

Labor Market Integration of Technical Education and Skills Development Authority (TESDA) Graduates

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ABSTRACT

This study examined the extent of labor market integration among Technical Education and Skills Development Authority scholar graduates of Notre Dame of Dadiangas University, focusing on employment status, employability, and the application of technical skills in the workplace. A descriptive-quantitative tracer design with a qualitative component was employed. Data were collected from 151 graduates through a structured survey and from selected participants through semi-structured interviews.

Quantitative data were analyzed using frequency, percentage, weighted mean, and standard deviation, while qualitative responses were interpreted through descriptive narrative analysis. Findings revealed that most graduates were employed or self-employed and had obtained national certification, with overall labor market integration interpreted at a high extent across dimensions. However, moderate results in job alignment and transition to employment indicated the presence of job-skill mismatch and existing structural barriers in the labor market. Qualitative findings further identified challenges including limited employment opportunities, employer preference for degree holders, insufficient work experience, weak professional networks, financial constraints, and underutilization of acquired competencies. The findings suggest that while technical-vocational education contributes positively to employability, broader labor market conditions continue to affect graduates' full integration into the workforce. The study recommends strengthening industry linkages and workplace-based training, enhancing career guidance and job placement services, expanding employer recognition of technical qualifications, and developing institutional support mechanisms that promote skills matching and sustainable employment opportunities for graduates.

Keywords: Labor market integration, TESDA graduates, technical-vocational education and training (TVET), employability, job-skill mismatch, tracer study

INTRODUCTION

The Problem and Its Setting

Labor market integration refers to the extent to which graduates successfully transition into meaningful, stable, and skill-aligned employment. It encompasses not only employment status but also employability, job-qualification match, effective utilization of acquired competencies, income stability, and opportunities for career advancement.

Strong integration indicates that education and training systems effectively translate skills into productive participation in the workforce, while weak integration is reflected in underemployment, job-skills mismatch, informal work arrangements, and limited recognition of qualifications (ILO, 2016; Munishi, 2016; Dardiri, 2016). As economies continue to evolve, labor market integration has become a critical indicator of the effectiveness of technical and vocational education systems worldwide.

Globally, Technical and Vocational Education and Training (TVET) is positioned as a key mechanism for promoting sustainable workforce development. UNESCO (2022) highlights its contribution to the Sustainable Development Goals (SDGs), particularly SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic

Growth). SDG 4 emphasizes expanding access to relevant technical and vocational skills, while SDG 8 promotes productive employment and decent work for all. Labor market integration therefore, serves as a measurable outcome of how effectively TVET contributes to sustainable development. Despite substantial investments in skills training, many countries continue to report persistent issues such as job–skill mismatches and underemployment among graduates (Acharya, 2023; Alam et al., 2024). These challenges underscore the importance of aligning training programs with industry needs and labor market realities.

In the Philippines, the Technical Education and Skills Development Authority (TESDA), established under Republic Act No. 7796, is mandated to provide accessible, industry-relevant technical education that enhances workforce competitiveness (TESDA, 2021). Through competency-based training and scholarship programs, TESDA aims to improve employability and employment outcomes. National tracer studies indicate relatively high employment rates among graduates; however, research also shows that many still experience job–qualification mismatch, informal employment, and income instability (Orbeta & Abrigo, 2016; Edralin & Pastrana, 2023). These findings suggest that training completion alone does not necessarily ensure full labor market integration.

At the local level, Notre Dame of Dadiangas University (NDDU) implements TESDA-accredited programs through scholarship initiatives such as the Training for Work Scholarship Program (TWSP), Special Training for Employment Program (STEP), and Tulong Trabaho Scholarship Program (TTSP). These programs offer qualifications in Dressmaking NC II, Computer Systems Servicing NC II, Bookkeeping NC III, and Cookery NC II. While NDDU has consistently delivered technical-vocational training in the SOCCSKSARGEN region, no localized study has systematically examined the extent to which its TESDA scholar graduates achieve labor market integration. Existing national tracer reports provide aggregate employment data but offer limited institution-specific evidence on skill utilization, employability dimensions, and workplace challenges experienced by graduates within the regional labor market.

Given this gap, there is a need for institution-based tracer evidence that examines not only employment status but also the broader dimensions of labor market integration among TESDA scholars at NDDU. Such evidence is necessary to inform program evaluation, strengthen institutional planning, and enhance the responsiveness of technical-vocational education to local labor market demands.

Anchored in this context, the present study seeks to examine the extent of labor market integration among TESDA scholar graduates of Notre Dame of Dadiangas University (NDDU). It aims to provide a comprehensive analysis of their demographic characteristics and to evaluate how these graduates transition into the workforce including employment status, employability, and the application of technical competencies in the workplace. The study further investigates the challenges graduates face in applying their acquired skills in real-world employment settings and formulates evidence-based recommendations to strengthen their integration into the labor market. Through this institutional tracer inquiry, the research endeavors to generate context-specific empirical evidence that informs program evaluation, enhances institutional responsiveness to labor market demands, and supports the advancement of sustainable employment outcomes aligned with national development priorities and the Sustainable Development Goals.

LITERATURE REVIEW

This chapter presents the related literature and studies on the labor - market integration of technical-vocational graduates. The discussion covers graduate profile, labor market integration in terms of employment status, employability, and application of technical skills, as well as the challenges graduates encounter and the recommendations proposed to strengthen integration. It concludes with the theoretical perspectives that guide the study.

Technical and Vocational Education and Training (TVET) is recognized globally as a vital mechanism for building human capital and supporting economic growth.

UNESCO (2022) highlights TVET as central to the Sustainable Development Goals (SDGs), particularly in expanding access to quality education and promoting decent work. International studies emphasize its role in

addressing skills shortages, enhancing workforce productivity, and preparing graduates for increasingly dynamic labor markets (Wu, Rojewski, & Hill, 2019). The Organisation for Economic Co-operation and Development (OECD, 2019; 2021) further stresses that vocational education plays a crucial role in addressing skills mismatches and preparing workers for the future of work shaped by technological change. Similarly, the Asian Development Bank (2021) underscores the importance of skills development in Southeast Asia as a strategy for inclusive growth and competitiveness, while the International Labour Organization (ILO, 2020) highlights the impact of digitalization and automation on TVET systems, calling for reforms to ensure that training remains relevant to evolving industry demands.

In the Philippines, the Technical Education and Skills Development Authority (TESDA) serves as the lead agency for TVET under Republic Act No. 7796. TESDA is mandated to provide accessible industry-relevant training that equips learners with the competencies required for employment and lifelong learning (TESDA, 2021). To widen access, it has introduced scholarship programs such as the Training for Work Scholarship Program (TWSP), the Special Training for Employment Program (STEP), and the Tulong Trabaho Scholarship Program (TTSP). Access to technical-vocational education is also influenced by the availability of scholarship programs, which influence participation across different qualifications. TESDA scholarship initiatives such as STEP and TWSP expand opportunities for learners; however, the allocation of slots across programs may affect enrollment patterns and the distribution of graduates in specific fields (TESDA, 2021). While these initiatives aim to strengthen employability, tracer studies continue to yield mixed results on job-skill alignment, wage outcomes, and long-term labor market integration (Orbeta & Abrigo, 2016; TESDA, 2019; Edralin & Pastrana, 2023).

In addition to formal employment, technical-vocational education also supports self-employment and entrepreneurship as alternative pathways to labor market integration. Studies highlight that vocational training equips graduates with practical skills that enable them to engage in small-scale enterprises and income-generating activities (Asian Development Bank, 2020).

Demographic Influences on Employment

Studies show that demographic factors play a significant role in shaping the labor market outcomes of TVET graduates. Orbeta and Abrigo (2016) observed that younger TESDA graduates often face challenges in securing stable work due to limited experience, while older graduates may struggle with adapting to workplace technologies. Gender also shapes employability, with women in technical fields frequently reporting barriers to advancement and lower wages (Munishi, 2016). TESDA's Graduate Tracer Studies (2019; 2021) consistently show that most graduates are single, in their early twenties, and employed in entry-level jobs, suggesting limited immediate career mobility.

The most recent TESDA tracer data (2022) confirms these trends, reporting that a majority of graduates remain young, single, and clustered in lower-level positions, though there has been gradual improvement in employment rates for certain qualifications.

International evidence provides further perspective. Ampofo (2020), in a tracer study of Ghanaian technical university graduates, found that while employment rates were relatively high, younger and less-experienced graduates were concentrated in lower-paying less secure jobs. A review by McGuinness, Pouliakas, and Redmond (2018) on European labor markets similarly concluded that age, gender, and educational background strongly influence job-skill alignment, with younger and female workers more likely to experience a mismatch. In the Asian context, Choi and Park (2019) observed that demographic factors such as gender and marital status significantly shape the employment prospects of Korean vocational graduates, particularly in industries sensitive to workplace flexibility. These findings underscore the importance of considering demographic characteristics when analyzing labor market integration, both globally and locally.

Dimensions of Labor Market Integration Employment Status

Employment status is the most visible measure of integration. Globally, studies report mixed outcomes: while some countries report high placement rates for TVET graduates, others continue to experience underemployment

and job mismatch (Wu, Rojewski, & Hill, 2019; Alam, Reza, Ogawa, & Ahsan, 2024). In the Philippines, TESDA's Graduate Tracer Studies show steady improvements, with employment rates climbing to 78.6% in 2021; however, many graduates still work outside their fields of training, indicating persistent gaps in training relevance (TESDA, 2021; Orbeta, 2021).

Across the Asia-Pacific, the International Labour Organization (ILO, 2019; 2020) highlights that youth and TVET graduates face relatively high employment rates compared to adults, but a significant share remains in informal, insecure, or mismatched jobs. Similarly, the Asian Development Bank (2020) notes that while ASEAN countries have improved youth employment participation, many young workers, including TVET completers, remain concentrated in low-wage and low-productivity sectors, underscoring the gap between training and decent work opportunities.

Comparative evidence from dual-system Vocational Education Training (VET) countries further reinforces this point. In Germany, for example, Eichhorst, Hinte, Rinne, and Zimmermann (2020) found that strong employer linkages in VET programs significantly improved job-skill alignment and stability of employment outcomes, suggesting that deeper partnerships between schools and industry are key to reducing mismatches. These insights imply that simply tracking employment rates is insufficient; the quality, stability, and relevance of jobs must also be considered to fully assess the labor market integration of TVET graduates.

Employability

Beyond employment status, employability reflects the skills, attitudes, and adaptability that allow graduates to sustain meaningful work. Yorke (2006) defines employability as a blend of achievements, competencies, and personal attributes, while Guilbert, Bernaud, Gouvernet, and Rossier (2016) emphasize communication, teamwork, and adaptability as crucial workplace skills. Building on this, Knight and Yorke (2004, updated 2019) developed one of the most widely cited employability frameworks in higher and technical education, stressing the integration of subject knowledge, practical skills, and reflective learning as essential to preparing graduates for complex labor markets.

In contrast, Clarke (2018) critiques the employability discourse for overemphasizing individual responsibility while neglecting structural barriers such as job quality, labor market segmentation, and employer practices. This perspective highlights that employability must be assessed not only in terms of graduate attributes but also within the context of labor market realities.

Evidence from Southeast Asia further reinforces the importance of employability.

Nghia (2019), studying Vietnamese TVET students, found that while technical skills were generally strong, many graduates lacked soft skills such as problem-solving, self-confidence, and communication, which employers considered equally critical. In the Philippine context, TESDA programs have advanced employability through competency standards and industry partnerships, yet employers still highlight persistent gaps in workplace readiness and transferable skills (Acharya, 2023; Edralin & Pastrana, 2023). These findings suggest that employability is multidimensional, requiring not only technical proficiency but also soft skills and systemic support to ensure successful labor-market integration.

Application of Technical Skills

Closely tied to employability is the actual use of technical skills in the workplace. The International Labour Organization (2016) stresses that skill utilization is as important as securing employment in measuring training effectiveness. Dardiri (2016) found that embedding hands-on training and career guidance in curricula enhances both productivity and skill application. TESDA tracer studies similarly reveal that while many graduates apply their competencies in employment, others face limited opportunities to practice their skills due to job mismatch or lack of workplace resources (TESDA, 2019; Declaro-Ruedas, 2022).

Comparative evidence also points to the centrality of skill utilization. The European Centre for the Development of Vocational Training (Cedefop, 2018) emphasized that workplace learning and opportunities for continuous

training are crucial for ensuring that skills acquired in school translate into productivity gains. In Southeast Asia, Tran (2015, 2020) found that TVET graduates often experience skill underutilization, in which their acquired competencies exceed the requirements of their jobs, leading to frustration and reduced career satisfaction. This issue is compounded in contexts with weak employer engagement, where graduates are unable to practice advanced technical competencies.

More recent global studies confirm these concerns. The International Labor Organization (2021) reported that in many developing economies, a significant share of workers remains in roles where their formal skills are either underutilized or outdated, limiting both individual career progression and overall productivity. These findings underscore that meaningful labor market integration is not achieved simply through employment, but through the sustained and relevant application of technical skills in the workplace.

Barriers to Labor Market Integration

TVET graduates frequently face obstacles that weaken their integration into the workforce. International studies point to poor training quality, weak career guidance, and limited professional growth pathways as recurring problems (Munishi, 2016; Dardiri, 2016). In the Philippine setting, persistent job–skill mismatches, restricted career mobility, and employer bias against vocational graduates contribute to underemployment and stagnant wages (Orbeta, 2021; Edralin & Pastrana, 2023). Declaro-Ruedas (2022) also noted that outdated facilities in some institutions limit graduates' readiness to meet industry standards, while Alam et al. (2024) emphasized that structural labor market conditions often keep even skilled graduates in insecure or low-paying jobs.

Additional studies reinforce these observations. Kalyani and Kumar (2021), examining employability barriers in India, identified gaps in communication, problem-solving, and adaptability as persistent challenges for graduates, underscoring that technical proficiency alone is insufficient. Similarly, the International Labour Organization (2019) reported that many Asian labor markets continue to be segmented and characterized by informal employment, contractual work, and limited protections, which restrict opportunities for sustainable integration even when graduates are qualified. OECD (2021) likewise emphasized that mismatches between vocational training outcomes and employer expectations remain a major barrier to effective labor market integration worldwide.

From a theoretical perspective, Mismatch Theory offers a valuable lens to understand these barriers. McGuinness (2006) provided foundational evidence that both overeducation and skills mismatch reduce wages, productivity, and job satisfaction. Shi (2024) further highlighted how modern economies face persistent challenges in aligning graduate skills with rapidly evolving industry requirements.

Mismatch Theory posits that when the qualifications, competencies, or field of training of workers do not align with their actual job tasks, inefficiencies arise, leading to underemployment, reduced returns to education, and slower career progression. In the ASEAN context, Tran (2020) observed that Vietnamese TVET graduates often encounter skill underutilization due to weak employer linkages and limited workplace learning opportunities. Similarly, the Asian Development Bank (2020) underscored that young workers in Southeast Asia, including TVET graduates, are often concentrated in low-wage and low-productivity sectors, reflecting structural mismatches between training outputs and labor-market absorption.

Taken together, these studies and Mismatch Theory illustrate that the challenges faced by graduates are shaped not only by individual skills but also by systemic labor market conditions, institutional limitations, and persistent gaps between training and job opportunities. These barriers highlight the importance of aligning training systems with industry needs, strengthening career development support, and addressing structural constraints in order to achieve meaningful labor market integration.

Despite these studies, limited research has examined the labor-market integration of TESDA graduates at the institutional level, particularly within specific training providers such as Notre Dame of Dadiangas University (NDDU), underscoring the need for localized tracer studies.

THEORETICAL FRAMEWORK

This study is guided by three theories that explain how technical-vocational education contributes to employment outcomes and labor market integration.

Human Capital Theory (Becker, 1964; Schultz, 1971) views education and training as investments that enhance individual productivity and yield economic returns. In this perspective, technical-vocational programs of TESDA are considered investments, while the employment, income, and skill utilization of graduates reflect the returns.

The theory has been widely applied in TVET research, with studies confirming that skills training increases employability and wage premiums (Psacharopoulos & Patrinos, 2018). However, the magnitude of these returns depends on the alignment between acquired skills and labor market demand. In the Philippine context, Orbeta and Abrigo (2016) found that TESDA graduates who earned National Certificates had better employment outcomes than those without them, underscoring the value of human capital accumulation. This theory thus underscores the importance of training in improving employability, income levels, and long-term workforce productivity.

The Competency-Based Education and Training (CBET) Framework (Ayonmike, Okwelle, & Okeke, 2015) provides the operational foundation for TESDA programs.

CBET emphasizes outcomes-based, industry-aligned training where learners demonstrate competencies in real or simulated workplace settings. It ensures that graduates not only acquire knowledge but also demonstrate mastery of tasks expected in the workplace.

UNESCO-UNEVOC (2017) highlights CBET as central to modern TVET systems because of its focus on measurable performance standards and employability outcomes. In Southeast Asia, Acharya (2023) stresses that competency-based approaches are essential for bridging gaps between training institutions and industry expectations. By prioritizing hands-on practice, workplace simulations, and performance assessment, CBET guarantees that graduates acquire skills relevant to labor market demands and adaptable to technological changes.

Employability Theory (Yorke, 2006; Guilbert, Bernaud, Gouvernet, & Rossier, 2016) highlights the combination of technical competencies, personal attributes, and adaptability needed to secure and sustain employment. It emphasizes the role of soft skills such as communication, teamwork, and problem-solving, which are increasingly valued by employers.

Knight and Yorke (2004, updated 2019) also conceptualized employability as the ability to deploy skills in diverse contexts through reflection and lifelong learning. Clarke (2018) critiques the overemphasis on individual attributes, arguing that structural conditions such as job quality and labor demand also shape employability outcomes. In ASEAN, Nghia (2019) found that Vietnamese TVET graduates often lacked problem-solving and interpersonal skills, a finding echoed in Philippine studies where employers highlighted similar gaps (Edralin & Pastrana, 2023). These perspectives reinforce that employability is not only about obtaining jobs but also about sustaining career growth through adaptability and continuous skill development.

Together, these theories provide a unified lens for understanding how technical-vocational education influences labor market outcomes. Human Capital Theory explains the economic value of skills acquisition, the Competency-Based Education and Training (CBET) framework ensures that these skills are aligned with industry standards, and Employability Theory highlights the role of both technical and soft skills in securing and sustaining employment.

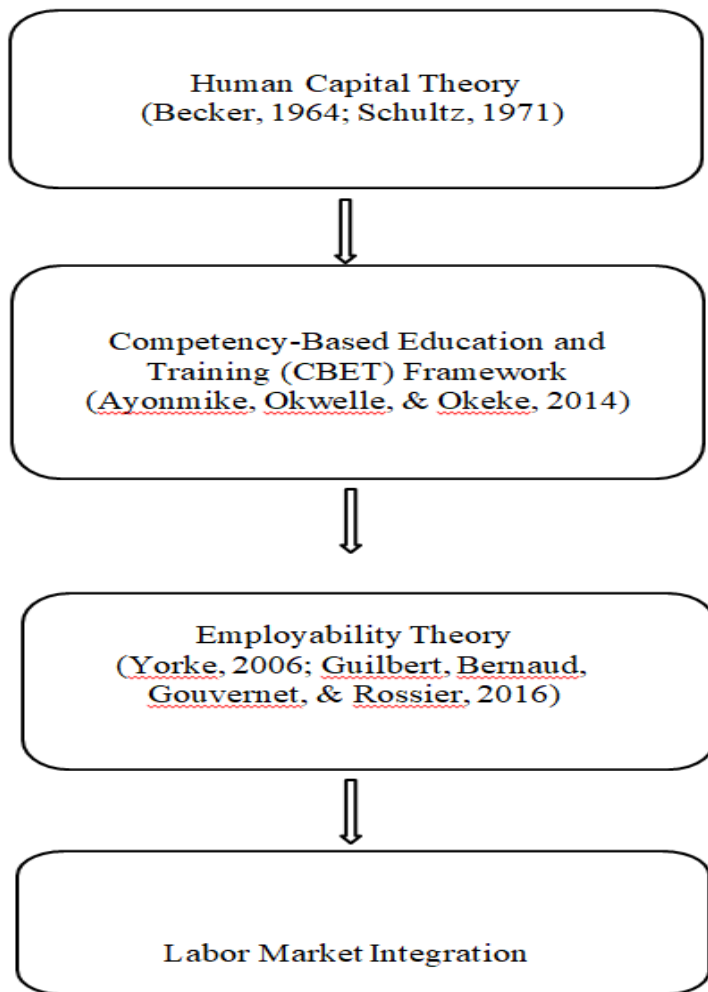


Figure 1Theoretical Framework

Taken as a whole, these perspectives explain how TESDA training contributes to the labor market integration of graduates. Although the framework is presented in a linear format for visual clarity, the three theories are not sequential. Rather, Human Capital Theory, the CBET framework, and Employability Theory serve as complementary perspectives that jointly explain the labor-market integration of TESDA graduates.

CONCEPTUAL FRAMEWORK

This study is anchored in the Input–Process–Output (IPO) model, which explains how selected variables influence the labor-market integration of TESDA graduates.

The input of the study consists of the demographic and training-related characteristics of the respondents. These include age, sex, civil status, completed qualifications, national assessment or certification outcome, type of TESDA scholarship, and current employment sector. These variables describe the background of the graduates and provide baseline information that may influence their opportunities and experiences in the labor market.

The Process involves examining how these input variables relate to the graduates’ transition into the workforce. This includes assessing the extent of labor market integration in terms of employment status, employability, and application of technical skills in the workplace. At the same time, the process also considers the challenges encountered by graduates, such as job-skill mismatch, limited job opportunities, employer preferences, and lack of resources. These challenges may affect how effectively graduates can apply their skills and sustain employment.

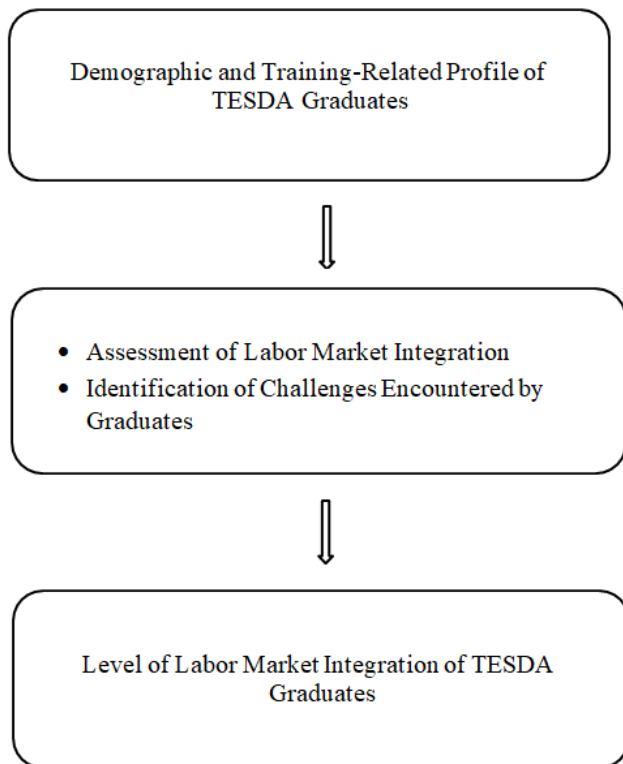


Figure2 Conceptual Framework

The Output of the study is the overall level of labor market integration of TESDA graduates, along with practical recommendations to improve their employment outcomes. These recommendations are intended to enhance alignment between training programs and labor market demands, strengthen industry linkages, and support graduates in achieving more stable and relevant employment.

Thus, the framework assumes that the inputs, when processed through the graduates' experiences and challenges, yield varying levels of labor market integration, which serve as the basis for proposing improvements to TESDA programs and institutional practices.

Statement of the Problem

This study determined the extent of labor market integration of Technical Education and Skills Development Authority (TESDA) graduates at Notre Dame of Dadiangas University (NDDU). Specifically, it answered the following questions:

1. What is the demographic profile of TESDA scholar graduates in terms of:
 - 1.1 Age;
 - 1.2 Sex;
 - 1.3 Civil status;
 - 1.4 Completed qualifications;
 - 1.5 National assessment result / certification outcome;
 - 1.6 Type of TESDA scholarship attained; and
 - 1.7 Current employment sector?

2. What is the extent of labor market integration in terms of:
 - 2.1 Employment status;
 - 2.2 Employability; and
 - 2.3 Application of technical skills in the workplace?
3. What challenges are encountered by graduates in applying their technical skills in the workplace?
4. Based on the findings, what recommendations can be proposed to enhance the labor market integration of TESDA graduates?

Scope and Delimitation of the Study

This study focused on assessing the extent of labor market integration of TESDA scholar graduates from the technical-vocational programs of Notre Dame of Dadiangas University (NDDU). It covered graduates who completed their training between 2020 and 2024 under TESDA-accredited qualifications such as Bookkeeping NC III, Computer Systems Servicing NC II, Cookery NC II, and Dressmaking NC II.

The scope included describing the demographic profile of graduates, examining their employment status, measuring their employability, and assessing how they applied their acquired technical skills in the workplace. It also considered the challenges they encountered in using these skills and formulated recommendations to enhance their integration into the labor market.

The study was delimited to TESDA scholars who trained at NDDU. It excluded non-scholars, graduates of other institutions, and individuals who completed informal or non-accredited training. Data were drawn mainly from self-reported survey responses and were supported by interviews with selected graduates, which may have been subject to recall bias or personal interpretation. Finally, the findings were specific to NDDU and were not intended to represent the experiences of TESDA graduates in other schools or regions.

Significance of the Study

This study is significant because it provides insights into how TESDA graduates of Notre Dame of Dadiangas University (NDDU) integrate into the labor market. The findings benefit different stakeholders in the technical-vocational education sector.

TESDA and Policy Makers. The results provide evidence on the effectiveness of TESDA scholarship programs in promoting labor market integration. These insights guide policy adjustments, help align training with actual industry needs, and ensure that resources are directed toward programs that strengthen employability.

NDDU Administrators and Program Implementers. The study highlights both the strengths and areas for improvement in NDDU's technical-vocational programs. These findings support curriculum refinement, stronger industry partnerships, and enhanced support services that prepare graduates to secure and sustain relevant employment.

Employers and Industry Partners. Data on graduates' competency levels and job readiness help employers assess the value of TESDA qualifications. The findings also encourage closer collaboration with TVET institutions to ensure that training is better aligned with workforce requirements.

TESDA Scholars and Students. The results help current and future students set realistic expectations about employment opportunities after training. By showing how TESDA-accredited programs translate into actual jobs and skill utilization; the study guides their decisions in choosing programs and planning career paths.

Future Researchers. The study adds to the growing literature on labor market integration in TVET. It serves as a reference for other tracer studies at the institutional level and provides a foundation for longitudinal research

that tracks the long-term career trajectories of TESDA graduates.

METHODOLOGY

This section of the paper presents the research design, selection of respondents and participants, research instrument, data gathering procedure, and data analysis.

Research Design

The study employed a descriptive-quantitative tracer study with a qualitative component to examine the labor market integration of TESDA scholar graduates from the technical-vocational programs of Notre Dame of Dadiangas University (NDDU). The quantitative component provided measurable data on the graduates' demographic profiles, employment status, employability, and the application of technical skills in the workplace. Complementing this, the qualitative component captured the graduates' personal experiences and perspectives on the challenges they encountered in integrating into the labor market.

As Creswell (2019) emphasized, combining quantitative and qualitative approaches allows for a broader understanding of research problems by integrating numerical trends with participant narratives. In this study, the descriptive-quantitative design established general patterns and employment outcomes, while the qualitative data added depth by illustrating the lived experiences behind those patterns. Together, these approaches generated a comprehensive account of how TESDA graduates transitioned into and participated in the labor market.

Selection of Respondents / Participants

The respondents of this study were TESDA scholar graduates from the technical-vocational programs of Notre Dame of Dadiangas University (NDDU) who completed their training between 2020 and 2024. To determine the minimum sample size, Yamane's formula was applied with a 5% margin of error, assuming the population size is known (Yamane, 1967; Sekaran & Bougie, 2020). To account for possible non-responses and incomplete data, a 15% buffer was added to the computed sample size. This adjustment followed the recommendation of Creswell and Creswell (2018), who emphasized the importance of anticipating potential non-responses to maintain the reliability and validity of the study.

The population of graduates was drawn from four program qualifications: Bookkeeping NC III, Computer Systems Servicing NC II, Cookery NC II, and Dressmaking NC II. To ensure fair representation of each group, the study employed proportionate stratified sampling, in which the number of respondents from each program was determined by its share of the total population. As Fraenkel, Wallen, and Hyun (2019) explained, stratified sampling effectively ensures that subgroups within a population are adequately represented in the study sample.

This stratified approach not only provided balance but also enhanced the generalizability of the findings within the NDDU context. The final target sample was distributed as follows:

Box 1 Proportional Allocation of Sample Size and Final Target Respondents by Qualification/Program

Qualification / Program	No. of Graduates (2020 – 2024)	Proportion	Sample	Actual Sample Size
Bookkeeping NCIII	34	17.26%	23	26
Computer System Servicing NCII	8	4.06%	5	6
Cookery NCII	85	43.15%	56	65

Dressmaking NCII	70	35.53%	47	54
Total	197	100%	131	151

(Source: TESDA T2MIS)

For the qualitative component, ten graduates were purposively selected from across the four program qualifications to participate in semi-structured interviews. This purposive sampling was designed to ensure variation in perspectives by including graduates from different programs, genders, and employment situations. As Patton (2015) explained, purposive selection is appropriate in qualitative inquiry because it focuses on information-rich cases that can yield deeper insights into the challenges of labor market integration.

Research Instruments

This study used both quantitative and qualitative instruments to gather data on the labor market integration of TESDA scholar graduates from Notre Dame of Dadiangas University (NDDU).

The quantitative instrument was a structured survey questionnaire developed based on the Statement of the Problem, related literature, and TESDA Graduate Tracer Study formats. The questionnaire consisted of three major parts. Part I focused on the graduates' profile and collected demographic and training-related information, such as age, sex, civil status, completed qualification, national assessment or certification outcome, type of TESDA scholarship, and current employment sector. Part II measured the extent of labor market integration using a five-point Likert scale and examined three key dimensions: employment status, employability, and application of technical skills in the workplace. Specifically, this section assessed job stability, job–training alignment, job security, employer recognition of TESDA skills, job satisfaction, opportunities for career growth, demonstration of technical competencies, use of tools and technology, problem-solving ability, communication skills, adaptability to workplace changes, continuous learning, and the extent to which TESDA-acquired skills were applied in daily work tasks and productivity. Part III gathered additional employment information to provide contextual support for the quantitative results, including employment outcomes for employed or self-employed graduates, business-related information for self-employed respondents, and employment status, challenges, and support needs of unemployed graduates. Most items in the questionnaire were closed-ended to facilitate statistical analysis and used categorical response options and Likert-type scales where appropriate.

To complement the quantitative data, a semi-structured interview guide was used as the qualitative instrument. The interview questions focused on the challenges graduates face in applying their technical skills in the workplace and on their recommendations for improving labor market integration. This qualitative tool allowed participants to elaborate on their personal experiences, workplace conditions, and suggestions for strengthening TESDA programs and institutional support, thereby providing deeper insights that enriched and explained the survey findings.

The survey instrument underwent a validation process to ensure clarity, relevance, and reliability prior to its final administration. A panel of three experts reviewed the instrument: a TVET specialist evaluated the alignment of the items with TESDA competencies, a language expert assessed the clarity and appropriateness of wording, and a statistician examined the structure, scaling, and suitability of the items for quantitative analysis. Revisions were made based on the experts' recommendations. The revised instrument was then pilot-tested with a group of graduates who were not included in the main study to identify unclear items and assess internal consistency.

Reliability was established using Cronbach's alpha, with a coefficient of 0.70 or higher considered acceptable for social science research (Taber, 2018). The results of the reliability analysis indicated strong to excellent internal consistency across all sections of the instrument. Specifically, the Employment Status scale (10 items) obtained a Cronbach's alpha of 0.830, the Employability scale (10 items) yielded an alpha of 0.917, and the Application of Technical Skills in the Workplace scale (10 items) recorded an alpha of 0.964. These results demonstrated that the instrument had high reliability and was suitable for measuring the extent of labor-market integration of TESDA graduates.

Data Gathering Procedure

The data collection process began by securing an official list of TESDA scholar graduates from the technical-vocational programs of Notre Dame of Dadiangas University (NDDU). The list of graduates was verified using the TESDA Training for TVET Management Information System (T2MIS) to ensure the accuracy of records regarding program enrollment, qualification completed, scholarship type, and year of completion. From the verified database, graduates who completed their training within the last five years were identified as qualified respondents for the study.

The survey questionnaire was administered in both printed and online formats to maximize accessibility and response rates. Printed copies were distributed to graduates residing in General Santos City, while online versions were disseminated via email, Google Forms, and social media platforms to graduates outside the locality. To improve the retrieval rate, follow-up reminders were sent via through phone, text, and online channels. Assistance from trainers and alumni networks was also utilized to help reach graduates who were already employed or based in other regions.

For the qualitative component, semi-structured face-to-face interviews were conducted with ten purposively selected graduates representing different program qualifications, genders, and employment situations. The interviews were conducted in person at mutually agreed locations to ensure clear communication direct interaction between the researcher and participants. Each interview followed a prepared guide to ensure coverage of essential topics such as training relevance, workplace challenges, and recommendations for program improvement, while still allowing participants to share their perspectives in depth. Responses were recorded with the participants' consent and transcribed to support descriptive analysis.

After the completed questionnaires and interview transcripts were collected, the responses were organized and reviewed to support the interpretation and explanation of the quantitative findings. The qualitative data were used to provide contextual insights and illustrative examples related to the challenges encountered by graduates and their recommendations. All information was treated with strict confidentiality and used solely for academic and research purposes.

Data Analysis

This study employed descriptive analysis to interpret both quantitative and qualitative data. For the quantitative component, survey responses were organized, coded, and summarized using frequency counts, percentages, and weighted means. Frequency counts and percentages were used to describe the demographic profile of the respondents, such as age, sex, civil status, completed qualifications, and type of TESDA scholarship, as well as their employment status, including type of employment, organization, position, and work status. Weighted means were applied to assess employability indicators and the extent to which technical skills were utilized in the workplace. As Creswell and Creswell (2018) emphasized, descriptive measures are effective for transforming large datasets into interpretable patterns that highlight relevant trends and relationships.

To evaluate the extent of labor market integration, a five-point scale was used to assess how effectively graduates translated their training into workplace outcomes. As shown in Table 1, the scale measured the degree of integration across three dimensions: employment status, employability, and application of technical competencies.

Respondents rated each item using a five-point Likert scale, ranging from 1 (Very Low Extent) to 5 (Very High Extent).

Box 2 Scale for Extent of Labor Market Integration

Scale	Range	Description	Interpretation
5	4.20 – 5.00	Very High Extent	The extent of labor market integration is very high (81–100%), indicating stable employment, strong employability, and consistent application of skills.
4	3.40 – 4.19	High Extent	The extent of labor market integration is high (61–80%), showing that graduates are generally employed, employable, and often apply their competencies.
3	2.60 – 3.39	Moderate Extent	The extent of labor market integration is moderate (41–60%), reflecting partial integration with noticeable gaps in employability and skills use.
2	1.80 – 2.59	Low Extent	The extent of labor market integration is low (21–40%), suggesting unstable employment, limited employability, and infrequent use of skills.
1	1.00 – 1.79	Very Low Extent	The extent of labor market integration is very low (0–20%), denoting major employment challenges and minimal application of acquired skills.

For the qualitative component, interview responses were reviewed and interpreted using a descriptive narrative approach, with selected verbatim statements used to provide contextual explanations and illustrative support for the quantitative findings, particularly regarding the challenges graduates encounter and their recommendations for improving labor market integration.

By combining descriptive analysis of survey data with narrative review of interview responses, the study presented a comprehensive account of the labor-market integration of TESDA scholar graduates. This integrated approach ensured both the measurement of observable patterns from the quantitative data and the provision of contextual insights that helped explain the challenges shaping graduates' workforce participation.

Ethical Considerations

This study adhered to established ethical standards in the conduct of research involving human participants, consistent with the provisions of the Data Privacy Act of 2012 (Republic Act 10173) and ethical guidelines in social science research (Creswell & Creswell, 2018).

Participation in the study was voluntary, and informed consent was obtained from all survey respondents and interview participants prior to their involvement. They were informed that they could decline to answer any question or withdraw from the study at any point without penalty.

To maintain confidentiality and anonymity, numerical codes were used instead of names, and responses were reported only in aggregate. All digital data, including survey and interview responses, were stored in password-protected files accessible only to the researcher. Data were retained only for the duration required to complete the study and were securely disposed of thereafter.

The results of this study were used solely for academic purposes and were communicated responsibly. Findings were reported honestly, without fabrication or misrepresentation, and presented in a manner that protected the privacy of participants. Summarized results were also shared with the institution and concerned stakeholders to inform program improvement, but no individual responses were disclosed.

By ensuring voluntary participation, informed consent, confidentiality, and responsible communication of results, the study upheld the ethical principles of respect for persons, beneficence, and integrity in research.

RESULTS AND DISCUSSION

This chapter presents the findings of the study based on the Statements of the Problem. Quantitative results describe the graduates' demographic profile and the extent of their labor-market integration, while qualitative findings provide deeper explanations of the challenges they encounter. These findings serve as the basis for the proposed recommendations.

Demographic Profile of TESDA Scholar Graduates

Table 1 Demographic Profile of Respondents

Variable	Category	f	%
Age	20 - 29	38	25.17
	30 - 39	66	43.71
	40 - 49	33	21.85
	50 - 60	14	9.27
Sex	Female	88	58.28
	Male	63	41.72
Civil status	Single	59	39.07
	Married	66	43.71
	Widowed	7	4.64
	Separated	3	1.99
	Common Law / Live-in	16	10.60

Table 1 presents the demographic profile of the respondents by age, sex, and civil status.

The results show that most respondents belong to the 30–39 age group, followed by those aged 20–29. Female respondents outnumbered male respondents. In terms of civil status, the majority of the respondents were married, followed by single individuals.

A smaller proportion of respondents were widowed, separated, or living in common-law arrangements.

The findings suggest that TESDA programs in NDDU attract individuals who are already within the active working-age population and may be seeking employment stability, additional income opportunities, or career advancement. This supports the findings of Orbeta and Abrigo (2016), who noted that individuals within the productive age group are more likely to pursue skills training to improve employment opportunities. However, TESDA Graduate Tracer Studies (2019; 2021) commonly reported younger graduates, which differs from the present findings.

The higher number of female respondents aligns with the study of Munishi (2016), which found that women tend to participate more actively in service-oriented and vocational training programs. This may also reflect the nature of the qualifications offered in the institution, particularly programs traditionally associated with female participation. Moreover, the predominance of married respondents suggests that many graduates balance family responsibilities alongside employment and training participation.

These findings imply that technical-vocational programs should continue to provide flexible and accessible learning opportunities that accommodate adult learners and working individuals. Support services such as

flexible schedules, career guidance, and strengthened industry linkages may further improve labor market participation and employability among TESDA graduates.

Overall, the demographic profile indicates that TESDA programs in NDDU cater to a diverse population of adult learners actively engaged in workforce-related training.

Based on the findings, it is recommended that the institution sustain inclusive and responsive training programs that address the varying needs of learners across different age groups, sex, and civil status categories.

Table 2 Educational and Employment Profile of Respondents

Variable	Category	f	%
Completed Qualification	Bookkeeping NCIII	26	17.22
	Computer System Servicing NCII	6	3.97
	Cookery NCII	65	43.05
	Dressmaking NCII	54	35.76
National Assessment Result / Certification Outcome	Passed National Certification	139	92.05
	Received Certificate of Competency	5	3.31
	Did not take the National Assessment	3	1.99
	Did not pass the National assessment	4	2.65
Type of TESDA Scholarship	PESFA	14	9.27
	STEP	69	45.69
	TTSP	19	12.58
	TWSP	49	32.45
Current Employment Status	Employed	86	56.95
	Self-employed	38	25.17
	Unemployed	27	17.88

Table 2 presents the educational and employment profile of the respondents including completed qualification, national assessment results or certification outcomes, type of TESDA scholarship, and current employment status.

The findings reveal that most respondents completed Cookery NC II, followed by Dressmaking NC II, while fewer respondents completed Bookkeeping NC III and Computer Systems Servicing NC II. The dominance of hospitality- and livelihood-related qualifications may reflect the accessibility and practicality of these programs among TESDA scholars. This observation aligns with the report of the Asian Development Bank (2021), which emphasized that participation in TVET programs is often influenced by the availability of employment-driven and community-based training opportunities. Nevertheless, the relatively low participation in Computer Systems Servicing NC II highlights the continuing challenge of encouraging enrollment in ICT-related qualifications despite the increasing demand for digital and technology-based skills in the labor market.

The national assessment results further show that the majority of respondents passed the national certification assessment, while only a small proportion received Certificates of Competency, did not take the assessment, or did not pass. These findings suggest that most graduates met TESDA competency standards and demonstrated the required technical skills. This supports the study of Orbeta (2021), which noted that national certification enhances employability by validating competencies required by employers. However, Edralin and Pastrana (2023) argued that certification alone does not automatically guarantee employment, particularly when labor market opportunities are limited or not aligned with graduates' qualifications.

In terms of scholarship type, most respondents were STEP beneficiaries, followed by TWSP, while fewer graduates came from TTSP and PESFA. This distribution indicates that community-based and employment-oriented scholarship programs remain the most accessible forms of training support among the respondents. According to the Technical Education and Skills Development Authority (2021), TESDA scholarship programs are designed to widen access to technical-vocational education and improve workforce participation, especially among marginalized and economically disadvantaged groups. The high number of STEP beneficiaries may also reflect the strong demand for livelihood-oriented training within the local context. Moreover, the variation in scholarship types is significant because each program differs in training focus, beneficiary target, and employment orientation, which may influence graduates' labor market integration experiences.

The current employment status of respondents shows that the majority are employed, followed by self-employed graduates, while a smaller proportion remains unemployed. This finding suggests that many TESDA graduates were able to integrate into the labor market either through wage employment or entrepreneurial activities. The result is consistent with the reports of the International Labour Organization (2020) and TESDA (2021), which emphasized that TVET programs contribute to employability and livelihood generation. In addition, the presence of self-employed graduates supports the findings of the Asian Development Bank (2020), which recognized TVET's role in promoting entrepreneurship and small business development.

Despite these positive outcomes, the presence of unemployed graduates suggests that some still face difficulties securing jobs aligned with their qualifications. This finding supports the observations of Edralin and Pastrana (2023) and Munishi (2016), who noted that TVET graduates may continue to face challenges including job mismatches, limited employment opportunities, and employer preference for applicants with higher educational qualifications.

The findings imply that TESDA programs in NDDU generally contribute positively to certification attainment, employability, and workforce participation. However, lower participation in ICT-related qualifications and the presence of unemployed graduates suggest the need to strengthen the alignment between training programs and emerging labor-market demands.

Overall, the findings indicate that TESDA graduates of NDDU demonstrate positive labor market participation, particularly in terms of certification and employment. Based on the findings, it is recommended that the institution continue strengthening industry partnerships, expand training opportunities in high-demand fields such as ICT, enhance job placement support, and provide entrepreneurial assistance to further improve graduates' labor market integration.

Extent of Labor Market Integration of TESDA Scholar Graduates

This section presents the extent of labor-market integration of TESDA scholar graduates focusing on employment status, employability, and the application of technical skills in the workplace. It examines how graduates have transitioned into the labor market and the degree to which they are able to utilize the competencies acquired from their TESDA training.

Table 2 reveals that the overall extent of labor market integration of TESDA graduates, in terms of employment status, was rated as high ($M = 3.84$, $SD = 0.97$), indicating that most graduates were able to secure employment, sustain work, and apply their acquired competencies in the labor market. The standard deviation further suggests that responses were relatively consistent, although slight variations existed in graduates' employment experiences depending on their work conditions and job alignment. The highest-rated indicators were "I have a

stable or regular job right now” ($M = 4.16$, $SD = 0.91$) and “My work helps me improve my skills and knowledge continuously” ($M = 4.12$, $SD = 1.08$), implying that TESDA graduates perceived their employment as relatively stable, while also recognizing opportunities for continuous learning and professional growth.

Table 3 Extent of Labor Market Integration in Terms of Employment Status (N=124)

	Mean	Standard Deviation	Description
ar job right now.	4.16	0.91	High Extent
y TESDA course or training.	3.24	1.23	Moderate Extent
orried about losing my job.	3.33	1.25	Moderate Extent
the skills I learned from	3.62	1.08	High Extent
job and find it sustainable.	4.04	0.71	High Extent
omotion or career growth in	3.86	0.83	High Extent
regularly and get benefits like g-IBIG.	3.98	1.06	High Extent
working conditions, such as	4.06	0.77	High Extent
TESDA qualification in my	3.95	1.08	High Extent
improve my skills and ly.	4.12	1.076	High Extent
	3.84	0.97	High Extent

These findings support Human Capital Theory, which explains that investments in technical-vocational training enhance employability and workplace productivity. Similar findings were reported by Orbeta and Abrigo (2016) and TESDA (2021), who found that TESDA certification positively contributes to employment outcomes and workplace integration.

This also aligns with UNESCO’s recognition of TVET as an important mechanism for improving workforce participation and economic productivity. Furthermore, the high ratings on job satisfaction, working conditions, and employer recognition suggest that many graduates were able to transition into meaningful employment environments where their technical skills were valued.

However, not all aspects of labor market integration were equally strong. The lowest-rated indicators were “My job is related to my TESDA course or training” ($M = 3.24$, $SD = 1.23$) and “I feel secure and not worried about losing my job” ($M = 3.33$, $SD = 1.25$), both interpreted as a moderate extent. The relatively higher standard deviations of these indicators indicate greater variability in responses, suggesting that while some graduates experienced strong job alignment and security, others encountered a mismatch and unstable employment conditions.

These results support previous studies that highlight persistent job-skill mismatch among TVET graduates (Alam et al., 2024; Edralin & Pastrana, 2023; Orbeta, 2021). The result also reflects the argument of Clarke (2018),

who emphasized that employability is influenced not only by individual competencies but also by labor market structures and employer practices. In contrast, the findings differ from studies conducted in countries with stronger school-industry partnerships, such as Germany, where vocational graduates tend to experience better job alignment and long-term employment stability due to robust employer engagement and apprenticeship systems. The moderate rating on job alignment in the present study may be attributed to limited local employment opportunities directly related to specific TESDA qualifications, employer preference for bachelor's degree holders, or graduates accepting available jobs outside their specialization for economic reasons. Similarly, moderate perceptions of job security may reflect the prevalence of contractual, seasonal, or informal employment arrangements common in developing labor markets.

Overall, these suggest that TESDA graduates of Notre Dame of Dadiangas University were generally well integrated into the labor market, particularly in terms of employment stability, job satisfaction, and continuous skill development. Nevertheless, the persistence of moderate job alignment and employment security indicates that labor market integration remains only partially achieved for some graduates. Practically, these findings imply the need for stronger industry linkages, expanded job placement assistance, and closer alignment between training programs and local labor market demands. Institutions such as NDDU and TESDA may strengthen partnerships with industry, intensify career guidance initiatives, and regularly update training curricula to reflect emerging workforce needs, thereby improving job relevance and employment stability among graduates. Theoretically, the findings reinforce Human Capital Theory and Employability Theory by showing that technical training improves employability, yet structural labor market factors continue to influence the extent to which graduates achieve meaningful and sustainable employment.

Future studies may further explore employer perspectives, long-term career progression, and the impact of labor market conditions on job-skill alignment to provide a deeper understanding of labor market integration among TVET graduates.

Table 3 shows that the extent of labor market integration in terms of employability was generally rated as high ($M = 3.97$, $SD = 0.86$), indicating that TESDA graduates perceived themselves as equipped with the competencies, adaptability, and workplace attitudes necessary for employment. The standard deviation suggests relatively consistent responses among participants, reflecting that most graduates shared similar perceptions regarding their employability skills and workplace readiness. The highest-rated indicators were "I follow safety rules and quality standards in my work" ($M = 4.29$, $SD = 0.67$), "I look for more training or learning to keep improving my skills" ($M = 4.27$, $SD = 0.68$), and "I can communicate and get along well with my co-workers and clients" ($M = 4.24$, $SD = 0.70$), all interpreted as a very high extent.

Table 4 Extent of Labor Market Integration in Terms of Employability (N=124)

Employment Status	Mean	Standard Deviation	Description
I can always show the technical skills I learned from TESDA.	3.87	0.95	High Extent
I follow safety rules and quality standards in my work.	4.29	0.67	Very High Extent
I use the tools, equipment, and technology needed for my job well.	4.21	0.76	Very High Extent
I can handle common work problems using the skills I learned.	4.12	0.71	High Extent
I can communicate and get along well with my co-workers and clients.	4.24	0.70	Very High Extent
My TESDA course is clearly connected to what I do in my job.	3.47	1.2	High Extent

I was able to find a job soon after finishing my TESDA training.	3.18	1.24	Moderate Extent
My salary is fair for the skills and training I got from TESDA.	3.59	0.99	High Extent
I can easily adjust to new tools, systems, or changes at work.	4.02	0.72	High Extent
I look for more training or learning to keep improving my skills.	4.27	0.68	Very High Extent
Overall Mean	3.97	0.86	High Extent

These findings imply that TESDA graduates not only possess technical competencies but also demonstrate strong work ethics, adaptability, and interpersonal skills that are essential in modern workplaces. The low standard deviation values further indicate a high level of agreement among respondents, suggesting that these employability attributes were consistently developed through their training experiences. These support the Employability Theory, which emphasizes that employability extends beyond technical proficiency and includes communication skills, adaptability, and lifelong learning attitudes. Similar findings were reported by Yorke (2006), Guilbert et al. (2016), and TESDA (2021), who emphasized that technical-vocational graduates with strong soft skills and continuous learning orientation are more likely to integrate successfully into the workforce. The results also reinforce the Competency-Based Education and Training (CBET) framework, which emphasizes practical competencies, workplace standards, and performance-based learning to improve graduate employability.

Despite the generally positive findings, some indicators revealed weaker areas of employability. The lowest-rated item was “I was able to find a job soon after finishing my TESDA training” ($M = 3.18$, $SD = 1.24$), interpreted as a moderate extent, followed by “My TESDA course is clearly connected to what I do in my job” ($M = 3.47$, $SD = 1.20$). The relatively high standard deviation values indicate greater variability in graduate experiences, suggesting that while some respondents secured employment quickly and obtained jobs aligned with their qualifications, others faced delays or mismatches in employment opportunities. These findings support previous studies by Alam et al. (2024), Edralin and Pastrana (2023), and Orbeta (2021), which noted that TVET graduates often encounter challenges related to job-skill mismatch, limited employment opportunities, and labor market competition.

In contrast, the results differ from those of studies conducted in countries with stronger apprenticeship systems and employer partnerships, where vocational graduates tend to transition more rapidly into employment through structured school-to-work pathways. The moderate rating in the present study may be explained by local labor market conditions in which available jobs do not always directly correspond to TESDA qualifications, as well as employer preferences for applicants with higher educational credentials or prior work experience. Furthermore, economic conditions and the prevalence of contractual or informal work arrangements may have contributed to slower employment transitions for some graduates.

Overall, the analysis indicates that TESDA graduates possess strong employability characteristics, particularly in workplace behavior, adaptability, communication, and commitment to continuous learning, which are important indicators of successful labor market integration. However, the moderate ratings related to immediate employment and job alignment suggest that employability alone does not automatically guarantee rapid workforce absorption. These findings imply the need for stronger career placement services, expanded industry partnerships, and enhanced job matching initiatives between TESDA institutions and employers. NDDU and TESDA may further strengthen internship opportunities, employer engagement, and labor market monitoring to improve graduates’ transition into employment directly related to their training. These also reinforce the theoretical assumption that employability is shaped not only by individual competencies but also by structural labor market opportunities and institutional support systems.

Future research may explore employers’ perceptions of TESDA graduates, factors influencing hiring decisions, and longitudinal career outcomes to better understand how employability translates into long-term labor-market success.

Table 4 shows that the extent of labor market integration in terms of the application of technical skills in the workplace was rated at a high extent ($M = 3.82$, $SD = 0.95$), suggesting that TESDA graduates were generally able to apply the competencies acquired during training in their actual work environments. The standard deviation reflects relatively consistent responses among graduates, although moderate variation indicates that the degree of skill utilization differed depending on workplace conditions and job assignments. The highest-rated indicator was “I make sure my work meets high quality standards based on my training” ($M = 4.01$, $SD = 0.82$), followed by “The skills I gained from TESDA help me be more productive at work” ($M = 3.98$, $SD = 0.86$) and “I keep practicing to improve the skills I learned from TESDA” ($M = 3.88$, $SD = 0.96$).

Table 5 Extent of Labor Market Integration in terms of Application of Technical Skills (N=124)

Application of Technical Skills in the Workplace	Mean	Standard Deviation	Description
I use the skills I learned from TESDA in my daily work.	3.79	1.03	High Extent
The skills I gained from TESDA help me be more productive at work.	3.98	0.86	High Extent
I use my TESDA training to solve problems in my job.	3.76	1	High Extent
I can adjust to new tools and tasks at work using my TESDA skills.	3.83	0.94	High Extent
My employer recognizes and lets me use my TESDA skills in my tasks.	3.62	1.08	High Extent
I help my co-workers by sharing what I learned from TESDA.	3.77	0.98	High Extent
I make sure my work meets high quality standards based on my training.	4.01	0.82	High Extent
I keep practicing to improve the skills I learned from TESDA.	3.88	0.96	High Extent
I use my TESDA skills to handle unexpected challenges at work.	3.77	0.91	High Extent
My TESDA training helps me meet my employer’s expectations at work.	3.75	0.92	High Extent
Overall Mean	3.82	0.95	High Extent

These findings imply that TESDA graduates not only applied their technical competencies but also demonstrated commitment to productivity, quality assurance, and continuous improvement in the workplace. The relatively lower standard deviation values further indicate that respondents shared similar positive experiences regarding the practical usefulness of their TESDA-acquired skills. These support the Competency-Based Education and Training (CBET) framework, which emphasizes the importance of hands-on learning and workplace-oriented competencies. Similar studies by Dardiri (2016), TESDA (2019), and the International Labour Organization (2016) emphasized that technical-vocational graduates become more productive and adaptable when training programs are aligned with workplace standards and practical skill application. The findings also reinforce Human Capital Theory, which views technical training as an investment that enhances workers’ productivity and value in the labor market.

Although the results were generally favorable, some indicators received comparatively lower ratings, particularly “My employer recognizes and lets me use my TESDA skills in my tasks” ($M = 3.62$, $SD = 1.08$), “My TESDA training helps me meet my employer’s expectations at work” ($M = 3.75$, $SD = 0.92$), and “I use my TESDA training to solve problems in my job” ($M = 3.76$, $SD = 1.00$). Although still interpreted as high extent, these indicators suggest that some graduates experienced limitations in fully utilizing or demonstrating their acquired skills within their workplaces. The relatively higher standard deviations indicate varying workplace experiences, implying that while some employers strongly recognized TESDA competencies, others provided fewer opportunities for skill utilization or assigned graduates to tasks unrelated to their training. These findings align with previous studies by Declaro-Ruedas (2022), Alam et al. (2024), and Edralin and Pastrana

(2023), which reported that TVET graduates often experience underutilization of their technical skills and job mismatches due to weak industry alignment and limited employer recognition. In contrast, studies conducted in countries with stronger apprenticeship and industry-linked vocational systems found higher levels of workplace skill utilization because employers intentionally integrate graduates into specialized tasks related to their training. The lower ratings in the present study may therefore be explained by local labor market realities, including limited specialization opportunities, employer preference for multitasking roles, or insufficient workplace resources that prevent graduates from maximizing their TESDA-acquired competencies.

The study analysis confirms that TESDA graduates were generally successful in applying their technical skills in the workplace, particularly in maintaining quality work standards, improving productivity, and adapting to workplace demands. However, the comparatively lower ratings on employer recognition and task alignment indicate that full utilization of technical competencies remains a challenge for some graduates. These findings imply the need for stronger collaboration between TESDA institutions and industry partners to ensure that graduates are deployed to positions where their competencies can be fully realized.

NDDU and TESDA may strengthen workplace immersion programs, employer orientation regarding TESDA competencies, and continuous curriculum updating to better align training outcomes with industry expectations. The findings also reinforce the theoretical argument that labor market integration is not solely dependent on graduate competencies but also on organizational support and labor market structures that allow skills to be meaningfully utilized.

Future studies may examine employers' perspectives on TESDA competencies, workplace barriers to utilization of skills and the long-term impact of technical skills on career advancement and productivity outcomes among TVET graduates.

Challenges Encountered by Graduates

The in-depth interviews revealed employer preference for college graduates, job-skill mismatch, underutilization of competencies, and lack of resources or professional connections. These experiences suggest that labor market integration is influenced not only by the possession of technical skills but also by broader labor market conditions and employer expectations. The findings further indicate that while TESDA training provides relevant competencies, graduates may still encounter barriers that limit the full utilization and recognition of their acquired skills.

A recurring challenge reported by graduates is the limited availability of employment opportunities aligned with their technical training. Despite acquiring competencies through TESDA programs, some graduates find it difficult to secure jobs that match their qualifications. These observations indicate the continuing gap between training outcomes and labor market demand. As one respondent shared,

"Lisod gyud makakita og trabaho kay daghan competition ug usahay kinahanglan experience." (It is really difficult to find a job because there is a lot of competition, and sometimes experience is required.) (Participant 3, Page 81, Lines 28-29)

This statement illustrates how competition and experience requirements can limit graduates' employment prospects, even when they possess technical skills.

These narratives are consistent with previous studies that highlight technical-vocational graduates often encounter barriers to accessing employment opportunities. International research indicates that while TVET systems aim to prepare graduates for work, the transition from training to employment is not always smooth due to labor market constraints and limited job opportunities (Wu, Rojewski, & Hill, 2019). Likewise, the International Labour Organization notes that many TVET graduates remain concentrated in informal or unstable employment sectors despite having technical qualifications (ILO, 2019; 2020). These observations suggest that skills training alone does not automatically guarantee employment unless there are sufficient job opportunities in the labor market.

Another challenge that emerged from the narratives was the perceived preference of employers for college graduates over technical-vocational completers. Participants expressed that educational attainment often influenced hiring opportunities and compensation. As one participant explained,

“Actually ma’am, lisod gid siya ma’am... iba gid man ang kinatapos... unlike sa iba na mga professional dagko gid hatag.” (Actually, ma’am, it is quite difficult... educational attainment makes a significant difference... unlike professionals, who tend to receive higher compensation.) (Participant 1, Page 72, Lines 98-99,102)

This experience suggests that TESDA qualifications may not always receive equal recognition compared to academic degrees during recruitment and employment processes. Similar observations were noted by Orbeta (2021) and Edralin and Pastrana (2023), who found that employer perceptions and hiring practices may favor applicants with higher educational credentials.

Furthermore, OECD reports highlight that mismatches between vocational qualifications and employer expectations remain a global challenge, particularly when industries undervalue vocational credentials (OECD, 2021). These issues suggest that improving employer awareness and strengthening industry partnerships are essential to enhance the recognition of technical-vocational qualifications.

In addition, limited personal and professional connections were identified as another barrier to employment. This suggests that employment opportunities are influenced not only by technical competence but also by access to social and professional networks, potentially disadvantaging graduates with limited industry exposure or institutional connections. Graduates who lack referrals, networking opportunities, or institutional support may encounter difficulties accessing available positions and competing effectively in the labor market. These narratives underscore the importance of strengthening career placement initiatives and industry partnerships to improve employment access and workforce integration among TESDA graduates.

Closely related to this issue, another concern raised by respondents was the lack of available jobs directly related to their TESDA qualifications. In some cases, graduates reported that the available employment opportunities do not match the competencies they acquired during training. This creates misalignment between training and employment, where graduates are unable to fully utilize the competencies acquired through their TESDA training in their current work or available job opportunities. One participant explained this challenge by stating,

“That’s the difficulties ma’am na ‘di siya na-align sa imong course nimo... medyo nahirapan.” (That’s one of the difficulties, ma’am, that the job is not aligned with your course, so it’s a bit difficult.) (Participant 1, Page 71, Lines 78-79)

This response indicates that misalignment between training programs and labor market requirements can affect graduates’ ability to utilize their acquired competencies.

These narratives reflect the concept of skills mismatch, where workers are unable to fully utilize their acquired competencies because their jobs do not align with their training (McGuinness, 2006; Shi, 2024). In a similar context, studies in Southeast Asia show that many TVET graduates experience skill underutilization due to weak linkages between training institutions and industries (Tran, 2020; Asian Development Bank, 2020). Similar studies noted the importance of aligning training programs with industry needs to ensure that graduates can effectively apply their technical competencies in the workplace.

Furthermore, some respondents identified a lack of tools, equipment, or capital as another challenge, particularly for those interested in pursuing self-employment or small business activities. Technical-vocational skills often require access to equipment or financial resources in order to be practiced effectively. Without sufficient capital or support systems, graduates may find it difficult to start their own livelihood activities even if they possess the necessary skills. This challenge is particularly significant in technical-vocational fields where practical application often depends on access to equipment and financial resources. Without adequate capital, graduates may struggle to convert their acquired competencies into sustainable livelihoods despite possessing the necessary technical training. Previous studies similarly emphasize that access to financial resources and entrepreneurial support is critical for vocational graduates who wish to pursue self-employment (Asian Development Bank,

2020).

The narratives suggest that the challenges graduates face are influenced not only by individual skills but also by broader labor-market conditions and structural factors. While TESDA training provides valuable competencies, employment outcomes are shaped by job availability, employer perceptions, industry linkages, and access to resources. These insights highlight the need for stronger collaboration between training institutions, government agencies, and industry partners to ensure that training programs remain responsive to labor market demands.

The experiences suggest that improving job placement mechanisms, strengthening industry partnerships, and increasing employers' awareness of TESDA certifications may help address the barriers graduates face. Additionally, providing entrepreneurship support and access to financial resources could help graduates apply their technical skills through self-employment and livelihood opportunities. Strengthening these support systems may enhance TESDA graduates' overall labor market integration.

Beyond challenges related to employment access, the narratives also revealed continuing difficulties experienced by graduates who were already employed or self-employed. Although these participants had secured jobs, many still encountered problems related to workplace relevance, competency, and job alignment. These experiences suggest that employment alone does not necessarily guarantee the effective utilization of skills acquired through TESDA training.

One of the primary challenges experienced by employed graduates is the mismatch between their current job and their TESDA qualification. Some respondents reported that their work is not directly related to the course they completed, limiting the use of the competencies they acquired. As one participant shared:

"Dili siya aligned kung asa ko nag-work. So dili na ko siya mas... Ingon nila ma sharpen imohang skills ba, kay dili gud siya related sa imohang work." (It's not aligned with where I work, so I can't really... as they say, sharpen my skills because it's not related to my job.) (Participant 5, Page 87, Lines 64-66)

Another respondent expressed a similar experience, emphasizing that their TESDA training has little relevance to their current work:

"Wala siya bearing man gyud sa work." (It really has no bearing on my work.) (Participant 2, Page 78, Lines 64,66)

These responses suggest that while TESDA training contributes to employment, the alignment between training and job roles remains a concern.

Another challenge observed is the limited opportunity to practice and further develop technical skills in the workplace. Even when graduates are employed, their tasks may not require the full range of competencies acquired during training. As a result, skills may remain underutilized or gradually decline over time. One respondent explained:

"Ang difficulties jud nako kay syempre dili man jud sa daily nako gina apply. So syempre naagi na sort of, so nakalimtan na" (My main difficulty is that I don't apply it in my daily work, so over time, I've kind of forgotten it.) (Participant 6, Page 91, Lines 84-85)

Similarly, another participant shared that only a portion of their skills are being used:

"Nagamit nako gamay, pero dili tanan nga akong natun-an." (I was able to apply some of what I learned; however, not all of the acquired skills are utilized.) (Participant 4, Page 83, Lines 36-37)

This reflects the issue of skill underutilization, where graduates are unable to continuously improve their competencies due to a lack of relevant work exposure.

These experiences are supported by existing literature emphasizing that employment does not always equate to meaningful labor market integration. According to the Organisation for Economic Co-operation and

Development (2021), many vocational graduates experience a job-skill mismatch, where their qualifications do not align with their actual job responsibilities. Similarly, the International Labour Organization (2021) reported that a significant proportion of workers are employed in roles where their skills are underutilized or not fully applied.

This situation can be further explained by Mismatch Theory, which suggests that when workers are employed in jobs that do not correspond to their training, productivity declines, career growth is limited, and is inefficiently used. (McGuinness, 2006; Shi, 2024). In the context of technical-vocational education, this implies that while TESDA programs equip graduates with relevant skills, gaps in labor market alignment may hinder the full realization of these competencies.

Taken together, the narratives reveal that labor market integration among TESDA graduates involves both opportunities and continuing structural challenges. Overall, the findings suggest that TESDA graduates generally demonstrate positive labor market integration in terms of employment status, employability, and application of technical skills. However, challenges related to workplace relevance, competency application, and labor market conditions persist, indicating areas that require further intervention. These observations underscore the important role of technical-vocational education in promoting workforce participation and skills development.

In this context, the study contributes to the achievement of Sustainable Development Goal (SDG) 4 on Quality Education by emphasizing the provision of relevant and competency-based training, and SDG 8 on Decent Work and Economic Growth by supporting employability and access to productive and meaningful employment.

The findings imply the need for stronger industry partnerships, enhanced job placement initiatives, and improved employer recognition of TESDA qualifications to strengthen workplace relevance and utilization of technical competencies.

Additionally, expanding entrepreneurship support, access to financial resources, and institutional linkages may help graduates achieve more sustainable employment and livelihood opportunities. Strengthening these support mechanisms is therefore essential in advancing inclusive, relevant, and sustainable employment outcomes among TESDA graduates.

RECOMMENDATIONS

Table 5 presents the integration of the quantitative and qualitative findings of the study as the basis for the proposed interventions for TESDA graduates. The matrix highlights the convergence and complementarity of findings on employment status, employability, the application of technical skills, and the challenges graduates encounter in their labor market integration.

The integrated analysis identified several recurring issues, including job-skill mismatch, unstable employment conditions, limited workplace utilization of competencies, insufficient industry exposure, employer preference for higher educational qualifications, and limited access to resources and employment opportunities. These concerns emerged consistently across both the quantitative and qualitative findings, indicating areas that require institutional and industry-based interventions.

Table 6 Integrated Quantitative and Qualitative Findings as Basis for Proposed Interventions

Quantitative Findings	Qualitative Findings	Integrated Interpretation	Problem Identified	Action-Based Implication / Proposed Intervention
Employment status obtained a moderate level, particularly in job alignment and job stability	Graduates shared that available jobs were often unrelated to their TESDA	The quantitative and qualitative findings collectively indicate that although graduates are	Job-skill mismatch and unstable employment opportunities	Strengthen industry linkage programs, expand employer partnerships, and establish competency-

indicators.	qualifications, while others experienced temporary or contractual employment.	employable, alignment between acquired competencies and actual employment remains inconsistent.	among graduates.	based job matching initiatives aligned with TESDA qualifications.
Employability indicators received high ratings in communication, adaptability, and technical competence.	Participants expressed confidence in applying the skills learned from training during actual work experiences.	Both findings confirm that TESDA training contributed positively to the development of workplace competencies and employability skills.	Need for continuous enhancement of industry-relevant competencies to sustain employability.	Enhance curriculum alignment with current industry standards and conduct regular competency upgrading and industry immersion activities.
Application of technical skills was rated high; however, some indicators on advanced workplace application received lower means.	Graduates mentioned limited exposure to actual industry equipment and workplace situations during training.	The findings suggest that graduates possess foundational competencies but may require greater practical exposure to meet evolving industry demands.	Insufficient industry exposure and limited hands-on experience in specialized workplace settings.	Strengthen work immersion, on-the-job training, and simulation-based learning through partnerships with industries and training establishments.

Quantitative Findings	Qualitative Findings	Integrated Interpretation	Problem Identified	Action-Based Implication / Proposed Intervention
Some respondents reported moderate challenges related to limited employment opportunities and employer preferences.	Participants disclosed that some employers preferred applicants with bachelor's degrees or prior work experience despite TESDA certification.	The integrated findings reveal external labor market barriers affecting graduates' workforce integration despite possessing technical qualifications.	Employer bias and limited recognition of TESDA qualifications in certain sectors.	Intensify employer engagement, conduct advocacy programs promoting TESDA competencies, and strengthen graduate placement support mechanisms.
Scholarship support and certification outcomes showed positive contributions to employability.	Graduates acknowledged that TESDA scholarships and national certifications increased their confidence and employment opportunities.	Both findings demonstrate the important role of scholarship programs and certifications in improving graduates' labor market competitiveness.	Need to sustain and expand scholarship and certification opportunities for future trainees.	Expand scholarship accessibility, strengthen certification assistance programs, and continuously monitor graduate employment outcomes for program improvement.

The integrated findings further suggest that while TESDA graduates generally possess strong employability skills, adaptability, communication abilities, and technical competencies, labor market integration is still influenced by external factors including labor market conditions, employer perceptions, workplace relevance, and availability of support systems. The convergence of findings underscores that technical competencies alone may not guarantee sustainable employment outcomes when opportunities for skill application and competency

alignment remain limited. These findings therefore emphasize the need to strengthen industry partnerships, improve career placement mechanisms, expand workplace immersion and entrepreneurship support programs, and promote stronger employer recognition of TESDA qualifications and competencies.

Based on the identified issues and integrated findings, a proposed intervention program was developed to enhance the labor market integration, employability, and workplace relevance of TESDA graduates through strengthened institutional support, industry collaboration, and competency-aligned employment initiatives.

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