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# Planning and Governance Mechanisms for Sustainable Vocational Education: Addressing Lecturer Theory–Practice Mismatch to Improve Education–Industry Alignment

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**ABSTRACT**

Persistent misalignment between vocational higher education and evolving industrial requirements has constrained the sustainability of workforce development and contributed to recurrent graduate job mismatch. Existing discussions commonly emphasise curricula and graduate outcomes, while the planning and capability of vocational lecturers—who mediate the translation of industrial practice into teaching—remain insufficiently examined. This study develops a planning-oriented explanation of the theory–practice mismatch among vocational college lecturers and proposes a staged governance framework for improving education–industry alignment. A grounded-theory approach is adopted through inductive synthesis of evidence from peer-reviewed studies and authoritative institutional sources related to vocational education, labour-market mismatch, and competency formation. The analysis identifies structural weaknesses in lecturer recruitment, limited exposure to industrial practice, and delayed institutional response to industrial change as key drivers of mismatch. Based on these findings, a five-stage framework is proposed, covering recruitment and selection, training and competency assessment, industrial apprenticeship, teaching implementation, and multi-stakeholder evaluation, supported by a rapid curriculum-feedback mechanism. The framework links lecturer capability planning with sustainable human-capital development and offers actionable mechanisms for vocational institutions seeking to improve adaptability, reduce mismatch, and strengthen the contribution of vocational education to sustainable employment and development planning.

## 1. INTRODUCTION

Education is commonly considered effective when instructional delivery follows established curricula; however, its broader societal relevance is reflected in whether graduates obtain employment aligned with their field of study. In practice, this alignment is often weak. Graduates frequently enter occupations unrelated to their academic specialization—for example, engineering graduates working in financial institutions or economics graduates employed in hospitality sectors. Such patterns illustrate what is widely recognised as job mismatch [1]. Horizontal mismatch, in particular, refers to employment that is not connected to the field in which an individual was formally educated [2].

Scholarly discussions have attempted to explain this phenomenon through multiple labour-market factors. Wage differentials between matched and mismatched occupations [3], limited availability of jobs corresponding to specific disciplines [2], discrepancies between salary expectations and labour-market conditions [4], and the misalignment between graduate skills and employer demand [5] have all been identified as contributing elements. Bian [6] distinguishes between expectation imbalance—defined as a perceptual divergence between organizational and individual expectations—and numerical imbalance, which arises from disparities between the number of job seekers and available vacancies [6]. These explanations provide important insights into labour-market structures; however, they primarily address mismatches from the perspective of graduates and employers.

Relatively limited attention has been given to the institutional processes within vocational higher education that may contribute to persistent horizontal discrepancies. Vocational education is oriented toward the mastery of occupational competencies and work-related skills [7]. In this context, lecturers play a decisive role in shaping the integration of theory and practice. Effective vocational instruction requires not only theoretical mastery but also familiarity with practical applications in contemporary industrial environments. When recruitment systems for vocational lecturers replicate academic university models, prioritising formal academic achievement and theoretical excellence while underemphasising industrial exposure, structural gaps may emerge within the teaching process.

Recruitment in many higher education institutions traditionally emphasises academic credentials, grade performance, and classroom-based teaching demonstrations.

For vocational institutions, however, such criteria alone may be insufficient. Strong theoretical knowledge without corresponding practical competence limits the ability of lecturers to transmit applied skills to students. Research indicates that lecturer professionalism and competency development significantly influence instructional quality and student outcomes [8]. Similarly, systematic enhancement of lecturer qualifications and competencies contributes to improved institutional performance and academic quality [9].

The relationship between lecturer capability and graduate outcomes is further supported by empirical evidence demonstrating that knowledge, credentials, and industrial experience are positively associated with student performance [10]. From the perspective of industry, employers increasingly seek workers whose expertise corresponds directly to occupational requirements [11]. These findings suggest that the quality of theory–practice integration within vocational instruction represents a critical factor influencing the degree of alignment between education systems and labour-market demands.

Despite extensive debate regarding graduate employability and labour-market conditions, less emphasis has been placed on the managerial and structural dimensions of lecturer development within vocational institutions. The persistence of mismatch indicates that attention must extend beyond student outcomes toward institutional planning mechanisms that govern recruitment, training, adaptation, and evaluation. Strengthening these internal processes is essential for improving the responsiveness of vocational education to industrial transformation and for supporting longer-term labour-market sustainability.

This study therefore examines the management of vocational lecturer quality from a process-oriented perspective. It focuses on the integration of theory and practice in instructional delivery, lecturer competency requirements, adaptation to industrial change, and the need to revise lecture models in response to evolving economic conditions. The analysis is structured around five stages: (i) recruitment and selection, (ii) training and competency testing, (iii) apprenticeship processes, (iv) instructional implementation, and (v) evaluation. Each stage is conceptualised through model-based process flows designed to strengthen institutional alignment between vocational education and the industrial sector.

Beyond immediate employability concerns, alignment between vocational education and industry also carries implications for longer-term human capital sustainability. When institutional systems fail to adjust to structural changes in labour markets, inefficiencies accumulate in the form of skill underutilisation, repeated retraining cycles, and reduced productivity growth. From a planning perspective, vocational education operates as a strategic intermediary between demographic dynamics and economic transformation. Its capacity to anticipate industrial shifts and recalibrate lecturer competence affects not only graduate outcomes but also the stability of workforce development pathways. The question, therefore, extends beyond short-term placement rates toward institutional adaptability over time.

## 2. LITERATURE REVIEW

### 2.1 Mismatch

Mismatch refers to a condition in which the skills possessed by individuals do not correspond to those required by employment structures. Within higher education, a mismatch arises when the knowledge and competencies developed during formal study diverge from those demanded in industrial settings [12]. Conceptually, mismatch may be differentiated along three dimensions: quality discrepancies (surplus versus shortage), reporting party (employer versus employee or candidate), and skill type (cognitive versus technical) [13]. This classification highlights that mismatch is not solely an issue of quantity but also of structure and perception.

The nature of skills significantly influences employment outcomes. Skills are generally categorized as cognitive and technical. Cognitive skills underpin comprehension, reasoning, and conceptual understanding [14], and constitute the fundamental mental capacities used to read, learn, think, remember, observe, and interact effectively [15]. Skill development may be understood as an adaptive process through which knowledge becomes progressively integrated into workplace contexts, resulting in increasingly complex cognitive structures [16]. Technical skills, in contrast, refer to occupation-specific capabilities associated with defined performance standards [17]. However, an exclusive emphasis on technical proficiency as the primary indicator of skilled labour has been questioned, as contemporary industrial environments increasingly require integration between cognitive adaptability and technical execution [16].

Mismatch may also emerge from divergences between reporting parties. Tensions between employers and job seekers are evident across labour markets, where educational institutions produce graduates whose competencies are subsequently evaluated by industrial actors. Global data indicate that 67.6 million individuals aged 15–24 were unemployed in 2019, with youth unemployment rates substantially exceeding those of adults [18]. At the same time, employers frequently report difficulty in identifying candidates with appropriate qualifications [19]. This apparent paradox reflects structural misalignment rather than absolute scarcity, underscoring the complexity of education–employment linkages.

Quality mismatch, defined as surplus or shortage of skills relative to occupational requirements, further illustrates the structural dimension of the problem. When the capabilities of job seekers exceed or fall below industrial standards, productivity outcomes and labour mobility patterns are affected [20]. Workers with higher-quality prior experience may encounter downward mobility constraints or seek higher compensation [21]. Within vocational education, a similar imbalance can occur when lecturers possess strong theoretical knowledge but limited practical exposure. Given that vocational instruction emphasises applied competence, insufficient industrial experience may weaken the translation of theory into practice [22, 23]. Such internal institutional gaps contribute to broader education–industry misalignment.

### 2.2 Education management

Educational management concerns the governance, organisation, and strategic direction of educational institutions. It requires alignment between institutional processes and educational objectives. Bush [24] emphasises that management must remain anchored to clearly articulated aims and purposes, which provide normative direction for institutional decision-making. When procedural efficiency overrides educational goals, the risk of “managerialism”

emerges, whereby administrative mechanisms become detached from substantive educational values [25].

In vocational higher education, management systems are expected to respond to social needs and design knowledge structures, competency frameworks, and training plans oriented toward technical application [26]. Vocational education represents a knowledge-based mode of education positioned between general higher education and secondary vocational pathways [27]. Its defining objective lies in equipping students with practical skills applicable to industrial environments. Effective vocational management therefore requires coordination between curriculum design, competency development, and labour-market transformation.

Despite this objective orientation, structural weaknesses persist. According to the World Bank [28], challenges include limited integration between vocational and general education systems, fragmented pathways across educational levels, inadequate lecturer training mechanisms, and infrastructure gaps between secondary and tertiary sectors. These governance limitations constrain institutional responsiveness and may reduce the adaptability of vocational systems in dynamic economic environments.

Within this governance framework, vocational lecturers occupy a central role. The development of professional identity and competency regimes has become increasingly significant, as vocational educators must reconcile pedagogical expectations with evolving occupational standards [29]. Lecturer expertise is directly associated with graduate employability and skill acquisition aligned with employer needs [30]. Strengthening lecturer competency thus represents not merely an individual development issue but an institutional planning priority within vocational education systems.

## 3. RESEARCH METHOD

This study employs a qualitative descriptive design grounded in the principles of Grounded Theory [31, 32]. The approach is appropriate for examining institutional processes and for developing conceptual explanations derived from systematically analysed data rather than from predetermined assumptions.

The data set consisted of both secondary and primary sources. Secondary materials included peer-reviewed research articles indexed in reputable international databases such as Web of Science (WoS) and Scopus, as well as official policy documents and statistical reports issued by government institutions responsible for education, labour, and industrial development. These sources were selected to capture institutional, regulatory, and labour-market perspectives relevant to vocational education and skill mismatch.

Primary qualitative data were collected through interviews, observation, documentation analysis, and Focus Group Discussions (FGD). Interviews explored perspectives on lecturer recruitment practices, competency development, and institutional responsiveness to industrial change. Observations focused on instructional processes and organisational procedures within vocational institutions. Documentation included recruitment regulations, curriculum structures, and evaluation records. FGDs were conducted to gather views from academic personnel and industry stakeholders regarding alignment mechanisms between vocational education and labour-market requirements.

Data analysis followed an inductive process. Initial coding identified recurring themes related to lecturer capability, recruitment systems, practical exposure, and institutional adaptation. Categories were subsequently refined to examine relationships between internal management practices and external industrial expectations. Through iterative comparison and category integration, a staged conceptual framework was developed to explain how institutional processes influence theory–practice alignment within vocational education.

## 4. DISCUSSION AND RESULTS

The mismatch between education and employment has been observed for several decades, but its visibility increased markedly in the early 2000s as demographic expansion intensified competition in labour markets. When labour supply grows faster than employment opportunities, the pressure on graduates becomes more pronounced. In 2019, the unemployment rate reached 5.01% [33]. Data from the Central Statistics Agency (BPS) [34] show that the total workforce in February 2023 amounted to 146.62 million people, representing an increase of 2.61 million compared to the previous year. During the same period, the Labor Force Participation Rate (TPAK) rose by 0.24 percentage points, while the Open Unemployment Rate (TPT) stood at 5.45%, slightly lower than the previous year [34]. Despite this marginal decline, diploma graduates from vocational programmes continue to contribute significantly to open unemployment, with estimates ranging between 6–8 percent.

High unemployment rates are influenced by regional disparities and variations in skill levels [35], misallocation between job seekers and employers [36], and mismatches between worker competencies and industrial needs [37]. Structural differences across regions and occupational categories further shape employment outcomes [38]. In some cases, excessive education or overskilling relative to job requirements also contributes to inefficiencies in labour allocation [39].

Most analyses frame mismatch primarily as a labour-market problem, focusing on employers or graduates. This perspective, while informative, tends to position educational institutions as external suppliers rather than as active components within the alignment process. Vocational colleges, however, occupy a strategic position between training systems and industrial structures. The role of lecturers becomes particularly relevant in this interface. Effective identification of student competencies, coupled with institutional responsiveness to industrial change, influences how vocational education adapts to evolving labour demands.

The quality of graduates cannot be separated from the professional capacity of lecturers. Lecturers serve as mediators between curricular knowledge and occupational practice, shaping students' readiness for transition into employment. Their role in facilitating professional competence and work-relevant skills has been emphasised in previous studies [40]. When the lecturer's capability does not keep pace with industrial development, the gap between instruction and application may widen, reinforcing existing patterns of mismatch.

### Stages of forming vocational college lecturers quality

#### *Stage I: Recruitment and Selection*

Vocational lecturers cannot be treated as equivalent to

academic lecturers in terms of recruitment standards, instructional orientation, or evaluation mechanisms. While both roles require disciplinary knowledge, vocational teaching places greater emphasis on the integration of theoretical understanding with practical application [41]. In many institutions, however, recruitment systems for vocational lecturers continue to mirror academic models, prioritising formal academic achievement while giving limited weight to industrial experience.

Such alignment may be insufficient for institutions whose primary objective is to prepare students for specific occupational environments. The ability to interpret industrial change, recognise emerging competency demands, and translate them into instructional content is central to vocational teaching. Recruitment procedures therefore need to assess not only academic performance but also practical familiarity with industry contexts.

The proposed recruitment process (Figure 1) begins with a theoretical assessment, including academic aptitude, psychological evaluation, and knowledge of vocational education. Practical evaluation follows, consisting of microteaching demonstrations accompanied by verification of relevant work experience. Professional certification related to the teaching field is considered an additional qualification. Candidates who meet the minimum performance standard are eligible to proceed to the next stage.

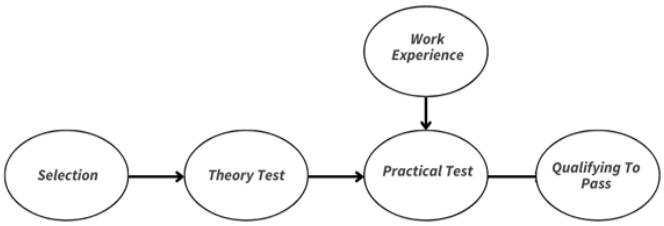


**Figure 1.** Vocational lecturer recruitment process

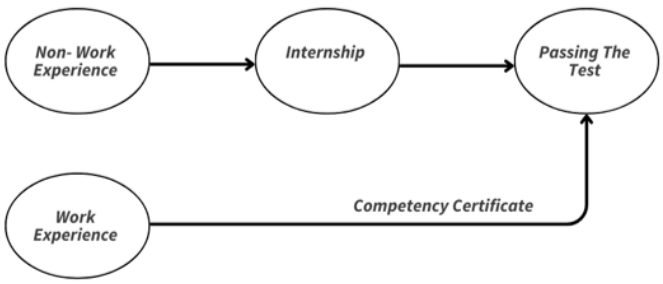


**Figure 2.** Pre-evaluation and pre-teaching

***Stage II: training and Competency Test***

Selection alone does not ensure readiness for vocational instruction. A transitional phase is therefore required before lecturers assume full teaching responsibilities. As illustrated in Figure 2, this stage involves pre-evaluation and supervised pre-teaching within the institutional environment.

Lecturers without prior industrial experience are required to undertake structured internships within relevant sectors for one academic semester. The purpose of this internship is not merely exposure, but direct engagement with operational practices, standards, and organisational cultures. Through immersion in real work settings, lecturers are able to observe discrepancies between theoretical models and practical constraints, which subsequently informs instructional refinement.

For lecturers who already possess relevant industrial experience, internship requirements may be waived, provided that competence is supported by recognised professional certification and documented work history. This distinction ensures that industrial familiarity becomes a foundational criterion rather than an optional supplement.

***Stage III: Apprenticeship Process***

The apprenticeship stage formalises industrial immersion. During this period, lecturers are integrated into company structures and are required to follow established operational procedures. Rotational placement across departments over six months broadens understanding of organisational interdependencies.

Exposure to production, quality control, marketing, public relations, and legal functions provides a more comprehensive view of industrial systems. Such rotation enables lecturers to situate technical tasks within broader organisational processes, thereby strengthening the relevance of classroom instruction to real industrial environments.

***Stage IV: Learning Process***

Following the apprenticeship stage, lecturers undertake instructional responsibilities with ongoing coordination from programme leadership. Teaching loads in the initial semester are limited to allow adjustment between lecturers and students.

Face-to-face instruction remains an important element in vocational contexts, as it facilitates direct observation of student engagement and practical response [42]. In addition, in-person learning reduces technical barriers that may affect skill-based instruction. While such formats require greater scheduling coordination and may limit flexibility [43], they provide opportunities for interaction, immediate feedback, and guided practice that are particularly relevant for applied learning environments.

***Stage V: Evaluation***

Evaluation is conducted through a multi-source process involving industry representatives, students, peer lecturers, and institutional stakeholders. During the internship period, industry supervisors provide structured reports assessing performance and professional adaptation. These reports inform institutional decisions regarding lecturer readiness and areas requiring further development.

Performance evaluation influences task execution, adaptability, and contextual engagement [44]. Peer assessment is conducted at the end of each semester using structured evaluation instruments aligned with institutional standards. As a formative practice, peer review contributes to continuous professional development [45].

Community-based feedback, including perspectives from staff, institutional partners, and surrounding communities, complements internal evaluation mechanisms and broadens accountability structures.

***Curriculum Responsiveness to Industrial Change***

Industrial environments evolve more rapidly than academic theoretical frameworks. For vocational institutions, responsiveness to such change is necessary to maintain instructional relevance. Figure 3 outlines the curriculum adjustment process, which is informed by internship findings and stakeholder consultation.

Information gathered during industrial immersion is reviewed through institutional discussions and used to refine

teaching materials or modify curriculum structures. In addition, industry practitioners may be invited to participate in academic forums to share emerging developments and competency expectations. Through these interactions, curriculum revision becomes a continuous process rather than a periodic administrative exercise.

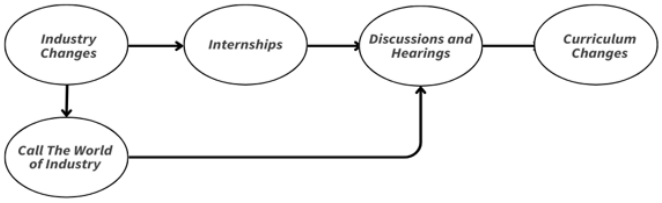


**Figure 3.** Curriculum change process

The interaction between industrial immersion, internal review, and curriculum modification reflects an institutional learning process rather than a one-time reform. When internship feedback is systematically incorporated into teaching design, vocational institutions develop a cyclical adjustment mechanism. Such cycles reduce the temporal lag between industrial transformation and instructional content. Over time, this adaptive pattern may mitigate structural mismatch by preventing the accumulation of outdated competencies. The effectiveness of the proposed stages therefore depends less on procedural compliance and more on the consistency with which feedback is translated into institutional action.

## 5. CONCLUSION

Mismatch between education and industrial employment tends to become most visible during graduation periods, when transitions into the labour market reveal gaps between acquired competencies and occupational requirements. Public debate often centres on unemployment rates and graduate absorption, yet these discussions rarely extend to the internal institutional processes that shape instructional relevance. When teaching is conducted without sustained engagement with industrial developments, graduates may encounter difficulties applying their knowledge in professional contexts.

Within vocational higher education, lecturer capability represents a central factor in this alignment. The integration of theory and practice depends not only on curriculum structure but also on recruitment standards, professional preparation, and ongoing exposure to industrial change. Recruitment mechanisms that do not distinguish sufficiently between academic and vocational teaching roles may limit the practical orientation required in applied programmes. Similarly, limited industrial engagement can slow institutional responsiveness to evolving skill demands.

In this sense, lecturer development functions as a stabilising component within vocational governance structures. Sustainable alignment is unlikely to be achieved solely through curriculum revision or labour-market monitoring if lecturer capability remains static. Institutional resilience depends on continuous recalibration of professional competencies in response to technological, organisational, and regulatory shifts. The staged model outlined here may be understood as an attempt to reduce structural rigidity within vocational systems by embedding industrial engagement directly into lecturer development pathways.

Strengthening alignment therefore requires structural adjustments. Recruitment criteria that prioritise relevant work experience and professional certification, structured internship pathways for lecturers lacking industrial exposure, and systematic curriculum review informed by field-based observation constitute practical mechanisms for improving coherence between instruction and occupational realities. These measures situate lecturer development within a broader institutional framework rather than treating it as an individual responsibility.

The staged model presented in this study outlines a process through which vocational institutions can refine recruitment, training, apprenticeship, instructional practice, and evaluation in an integrated manner. Continued examination through empirical field-based research, particularly involving direct industrial participation, may further clarify how institutional adaptability, openness to change, and professional readiness influence long-term education–industry alignment.

## DATA AVAILABILITY STATEMENT

The data presented in this study are available on request from the corresponding author due to privacy reasons.

## REFERENCES

[1] Veselinović, L., Mangafić, J., Turulja, L. (2020). The effect of education-job mismatch on net income: Evidence from a developing country. Economic Research-Ekonomska Istraživanja, 33(1): 2648-2669. https://doi.org/10.1080/1331677X.2020.1723427

[2] Khalid, R. (2019). Determinants of job mismatch among graduates working in the formal sectors at Lahore. In 3rd Student Research Conference, Vehari, Pakistan. https://www.researchgate.net/publication/349791384_Determinants_of_Job_Mismatch_Among_Graduates_Working_in_the_Formal_Sectors_at_Lahore.

[3] Hartog, J., Raposo, P., Reis, H. (2022). Fluctuations in the wage gap between vocational and general secondary education: Lessons from Portugal. Journal of Population Economics, 35: 643-675. https://doi.org/10.1007/s00148-021-00846-1

[4] Shevchuk, A., Strebkov, D., Davis, S.N. (2019). Skill mismatch and work–life conflict: The mediating role of job satisfaction. Journal of Education and Work, 32(2): 181-195. https://doi.org/10.1080/13639080.2019.1616281

[5] Asai, K., Breda, T., Rain, A., Romanello, L., Sangnier, M. (2020). Education, skills and skill mismatch. A review and some new evidence based on the PIAAC survey. https://shs.hal.science/halshs-02514746/.

[6] Bian, X. (2020). Employment mismatch from a distributive justice perspective. European Journal of Training and Development, 44(8): 829-845. https://doi.org/10.1108/EJTD-01-2020-0012

[7] Pambudi, N.A., Harjanto, B. (2020). Vocational education in Indonesia: History, development, opportunities, and challenges. Children and Youth Services Review, 115: 105092. https://doi.org/10.1016/j.childyouth.2020.105092

[8] Yohamintin, Y., Permana, J., Nurdin, D. (2021). What makes a professional lecture? A case study on private

university in Indonesia. Journal of Positive Psychology and Wellbeing, 5(4): 2119-2137.
[9] Khatimah, H., Husen Ismail, F. (2022). Reformulation of competency development of lecturers of state Islamic religious universities in Indonesia after COVID-19. Asian Journal of University Education (AJUE), 18(1): 15-33.
[10] Latip, M.S.A., Newaz, F.T., Ramasamy, R. (2020). Students' perception of lecturers' competency and the effect on institution loyalty: The mediating role of students' satisfaction. Asian Journal of University Education, 16(2): 183-195.
[11] Nagy, S., Pelser, A.M., Vaiman, V. (2023). The Improvement of Skills & Talents in the Workplace. The Improvement Global Innovative Forefront Talent Management (GIFT) Research and Publications Book Series. Axiom Academic Publishers, Potchefstroom, South Africa.
[12] Hunter, F., Ammigan, R., Gregersen-Hermans, J., Jones, E., Murphy, A.C. (2023). Internationalisation in higher education, responding to new opportunities and challenges.
[13] Maltseva, V. (2019). The concept of skills mismatch and the problem of measuring cognitive skills mismatch in cross-national studies. Educational Studies Moscow, 3(сентябрь): 43-76. https://doi.org/10.17323/1814-9545-2019-3-43-76
[14] Sethy, S.S. (2012). Cognitive skills: A modest way of learning through technology. Turkish Online Journal of Distance Education, 13(3): 260-274. https://dergipark.org.tr/en/pub/tojde/article/176189.
[15] Singh, R., Singh, S.P. (2022). Cognitive and non-cognitive skills: meaning, nature, types and uses in daily life. Webology, 19(4): 270-279.
[16] Neville, K., Chen, D.W., Massey, L., Cowell, T., et al. (2020). A cognitive skills research framework for complex operational environments (No. ARIARITR1379).
[17] Nasir, A.N.M., Ali, D.F., Noordin, M.K.B., Nordin, M.S.B. (2011). Technical skills and non-technical skills: Predefinition concept. In Proceedings of the IETEC'11 Conference, Kuala Lumpur, Malaysia, pp. 1-17.
[18] ILO. (2020). Global employment trends for youth 2020: Technology and the future of jobs. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_737648.pdf.
[19] Gimbel, M.E., Sinclair, T.M. (2020). Mismatch in online job search. Working Papers 2020-1, The George Washington University, Institute for International Economic Policy.
[20] Coraggio, L., Pagano, M., Scognamiglio, A., Tåg, J. (2025). JAQ of all trades: Job mismatch, firm productivity and managerial quality. Journal of Financial Economics, 164: 103992. https://doi.org/10.1016/j.jfineco.2024.103992
[21] Fulmer, I.S., Gerhart, B., Kim, J.H. (2023). Compensation and performance: A review and recommendations for the future. Personnel Psychology, 76(2): 687-718. https://doi.org/10.1111/peps.12583
[22] Nasir, A.N.M., Ahmad, A., Udin, A., Abd Wahid, N.H., Suhairom, N. (2020). Vocational college's students preferences on practical teaching methods for electronic subject. Journal of Technical Education and Training, 12(3): 180-188.
[23] M. Yusop, S.R., Rasul, M.S., Mohammad Yasin, R., Hashim, H.U. (2023). Identifying and validating vocational skills domains and indicators in classroom assessment practices in TVET. Sustainability, 15(6): 5195. https://doi.org/10.3390/su15065195
[24] Bush, T. (2003). Theories of Educational Leadership and Management. Sage.
[25] Bush, T. (2007). Educational leadership and management: Theory, policy, and practice. South African Journal of Education, 27(3): 391-406.
[26] Liu, M. (2023). Research on the new model of student education management in vocational colleges. Journal of Contemporary Educational Research, 7(9): 91-97. https://doi.org/10.26689/jcer.v7i9.5364
[27] Ling, Y., Chung, S.J., Wang, L. (2021). Research on the reform of management system of higher vocational education in China based on personality standards. Current Psychology, 42: 1225-1237. https://doi.org/10.1007/s12144-021-01480-6
[28] World Bank. (2015). Technical & Vocational Education Modernization (TVEM) (P102177). https://documents1.worldbank.org/curated/en/833591468039860664/pdf/ISR-Disclosable-P102177-01-29-2015-1422552770622.pdf.
[29] Antera, S., Teräs, M. (2024). Discovering and developing the vocational teacher identity. Education + Training, 66(5): 524-540. https://doi.org/10.1108/ET-09-2023-0363
[30] Okolie, U.C., Nwajiuba, C.A., Binuomote, M.O., Ehiobuche, C., Igu, N.C.N., Ajoke, O.S. (2020). Career training with mentoring programs in higher education: Facilitating career development and employability of graduates. Education + Training, 62(3): 214-234. https://doi.org/10.1108/ET-04-2019-0071
[31] Creswell, J.W., Hanson, W.E., Clark Plano, V.L., Morales, A. (2007). Qualitative research designs: Selection and implementation. The Counseling Psychologist, 35(2): 236-264. https://doi.org/10.1177/0011000006287390
[32] Makri, C., Neely, A. (2021). Grounded theory: A guide for exploratory studies in management research. International Journal of Qualitative Methods, 20: 16094069211013654. https://doi.org/10.1177/16094069211013654
[33] Hariyanto, E. (2021). Unemployment and economic crisis. BPPK General Financial Education and Training Center. https://klc2.kemenkeu.go.id/document/2020/10/6/1601946778481gdi/pengangguran_dan_krisis_ekonomi_-_edit_anes.pdf.
[34] Central Statistics Agency (BPS). (2023). State of Indonesian employment.
[35] Shi, J., Hua, W., Tang, D., Liu, F. (2022). Sustainable community transformation and community integration of agricultural transfer population—A case study from China. Sustainability, 14(13): 7737. https://doi.org/10.3390/su14137737
[36] Pizzinelli, C., Shibata, I. (2023). Has COVID-19 induced labor market mismatch? Evidence from the US and the UK. Labour Economics, 81: 102329. https://doi.org/10.1016/j.labeco.2023.102329

[37] Nationalbank Denmark. (2021). Occupation-industry mismatch in the cross section and the aggregate. https://www.nationalbanken.dk/media/gzrhnpy4/dn-wp147r.pdf.
[38] Böheim, R., Christl, M. (2022). Mismatch unemployment in Austria: The role of regional labour markets for skills. JRC Publications Repository, 9(1): 208-222. https://publications.jrc.ec.europa.eu/repository/handle/JRC128737.
[39] Coco-Prieto, A., Simó-Solsona, M., Suárez-Grimalt, L. (2022). Double invisibility: The effects of hidden unemployment on vulnerable population groups in southern European countries during the COVID-19 pandemic. Revista Española De Sociología, 31(4): a132. https://doi.org/10.22325/fes/res.2022.132
[40] Kara, A.M., Tanui, E., Kalai, J.M. (2020). Lecturer quality in public universities in Kenya. European Journal of Education Studies. https://doi.org/10.46827/ejes.v7i10.3306
[41] Mordhorst, L., Jenert, T. (2023). Curricular integration of academic and vocational education: A theory-based empirical typology of dual study programs in Germany. Higher Education, 85: 1257-1279. https://doi.org/10.1007/s10734-022-00889-7
[42] Al Rawashdeh, A.Z., Mohammed, E.Y., Al Arab, A.R., Alara, M., Al-Rawashdeh, B. (2021). Advantages and disadvantages of using e-learning in university education: Analyzing students' perspectives. Electronic Journal of E-learning, 19(3): 107-117. https://doi.org/10.34190/ejel.19.3.2168
[43] Nikolopoulou, K. (2022). Face-to-face, online and hybrid education: University students' opinions and preferences. Journal of Digital Educational Technology, 2(2): ep2206. https://doi.org/10.30935/jdet/12384
[44] Masanja, N.M., Kusekwa, E. (2020). The effects of job evaluation on employees performance: A case of Northern Tanzania Union Conference. Contemporary Journal of Education and Business (CJEB), 1(1): 1-24.
[45] Yin, S., Chen, F., Chang, H. (2022). Assessment as learning: How does peer assessment function in students' learning? Frontiers in Psychology, 13: 912568. https://doi.org/10.3389/fpsyg.2022.912568