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From Vocational Training to Formal Employment: Evaluating the Impact of Government-Funded Scholarships on Vulnerable Youth

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Abstract

Purpose: This study evaluated the effectiveness of Life Skills Education (*Pendidikan Kecakapan Kerja*/PKK) and Entrepreneurship Education (*Pendidikan Kecakapan Wirausaha*/PKW) scholarship programs in enhancing human resource competencies and reducing unemployment and poverty.

Methodology: Using the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation), data were collected from scholarship recipients, training institutions, education authorities, employer associations, and industry representatives in Bekasi City, Bekasi Regency, and Karawang Regency in West Java.

Results: The findings show that program planning and development comprehensively involved stakeholders. However, evaluation outcomes indicate limited sustainability, with employment absorption among PKK participants reaching 69.7%, and approximately 70% of PKW participants pursuing self-employment.

Conclusions: The programs have contributed to improving skills but have not fully achieved sustainable economic empowerment for women. Training aligned with industry needs is essential to strengthen employment opportunities and economic mobility.

Limitations: This study covered only three districts in West Java, limiting the generalizability of the findings for national implementation.

Contributions: This study advances vocational education research by demonstrating how outcome-based evaluation, curriculum responsiveness, and industry engagement jointly strengthen the effectiveness of scholarship-based vocational training programs.

Keywords: *ADDIE Model, Competencies, Entrepreneurship Program, Life Skills Program, Poverty*

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1. Introduction

Both developed and developing nations continue to struggle with poverty and unemployment, especially among the youth and marginalized groups. The long-term economic and social ramifications for people, families, and society have made youth unemployment, underemployment, and labor market inactivity urgent issues that require immediate attention (Krueger & Malečková,

2002; Thane, 2024). Inadequate skills and abilities that prevent people from effectively participating in the labor market and entrepreneurial activities are frequently linked to difficulties in obtaining respectable work. To achieve sustained global economic empowerment and social development, it is strategically important to increase human resource competencies through inclusive and responsive education and training programs (Herlina, 2025; Mulyadi, Suryadi, & Aliyyah, 2020).

Unemployment and poverty are inextricably linked, like two sides of a single coin (Chalapati, 2020). This situation mostly results from young people's inadequate abilities and lack of pertinent knowledge, which has a detrimental effect on their capacity to compete in the job market and at the entrepreneurial level. Indonesia faces similar issues in addressing poverty and unemployment despite continuous economic growth and diverse government measures (Mulyadi et al., 2020). Young people are still disproportionately affected by labor market inequities, particularly those from economically poor families who have restricted access to school, occupational training, and job possibilities (James & Schmitz, 2011; Pelucha, Kourilova, & Kveton, 2017).

In many situations, weak competencies and abilities that do not match labor market expectations contribute to their inability to find long-term employment or create profitable entrepreneurial activities (Hamid et al., 2026). Consequently, strengthening the quality and relevance of human resource development programs has become increasingly crucial in Indonesia to support inclusive economic growth and reduce social gaps (Faturohim, Akbar, Hidayat, & Saksono, 2023). The effectiveness of vocational and entrepreneurship education programs in boosting employability, encouraging self-employment, and bolstering human resource competences has been generally acknowledged (Pelucha et al., 2017; Weiming, Chunyan, & Xiaohua, 2016). However, their efficacy is mostly dependent on how well they adapt to the continually shifting demands of the labor market and business (Rowe, 2019).

Graduates from training programs that don't adapt to the demands of the labor market frequently have skills that don't match open positions, which limits their ability to contribute to long-term economic empowerment (Miharja & Mulyadi, 2020; Mulyadi, Rosyidi, & Suryadi, 2019). Consequently, labor market alignment, industry cooperation, and outcome-based evaluation have been increasingly highlighted in modern human resource development plans as crucial elements of effective vocational education programs (Shrestha, 2024; Zima, Dharma, & Susilowati, 2025). The Indonesian government has established scholarship-based vocational education programs, namely the Life Skills Education Program (PKK) and the Entrepreneurship Education Program (PKW), through the Ministry of Primary and Secondary Education and the Directorate of Courses and Training as part of its commitment to lowering poverty and unemployment.

These initiatives are especially made to give underprivileged groups access to competency-based training that improves their capacity for employment and entrepreneurship (Memon & Liu, 2019; Prabawati, Meirinawati, & Aoktariyanda, 2018; Semete-Makokotlela et al., 2022). Tens of thousands of people participate in both programs annually throughout Indonesia, demonstrating the government's significant investment in human resource development programs. Beneficiaries are anticipated to enhance their socioeconomic circumstances and obtain sustained employment results through these treatments.

Figure 1 shows a declining trend in poverty over the past four years; however, Indonesia still has more than 25 million poor people, requiring stronger interventions to prevent persistent and inter-generational poverty.

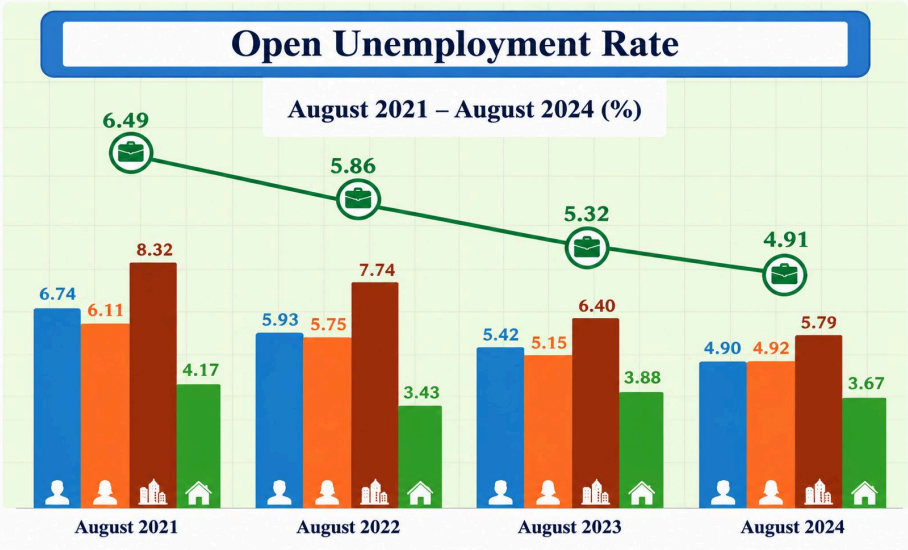


Figure 1. Changes in the number of poor people in Indonesia over four years

Figure 2 presents the number of unemployed people in Indonesia over the past four years. Although fluctuations occurred, unemployment remained persistent at around six million people annually, with urban areas recording higher unemployment levels than rural areas owing to increasing urbanization. Despite various policy interventions, poverty and unemployment remain significant challenges in Indonesia. More than 25 million people still live below the poverty line, indicating the need for continuous evaluation of skills development programs to strengthen employment opportunities and long-term economic mobility (Mathews & Arulsamy, 2019; Souto-Otero & Villalba-Garcia, 2015). Prior research indicates that entrepreneurship and vocational education programs can improve workforce capabilities, employability, and entrepreneurial intention. However, existing evaluations have mainly focused on short-term outcomes, such as participant satisfaction, competency achievement, and immediate employment, while limited studies have examined their long-term economic empowerment effects through labor market alignment and sustainable employment.



Figure 2. Number of poor population in Indonesia during the last 10 years

Furthermore, few studies have applied the ADDIE model to evaluate the complete cycle of scholarship-based vocational programs, particularly in developing countries. This study addresses this gap by assessing the Life Skills Education and Entrepreneurship Education scholarship programs through the ADDIE framework, focusing on program design, implementation effectiveness, labor market relevance, and sustainable employment outcomes. The study involved stakeholders from Bekasi City, Bekasi Regency, and Karawang Regency, West Java, to provide empirical insights and

policy recommendations for improving vocational training programs. The program development model is shown in Figure 3.



Figure 3. Demand driven training purpose

2. Literature Review

Human Capital Theory and demand-driven training concepts, which contend that investments in education and skill development greatly enhance worker quality, employability, and economic production, form the foundation of this study's conceptual framework. According to this viewpoint, the goal of vocational education is not only to improve participants' technical proficiency but also to ensure that the skills they gain align with local economic prospects and labor market demands. Demand-driven training makes it possible for people to successfully enter the workforce or pursue entrepreneurial endeavors by emphasizing the alignment between training provision, industry needs, and sustainable employment results. In order to achieve sustained economic empowerment, human resource development should be seen as an ongoing, integrated process that includes competency development, labor market responsiveness, needs assessment, and outcome-based evaluation (Kharel, Dahal, & Joshi, 2026).

Vocational education is known to have a positive impact on employment by providing relevant skills to participants. However, the success of such training largely depends on its relevance to the current needs of the labor market. It was noted by Memon and Liu (2019) and Sultana and Fatima (2017) that skill-based vocational training greatly increases employability and labor absorptive capacity of the target individuals (Memon and Liu, 2019; Sultana and Fatima, 2017). In contrast, according to Ramasamy and Pilz (2020), a discrepancy between educational results and labor market demands is one of the reasons for graduates being unemployed. Thus, vocational training can be considered successful not only in terms of competency acquisition but also in terms of its relevance to the needs of the labor market (Ramasamy & Pilz, 2020). Vocational training improves employment opportunities and income levels, particularly in disadvantaged communities. Demonstrates how skills training contributes to poverty reduction (Nylund & Rosvall, 2016).

Secondly, it is also true that vocational education has been recognized as one of the critical approaches that help alleviate poverty and achieve sustainable economic empowerment. Some research studies have found that human capital improvement by means of education plays an important role in

increasing job opportunities, earning levels, and economic independence among marginalized sections of society (Ma, Salsabillah, Rahmatullah, Sungkar, & Hadiati, 2024). However, it is also found from empirical evidence that positive employment does not lead to sustained economic mobility in the future. The participants are able to secure jobs immediately after finishing the vocational education course, but they remain confined to low-skill and informal sector jobs that do not offer much scope for socioeconomic mobility in the long run. (Mayombe, 2017; Mulyadi, Suryadi, & Aliyyah, 2020; Timang, Baktiar, & Yunus, 2026).

Previous studies have highlighted the important role of vocational education and demand-driven training in improving workforce quality and reducing unemployment. Vocational education has been found to significantly decrease unemployment rates by equipping individuals with industry-relevant skills that are aligned with labor market needs (Memon & Liu, 2019). Similarly, the mismatch between education and labor market demand has been identified as a major contributor to unemployment, highlighting the need for education systems that are responsive to industry requirements (Nordhaug, 1990; Siallagan, Putri, & Iisnawati, 2025; Hitt, Ireland, & Hoskisson, 2010). Several studies have emphasized that vocational training programs can contribute to poverty reduction by increasing employment opportunities and promoting economic self-reliance among participants (Dimopoulos, 2020; Iroegbu, 2017).

Furthermore, improving human capital through education and skills development has been shown to significantly reduce both unemployment and poverty levels (Mayombe, 2017; Mulyadi et al., 2020; Timang et al., 2026).(Dumas, Mendling, & Reijers, 2018; Mayombe, 2017; Mulyadi et al., 2020). Furthermore, contemporary literature highlights the critical role of labor market fit as a significant aspect of vocational education effectiveness. The best vocational education programs are marked by competency-based educational curricula and strong collaboration with industries, labor market fit, and results-oriented evaluation mechanisms (Kharel et al., 2026). As such, the need to adopt demand-driven training approaches has been identified due to the recognition of the labor market as a key factor at each stage of the program's implementation. Instead of limiting attention to the process of delivering training, such approaches require regular alignment between the needs of trainees, industries, and socioeconomic development goals. Hence, a comprehensive evaluation is required.

3. Research Methodology

3.1 Paradigm and Research Approach

For this study, a qualitative research methodology was used, where the ADDIE model consisting of five elements–analysis, design, development, implementation, and evaluation was used to evaluate the effectiveness of Life Skills Education (PKK) and Entrepreneurship Education (PKW). The ADDIE model was chosen for this study because of its usefulness in providing a holistic and systematic process of evaluation of learning or training programs from the initial to the final stage. Qualitative research helped the researchers gain a deep understanding of issues regarding implementation, stakeholders' perceptions, labor market fit, and employment sustainability. This study focuses on scholarship-based vocational education programs provided by the Directorate of Courses and Training, Ministry of Primary and Secondary Education, Indonesia. This study uses data from several sources, including government officials, Course and Training Institutions (*Lembaga Kursus dan Pelatihan/* LKPs), program beneficiaries, and industries.

3.2 Research Setting and Participant Selection

The current research was conducted in Bekasi City, Bekasi District, and Karawang District, West Java Province. The aforementioned locations were purposively chosen because they can be considered quickly developing industrial and urban zones that are distinguished by a relatively dynamic labor market, large job opportunities, and constant problems with poverty and unemployment. Additionally, the locations that were chosen are actively implementing the PKK and PKW scholarship programs, which makes it possible to examine their effectiveness in relation to sustainable employment.

Purposive sampling was used to identify the study participants because they were directly involved in the implementation or use of the programs in question. The selection criteria included the following

points: representatives of the government that administrated the programs within the Directorate of Courses and Training and local educational organizations; managers or owners of Course and Training Institutions involved in PKK and PKW programs; beneficiaries of the programs who had participated in the training activity; and representatives of business and industrial organizations, including the members of the Indonesian Employers Association (APINDO), that gave insights into the labor market requirements and qualifications.

3.3 Data Analysis

Data gathering involved the use of a variety of qualitative methods to achieve triangulation of research methods. Semi-structured interviews, structured open-ended questionnaires, Focus Group Discussions (FGDs), and documentary analysis were used during the entire research process. The interview process aimed to obtain the participants' experiences, perceptions, and evaluations of the relevance of the program, competency development, labor market fit, and employment outcomes. FGDs were conducted to obtain common views from the stakeholders about the program's strengths, difficulties, and improvements.

The questions for the interviews and FGDs were formulated based on the five phases of the ADDIE model: Analysis, Design, Development, Implementation, and Evaluation. These included questions on participant needs assessment, curriculum relevance, stakeholder participation, program implementation, competency achievement, labor market fit, and sustainable employment outcomes. Data analysis was done through qualitative data analysis processes as advocated by Miles and Huberman, which entail data collection, data reduction, data display, and conclusion drawing and verification. All interviews, field notes, FGDs, and documents used in the data collection process were manually classified according to the analytical demands of the study.

Subsequently, the data were systematically classified according to themes emanating from the ADDIE model and other concepts in human resource development and sustainable employment outcomes. Data reduction involved selecting the most important themes and patterns from multiple stakeholder perspectives. The findings were thereafter classified and described through themes for easy analysis and comparison among the various participants. Conclusions were drawn and constantly verified during the analysis process to match the research objectives.

3.4 Data Validation and Trustworthiness

To increase the validity of the research findings, a triangulation methodology was used whereby the study used several data sources, methods, and involved different parties in the analysis of data. Data triangulation was performed by comparing data collected from government officials, institutions providing training, beneficiaries of the program, and industrial players. In addition, member checking was performed during the data collection process to ensure that the understanding of participant responses was accurate. The researchers ensured an audit trail of the data collection process, coding process, and analytical decision-making in the entire research process. The credibility, dependability, and confirmability of the research findings were improved through constant validation among researchers and comparison of findings from different data sources.

4. Results and Discussions

The results of this study are divided based on the ADDIE model. From each component of ADDIE, researchers have found the following:

4.1 Components "Analysis"

From the research, it can be concluded that the needs analysis aspect of the Life Skills Education and Entrepreneurship Education scholarships is applied mainly to improve human resource capabilities and ensure economic self-reliance of marginalized societies. Through the use of structured interviews, Focus Group Discussions (FGDs), and documentation review, the data gathered show that the Directorate of Courses and Training understands the significance of vocational and entrepreneurship

education in alleviating unemployment and poverty through competency-based training programs. The program's design has taken into account general socioeconomic factors, including the unemployment rate, economic state, and the needs of the people regarding employment and entrepreneurship.

But at the same time, it becomes clear that the needs assessment process is still not completely aligned with the demands of the labor market. Competency requirements in the workplace and scholarship priorities have continued to be mainly centralized by the Directorate of Courses and Training and are mainly based on proposals presented by Course and Training Institutions. Although collaboration institutes are part of the delivery of the programs, local players such as the Regional Department of Education, Employer Associations, and Industry have not been consulted during the needs assessment process.

This means that the type of competencies provided in the scholarship programs is similar. The results of this component also show an incomprehensiveness in determining the skills that will be awarded scholarships. This can be seen from the type of skills that conventionally do not change from year to year for many years, which clearly illustrates that the Directorate of Courses and Training is slow in reading the phenomenon of the current needs of the world of work. The analysis component of the program is shown in Table 1.

Table 1. Program analysis process

Focus	Responses
The Underlying Needs of Program Participants	Economic conditions, unemployment rates, and the need for skills training are also important factors. This aspect aims to explore the background factors underlying participants' need for work skills or entrepreneurship programs, which are influenced by economic conditions and unemployment levels in the region.
Workforce skill needs assessment	Based on local potential, market demand, and the availability of industries. This aspect focuses on understanding how the required workforce skills in the region can be mapped according to the existing market conditions and industrial availability.
Basis for determining the types of courses/training programs	Local potential and marketable skills required by the labor market. This aspect aims to examine the basis for selecting appropriate courses or training programs that are aligned with market demand and the local potential of the region
Stakeholders involved in the program needs analysis process	The proposing institution and collaborating partners play important roles in program needs analysis. It is essential to identify all stakeholders involved in this process, including the proposing institution and partner organizations that contribute to the analysis.
Key challenges in the program planning Process	Industrial availability and local market opportunities are also important factors. This question aims to explore the challenges faced during the planning stage, particularly concerning the availability of employment opportunities in the industry and the local market's potential.
Consideration of local potential and regional leading sectors	Selection of skill types based on marketable local potential. This aspect evaluates the extent to which the program takes into account local potential and regional priority sectors when determining the types of skills to be developed
Collection of labor market demand data	Analysis through program proposals and collaboration with the business and industrial sectors. This aspect examines how labor market demand data are collected prior to program design, including partnerships with business and industry to support graduate employability and workforce absorption

Focus	Responses
Involvement of business and industry in the analysis	The involvement of collaborating partners in curriculum development, instructor provision, facilities and infrastructure, mentoring, and evaluation. This aspect explores the role of the business and industrial sectors during the needs analysis stage, particularly their participation in curriculum design and program evaluation

Figure 4 illustrates the conceptual framework explaining the analytical process underlying the implementation of the Life Skills Education and Entrepreneurship Education programs through a scholarship-based model, specifically designed for individuals from economically disadvantaged backgrounds who are currently unemployed. The analysis of these results shows that the success of the scholarly based vocational education program is not only hinged on the presence of training programs but also on the degree to which the needs assessment process is grounded in labor market information and participation of all stakeholders. Demand-driven vocational education calls for consistent integration of workforce competency requirements, industrial changes, and economic potentialities within the community. Therefore, the training priorities identified should go beyond institutional recommendations to include labor market analysis.

Such results can be compared with other research that showed that vocational training is the most efficient when it is responsive to labor market needs and is based on the close collaboration of governments, industries, and educational institutions. According to Memon and Liu (2019), competency development in line with industry requirements makes vocational education highly effective in improving students' employability rate. In the same vein, Backes-Gellner & Wolter (2010) pointed out that the mismatch between the skills gained during the education process and those needed by the labor market is one of the key reasons for the high level of graduate unemployment. Moreover, in their recent international reports, UNESCO, ILO, and the World Bank stressed that labor market responsiveness and collaboration of stakeholders are two vital prerequisites for sustainable employment outcomes via TVET programs.

In addition, the current findings add more evidence to the theory of Human Capital by revealing that vocational training does not necessarily empower people economically if they are not backed up by demand-driven program planning processes. The development of human capital requires not only the development of competency but also the proper integration of skills and labor market opportunities. Thus, needs analysis should be seen as the cornerstone on which all other program development steps depend. Some of the deficiencies noted at this step may have an impact on curriculum development, instruction development, implementation, and employment of program participants (Gupta et al., 2024).

On a practical note, the above insights mean that future vocational education programs based on scholarly literature must enhance their skills requirement assessment by integrating information from regional labor markets, projections about industries, and the economic needs of the region. Greater participation of government bodies, trade unions, and representatives of various industries will contribute to the timely identification of skill requirements and increased employability of graduates. In addition, regular revision of priority skills is needed to adapt training programs to changes in technologies, industries, and employment prospects. Thus, the improvement of the analytical part of the program planning process is needed to enhance the effectiveness of such programs.

4.2 Components "Design"

For this component. The Directorate of Courses and Training has drafted guidelines for standard course curricula and teaching material preparation. This will assist in implementing course institutions to tailor the skill fields of each institution. The course institution also stated that course design, curriculum, teaching materials, and methods of teaching creation, have been centered on the trainees' needs through the consolidation of all institution stakeholders, such as the institution's Leaders, Instructors, and students' representatives. A key aspect of this process is the insufficient direct

oversight of the Directorate regarding curriculum preparation, so that the learning design is challenging to quantify and assess.

Equally important is that not all stakeholders in curriculum development have been consulted; thus, the content was not aligned with the actual competencies demanded by the industry. The Course and Training Institute simply makes this program a standard procedure and a means of securing a training scholarship. Unfortunately, the available funds for developing a curriculum are minimal and insufficient to engage all stakeholders in addressing the needs and the curriculum model to be designed. The design components of the program are shown in Table 2.

Table 2. Program development and design components of life skills and entrepreneurship education

Focus	Responses
Curriculum design process	The curriculum is designed to address the needs of the business and industrial sectors (DUDI), considering cooperation agreements (MoUs) and preparation for competency assessments. It is aligned with industry demands and includes preparation for labor market competition, with the objective of ensuring that learners are equipped to meet the required competency standards
Instructional approach	A competency- and practice-based learning approach. The program emphasizes the development of relevant competencies while increasing practice-based learning activities to enable participants to directly acquire and master the skills required.
Selection of training materials	The training materials were developed through discussions with relevant stakeholders, considering companies' human resource needs and existing skill gaps. The materials are designed based on labor market demands and the competencies required by the business and industrial sectors, with collaborative input from relevant stakeholders to ensure the training content's relevance.
Program development team	The program design team comprises leaders, educational institutions, industry representatives, and professional organizations. The development process involves multiple stakeholders, including education administrators and industry partners, to ensure the program's relevance to the labor market demands.
Strengthening soft skills and entrepreneurship	The program incorporates the strengthening of soft skills and entrepreneurship training. Beyond technical competencies, it emphasizes the development of soft skills, such as communication and leadership, as well as entrepreneurial capabilities to prepare participants for labor market challenges and to support the establishment of independent business ventures
Assessment and evaluation system	Assessment is carried out through theoretical tests, practical evaluations, portfolios, and competency examinations to measure participants' understanding and their skills. The assessment system is designed to provide a comprehensive evaluation of participants' competencies in both theoretical knowledge and practical application
Strategies to Support Participant Engagement	Interactive and project-based learning methods were employed to enhance active participant engagement. The program utilizes various instructional strategies, including discussions, demonstrations, and project-based learning, to promote meaningful participation and maximize learner involvement

Focus	Responses
Gender, Social Inclusion, and Disability (GESI) approach	The program incorporates the principles of social inclusion by involving various stakeholders, although limitations remain in addressing gender and disability perspectives. While the program is designed to be accessible to diverse groups, certain vocational skills training, such as welding, has not yet fully included female participants or individuals with disabilities

From the results obtained, it is clear that the design aspect of the Life Skills Education and Entrepreneurship Education scholarship schemes has embraced a competency-based and experiential approach aimed at enhancing employability and entrepreneurial competencies. The Directorate of Courses and Training has developed uniform standards in the form of curriculum guides and framework guidelines to facilitate LKPs in designing appropriate learning programs in relation to their specialization. Additionally, in the process of curriculum design, institutional leadership, instructors, and program representatives are involved while emphasizing experiential learning activities, competency assessment, entrepreneurship education, and soft skills training.

However, the study outcomes indicate weaknesses in the curriculum development process. Despite the expected connection between curriculum development and industry requirements, the inclusion of businesses and industries in the process is inconsistent among institutions that apply the program. The Directorate is less involved in the process of curriculum development and instructional design, which makes it difficult to assure the quality and consistency of the process in terms of its implementation in training institutions. Furthermore, the lack of funding allocated for curriculum development limits the participation of all interested parties in program design. Thus, curriculum development becomes an obligation for scholarship funding rather than a strategy.

Analytically speaking, this means that the efficacy of vocational training programs is extremely contingent upon the adequacy of curriculum development and how closely instructional planning mirrors current needs in the labor market. Competency-based training is insufficient when curriculum development lacks continuous interaction between industry and labor market analysis. Thus, curriculum development must be regarded not simply as the creation of study materials but rather as a strategic process of converting labor market needs into learning objectives and competencies. Without such alignment, graduates will end up with competencies that do not meet the needs of the changing industrial world (Brunello, & Rocco, 2017b; Lopes, Rebelo, Santos, Costa, & Ferreira, 2023).

These results are in line with those of earlier research, which highlighted the significance of curriculum responsiveness and industry involvement in vocational education. Brunello and Rocco (2017a) stated that one of the biggest factors leading to skills mismatch between graduates and labor market expectations is curriculum misalignment. Additionally, UNESCO-UNEVC stressed that current TVET programmes should implement flexible, industry-responsive, and competency-based curricula that constantly undergo changes based on the changing labor market. Recent empirical studies showed that project-based learning, soft skills integration and entrepreneurship education contribute to enhancing graduates' employability and workforce adaptability if these methods are combined with relevant industry involvement and curriculum development (Kemper, McDonald, & Renold, 2026; Kharel, Dahal, & Joshi, 2026)

The present research also makes an important contribution to Human Capital Theory through the observation that the best investment can be made in vocational education through the use of curriculum design as a mechanism to convert labor market needs into competencies and employment opportunities. From the perspective of training programs based on demand, curriculum design becomes an important intermediary step between labor market information, instructional design, and competency achievement. Thus, any deficiencies found during the design phase can significantly affect the effectiveness of the other phases.

From an applied standpoint, it can be argued that more collaboration between institutions is necessary as part of the curriculum development process. Vocational education programs informed by future research should foster the engagement of local industry players, employer organizations, and regional governments in setting competency criteria, pedagogical methods, and evaluation procedures. Furthermore, curriculum evaluation procedures should become standard practice so that the program can remain adaptable and responsive to technological developments and changing workforce requirements. Finally, ensuring sufficient financial backing for curriculum development initiatives will make it possible to ensure better engagement of stakeholders and higher quality of instruction in the implementation phase.

4.3 Components "Development"

This component can also be described as one without major positive developments or much experimentation with existing materials. Although there has been some development, it is only minor. From interviews and field observations, this is because the Course and Training Institution has never budgeted for development, either for materials or for methods of teaching. Consequently, the learning materials and methods are only based on the "experience" that each training instructor has, which often does not align with the profile of the trainees or with the actual industry needs.

Almost all the Course and Training Institutions that analyzed lacked the use of information technology in implementing their training. They also continue to implement the same program from year to year without considering and adapting to the needs of the industry and its challenges. They are also less responsive to training needs driven by the industry. The skills that are the subject of this research are outdated. The development component of the program is shown in the below Table 3.

Table 3. Development of instructional materials and learning media for skills-based training programs

Focus	Responses
Training module development process	The modules were developed by considering industry needs and adhering to the existing curriculum framework. The development process involves an analysis of industry requirements and alignment with the established curriculum standards to ensure the relevance of the training content
Responsibilities in developing teaching materials and training media	The development of teaching materials and training media involves multiple stakeholders, including institutional leaders, educators, government representatives, and related institutions. This responsibility is shared collaboratively among leaders, educators, and governmental and institutional stakeholders to ensure the relevance and effectiveness of the training materials
Learning media aligned with learner characteristics	Learning media are adapted to the learning styles, age, abilities, and needs of learners. Learning media must be aligned with the characteristics of the learners to ensure effectiveness, taking into account aspects such as their age and learning styles.
Competency-based instructional materials	Teaching materials are developed to support learners in achieving the predetermined competencies. The materials are designed using a competency-based approach to ensure that learners are able to attain the expected competency standards
Soft skills and entrepreneurship development	The program incorporates the strengthening of soft skills and entrepreneurship training. Beyond technical competencies, it emphasizes the development of soft skills such as communication and leadership as well as entrepreneurial capabilities to prepare participants for labor market challenges and to support the establishment of independent business ventures

Focus	Responses
Participant assessment and evaluation	Assessment is carried out through theoretical tests, practical evaluations, portfolios, and competency examinations to measure participants' understanding and their skills. The assessment system is designed to provide a comprehensive evaluation of participants' competencies in both theoretical knowledge and practical application

The results of this study support earlier research that points out the importance of innovation in the effectiveness of vocational education programs. As pointed out by UNESCO-UNEVC, current TVET systems must involve the use of ICT, flexible learning methods, and future labor force skills to respond to changes within industries. Similarly, recent research has proven that vocational education programs, which involve technological innovations, industry involvement, and learner-focused instructional design, are capable of enhancing graduate employment and workforce flexibility. In contrast, such programs, which have a lower level of instructional innovation, are more prone to creating competencies that are inconsistent with labor market demands and technological advances.

These findings help Human Capital Theory further indicate that for there to be investments in vocational education, there should not only be investments in access to training but also continuous investment in the development of instruction and innovation in education. The quality of human resources will not be sustainable where there is no development in terms of learning techniques and materials, yet there are changing needs in the labor market. From the demand-led model of training, the development phase acts as the strategy through which needs in the labor market are changed into competencies and sustained employment.

In terms of practice, the above results suggest that scholarship-based vocational education programs need more institutional support for continued instructional development. Periodic evaluations of training modules, increased use of technology in learning, and collaborative efforts with industry players in the program development process are needed. Additionally, there is a need for the implementation institutions to incorporate learner-oriented and technology-supported instructional approaches based on evolving workforce competency needs. This can be achieved through the introduction of mechanisms for funding curriculum and instructional innovations, which will greatly enhance the capability of the Course and Training Institutions to train competent individuals in line with contemporary labor market needs.

4.4 Components "Implementation"

The results show that the implementation of the Life Skills Education (PKK) and Entrepreneurship Education (PKW) scholarship programs was methodical and mostly in compliance with specified operational standards. Training activities are conducted in accordance with competency-based instructional frameworks, approved budget allocations, and prearranged schedules. To improve participants' workforce competencies, Course and Training Institutions (LKPs) have successfully arranged both theoretical and practical learning activities, using a 30:70 ratio between theoretical instruction and practical experience. Additionally, monitoring systems have been implemented to guarantee program compliance and accountability throughout the training process. These include attendance records, field supervision, documentation, and recurring evaluation meetings. These results show that the program's operational execution has typically been successful and in line with national policy goals regarding competency-based vocational education (Brunello & Rocco, 2017b).

Additionally, strong dedication to practice-oriented learning was evident in the implementation stage. To improve their technical skills and workplace attitudes, participants actively participated in project-based activities, practical assignments, demonstrations, and internships. Facilitators and instructors are crucial for guiding participants, providing feedback, and creating helpful learning settings. Assessment mechanisms are used to measure both theoretical comprehension and practical competencies to promote a more thorough assessment of participant accomplishments throughout the learning process (Lopes et al., 2023).

Even if operational procedures have been successfully implemented, the results indicate that workforce preparedness and long-term employment outcomes are not always correlated with the effectiveness of implementation. The learning process shows little pedagogical innovation or adaptation to shifting labor market demands and is still largely reliant on current teaching approaches. Consequently, graduates may acquire skills that are operationally sufficient but not adequately responsive to the demands of the modern industry. This result emphasizes the crucial difference between program outcome effectiveness and program implementation effectiveness.

Table 4. Key components of program implementation in vocational training programs

Focus	Responses
Program implementation in the field	The program is implemented in accordance with the approved budget plan (RAB) and an agreed sequence of activities. The implementation follows a detailed plan and predetermined stages to ensure smooth and effective execution of program activities in the field.
Instructors/facilitators' roles	Facilitators play an essential role in guiding participants, managing the learning process, providing feedback, and fostering supportive learning environments. Facilitators or instructors are crucial for ensuring the smooth implementation of the learning process, delivering appropriate guidance, and supporting participants in achieving the expected competencies.
Participant engagement in practical training and internships	Participants are expected to actively engage in practical training and internship activities through demonstrations, reporting assignments, and hands-on practice. They are encouraged to participate in both administrative tasks and project-based activities relevant to their field of training to strengthen their practical competencies.
Program implementation monitoring process	Monitoring is conducted through attendance records, documentation, data collection, evaluation meetings and direct field supervision. It is carried out periodically to ensure that the program is implemented in accordance with the planned activities, while also facilitating data collection and evaluation of the program's implementation
Relationships among program organizers, participants, and the industrial sector	The relationship among program organizers, participants, and the industrial sector is well established and characterized by interactive communication and mutually beneficial collaboration. This close partnership helps ensure the smooth implementation of the program and generates benefits for all stakeholders.
Logistical and facility support for training activities	The program provides training venues, equipment, practice materials, and technical and administrative support to facilitate the training process. Adequate logistical support including training facilities, practical equipment, and instructional materials is ensured to enhance the smooth implementation and effectiveness of the program
Alignment with national and local policies	The program is aligned with both national and local policy frameworks to ensure its coherence and effectiveness. Its implementation adheres to applicable regulations at the national and local levels, thereby supporting the sustainability and effectiveness of the program in achieving its intended objectives

Therefore, the degree to which participants develop competencies that are applicable, transferable, and sustainable in rapidly changing labor market circumstances should be considered, in addition to adherence to procedural requirements, when evaluating the success of implementation. This stage is very important, as it is a summary of all processes and will show whether the program has been successful, as planned in the previous stages. If not, what barriers do they face? The design implementation of the program is shown in Table 4.

From an analytical standpoint, these data suggest that implementation quality should be understood as the completion of prior stages within the ADDIE framework. Weaknesses identified during the analysis, planning, and development stages influence the success of program implementation. Accordingly, implementation should not be considered an isolated component but rather an integrated process through which curriculum design, instructional innovation, and labor market responsiveness are turned into meaningful learning experiences. When prior stages fail to appropriately address labor market knowledge and skill needs, implementation processes—even when technically successful may create outcomes that are only partially aligned with workers' expectations.

These findings are consistent with previous studies, emphasizing that vocational education programs should prioritize workforce readiness rather than merely achieving procedural implementation targets. UNESCO-UNEVOC and the International Labour Organization (ILO) have highlighted that contemporary Technical and Vocational Education and Training (TVET) systems must emphasize work-based learning, adaptive competencies, and lifelong learning capabilities to address the increasingly dynamic labor market demands. Similarly, recent studies have demonstrated that effective vocational education implementation requires meaningful integration of industry partnerships, learner-centered pedagogies, and competency-based assessment systems to improve graduate employability and workforce adaptability. The present findings suggest that although the implementation process has fulfilled many operational requirements, greater emphasis is needed on developing competencies that are responsive to technological changes, industrial transformations, and future employment opportunities.

Theoretically, this study contributes to Human Capital Theory and demand-driven training models by demonstrating that investments in vocational education should be evaluated not only in terms of training delivery but also in terms of their capacity to generate sustainable human capital outcomes. Program planning, curriculum design, instructional development, and implementation quality must all be in harmony for workforce competency growth to take place. Consequently, implementation effectiveness should be regarded as the successful translation of labor market-responsive educational programs into sustained employment competencies among the program participants.

From a practical standpoint, the findings imply that future scholarship-based vocational education programs should increase work-based learning approaches and foster greater instructional innovation during their implementation. More intense partnerships with the industry in practical training activities, internships, and competency assessments would greatly assist in boosting workforce preparedness among graduates. Furthermore, implementation monitoring systems should be enhanced beyond procedural compliance indicators to incorporate measurements of graduate employability, competency relevance and sustained employment outcomes. Such efforts are vital for ensuring that vocational education programs not only deliver training successfully but also generate graduates who are ready to compete effectively within contemporary labor markets and achieve long-term economic empowerment.

4.5 Components "Evaluation"

The findings of this study provide little evidence of the relevance of the Life Skills Education (PKK) and Entrepreneurship Education (PKW) scholarship programs to sustained job outcomes and economic empowerment among program beneficiaries. Although participants generally completed the training programs and demonstrated competency attainment through theoretical and practical assessments, the program has not yet established a comprehensive mechanism for systematically tracking graduates' employment trajectories within the formal labor market. Consequently, the program's long-term effectiveness in encouraging sustained employment, entrepreneurship, and economic mobility remains difficult to verify (Brunello, & Rocco, 2017b; Gupta, Mittal, Singh, & Dash, 2024).

The data also demonstrate considerable variance in employment outcomes across various occupational skill categories. In some training programs, implementing institutions reported that graduates had successfully joined the job market; however, these assertions were generally

substantiated by systematic tracer studies or formal employment records. In sewing-related training programs, for example, stakeholders indicated divergent viewpoints regarding graduate employability due to decreased market demand in the local textile sector. Conversely, welding programs indicated much greater positive employment outcomes, with the majority of participants apparently gaining formal employment after completing the program (Lopes, Rebelo, Santos, Costa, & Ferreira, 2023).

Table 5. Program evaluation framework for life skills education and entrepreneurship education programs

Focus	Responses
Assessment of participant success	Program success is measured through competency assessments, attendance records and participation in learning activities. Participants' success is evaluated based on their ability to demonstrate competence in the competency tests as well as their level of discipline in participating throughout the program
Program success indicators	Success indicators include workforce engagement, entrepreneurial capability, training quality, and skill development. Program success is assessed based on the extent to which participants can integrate into the labor market or establish their own businesses, the quality of training provided, and the improvement in participants' skills..
Measuring the program impact on employability and entrepreneurship	The program's impact is assessed by examining whether participants can gain employment or initiate entrepreneurial activities, thereby contributing to the reduction of unemployment. The program is evaluated based on its effectiveness in enhancing participants' employability and entrepreneurial capacity, which, in turn, may increase income and help reduce unemployment rates.
Program impact on income growth and employment opportunities	The program's impact is reflected in the reduction of unemployment and the increase in participants' income through employment or entrepreneurial activities initiated after completing the program. The program contributes to unemployment reduction by equipping participants with relevant skills that support improved earning capacity
Industry involvement in the evaluation of training outcomes	The business and industrial sectors provide feedback and actively participate in curriculum development and evaluation of training outcomes. Their involvement is crucial to ensure that training programs remain aligned with labor market requirements and industry demands.
Post-training follow-up and mentoring mechanism	Following the completion of the training, the participants received further mentoring, including support for starting a business or enhancing their skills. The program provides post-training assistance to ensure that participants are able to continuously develop their competencies and effectively apply them in the labor market
Percentage of participants employed or starting a business	The program's success is indicated by the percentage of participants who obtain employment or initiate entrepreneurial activities in fields relevant to their training. This measure reflects the extent to which the program enables participants to secure jobs or establish businesses based on the competencies acquired during training.

Similarly, entrepreneurship-oriented programs have offered participants the opportunity to engage in freelancing or informal economic activities; however, less evidence exists regarding their capacity to develop durable and independent business endeavors. These results imply that long-term economic empowerment and sustainable employment outcomes are not always correlated with training completion or competency attainment. The design implementation of the program is shown in Table 5.

From an analytical standpoint, the findings imply that the evaluation component remains largely output-oriented rather than outcome oriented. Current evaluation systems generally stress competency

evaluations, attendance records, and training completion rates while devoting insufficient attention to graduate employability, career progression, income growth, and business sustainability after program completion. Consequently, the effectiveness of scholarship-based vocational education programs cannot be accurately judged using only short-term training measures. Sustainable employment outcomes require thorough assessment frameworks capable of monitoring whether acquired competencies are successfully transformed into meaningful labor market involvement and economic advancement among program beneficiaries (Backes-Gellner, & Wolter, 2010; Gupta et al., 2024).

These findings are consistent with earlier studies highlighting that contemporary vocational education programs should embrace outcome-based evaluation methodologies that expand beyond training completion. The International Labour Organization (ILO) and UNESCO-UNEVOC have consistently highlighted that Technical and Vocational Education and Training (TVET) systems should incorporate graduate tracer studies, labor market outcome assessments, and sustainable employability indicators as essential components of program evaluation. Similarly, recent studies have shown that vocational education programs are more likely to lead to sustainable economic empowerment when post-training support mechanisms, industry participation, and longitudinal monitoring systems are consistently implemented.

The present findings suggest that although competency development remains an important achievement, the absence of comprehensive post-training evaluation mechanisms limits the ability of policymakers to determine whether scholarship-based vocational education programs have successfully generated sustainable labor market outcomes (Backes-Gellner and Wolter, 2010; Kemper, McDonald, & Renold, 2026; Putranto, Natalia, & Pitriyani, 2024). Theoretically, this study contributes to Human Capital Theory by suggesting that investments in vocational education should be evaluated not only in terms of competency development but also according to their capacity to generate durable human capital outcomes.

Human capital investments become socially and economically significant when learned competencies contribute to long-term employability, career advancement and economic self-reliance. Furthermore, from the perspective of demand-driven training programs, sustained employment results constitute the ultimate measure of program effectiveness because they demonstrate the successful alignment of labor market needs, competency development, and economic empowerment. Consequently, shortcomings discovered during the evaluation stage suggest that scholarship-based vocational education programs should use larger and more comprehensive metrics of program effectiveness that extend beyond immediate training outputs.

From a practical standpoint, the findings imply that future vocational scholarship programs should reinforce graduate tracking systems and institutionalize longitudinal outcome evaluations. Comprehensive tracer studies should be conducted periodically to examine graduates' job status, income progression, entrepreneurial sustainability, and workforce adaptability following program completion. Greater coordination with industries and employer associations will further facilitate the collection of labor market outcome data and improve the responsiveness of training programs to workforce demands. In addition, post-training mentoring structures should be improved to help graduates' transition into sustainable employment or entrepreneurial activities. Such initiatives are vital for ensuring that scholarship-based vocational education programs contribute not only to competency development but also to sustainable economic empowerment and meaningful labor market engagement in marginalized communities.

5. Conclusions

5.1 Conclusion

This study illustrates that the value of scholarship-based vocational education programs extends beyond successful program execution and should be evaluated based on their capacity to deliver sustainable job outcomes and economic empowerment within underprivileged groups in society. Using the ADDIE framework, the findings demonstrate that although the Life Skills Education (PKK)

and Entrepreneurship Education (PKW) scholarship programs have built systematic processes for program delivery, significant obstacles exist across all implementation stages.

These include limitations in labor market intelligence during the analysis stage, insufficient curriculum responsiveness during the design stage, limited instructional innovation during program development, implementation practices that do not necessarily guarantee workforce readiness, and evaluation mechanisms that remain predominantly focused on short-term training outputs rather than long-term employment outcomes. Collectively, these data show that vocational scholarship programs require closer alignment with labor market demands to increase graduates' employability and sustainable economic mobility.

Theoretically, by showing that investments in vocational education should not be assessed exclusively by competency attainment or participant completion rates, this study adds to the literature on demand-driven vocational education and Human Capital Theory. Rather, the effectiveness of scholarship-based vocational education programs should be regarded as a cumulative process that combines labor market alignment, adaptive competency development, workforce preparedness, and sustained employment outcomes. The findings further extend the demand-driven training perspective by highlighting the importance of integrating labor market intelligence, curriculum responsiveness, instructional innovation, and longitudinal outcome evaluation as interconnected determinants of sustainable human capital development among marginalized populations

The results suggest that, from a practical and policy standpoint, vocational scholarship programs should progressively change their focus from the number of participants to the quality and sustainability of the job outcomes. Future program development should strengthen labor market needs assessments, expand industry engagement in curriculum and competency development, promote instructional innovation and technology integration, and institutionalize graduate tracer studies to evaluate long-term employability and entrepreneurial sustainability. Greater focus should also be placed on establishing competencies that are sensitive to growing workforce demands and capable of facilitating participants' transitions into sustainable formal employment and economically viable entrepreneurial activities. Such activities are vital for strengthening the contribution of vocational education programs to poverty reduction, workforce development, and sustainable economic empowerment

5.2 Research Limitations

This study has several limitations. First, the research was geographically constrained to three regencies and municipalities in West Java, namely Bekasi City, Bekasi Regency, and Karawang Regency, which may not adequately represent the different socioeconomic and labor market features across Indonesia. Second, only scholarship beneficiaries and institutions implementing courses and training programs were included in the study. Third, although this study fully analyzed program implementation using the ADDIE framework, it was unable to undertake longitudinal tracer studies to rigorously assess graduates' long-term employment trajectories and entrepreneurial sustainability. Therefore, the results should be interpreted in light of the chosen case studies and the research's methodological parameters.

5.3 Suggestions and Directions for Future Research

Future research should use longitudinal methods and a wider geographic scope to investigate the long-term effects of vocational scholarship programs in various Indonesian regions. A more thorough understanding of the connection between vocational education, employability, and economic empowerment would include graduate tracer studies, labor market outcome analyses, and comparative assessments of formal and informal employment routes. Additionally, to bolster demand-driven vocational education policy, future research should examine the incorporation of labor market information systems, industry-responsive curriculum models, and technology-enhanced vocational learning approaches. These studies are anticipated to aid in the creation of more adaptable and long-lasting vocational education programs that can promote inclusive economic growth, poverty alleviation, and workforce development.

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Author Contributions
DM contributed to the conceptualization, research design, methodology, data analysis, interpretation of the findings, and preparation of the original manuscript. LFM contributed to the literature review, data validation, interpretation of the results, manuscript revision, and overall supervision of the study. Both authors reviewed and approved the final version of the manuscript.

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