

From Classrooms to Careers: Foundational Insights on the Integration of Academic and Vocational Education and Training in Palestine

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Abstract

Despite a growing number of university graduates, Palestine faces a severe unemployment crisis because the local labor market cannot absorb them all. At the same time, Vocational Education and Training (VET) remains underdeveloped and disconnected from actual market needs, leading to a significant skills gap. This paper explores how combining traditional academic education with vocational training could help solve Palestine's unemployment problem. By reviewing existing data, economic theories, and successful international models from countries like Germany and Jordan, the study highlights the benefits of a blended educational approach. The findings clearly show that integrating academic and vocational learning equips students with better, more relevant skills, significantly improving their chances of finding good jobs. However, launching these programs in Palestine is difficult due to ongoing political and economic challenges, as well as a weak private sector that struggles to create new jobs. Ultimately, while blending these educational paths is not a magic cure, it is a crucial strategic shift. This approach can motivate young Palestinians, boost their competitiveness, and empower them to start their own businesses.

1. Introduction

Unemployment among Palestinian young people and university graduates, is considered one of the largest challenge which facing the country now a days (Morrar, et, al. 2022). According to the Palestinian Central Bureau of Statistics (PCBS, 2023), unemployment rates among this group of the Palestinian society, are constantly increasing, reaching 40% in 2023 (before the war on Gaza). This, places Palestine at the forefront of countries suffering from high unemployment rates globally. The unemployment figures in Palestine are alarming, given that this age group is one of the largest groups in Palestinian society after children, which creates a major dilemma for Palestinian policymakers. Given the significant importance of this group as a productive demographic dividend, on the one hand, they become one of the most vulnerable groups socio-economically on the other, especially in light of the current situation (Firmansyah, D. 2025).

Despite the significant expansion of higher education services in Palestine, which includes the increase in the number of higher education institutions, academic specializations, and graduate programs at the master's and doctoral levels, and the consequent significant increase in the number of graduates of both genders, all university

graduates at all academic levels struggle with fast access to the labor market and securing a decent job appropriate with their acquired academic specialization (Nabulsi, et. al. 2021). The gap between the educational output (such as specializations, skills, and competencies students get during university study) and the labor market needs are considered one of the most important causes of unemployment among the Palestinian university graduates. This prevents social and economic development and deepens the problems of poverty and social exclusion.

The Palestinian educational system is traditionally divided into two separate, parallel tracks that never meet. The first is academic university education, which focuses primarily on theoretical knowledge and cognitive skills. The second is vocational education and training (VET), which focuses on practical technical skills and immediate preparation for work. While higher education has witnessed a qualitative renewal and significant expansion in a number of higher education institutions, the quality of specializations, and their academic levels, from diploma's degree to doctorate, VET has not received the same attention. It has only developed and expanded to a smaller extent than university education, leaving a significant gap between these two educational paths (Hilal & McGrath, 2025). This disparity is well-documented: Palestinian society continues to favor academic education over VET, and a disproportionate share of VET enrollees are students with low secondary school averages, reflecting deep-rooted social stigma rather than actual labor market realities (Fayyaleh & Fogarty, 2024). The World Bank has called to strengthen vocational training and deal with it as a priority for improving employment possibility in Palestine (World Bank, 2017, as cited in Hilal, 2019), yet VET including apprenticeships, vocational training centers, and internships, remains underdeveloped and often undervalued, due in part to social stigma and limited resource allocation (ILO, 2024). It has therefore become essential to work on integrating these paths deeply to bridge the skills and competencies gap in the Palestinian labor market and increase the employability of graduates.

This paper seeks to answer a central question: Will the integration or hybridization of academic education and VET in Palestine facilitate and smooth the transition of graduates from school to careers? This question carries out an urgent policy significance given the persistently high unemployment among Palestinian graduates. According to the Palestinian Central Bureau of Statistics (PCBS), the unemployment rate among youth of age 19–29 who holds an intermediate diploma or higher reached 48.3% in 2022, rising to approximately 47% in the second quarter of 2023, with clear regional disparities (70% in Gaza Strip compared to 32% in the West Bank) (PCBS, 2022; 2023). By 2024, it has been noticed that most university graduates have to wait an average of 4 to 13 months before securing their first job (PCBS, 2024). These figures showing a serious problem: young people are often encouraged to get an academic degrees for which there is relatively low labour market demand (ETF, 2025), while unemployment has risen from 14.3% in 2000 to 26.4% in 2021 (IMF, 2023). Answering the above question will contribute to develop an effective national educational reform strategy that aligns graduates' competencies with Palestinian labor market needs. This paper is grounded on the existing research, policy reports, and international best practices, examining experiences from Germany, Switzerland, Singapore, Jordan, and Egypt, and adapting them to Palestine's unique social, political, and economic context.

This paper is an integrative narrative review that going through and summarizes the existing literature, policy reports, and international know how and experiences to formulate a practical policy framework for Palestine. It does not report original empirical data, but built on a well-established analytical approach fitted to instable political and economic contexts (Zancajo et al., 2022). Its contribution to the TVET literature is high. Most literature on TVET integration is rutted on stable and well-resourced economies such as Germany, Switzerland, and Singapore, with minimum attention to the countries affected in conflict and its economic situation is unstable (World Bank, ILO & UNESCO, 2023). Palestine is a unique country which affected strongly by the occupation and described as unstable country with limited resources where typical TVET models cannot be affected without meaningful adaptation. Secondly, this paper does not stop on diagnosis, but offers a structured and context-sensitive policy roadmap that bridges others' models with Palestine's unique social, economic, political, and cultural context, responding to the calls for rigorous, context-adapted TVET analysis in fragile and low-income settings (World Bank, ILO & UNESCO, 2023; OECD, 2023).

The goal of this paper is to highlight the importance of integrating/hybridizing academic and vocational education in the Palestinian context and to seriously attempt to come up with practical recommendations that can help researchers, policymakers, educators, and development partners adopt to more effectively align education and employment pathways. We must not forget that integrating academic and vocational education is not only a technical process that can be achieved in a short time, but rather a strategic cultural and intellectual approach to the Palestinian education system (Adelman, (1989). Therefore, fundamental reform and political commitment are required to achieve this strategic shift in the philosophy of education in Palestine. With the ongoing challenge of unemployment, especially among university graduates, and the fragility of the Palestinian economy, the philosophy of integrating/hybridizing academic and vocational education has become a national necessity, not an innovative fad (Larionova, et. al. 2018), towards liberating the latent and unused potential of youth in an innovative, comprehensive, and sustainable manner.

While this paper covers the macro policy level, the recommendations we have here under highlighting the importance of TVET and its design, teaching methods, and delivery. This issue is strongly recognizing that the

education policy reform in Palestine could be adopted through curriculum development, pedagogical practice, and improved training delivery systems (UNESCO, 2022; OECD, 2023).

2. Education and Employment in Palestine: Context and Challenges

2.1 Context

Education is a fundamental value in Palestinian society. The high enrollment rates in Palestinian higher education institutions are the greatest indicator of the Palestinian people's belief in education as a national cultural value and a means for liberation from occupation and socio-economic revival (Saeed, 2016). One of the results of the significant expansion of higher education institutions and educational programs that has occurred since the advent of the Palestinian National Authority three decades ago has been a steady increase in the number of graduates competing to enter a small and fragile labor market. At the same time, this significant increase in the number of graduates has not been met with a similar or equal demand in the labor market (Fig 1), leading to high unemployment rates among graduates, especially those with specializations in the social sciences and humanities (World Bank, 2019). This structural imbalance in the Palestinian labor market has intensified the unemployment problem among young people, who find themselves faced with limited and less valued options: either work inside Israel in menial jobs or secure a job far removed from their academic specialization.

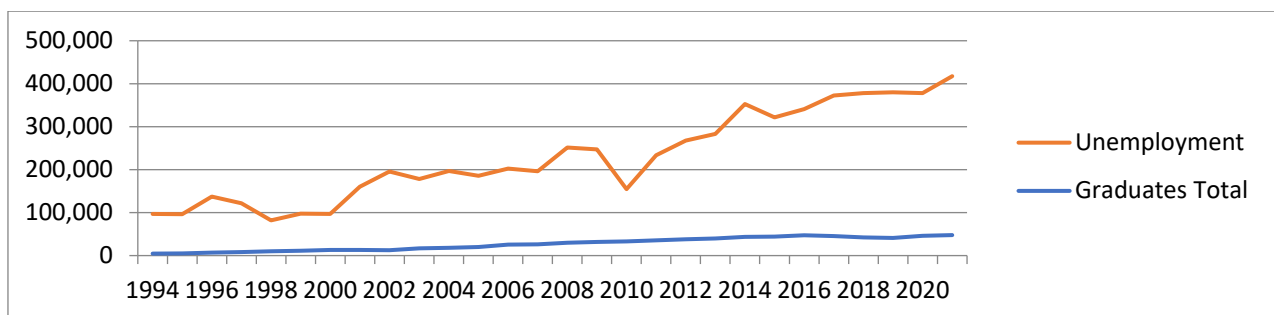


Fig. 1 Total graduates v unemployment in Palestine 1994-2021(Data source PCBS)

At the same time, VET remains underserved in Palestine compared to academic higher education. The enrollment rate in vocational training programs does not exceed 10% of all students enrolled in post-secondary education programs (MOE, Palestine, 2021). This percentage is considered the lowest regionally and globally, especially compared to countries with strong links to the labor market, such as Germany and Switzerland (ILO, 2020). One of the reasons for this decline is the societal perception of this type of education as it is often viewed as an option for those who fail or are weak in their studies, undermining its attractiveness, despite its potential to enter the labor market. This perception also hinders efforts to integrate VET with academic education or offer hybrid programs between the two systems, continuing the problem of unemployment.

Despite all these macro-level challenges, still there is a light at the end of the tunnel; the emerging alternative opportunities. Other technical sectors, such as the IT, renewable energy, and technical services, have opened new chances for graduates, especially for those who have the knowledge, technical skills, and competencies which qualify them to enter these sectors with confidence and stability. The regional and international labor market also offers tremendous opportunities through remote work. Despite these potential opportunities, employers in these fields face significant difficulties in finding the most appropriate graduates who have technical expertise and soft skills, such as problem-solving, teamwork, and communication (Al-Saadi, 2021). This gap imposes on policymakers in Palestine the need to integrate or hybridize academic and VET to provide Palestinian youth with the cognitive and technical skills and competencies necessary to operate in a dynamic and constrained market.

2.2 Challenges

One of the biggest economic challenges facing the State of Palestine is youth and university graduate unemployment. Palestine has the highest unemployment rate in the world, reaching over 40% (PCBS, 2023). Most of the newly universities' graduates are struggling to secure decent jobs within the first four years of their graduation (Almassri, 2023). This situation is burdening the Palestinian national economy and depriving it from its most important demographic dividends represented by youth and educated people. The main reasons for university graduate unemployment are the mismatch between higher education outcomes and labor market needs (Morrar, et, al. 2021). While universities continue to graduate large numbers of graduates, particularly in the humanities, education, and social sciences, the Palestinian labor market, particularly in emerging sectors such as information technology, renewable energy, water technology, agriculture, and construction, is showing an

increasing demand for technical and vocational specializations and skills (World Bank, 2019). As a result, graduates find themselves working in specializations far removed from their academic qualifications or are forced to change their career path by re-enrolling in training programs with additional costs, burdening them with additional debts that force them to work in Israel. This deprives the Palestinian market of its most important and significant demographic dividend.

We cannot ignore the challenges facing the Palestinian labor market itself. The unemployment rate among bachelor's degree holders or higher reached approximately 30% in 2022 (before the war on Gaza) (PCBS, 2023). This fact is showing the fragility and weakness of the Palestinian economy and its ability to generate sufficient job opportunities for the new entrants to the labor market. The political instability and economic uncertainty within Palestine further worsen the situation, weakening graduates' chances of securing decent jobs. The private sector (the primary driver of job creation in Palestine) also suffers from weak and limited resources, high costs, and an inability to expand due to the occupation's measures (UNCTAD, 2021). All these factors constraints the university graduates to find a decent job.

Another internal challenge facing VET is the societal stigma attached to this type of education (Hilal, & McGrath, 2016). Despite everyone's recognition of the importance of VET and the ability of its graduates to find decent job more quickly and easily than academic education, still this type of education suffers from alienation, a lack of funding, and a societal stigma. VET tracks are often viewed as secondary option compared to academic university programs, which reduces the number of students enrolled in its centers (ILO, 2020). This explains why even many high school vocational graduates prefer the academic programs at universities. This culture leads to a continued shortage of vocational graduates and widening the gap between education outcomes and employment.

These challenges become worse as a result of the on-going political instability and economic uncertainty resulted from the prolonged conflict and occupation. The restrictions imposed on the Palestinian economy, its fully annexation to the Israeli economy, the on-going restrictions on the movement of goods and workers within Palestine, and the continued restrictions on international trade hinder the development and growth of the Palestinian private sector, which is the largest generator of employment opportunities in the Palestinian market. This, in turn, limits the ability to absorb the growing number of graduates, especially university graduates (UNCTAD, 2021). This never-ending cycle limits the positive impacts of education reforms, as solving the unemployment problem require other political solutions.

It is important to highlight here the importance of coordination between educational institutions, employers, and business owners, which remains lacking or weak. Educational programs and curricula are often designed by universities without any coordination or consultation with private sector stakeholders, leaving a gap in the required skills and thus undermining graduates' employability (Said, N. 2016). This also applies to training, internship and apprenticeship programs, which are designed without any connection to university degrees on the one hand and employer needs on the other, thus keeping education and training far removed from economic reality and labor market needs.

Beyond these challenges, we have to be honest about the feasibility and sustainability of implementing such an integrated academic-TVET model in conflict affected country like Palestine. Even in stable and well-resourced countries, TVET reform takes years to reach measurable outcomes. The unstable Palestinian political and economic conditions add an additional risk layer. In 2023 the ILO and African Development Bank declared an alerte that TVET shouldn't be treated as a standalone solution to large-scale unemployment, but should be part of a wider scale structural economic reform. Still there are 3 risks underlined. The first is the level of commitment by the private sector and the political will by the government. As without these the reform risk remains on paper only! The second is the donor-dependent initiatives in the conflict affected contexts, which frequently collapse as soon as the external funding ends, making local ownership and domestic financing crucial from the beginning (World Bank, ILO & UNESCO, 2023). The third is the ongoing occupation and economic crises put a structural ceiling on what educational reform alone can achieve. These risks do not cancel the recommendations of this paper, but it is a reminder that academic-TVET integration is not a pure technical fix. It must be implemented as part of a broader, coordinated national development strategy to get a lasting impact.

3. Theoretical and Conceptual Foundations

If we want to understand the relationship between education and employment, we must delve into some of the theories that explain this relationship from a purely theoretical perspective. One of the most important theories that examines and attempts to explain this relationship is Gary Becker's human capital theory. During the 50s and 60s of the last century, Becker's worked to develop his remarkable theory, through which he demonstrated that humans are a set of skills and competencies that can be developed through education and training to gain a competitive advantage in the labor market. Becker concluded that education is an investment in people's knowledge and skills, which ultimately leads to increased productivity and income, giving them a competitive advantage that qualifies them to compete in the labor market or to create and develop their own businesses (Becker, 1992). Based on this theory (Figure 2), we conclude that integrating academic and vocational education

will enhance human capital by maximizing the benefits of combining theoretical knowledge with technical competencies and skills, giving graduates added value to employers and business owners (Sairmaly, 2023). Hence, based on human capital theory, Palestine has a structural weakness in its education system, where academic education clearly dominates, while vocational education and training are marginalized to some extent. This indicates that the potential for human capital development has not yet been effectively used.

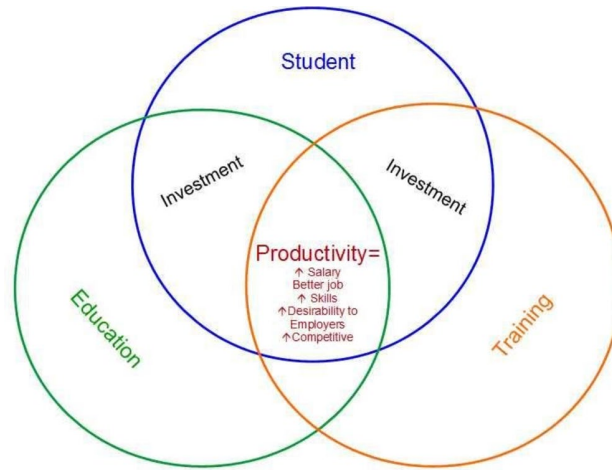


Fig. 2 Illustration of the basic premise of human capital theory as defined by Becker (2008)¹

The second theory we will rely on to explain the Palestinian situation is the labor market signals theory. This theory highlights the role of educational accomplishment and various cognitive competencies as signals that job seekers provide to employers as indicators of their suitability for the job (Spence, 1978). Although academic degrees may indicate intelligence and constancy, but not necessarily reflecting the skills and competencies needed by job. In this context, we must never forget that practical professional experience and internships are strong indicators of a job seeker's readiness for the labor market (Podungge, et, al. 2025). Hence, we find that the combination of academic knowledge, practical experience, and technical and personal skills is what distinguishes its holder, thus giving them a competitive advantage in the labor market. This advantage can only be achieved by combining or hybridizing academic education and vocational training.

Third, we will base our discussion on the concept of employability (Figure 3). This concept takes us beyond obtaining a university degree as a means to secure employment, but rather extends to the necessity of acquiring the skills, competencies, personal trait, and adaptability to secure a decent and sustainable job (Yorke, 2004).

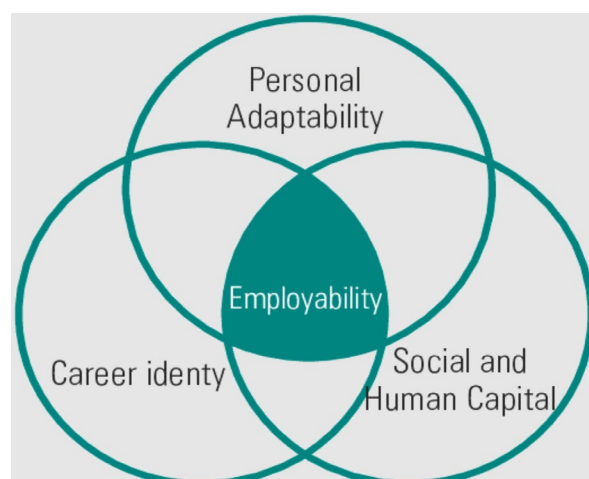


Fig. 3 Heuristic model of employability
Source: AD-MINISTER, 19

¹ Pace Jr, R. L. (2016). Relationship of institutional characteristics to CACREP accreditation of doctoral counselor education programs (Doctoral dissertation, Walden University).

In volatile labor markets, employers and business owners seek individuals with interpersonal skills, experience in problem-solving and teamwork, special abilities in communication and strategic communication, and technical and technological knowledge (Suarta, et, al. 2017).

Recently, Bing & Zhenzhen find out that integrating academic and vocational education supports employability in its broadest concept by incorporating skills enhancement and development into the educational process (Bing & Zhenzhen, 2025). As for the Palestinian graduates who are experiencing limited employment opportunities, this integration of education and vocational training may enhance their ability to adapt to the difficult circumstances they face, enhancing their ability to establish their own entrepreneurial income generating ventures, accessing local or regional job opportunities, or working remotely.

Finally, dual, integrated, or hybrid education systems, successfully implemented in countries such as Germany and Switzerland, could provide a theoretical and conceptual model for Palestinians to be guided by (NOHA, 2023). These systems combine classroom academic learning with structured vocational or internship programs, enhancing the alignment of educational outcomes with market needs (Deissinger, 2015). Given that the Palestinian political and economic context have unique challenges, adapting elements of these models may contribute to the ability of youth and graduates to transition from school to work more quickly and smoothly.

These theoretical foundations clearly indicate that the integration or hybridization of academic and vocational education is not just a practical strategy, but also one supported by well-established conceptual frameworks and scientific theories (Schwede, et, al. 2025). These theoretical foundations could lead the Palestinian education system reform toward an integration of academic and vocational education. This integration will contribute in building the Palestinian human capital, strengthening the labor market indicators, and enhancing the graduates' employability.

4. Methodological Approach

This paper applies an integrative narrative review as an analytical method to the reviewed papers, reports and official documents. This method is suitable for conceptual-policy analysis papers that aim to summarize knowledge across multi-fields and sectors which widely used to develop actionable policy frameworks rather than test hypotheses (Grant & Booth, 2009; Fan et al., 2022). This integrative narrative review method is valuable in educational policy research, as its goal usually to draw practical insights from diverse sources and translate them into recommendations (Snyder, 2019).

4.1 Literature Search and Selection

The reviewed literature is sourced mainly from Google Scholar, Governmental and international organizations reports such as ILO, World Bank, OECD, ETF, UNESCO, and the Palestinian Central Bureau of Statistics (PCBS). Several searching terms were used such as TVET integration, academic-vocational alignment, school-to-work transition, Palestinian labor market, and VET reform in conflict-affected contexts. The search was conducted repetitively between November 2024 and December 2025, a priority is given to the peer-reviewed studies and policy reports published within the last five years to ensure accuracy and relevance. An older published papers and reports were reviewed when no recent studies existed or where they provided essential theoretical grounding.

4.2 Selection of Country Case Examples

The other country case examples such as Germany, Switzerland, Singapore, Jordan, and Egypt were selected purposively based on three criteria: 1. these countries have documented a kind of success in integrating academic and vocational education, 2. relevance to Palestine's development context, and 3. availability of recent evaluative evidence that could help in policy adaptation. These cases are not selected to present the best practices used internationally, but to provide transferable insights that could be applied in Palestine.

4.3 Data Analysis and Synthesis

The analytical process comprised of three repetitive stages. The first was the thematic identification. The reviewed documents were classified to identify recurrent themes related to academic-TVET integration, including management structures, financing systems, labor market connections, curriculum design, and societal perceptions on vocational education. The second was the contextual evaluation. The already identified themes and others' practices were deeply assessed to find its adaptability to Palestine's context especially the scarcity of resources, private sector capacity and capability, and cultural attitudes toward VET. The third was the policy recommendations. The core insights from the reviewed literature and case examples were translated into six context-sensitive policy recommendations adapted to the Palestinian context (Alazmi & Alazmi, 2023). This process is guided by the principle that policy recommendations must be evidence based and contextual.

4.4 Limitations

As an integrative narrative review paper relies on the insights-based approach, this paper doesn't include primary data collection or empirical testing of the proposed integration model. The recommendations are derived from a secondary data sources and comparative analysis rather than direct observation or measurement within the Palestinian context. For sure, future empirical studies are needed to validate these recommendations through either pilot studies or stakeholders' engagement.

5. Results of Comparative Analysis: Lessons from International TVET Integration Models

This part of this paper presents the findings from a comparative analysis of regional and international TVET integration models. Instead of cataloging or categorizing what different countries have done, this analysis identified the core mechanisms used to improve the graduate employability via academic-vocational integration, the enabling environment led this model to succeed, and the lessons that could be transferred to Palestine. Six countries from different regions were reviewed: Germany and Switzerland (as a leading countries in applying the dual education system model), Singapore (as a high-prestige VET system with strong industry connections), and Jordan, Egypt, and Tunisia (as a regional Arab states pursuing VET reform under similar development restrictions). The analysis found out three critical success factors that occur across various contexts. These factors are: 1. the strong employer engagement in curriculum development and education/training delivery, 2. the deliberate policy efforts to promote the social status of VET, and 3. alignment of training programs with the labor market's priority.

Initiatives to integrate academic and vocational education are not new (Mehrotra, 2012). Many countries have implemented these initiatives to develop their education systems to directly respond to global developments and the needs of dynamic labor markets. These experiences, once studied, can inspire Palestinian policymakers and enrich national efforts in Palestine to engage in this experiment, taking into account the unique Palestinian context. Global and regional best practices for integrating academic and vocational education demonstrate its ability to reduce unemployment, especially among university graduates (Eichhorst, et, al. 2012). These practices significantly contribute to strengthening partnerships with the private sector and raising the level and quality of vocational programs, especially when integrated with academic programs.

5.1 The Dual System Model: Germany and Switzerland

One of the most successful examples is the German dual system (which recently began to be implemented in Palestine). This system combines academic education at university with internship training in the workplace (Figure 4).

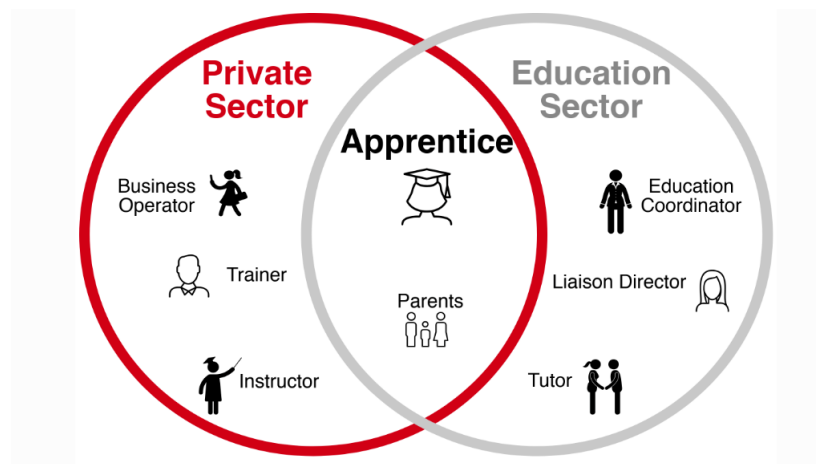


Fig. 4 The concept of dual education

Source: <https://swisscham.mx/en/dual-education>

The educational stage is divided into two parallel parts. In the first, students undergo traditional university studies to acquire theoretical knowledge for two academic years (for the bachelor's degree). They then complete the next two years in the workplace to apply theoretical concepts practically. They spend the second two years in the workplace, completing the four-year program to obtain a bachelor's degree, but in a dual-track format (Dessinger, 2015). Thus, students gain theoretical knowledge in addition to practical experience and actual work conditions and environments, which gives them a competitive advantage over their peers in purely academic

disciplines. This integration has actually contributed to reducing unemployment rates among university graduates in Germany (Ebner, 2015).

What makes the German and Switzerland model effective is not simply the time split between classroom and workplace, but the institutional structure that supports it. The legal agreements signed between the educational institution and the employers, the national quality standards for workplace training, and the employer's co-investment in education/training costs represents the key pillars for this success. This dual system is effective and proved a success in Germany and Switzerland because employers have direct input in what is taught and their interest in graduate's quality. This system deals with employers as active co-producers of skills and competences not as passive recipients of graduates as in the regular education system (OECD, 2021).

Given Germany's and Switzerland's success in this area have followed action, adapting this system to suit the Austrian and European contexts. Although the Palestinian context is very different from that of Germany or Switzerland, this system could be easily transferred to Palestine as the curriculum redesign and formalizing employer roles and responsibilities toward the education system can be done and adopted as part of the educational system. The proposal here is not to copy the German experience and apply it as it is in Palestine, but rather to benefit from it and its applications that are appropriate to the Palestinian context to facilitate and accelerate the transition from school to the labor market.

5.2 High-Prestige VET Through Strategic Investment: Singapore

If we turn to Asia, we see that the education system in Singapore is considered a model for the integration of academic and vocational education. The Institute of Technical Education (ITE) and other technical institutes in the country are prestigious and highly reputable. These institutes combine academic and vocational learning through partnerships with the Singaporean private sector, particularly industry. Students enrolled in these institutes are equipped with theoretical knowledge, practical technical experience, and personal skills (Deng, & Gopinathan, 2016). Importantly, vocational and technical education in Singapore is not viewed as inferior to university education, but rather as a complementary or parallel track in quality that prepares its graduates to enter the labor market with strength.

Singapore's success in repositioning VET as equal in status to academic education didn't take place by default; it has been occurred as a result of a long deliberate and sustained government policy. The government of Singapore strongly invested in state-of-the-art VET facilities, afforded competitive salaries for VET instructors, and declared a consistent public message that framed technical skills as essential requirements to national economic competitiveness (Sung et al., 2013). Therefore, this experience could inspire the Palestinians to invest more in the quality of vocational training and its alignment with the labor market need and not only changing cultural perceptions through awareness campaigns.

5.3 Regional Reform Efforts in the Arab World: Jordan, Egypt, and Tunisia

Regionally, Jordan, Egypt, and the Maghreb countries took early steps to reform their education systems, particularly VET, in an effort to bridge the gap with higher education and change societal stereotypes about vocational education and training. Some countries have succeeded, but others are still at the beginning of the journey. For example, Jordan launched the National Employment and Training Company in an effort to align vocational training programs with the needs of priority sectors such as construction and information and communications technology (ETF, 2020).

Jordan also has established technical universities, such as the Balkan University, to make a balance between academic and technical education to meet the growing demand for technical specializations in the Country. Similarly, Egypt has also developed dual education programs that combine academic and vocational education in cooperation with the private sector. All these initiatives are done in order to enhance graduates' employability (UNESCO, 2018). Tunisia on the other side is considered one of the most advanced Arab countries in terms of vocational education and training programs, as they invested a lot in this educational stream (Marchionne, 2023). Despite this development in some Arab countries, programs that integrate academic and vocational education in traditional universities are still in their early stage and face specific local challenges (Karami Akkary, 2014). However, these regional efforts highlight the political will in these countries to reform the education system, taking into account the national context and integrating international experiences.

The regional Arab experience shows a sectorial pattern. It showed that VET reform efforts that succeeded are those which linked explicitly to the national economic strategies and priority sectors. As an example, Jordan has focused on the ICT and construction where Egypt has aligned its VET reform with the manufacturing sector. The Tunisians emphasized on service sector. All these Arab experiences showed that TVET cannot improve employment outcomes in the abstract but it must be grounded in sectors with big investments and of increasing job opportunities (ETF, 2020).

For Palestine, the academic-TVET integration could benefit from the Arab States experiences focusing on the sectors with good potential to grow despite political constraints. They could pilot this integration in the IT,

renewable energy, agri-tech, and construction sectors. It is required a concentrate pilot reform efforts rather than immediate system-wide change.

6. Key Findings and Transferable Lessons

The comparative analysis led to four core findings. First, successful academic-TVET integration relies on the education stakeholders' relationship not curricular. What does it mean? It means that the integration depends mainly on the sustainable and institutionalized partnership between education service providers and employers. It requires both sides to share education development responsibility based on mutual interests and objectives and to share investment in the field. Second, the cultural perceptions of VET (social image on VET); It was clear that the low social image on VET doesn't change by the awareness campaigns alone. The real change could happen when VET system could show high-quality education delivery, have modern facilities and modern training sites, have respectful trainers, and guarantee reliable pathways to decent jobs.

Third, reform efforts are become effective when it focus on priority sectors which shows a clear labor market demand, not to go for system-wide transformation simultaneously. Fourth, even in politically stable and well-resourced contexts, TVET integration is a long process that requires political desire and commitments, steady financial resources, and realistic expectations about the results. For Palestine, these findings could be good recommendations to the policy makers to go for phased and sector-based approach TVET integration. The integration could start with the IT, construction, and renewable energy sectors supported by structured and formalized providers-employers partnership. It also needs a visible investment in VET's quality which represents the most feasible adaptation pathway. The goal is not to copy and paste the German or Singaporean systems as it is, but to benefit from their core mechanisms and adapt them to Palestine's constrained context which it is at the same time not impossible reality.

6.1 The Roles of Multiple Stakeholders in Integration

Integration or hybridization of academic and vocational education in Palestine requires the participation and cooperation of all parties to develop, succeed, and implement it on a broad scale. Each party to this new system has a specific role that no other party can play. The complementarity of roles between all parties is the foundation for the success of integration or hybridization of the educational system in Palestine (Fayyaleh, & Fogarty, 2024).

The parties to this community include students and their families, teachers, employers, the government, international and local organizations (concerned with education), and donors (Figure 5).

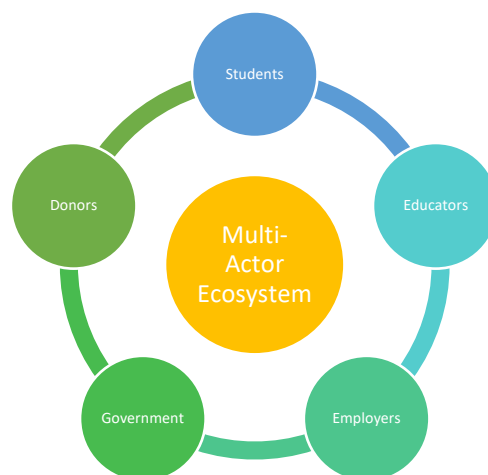


Fig. 5 Multi-actors ecosystem

Each of these parties has a specific role to play, and through the integration of these roles, rather than their conflict, the new system will operate effectively and successfully (OLOBA, 2025). For example, students must adopt or choose diverse educational paths that include vocational paths, practical training, and entrepreneurship, while working diligently to develop their personal, technical, and life skills, such as communication skills, writing skills, language skills, and other skills required for new and 21st-century professions. Students' parents have a prominent role in encouraging their children to choose paths that ultimately lead to decent employment (guidance and encouragement).

Teachers and educational and training institutions play a pivotal role in developing the educational and training process, designing flexible and active curricula, adopting experiential and practical education and training methodology, and strengthening relationships with the private sector and employers. Employers also play a

pivotal role as key partners in the educational and training process by receiving and hosting students for training and internship in their facilities to bridge the gap between theoretical education and practical application. The government's role is no less important than the other partners. In the Palestinian context, the government plays a pivotal role in policymaking, funding public educational institutions, and activating specialized national frameworks that work to develop the entire educational system and advance VET.

Last but not least, donors and international and local organizations specializing in education provide financial and technical support for various development programs and contribute to supporting development policies that advance integrated or hybrid education and training. Recognizing the complementary roles of all partners, first and foremost, and coordinating their work systematically at the national level, rather than as an isolated political measure, will significantly contribute to developing the education system and moving it from specialized isolation to openness and integration across all academic and professional tracks (Gaboune, 2016). Figure 4 above illustrates this complementary relationship.

6.2 Implications for Palestine: Adaptation Challenges and Opportunities

In Palestine, the process of education reform continues to conflict with the political and economic reality represented by the fragility of the national economy, the limited productive sectors based on industry, and the ongoing political instability and economic uncertainty (Iriqat, et, al. 2025). Educational reform and the introduction of specific initiatives such as the integration or hybridization of academic and vocational education require adapting to the difficult reality (Kovalchuk, et, al. 2022).

Nevertheless, learning from international and regional lessons, such as dual education (Germany), changing the social stereotype of vocational education (Singapore), aligning training outcomes with the needs of the policy-driven labor market (Jordan and Egypt), and increasing investment in vocational education and training (Tunisia and the Gulf states), can inspire Palestinian policymakers to move forward with reforms with confidence.

The aforementioned international and regional experiences reinforce the advisability of moving forward with the process of integrating or hybridizing academic and vocational education through a partnership between the government and the private sector, and recognizing the integrated or hybrid system as a path equivalent to purely academic education.

6.3 Policy Recommendations

Since the unemployment problem in Palestine is classified as a structured and historic problem, addressing it does not require short-term or partial interventions, but rather requires honest, extraordinary, and non-traditional actions (Shahin, 2025). Palestinian policymakers must think outside the box and innovatively, rather than simply rephrasing what has been proposed or tried previously. The integration or hybridization of academic education and VET, we propose in this paper, will establish a solid foundation for a national policy framework that is both dynamic and practical.

However, the successful implementation of this framework depends on the political will of the Palestinian government and the conviction of all parties and stakeholders to work together to overcome the bottleneck. Hence, after reviewing numerous studies and reports previously completed by Palestinian national institutions, international organizations, and donors, we can draw several policy implications and recommendations, which we summarize as follows:

6.3.1 Reforming the National Education Policy

First, it is necessary to institutionalize the education system in Palestine, adopting integration or hybridization between academic and vocational tracks. This requires reconsidering and developing basic and secondary general education, reconsidering the general secondary examination in its current form, and reconsidering the admission systems at Palestinian universities, which rely solely on the results of the general secondary examination, excluding students' practical experience, diverse skills, and inclinations (Jabali, et al., 2024).

It is necessary to localize the dual education program (which has been implemented at Al-Quds University as a pilot program so far) in all Palestinian universities within a comprehensive national vision and with the active participation of the Palestinian private sector. It is also needed to develop the national qualification framework to include integration and hybridization of academic and vocational programs. The number of on-the-job training or the practical courses at the bachelor's level is recommended to become mandatory courses (Fayyaleh & Fogarty, 2024). Lastly, the value of VET certificates and its status should be taken into consideration to become a part of the Palestinian higher education system.

6.3.2 Strengthening Public-Private Partnerships

The education and training system in Palestine cannot be developed without the participation of private sector employers. Palestinian employers complain that the degrees obtained by Palestinian youth, especially women,

and the poor skills of graduates do not match what is required to promote business growth (World Bank, 2022). Therefore, the participation of private sector employers in setting education policies, developing curricula, and accrediting required specializations and skills is a strategic, not tactical, approach (Abusamra, 2023). Furthermore, working to encourage the private sector to cooperate with educational and training institutions through tax exemptions will encourage companies to engage in internships, apprenticeships, and on-the-job training programs. These programs will equip students with the skills and practical experience required by the employers.

6.3.3 Improving Career Guidance and Labor Market Information Systems

Many Palestinian students find themselves enrolled in educational programs that are not needed in the labor market or have limited employment opportunities. This is a result to the fact that the Palestinian universities' admission system rely solely on Tawjeehi Exam (high school general exam) results, disregarding students' personal interests and desires. Furthermore, there is a lack of career guidance in Palestinian schools and a lack of accurate information about labor market needs, leaving students to their own devices after graduation or their own development during or after graduation (Bsharat, et al., 2024). Therefore, it is necessary to refocus on career guidance programs in schools and develop strong labor market observatories, which will, in turn, help students choose majors if they are able to do so.

6.3.4 Addressing Gender and Geographical Disparities

There are clear gender and geographic disparities between Palestinian regions regarding access to education and employment opportunities after graduation (Hallaq, & Daas, 2025). The number of women enrolled in Palestinian higher education can reach double that of men. This creates an imbalance in the outputs of some disciplines, as most women typically enroll in humanities disciplines, while men enroll in technical ones. This is explained by the labor market participation figures and rates, as the number of men participating in the labor market is twice that of women. Similarly, geographically, the number of unemployed in Gaza is usually double that in the West Bank (PCBS, 2023). Therefore, the integration or hybridization of academic and VET will provide additional opportunities for women and Gazans to obtain degrees that are more aligned with labor market needs, thus reducing unemployment among them.

6.3.5 Leveraging International Support and Best Practices

In light of the ongoing crises and political and economic restrictions in Palestine, donors and international development agencies can be considered as a real opportunity and an additional window that can be effectively exploited if the grants and aid provided to Palestine are directed to address the real needs of the Palestinian people, including the development of the education and training system. International donors should also be pressured to shift grants and aid from technical support to financial support directed at the development process, as Palestine has become oversaturated with programs and aid directed at technical support without considering the real financial support that adds value to the development process in Palestine. Benefiting from international expertise and adapting this expertise to the Palestinian context would contribute to breaking the bottleneck by introducing new, outside-the-box ideas (Morrar & Baba, 2022).

6.3.6 Promoting Cultural Transformations Towards Vocational Education

Finally, reforming the education and training system in Palestine cannot achieve its goals without changing the stereotypical image of VET and the continued viewing of it as a secondary, second-choice option (Hilal, & McGrath, 2025). Therefore, all partners and stakeholders must work together to change this image by integrating or combining it with academic education and giving its certificates added value to encourage students to enroll in this type of education. Furthermore, prioritizing graduates of integrated or hybrid education in employment will enhance society's positive perception of this type of education.

The six recommendations above are not abstract, each one have concrete implications for TVET curriculum design and training delivery. As for the integrated national strategy, it requires curriculum frameworks that go beyond content instruction toward competency-based education and training (CBET) models.

This model is emphasizing on practical skills and links the learning outcomes with employer needs (KEPSA, 2024; Miseda & Kitainge, 2021). For the Labor market information, it should lead the curriculum review and development to make sure that the developed programs are responsive to the industry and market needs. While for the increased investment, it must include modernization the equipment, industry-experienced instructors, and work-based learning enrolment.

As for the career guidance and entrepreneurship education, it needs dedicated curriculum space and trainers who are experiences in experiential and student-centered oriented delivery. Finally, the most powerful argument

for changing cultural perceptions of VET starts in the VET classrooms and the place of work, where high-quality, relevant pedagogy have a louder voice than any awareness campaign (UNESCO, 2022).

7. Conclusion and Future Research

Youth and graduate unemployment in Palestine remains the greatest challenge facing the Palestinian economy. The Palestinian labor market remains unable to generate additional job opportunities and absorb the growing number of graduates, especially those with higher education. Despite the fragility of the economy and the small size of the Palestinian labor, there are still many potential opportunities for young people with special skills or professions in demand by many investors who seize every opportunity to attract these young people to their businesses and enterprises.

Furthermore, those with various professional skills and soft skills possess the ability to take the initiative and innovate to establish their own income-generating projects. This supports the idea of combining academic and vocational education, which will give graduates a competitive advantage over their peers who lack professional skills and practical experience. Additionally, we conclude that policy interventions, including education reform, curriculum development, strengthening partnerships with the private sector, developing and modernizing the Palestinian labor market information system, and bridging the gender gap, are essential and pivotal to transitioning education from regularity and tradition to modernity and innovation.

Therefore, the success of this transformation cannot be achieved without direct cooperation, integration, and coordination among all partners and stakeholders such as students, employers, teachers, government, local and international organizations, and donors, within a multilateral policy framework directly led by the government. As the recommendations of this paper offers clear strategic direction, it still conceptual until tested in practice. Empirical validation is the logical next step to be done. We could start with a pilot study on selected schools, universities, and VET centers in order to test the impact of the proposed hybrid programs especially in the highly demanded workers such as IT, construction, and renewable energy. The results of the pilot study could be compared to with the traditional academic tracks.

Also, longitudinal studies could trace the graduates over three to five years. The results would provide the most reliable evidence of whether integration genuinely improves employability and career progression or not (Ho, et al., 2023). We could also conduct a structured survey which covers the employers, students, teachers, and policymakers in order to capture the grassroots realities that numbers alone cannot show (Cedefop, 2022). Finally, comparative study could be conducted with other similar countries such as Jordan and Lebanon would help to identify which elements of the model are most compliant with Palestine. All these research directions would help us to move forward from aspiration to evidence.

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Conflict of Interest

The author declares that there is no conflict of interests regarding the publication of the paper.

Author Contribution

The author confirms his sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

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