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Bridging the Skill Divide: Enhancing Economics Education and Vocational Training for Human Capital Development in Response to Job Market Mismatches

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ABSTRACT

Background: Globally, underemployment and workforce inefficiencies are largely driven by persistent mismatches between economics education, vocational training, and labour market requirements. Bridging this gap is vital for strengthening human capital development and sustaining economic competitiveness. **Objectives:** The purpose of this study is to investigate the contribution of economics education and vocational training to narrowing skill mismatches, to assess their role in human capital development, and to highlight strategies and policy implications for aligning educational outcomes with labour market expectations while encouraging lifelong learning. **Methods:** This study employed a qualitative systematised literature review (SLR), drawing on peer-reviewed empirical research, systematic reviews, and case studies published from 2017 onwards. Data were sourced from a range of academic databases and examined thematically, guided by the PRISMA framework, in order to identify literature addressing the stated objectives. **Results:** Findings indicate that curriculum mismatches remain extensive, while industry and policy engagement with vocational education is minimal. Improvements in enrolment quality, human capital development, and employability can be achieved through career-oriented training, mentorship opportunities, and innovative curriculum design. Skill mismatches can be alleviated through policy interventions such as curriculum renewal, broader stakeholder participation, and the promotion of lifelong learning frameworks. **Conclusion:** To effectively reduce skill mismatches and strengthen human capital, policy-driven reforms are essential for aligning education with labour market priorities. Emphasis should be placed on enhancing vocational and economics education to support sustainable human capital development and economic growth.

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Introduction

A persistent global concern is the misalignment between the skills students acquire in educational settings and those required by employers, an issue that has continued to affect both sides for many years. Aguaded et al. (2023) emphasise the necessity of integrating education and vocational training to provide individuals with employable skills in fields such as economics education and job preparation. Similarly, Cappelli (2015) highlights that the competencies developed in schools often do not correspond to the demands of the labour market, leaving many degree holders underemployed. Consequently, a gap persists between the skills demanded by employers and those possessed by job seekers, as observed by Malik and Venkatraman (2017).

Economics education develops an understanding of markets and policymaking, but it frequently falls short in preparing students for specific occupational tasks. As noted by Daka et al. (2023), this shortfall can be addressed through vocational education that aligns with evolving labour market needs. Vocational training equips learners with industry-relevant skills, enabling them to transition into the workforce upon graduation. Arthur-Mensah (2020) further argues that vocational support in sectors such as medicine and science remains essential, demonstrating the importance of equipping students with both theoretical knowledge and practical skills to narrow the skills gap. Human capital development in this context involves acquiring, updating, and refining skills that allow individuals to remain adaptable and competitive in the workplace. Initiatives such as specialised training programmes help learners to develop new competencies, thereby supporting their employability in dynamic environments. These initiatives create opportunities for the unemployed and extend workforce participation by accommodating shifting employer expectations, as noted by Nwaikpo (2025).

Policy interventions are also critical to ensuring that educational outcomes align with the requirements of the labour market. Governments and academic institutions must design curricula and programmes that reflect industry expectations (Nwaikpo, 2025). Practical learning opportunities and collaboration with industry stakeholders enhance workforce readiness, facilitating smoother integration into employment upon graduation (Dillon et al., 2025). Despite these efforts, graduates worldwide still face difficulties in securing employment due to inadequate practical preparation. The rapid transformation of the labour market requires individuals to strengthen their employability through approaches such as work-integrated learning (WIL). Nevertheless, many students struggle to gain employment because of limited hands-on experience. Smith et al. (2018) demonstrate that WIL supports professional development by improving employability when integrated into curricula. However, implementing effective WIL remains challenging because of obstacles such as limited employer engagement, insufficient institutional support, and unequal access to opportunities. The present study therefore seeks to examine these approaches, assess existing barriers, and evaluate the contribution of WIL to employment readiness, as emphasised by Kenaphoom and Niyomves (2023).

Research Objectives

- To investigate the contribution of economics education and vocational training in narrowing skill gaps and reducing mismatches with labour market requirements.

- To assess the ways in which vocational training initiatives and economics curricula support human capital development across different educational settings.
- To determine practical strategies and policy measures that strengthen the alignment of education with labour market demands, thereby fostering lifelong learning and minimising skill mismatches.

The significance of this study is rooted in the recognition that WIL has the potential to reduce college non-participation among skilled workers by addressing the gap between academic training and employment requirements. WIL provides students with practical competencies and insights into workplace expectations, thereby preparing them more effectively for future employers. It represents a valuable approach to enhancing employability when applied across diverse contexts, where higher education institutions are encouraged to revise curricula to better reflect labour market needs. According to Dorasamy and Rampersad (2018), WIL equips learners with skills that are directly relevant to the job market. Similarly, Özer and Suna (2020) contend that vocational education becomes more effective when it aligns with industry demands, thereby mitigating skill-related challenges. Overall, this study highlights how WIL contributes to preparing students for professional environments while simultaneously strengthening their abilities.

Literature Review

Economics Education and Vocational Training in Bridging Skill Gaps and Addressing Job Market Mismatches

Angwaomaodoko (2024) observes that despite substantial investment in education, a persistent skills gap remains, largely because curricula do not align with labour market requirements. In many universities and colleges, economics education and vocational programmes still lack essential components such as digital literacy, critical thinking, and problem-solving, which diminishes their effectiveness. As a result, the productivity of graduates is at risk of being underutilised. This concern is echoed by Gooptu et al. (2023), who highlight regional inequalities in skills development in India, particularly in the distribution and implementation of vocational training. Although certain states have demonstrated stronger outcomes, the overall inefficiency of these programmes can be linked to poor government provision and the limited participation of marginalised populations in education. Their findings suggest that expanding vocationalised training and tailoring skills more effectively to industry requirements are crucial for addressing these shortcomings.

Jafarov (2025) examines the coexistence of formal education and informal skill acquisition, arguing that national education policies should integrate vocational training to foster flexibility and lifelong learning. His analysis draws attention to structural weaknesses within national systems, where vocational education is often treated as secondary or non-essential. Similarly, Taweel (2018) identifies three barriers to reducing the skills gap in Saudi Arabia, namely weak industry collaboration, rigid vocational hierarchies, and institutional inefficiencies. The lack of stakeholder engagement and inadequate structural support further exacerbate these challenges. The evidence strongly indicates the need not only for programme reforms but also for systemic restructuring of vocational education to substantially reduce unemployment. Syafruddin et al. (2025) investigate vocational education in the context of sustainable tourism, finding that while

such training enhances both technical and soft skills, it continues to suffer from outdated curricula and insufficient industry orientation. Their findings underscore the importance of modernising content and establishing co-designed training initiatives with industry partners. In a similar critique, Majumdar (2024) assesses India's National Skills Qualifications Framework (NSQF), noting that although the framework was created to standardise vocational education, its implementation is undermined by ineffective adoption, underqualified trainers, and inadequate infrastructure. His study stresses the need for shared ownership of curricula between educators and employers to ensure that training remains responsive to demand and contributes to efficiency.

Vocational Training Programs and Economics Curricula Contribute to Human Capital Development

Bhatta (2020) investigates the influence of vocational education and training (VET) on youth employment in Nepal, noting that while VET contributes positively to both employment opportunities and income generation, its long-term effectiveness is constrained by the absence of post-training support mechanisms such as job placement and mentorship. The study concludes that although skill acquisition takes place, HCD cannot be fully realised unless training outcomes are effectively integrated within labour market structures. Similar findings are reported by Kibitanyi and Ismail (2024) in Tanzania, where graduates of the Vocational Education and Training Authority (VETA) often turn to self-employment. Their research highlights that outdated training equipment, minimal use of technology, and limited alignment with income-generating activities reduce the impact of training on HCD, with infrastructure and technological capacity identified as the core foundations for successful VET outcomes.

From a Russian perspective, Molchanov (2023) provides a macroeconomic assessment of the interconnections between education, professional training, and labour productivity. The study observes that fragmented vocational systems and weak motivation structures for educators hinder the contribution of training to national HCD. It argues that aligning educational objectives with broader economic strategies is crucial for maximising returns on human capital investments. Bettencourt et al. (2023) similarly highlight issues of policy misalignment in the Azores, where both horizontal and vertical disconnections among stakeholders limit the effectiveness of vocational training in advancing HCD. Their participatory policy design model demonstrates that multi-sector stakeholder involvement is necessary to contextualise training and improve both social and economic outcomes. Thapa and Singh (2019) adopt a theoretical stance by applying the capability approach to critique conventional Technical and Vocational Education and Training (TVET) frameworks. They contend that focusing solely on employment and income outcomes neglects the broader potential of vocational training to promote individual empowerment, agency, and career freedom. This perspective reinforces the argument that HCD must encompass well-being and the capacity for autonomous decision-making. In addition, Flek and Ugnich (2020) examine enterprise-based education systems in Russia, showing that embedded, practice-oriented training programmes reduce adaptation time and enhance job preparedness. Their findings reveal that vocational programmes designed collaboratively with industries are more effective in strengthening HCD through real-world relevance and continuous skill upgrading.

Strategies and Policy Implications for Enhancing the Alignment between Education and Labour Market

Shi (2024) analyses the effects of skill mismatches in China, particularly within high-technology and manufacturing sectors. The study emphasises the need for stronger collaboration between industry and educational institutions, incorporating flexible learning pathways and technology-driven curricula. Such responsive and adaptable strategies are identified as scalable approaches to narrowing the gap between graduate skills and labour market requirements. Webb et al. (2022) further contribute by challenging conventional outcome-focused models, advocating instead for a human-centred lifelong learning paradigm. They argue that educational policies should prioritise rights-based frameworks over purely economic utility, thereby reframing lifelong learning as a means of social equity and proactive responsiveness rather than a reactive response to market fluctuations.

Within the European context, Brandi et al. (2023) situate the European Year of Skills 2023, noting a policy shift towards recognising upskilling, reskilling, and lifelong learning as essential to addressing labour market demands. They criticise short-term policy measures and call for a more sustainable, long-term policy framework that positions lifelong learning at the core of national education systems. Similarly, Molnár et al. (2024) approach lifelong learning through the lens of sustainability, demonstrating how integrating concepts such as the circular economy into curricula benefits students by increasing employability and resilience. Abelman (2014) supports this perspective by illustrating that adapting educational content to ecological and digital transformations strengthens the effectiveness of lifelong learning. Trajkov et al. (2023) examine labour market data from Eastern Europe, identifying systemic gaps in skill distribution. Their findings underline the importance of predictive labour market tools and regular curriculum reviews to ensure that educational training remains relevant to evolving job requirements and economic trends. In the case of Greece, Lalioti (2020) identifies policy inertia and limited stakeholder engagement as major obstacles to addressing the skills gap. The study calls for institutional reforms that mandate employer participation in educational planning and incorporate systematic skills assessments into national education policies.

Literature Gap

The reviewed literature reveals that the most significant gap lies in the operational connection between educational provision and the evolving needs of the labour market. While numerous studies emphasise the necessity of aligning economics education and vocational training with industry demands, they also expose deficiencies in implementation, challenges in sustainability, and persistent inequities. For example, Angwaomaodoko (2024) and Gooptu et al. (2023) identify issues of curriculum misalignment and regional disparities in access but provide limited discussion on the transferability of alignment frameworks across diverse socioeconomic contexts. Similarly, Jafarov (2025) and Majumdar (2024) highlight the integration of vocational training within national policy frameworks, yet there is little evidence of robust models that establish enduring partnerships between industry and education. Furthermore, Syafruddin et al. (2025) and Flek and Ugnich (2020) argue for co-designed, contextually relevant training approaches, but the literature remains insufficient in assessing their long-term influence on

labour mobility and informal employment patterns. A further gap emerges in relation to lifelong learning and sustainability, as underscored by Webb et al. (2022) and Molnár et al. (2024). Despite growing recognition of these priorities, current research provides inadequate analysis of how policy commitments are transformed into scalable, context-sensitive reforms, particularly in resource-constrained or lower-income settings, as highlighted by Lalioti (2020) and Kibitanyi and Ismail (2024).

Methodology

Research Methods and Design

This study adopted a qualitative design and applied the Systematic Literature Review (SLR) method to address its objectives. Through the use of SLR, a comprehensive examination of existing research on EE, VT, and WIL was conducted. The selection of this method enabled the integration of knowledge from multiple credible studies to establish a consolidated understanding of the topic. Articles were identified and selected based on predefined eligibility criteria, and the extracted data were critically assessed to ensure methodological rigour and quality.

Data Collection Methods

Searching Techniques

The search was based on specific keywords to find literature relevant to this study's themes. These included terms related to "economics education," "vocational training," "work-integrated learning," and "job market mismatch." Utilising these keywords enabled a comprehensive yet targeted examination of the literature, ensuring inclusion of only those studies directly relevant to the objectives of the research.

Databases

A list of published research studies was compiled using widely recognised databases of peer-reviewed articles. The databases utilised included JSTOR, Web of Science (WOS), Google Scholar, and ResearchGate. These databases were chosen based on their completeness and relevance in identifying informative, reliable, and appropriate literature.

Boolean Operators

To improve the efficiency of the literature search, Boolean operators were employed. The use of operators such as AND, OR, and NOT enabled the refinement of search results by combining relevant terms and excluding unrelated material. For example, a search query could be structured as: “Economics education AND vocational training AND employability.” This allowed for a more precise identification of studies directly relevant to the research problem and objectives.

Inclusion and Exclusion Criteria

Inclusion and exclusion criteria were established to guarantee that only studies of high relevance and sufficient quality were incorporated into the final analysis (Table 1).

Table 1

Inclusion and Exclusion Criteria

Criteria	Inclusion	Exclusion
Publications	Peer-reviewed journal articles and academic books published from 2017 onwards.	Non-peer-reviewed sources, news items, blogs, and publications prior to 2017.
Research Type	Empirical investigations, systematic reviews, and case studies.	Opinion articles and theoretical works lacking empirical evidence.
Language	Studies published in English.	Materials not available in English.
Focus	Research addressing EE, VT, and WIL.	Studies centred on unrelated domains, such as technology or medicine.

Selection of Paper through PRISMA Framework

The PRISMA framework was employed to systematically identify and select the most relevant studies. A total of 320 articles were initially retrieved from the databases. After applying the inclusion and exclusion criteria, 100 articles were retained for detailed screening. Subsequent review of abstracts and full texts led to the exclusion of 90 studies due to lack of relevance or failure to meet quality requirements. Ultimately, 10 papers were purposively chosen for in-depth analysis, representing key themes and incorporating perspectives from both educational institutions and the labour market (Figure 1).

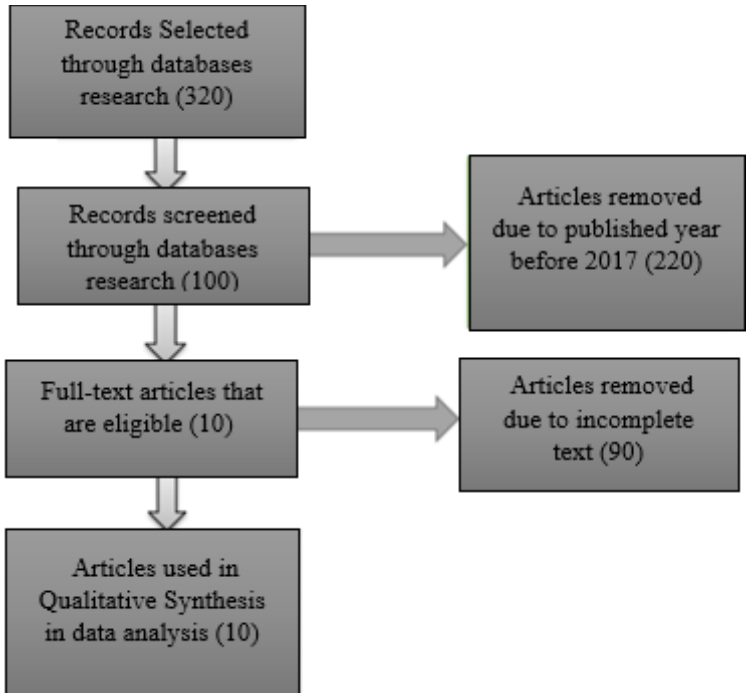

Figure 1: PRISMA Flowchart

Data Analysis Methods

Thematic analysis was utilised to examine the data, enabling the identification and organisation of recurring patterns and themes (Table 2).

Table 2

Data Analysis Methods

Step	Description
Familiarization	Reading and re-reading the selected papers to become familiar with the data.
Initial Coding	Identifying and labelling relevant passages of text.
Theme Development	Grouping similar codes into potential themes.
Review of Themes	Reviewing themes to ensure they accurately represent the data.
Final Analysis	Synthesizing and interpreting the final set of themes to answer the research objectives.

Ethical Considerations

Ethical protocols were carefully observed in the course of this research, with particular emphasis on accurate citation, transparency, and the avoidance of plagiarism. Potential conflicts of interest were addressed, and relevant studies were incorporated without selective bias, thereby maintaining integrity and ensuring that the findings provide reliable insights into education–job market mismatches.

Results

This section presents the data collected in a structured manner through tabular representation, together with the implications linked to each research objective. Table 3 outlines the themes generated for data analysis, which were identified using NVivo software to examine the collected data.

Table 3

Theme Extracted

Themes	Description
Role of Economics Education and Vocational Training	Investigating the ways in which EE and VT programmes help to bridge skill deficiencies and address discrepancies between graduate competencies and labour market requirements.
Contribution to Human Capital Development	Assessing how vocational training and EE curricula foster human capital by enhancing employability, career readiness, and skill acquisition across diverse educational settings.
Strategies and Policy Implications for Alignment	Determining effective approaches and policy measures to harmonise education with labour market demands, thereby promoting lifelong learning and minimising skill mismatches.

Theme 1: Role of Economics Education and Vocational Training

Table 4 emphasises the significance of aligning vocational education with labour market requirements in order to address existing skill gaps. Sergeieva et al. (2021) observed that vocational education often fails to align with industry requirements, particularly during periods of economic decline. Alam et al. (2024) stressed the necessity of preparing VET programmes for future demands to guarantee their sustainability. Similarly, Okon (2019) highlighted that strong collaborations between educational institutions and industries are crucial for addressing skill-related challenges. Collectively, these findings emphasise the importance of reforms and strategic partnerships to ensure that vocational training enhances employability and corresponds effectively with labour market needs.

Table 4

Role of Economics Education and Vocational Training

Authors	Objectives	Methods	Findings	Conclusion
Sergeieva et al. (2021)	To examine the alignment of vocational education services with labour market demands during economic crises.	Empirical analysis with comparative data.	The quality of vocational education institutions frequently falls short of labour market requirements, particularly during economic downturns.	Substantial reforms are needed to enhance alignment between vocational education and labour market demands.
Alam et al. (2024)	To evaluate the contribution of VET to sustainable employment in Bangladesh.	Quantitative analysis using surveys and case studies.	Graduates of VET encounter difficulties securing sustainable employment; aligning future skills with market needs is essential.	Reforming VET to bridge skill gaps is necessary to provide graduates with sustainable employment opportunities.
Okon (2019)	To investigate the impact of institution–industry collaboration in vocational education on reducing skill gaps.	Case study employing qualitative research.	Effective collaboration between educational institutions and industries can considerably diminish skill mismatches.	Strengthening partnerships between vocational institutions and industries is vital for mitigating skill gaps.

Theme 2: Contribution to Human Capital Development

Table 5 emphasises the crucial contribution of vocational and higher education to human capital development. Okolie et al. (2020) observed that mentorship and engagement in training programmes can significantly enhance graduates' employability. Adewolu Ogwo (2024) found that the application of skills-based and innovative educational approaches strengthens students' professional competencies. Indrawati and Kuncoro (2021) highlighted that national strategies supporting vocational education not only

increase competitiveness but also stimulate economic growth. Collectively, these findings confirm that education systems centred on skills development are essential for cultivating a capable, employed workforce and advancing human capital over time.

Table 5

Contribution to Human Capital Development

Authors	Objectives	Methods	Findings	Conclusion
Okolie et al. (2020)	To examine the effects of career training and mentoring programmes in higher education on graduate employability and career progression.	Empirical study employing surveys and qualitative analysis of mentoring programmes and their influence on career outcomes.	Career training and mentoring substantially improve students' employability and career readiness.	Structured mentoring and career training are essential for enhancing employability among higher education graduates.
Adewolu Ogwo (2024)	To investigate the role of higher education and skills development in preparing students for employment using the Triple Helix Model at the University of Lagos.	Case study methodology including interviews, document analysis, and application of the Triple Helix framework.	Practice-based, innovation-aligned approaches in higher education enhance student preparedness for the labour market.	Implementing an innovation-driven, skills-focused educational approach effectively strengthens human capital.
Indrawati and Kuncoro (2021)	To assess how vocational and higher education contribute to Indonesia's human capital development and economic competitiveness (2019–2024).	Policy and empirical analysis based on national strategies and education data for human capital development.	Reforms in vocational and higher education are crucial for enhancing national competitiveness through skill improvement.	Integrating vocational education within national development strategies fosters human capital growth and economic advancement.

Theme 3: Strategies and Policy Implications for Alignment

Table 6 illustrates effective strategies for aligning vocational education with labour market requirements. Ali et al. (2024) emphasise that Pakistan requires an updated curriculum, the integration of modern technology, and inclusive education policies. Shi (2024) reports that skill mismatches in China can negatively affect productivity, while promoting the adoption of technology and stronger collaboration with industry. Putranto et al. (2024) found that aligning the curriculum with workforce needs in Indonesia enhances both youth employability and earning potential. Gooptu et al. (2023) argue that expanding access and engaging the private sector can address regional skills deficiencies

in India. Collectively, these efforts contribute to strengthening the linkages between educational institutions and employment opportunities.

Table 6

Strategies and Policy Implications for Alignment

Authors	Objectives	Methods	Findings	Conclusion
Ali et al. (2024)	To assess Pakistan's TVET policy framework and propose reforms to align vocational education with labour market requirements.	Systematic literature review of 38 studies (2015–2024).	Outdated curricula, limited industry collaboration, and governance deficiencies impede skill alignment; international models provide adaptable strategies.	Curriculum modernisation, investment in digital tools, and gender-inclusive, industry-linked initiatives are necessary to enhance workforce preparedness.
Shi (2024)	To investigate the economic consequences of skill mismatches in China and recommend strategies for alignment.	Policy analysis and sectoral review focusing on high-tech and manufacturing sectors.	Skill mismatches reduce productivity; reforms emphasise flexible learning pathways, industry collaboration, and technology-driven education.	Alignment between education and industry, alongside flexible curricula, is critical for mitigating mismatches and promoting economic growth.
Putranto et al. (2024)	To evaluate how vocational education reduces skill mismatches and increases youth earnings in Indonesia.	Logistic regression analysis using national labour microdata.	Graduates from vocational programmes experience reduced vertical mismatch and higher earnings when training is aligned with labour market demands.	Curriculum alignment with workforce requirements enhances youth employability and mitigates income disparities.
Gooptu et al. (2023)	To examine regional skill mismatches in India and assess the effectiveness of vocational training.	Analysis of Periodic Labour Force Survey data.	Persistent state-level mismatches exist; access to and quality of training vary by income and region.	Inclusive, high-quality vocational training with active private-sector engagement is essential for bridging skill gaps.

Discussion

Interpretation of the Findings

The findings of this study align with its objectives by highlighting that EE and VT play a pivotal role in addressing skill mismatches in various labour markets. Sergeieva et al. (2021) and Alam et al. (2024) note that the gap between vocational education and the skills demanded by employers often widens during periods of economic downturn. These results substantiate the first research objective and underscore the urgent need for curriculum reform and enhanced engagement with employers. The second objective, pertaining to HCD, is supported by the work of Okolie et al. (2020), Adewolu Ogwo (2024), and Indrawati and Kuncoro (2021). Their studies demonstrate that career-oriented training, mentorship, and skill-focused pedagogical approaches contribute to improved

employability while simultaneously strengthening national economic capacity. The evidence reinforces the conclusion that embedding industry-relevant skills within education enhances both learning outcomes and individual development. Regarding the third objective, Ali et al. (2024); Shi (2024), and Gooptu et al. (2023) identify outdated curricula, limited collaboration with industry, and governance challenges as primary barriers. However, the findings suggest that updating educational practices, engaging private sector stakeholders, and integrating technology can enable educational institutions to better prepare students for lifelong learning. Overall, the results indicate that such realignment necessitates comprehensive policy reforms that support all stakeholders in the education–labour market ecosystem.

Comparison with the Previous Studies

The findings of this study correspond with a substantial portion of the existing literature, while also providing new insights into the relationship between EE, VT, and labour market outcomes. The first theme, concerning the connection between EE and VT in addressing skill shortages, aligns with the observations of Cappelli (2015) and Malik and Venkatraman (2017). However, these earlier studies complement the findings of Alam et al. (2024); Sergeieva et al. (2021) and Okon (2019), which identified a persistent mismatch between graduate skills and employer requirements, as demonstrated in the present research. Unlike prior literature, which largely relies on theoretical perspectives and macroeconomic analysis, the current study provides context-specific, real-world evidence that highlights the compounded challenges posed by economic crises and underscores the necessity of institutional and industrial collaboration.

The role of WIL in this study reflects the claims of Smith et al. (2018) regarding the integration of practical professional experience with curricular learning. This research extends that perspective by positioning WIL as both a practical and policy-oriented intervention, particularly in low-resource or crisis-affected settings, an area that has received limited attention previously. While Kenaphoom and Niyomves (2023) also identified barriers related to employer engagement and student opportunity, they did not examine curriculum reform at the institutional level, which this study highlights as a critical intervention point. The second theme, concerning the contribution of vocational and EE to HCD, supports previous findings, particularly those of Arthur-Mensah (2020) and Daka et al. (2023), which argue that integration of both technical and soft skills is essential for career readiness. The work of Adewolu Ogwo (2024); Okolie et al. (2020), and Indrawati and Kuncoro (2021) extends these insights across different educational contexts, including Nigeria, Indonesia, and Nepal. Collectively, these studies demonstrate that skills-based curricula are central to producing employable graduates and enhancing national competitiveness. In contrast to earlier research, which primarily focused on institutional-level interventions, the present study adopts a broader perspective, addressing policy implications for national development and state-level educational planning, as emphasised by Li (2024).

The study also aligns with EJER's focus on educational planning and policy by underlining the importance of aligning education with labour market expectations Özer and Suna (2020). Ali et al. (2024) and Shi (2024) indicate that, despite widespread acknowledgement of skill mismatch crises, many countries lack inclusive, action-oriented

policies. This study further supports the findings of Trajkov et al. (2023) by highlighting persistent challenges in curriculum modernisation, technology integration, and private sector participation. These insights enhance the educational process across both vocational and higher education, promoting effective teaching, lifelong learning, and career guidance—objectives central to EJER's interdisciplinary scope. Furthermore, the research emphasises lifelong learning, in line with Molnár et al. (2024) and Webb et al. (2022), suggesting that education must adapt to become both sustainable and digitally oriented. These findings complement the growing literature that positions education not only as a pathway to immediate employment but also as a mechanism for maintaining employability in dynamic economic environments. This study demonstrates how policy frameworks and curriculum design can facilitate the operationalisation of lifelong learning, thereby extending the philosophical and practical perspectives advocated by (Li, 2024).

Theoretical Implications

This study evaluates the theoretical implications of integrating EE and VT within the broader human capital development system, particularly in relation to aligning educational training with labour market requirements. The findings support human capital theory, which posits that education extends beyond the acquisition of knowledge to provide individuals with practical skills that enhance productivity and economic participation (Nwaikpo, 2025). This perspective validates the premise that vocational training increases workforce readiness and employability when closely aligned with industry demands (Adewolu Ogwo, 2024; Okolie et al., 2020). Additionally, the study revitalises the classical TVET paradigm by introducing the theoretical concept of capability, linking labour market outcomes to broader individual empowerment in terms of agency and well-being (Thapa & Singh, 2019). This approach aligns with the human-centred paradigm of lifelong learning, which emphasises the continuous updating of skills to meet the evolving demands of dynamic labour markets (Molnár et al., 2024; Webb et al., 2022). From a policy perspective, the research highlights the importance of systemic reforms, including curriculum modernisation, strengthened public–private sector collaboration, and inclusive governance, as essential mechanisms for addressing skill gaps within the human capital framework (Ali et al., 2024; Shi, 2024). The study further supports previous research emphasising the value of participatory processes in curriculum design, ensuring that input from key stakeholders informs educational strategies (Bettencourt et al., 2023). Moreover, WIL is confirmed as a practical pedagogical instrument within vocational and EE, enabling students to engage with real-world work experiences and integrate these insights into the curriculum, thereby enhancing employment readiness (Kenaphoom & Niyomves, 2023; Smith et al., 2018).

Conclusion

The findings of this study indicate that EE and VT play a critical role in addressing skill gaps and imbalances within the labour market. Aligning curricula with industry requirements, providing mentorship, and fostering institutional–industrial collaborations are essential for enhancing employability and advancing HCD. Regardless of the trajectory of economic development, evolving market conditions necessitate a workforce that is adequately prepared, thereby justifying the implementation of policy measures that

promote digital literacy and lifelong learning. While debates on educational reform continue, coordinated partnerships among educational institutions, industry stakeholders, and policymakers have the potential to drive sustainable reforms, equipping graduates with the skills required for a rapidly changing labour market and simultaneously supporting national economic growth.

Limitations of the Study

Secondary data, comprising peer-reviewed sources, represents the most appropriate data for this study, although it may not fully capture the real-time dynamics of VT and labour markets. The exclusion of non-English publications and unpublished materials could introduce regional bias. Furthermore, the qualitative approach limits the quantification of policy effectiveness and the extent of skill mismatches. Future research could incorporate primary data and adopt a mixed-methods design to provide a more comprehensive understanding of the alignment between education and labour market requirements.

Future Work

Longitudinal research is required to evaluate the long-term impact of VT reforms on job performance. The collection of primary data through surveys and targeted interviews with key stakeholders, including students, educators, and employers, would provide deeper insight into the barriers and enablers of effective curriculum alignment and guide future curricular development. Such research is also essential for formulating inclusive and well-considered policies in teaching and learning, which can clarify the role of emerging technologies, digital platforms, and other resources in promoting lifelong learning and skill proficiency across diverse socio-economic contexts.

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