in general work habits, communication skills, and technical skills while "marginally prepared" in terms of technology literacy.

However, the industry scored the general work habits and communication skills as "well-prepared" and the technical skills and technology literacy as "marginally prepared." the average weighted mean for the student respondents is 3.41, "well-prepared" while the industry respondents got 3.20, "marginally prepared."

Table 6. Significant Differences in the Perceptions of the Students and the Representatives of the Labor Industries on Job Preparedness of TVL Students

N	Df	Chi-Square Value	Tabular Value	Interpretation
120	3	0.0817	7.815	Not Significant

Table 6 presented the significant difference in the perceptions of the students and the representatives of the labor industries on the job preparedness of TVL students. It revealed that when the variances were assumed, a chi-square value of 0.0817 and a tabular value of 7.815 were obtained. Since the computed chi-square value was lesser than the tabular value, a level of significance of 0.05, proved that there is no significant difference between the perceptions of the students and the representatives of labor industries on the job preparedness of TVL students. Though the perception of the industry was marked as "marginally prepared" and the students scored themselves "well-prepared", the difference between the two was not that significant.

5. Discussion

The 21st-century skills are defined as the set of competencies that are required among students to succeed in study, work, and life. These skills include learning and innovation skills, digital literacy skills, and life and career skills [11]. They have been necessary since these focus on the application of knowledge rather than just obtaining them [12].

Moreover, living in the twenty-first century requires people to acquire 21st-century skills, particularly senior high school-TVL students who hope to find work after graduation. If this is the case, students should take advantage of the opportunity to improve and obtain the skills necessary for employment.

Among other skills, life and career skills were the skills that students needed to broaden their work choices. Life and career skills encompass what most businesses refer to as employability skills, but in a broader sense [13]. In some countries, the percentage of females participating in Technical and Vocational Education and Training (TVET) is lower than males due to a variety of variables including government, school, societal, and family involvement [14] [15]. Though gender is a main factor in the TVET system when it comes to

employability, having life and career skills may have alleviated the problem.

Thus, efforts must be made to develop 21st-century skills to generate employable graduates from Technical Vocational Education and Training (TVET) programs. The impact of program changes, which occur frequently, on students and teachers is due to the quality of the generated graduates, who are unable to satisfy the current job market requirements. Graduate quality and innovation ecosystems can be improved by increasing TVET graduates' technical innovation skills. Thus, the Technological Pedagogical and Content Knowledge (TPACK) paradigm, as well as components of 21st-century skills, can be used to help TVET graduates improve their knowledge and abilities [16].

Furthermore, community connections are an essential component of 21st-century education. Partners can play numerous important responsibilities [17]. This could include financial support from stakeholders, increased moral support from parents, good relationship with barangay authorities, and a sense of belonging within the community. Thus, community connections and professional involvement should be incorporated into the curriculum because they are critical components in the development of technicians and technologists.

It is also critical for the partnership between academia and industry to maintain checks and balances inside the TVET system. With this, TVET students and graduates will be equipped with the abilities required by the 21st-century TVET sector.

6. Conclusions and Recommendations

The TVL students are mostly male on the premise that TVL is a skill course. The majority of the students were enrolled in Home Economics and Automotive Servicing but there is a considerable number of students in Shielded-Metal Arc Welding and Electrical Installation and Maintenance. The TVL students perceived that they were well-prepared to face the labor industry in terms of general work habits, communication skills, and technical skills. However, they were marginally prepared in terms of technology literacy. The industry perceived that the TVL students were well-prepared in general work habits and communication skills but marginally prepared in technical skills and technology literacy. Generally, the TVL graduating students are prepared to face the labor industry.

In light of the findings and conclusions, the following are the recommendations:

- The TVL program should be continued and maintained with good performance in instructions and laboratory.
- The TVL program should utilize technical skills and technology literacy for the students. Moreover, the program must focus on enhancing the students' acquisition of general work habits and communication skills.
- The questionnaire of this study can be used as a standard evaluating tool for TVL immersions. It can also monitor the effectiveness of the program itself and countercheck both its strengths and weaknesses. The questionnaire is reflective of the student's performance in training and can be used as a basis for immersion grading.
- A similar study can be conducted every five (5) years intervals to monitor the development of the program and that it can serve as a basis for program development.
- An in-depth study of the same background that focuses on determining the strengths and weaknesses of the program can also be conducted.

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