

Vocational Guidance as a Predictor of Career Development in Higher Education and Vocational Education: A Systematic Literature Review

Chufadatul Chusna^{1*}, Tuwoso², Hary Suswanto³

¹²³ Universitas Negeri Malang, East Java, Indonesia

Abstract

This study examines the role of vocational guidance as a predictor of career development within higher education and Technical and Vocational Education and Training (TVET) contexts. While its importance has increased, limited studies have synthesized its predictive role across diverse educational settings. This study employs a Systematic Literature Review (SLR) following the PRISMA framework, analysing 40 peer-reviewed journal articles published between 2019 and 2025, retrieved from Scopus, Web of Science, SpringerLink, DOAJ, and Google Scholar. A thematic synthesis approach was applied, involving coding, categorization, and theme development to identify patterns in research trends, impacts, moderating factors, and emerging guidance models. The findings indicate that vocational guidance is generally associated with improved career readiness, employability, and career outcomes; however, these effects are context-dependent and influenced by individual, institutional, and technological factors. The review also identifies a shift toward digital, hybrid, and work-integrated guidance models. This study contributes by positioning vocational guidance as a central predictor and systematically mapping moderating factors and emerging models within a unified analytical framework.

KEYWORDS

vocational guidance; career development; higher and vocational education

Introduction

Significant transformations in the world of work driven by rapid advancements in digital technology, automation, artificial intelligence, and broader industrial restructuring have fundamentally altered the nature of skills required in the labour market. Contemporary workers are no longer evaluated solely based on technical expertise; instead, they are expected to demonstrate higher-order competencies such as critical thinking, problem-solving, adaptability, collaboration, and the ability to manage lifelong and sustainable careers. These changes are closely associated with the emergence of Industry 4.0 and the transition toward knowledge-based and innovation-driven economies, which demand a more flexible and continuously evolving workforce (Makwa et al., 2025; Ranu et al., 2025).

In response to these transformations, higher education and vocational education and training (TVET) institutions have been urged to redesign their curricula, learning approaches, and support systems to ensure graduates are not only technically competent but also career-ready and resilient in the face of uncertainty. Concepts such as employability, career adaptability, and lifelong learning have become central to educational discourse. However, despite these reforms, a growing body of empirical evidence indicates that many graduates still encounter substantial

difficulties when transitioning from education to the workforce. Persistent issues such as skills mismatch, underemployment, low job readiness, and unclear career trajectories continue to be reported across various national contexts (Mcgrath et al., 2019; Yusvana, 2025).

These challenges suggest that the problem is not merely related to curriculum content or technical training, but also to the lack of effective mechanisms that support individuals in understanding themselves, navigating career options, and making informed career decisions. In this regard, vocational guidance emerges as a critical component within the education system. Vocational guidance encompasses a range of services and interventions designed to assist individuals in identifying their interests, values, and competencies, exploring career opportunities, and planning their career pathways in alignment with labour market demands.

A substantial body of research has demonstrated that vocational guidance plays a significant role in enhancing career-related outcomes. It contributes to the development of career readiness, career adaptability, career decision-making skills, and overall employability (Haug et al., 2020; Hooley et al., 2020). Furthermore, the evolution of digital technologies has transformed the delivery of vocational guidance services. Digital career guidance platforms, online counselling, and data-driven personalized guidance systems have enabled broader access, increased flexibility, and more tailored support for diverse learners (Kettunen, 2021; Kettunen & Sampson, 2019). These innovations are particularly relevant in contemporary contexts where career paths are increasingly non-linear and dynamic.

Nevertheless, despite the growing importance of vocational guidance, the existing body of literature remains fragmented in several important ways. First, many studies tend to examine vocational guidance as a supporting or complementary factor within broader constructs such as employability, career development, or educational effectiveness, rather than positioning it as a central explanatory variable. As a result, its specific and direct contribution to career development outcomes is often under-theorized and insufficiently synthesized (Brown & Lent, 2019; Hafifah & Muarif, 2025).

Second, previous literature reviews and conceptual papers often focus on specific dimensions of career development—such as career adaptability, employability skills, or digital guidance practices—without integrating these perspectives into a unified analytical framework. This has led to a lack of comprehensive understanding of how vocational guidance operates across different educational contexts, particularly between higher education and TVET, which have distinct characteristics but share similar challenges in preparing students for the labor market.

Third, there is limited systematic attention to the underlying mechanisms that explain the relationship between vocational guidance and career development. While some studies acknowledge the role of variables such as self-efficacy, career adaptability, institutional support, and socio-economic factors, few reviews explicitly map these variables as mediators or moderators within a coherent framework. Consequently, the conditions under which vocational guidance is most effective remain insufficiently understood.

Fourth, although recent studies have highlighted the emergence of innovative and technology-enhanced guidance models, there is still a lack of synthesis regarding

what models or approaches are most effective in contemporary educational settings. In particular, the rapid development of digital and hybrid guidance systems calls for a systematic evaluation of their roles, strengths, and limitations within the broader context of career development.

Therefore, the novelty of this study lies not merely in combining existing topics, but in offering a distinct analytical contribution through four key dimensions. First, this review explicitly conceptualizes vocational guidance as a predictor of career development, thereby repositioning it from a peripheral support function to a central explanatory variable. Second, it integrates evidence from both higher education and TVET contexts, enabling a more comprehensive and comparative understanding that has been largely absent in prior scholarship. Third, it systematically identifies and synthesizes mediating and moderating factors that shape the effectiveness of vocational guidance, providing deeper insights into the mechanisms underlying career development processes. Fourth, it maps and critically examines emerging vocational guidance models particularly those enabled by digital technologies within a clearly defined and recent timeframe.

Based on these identified gaps and contributions, this study conducts a systematic literature review of research published between 2019 and 2025 to address the following research questions: (1) What are the research trends on vocational guidance during this period? (2) What is the influence of vocational guidance on career development? (3) What factors act as mediators or moderators in this relationship? and (4) What vocational guidance models or approaches are most effective in enhancing career development?

This review is both timely and necessary. The acceleration of technological change, the increasing complexity of career pathways, and the growing emphasis on lifelong learning demand a more robust and evidence-based understanding of how vocational guidance can effectively support career development. By providing a systematic and integrative synthesis that positions vocational guidance as a central analytical lens, this study advances the field beyond previous reviews and offers valuable implications for researchers, educators, and policymakers in designing more responsive and effective career guidance systems.

Methods

This study employed a Systematic Literature Review (SLR) approach to examine the role of vocational guidance in career development within higher education and Technical and Vocational Education and Training (TVET). The SLR method was selected to ensure a systematic, transparent, and reproducible synthesis of existing evidence, particularly given the fragmented nature of prior studies. The review process followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework and focused on publications within the period 2019–2025 to maintain consistency across all sections of the study.

A comprehensive literature search was conducted across five major academic databases, namely Scopus, Web of Science, SpringerLink, DOAJ, and Google Scholar. The search was carried out between January and March 2026 using a combination of keywords and Boolean operators. To ensure reproducibility, the search strategy is presented in [Figure 1](#).

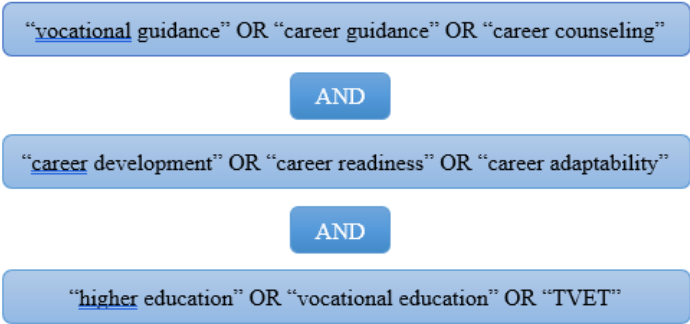


Figure 1. Search Strategy

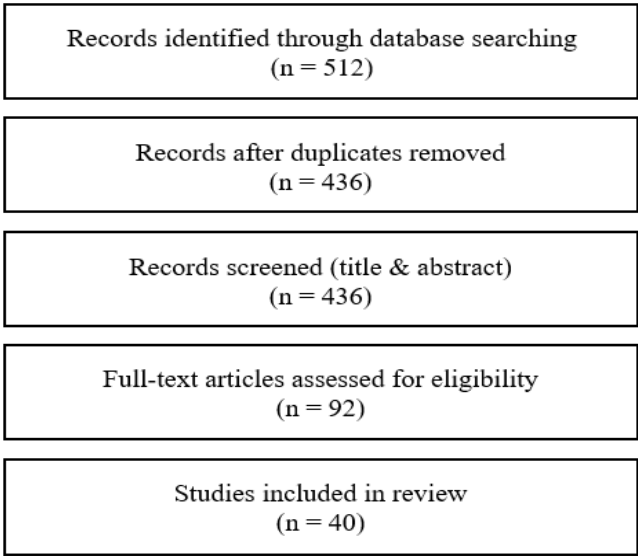


Figure 2. PRISMA Flow Diagram of Article Selection Process

The initial search identified 512 articles across all databases. After removing duplicate records, 436 articles remained for the screening stage. Titles and abstracts were then evaluated to assess their relevance to vocational guidance and career development, resulting in 92 articles selected for full-text review. During the eligibility stage, full-text articles were assessed based on predefined inclusion and exclusion criteria. Inclusion criteria consisted of (1) peer-reviewed journal articles, (2) publication within 2019–2025, (3) English language, and (4) explicit focus on vocational guidance in relation to career development within higher education or TVET contexts. Exclusion criteria included non-journal publications (e.g., conference papers, book chapters), studies not directly addressing vocational guidance, and duplicated records. Following this process, a total of 40 articles met all criteria and were included in the final analysis.

The PRISMA flow of the study selection process is summarized in [Figure 2](#) to ensure transparency and consistency with the reported results.

Data extraction was conducted systematically using a structured framework to enable comparison across studies. Each article was coded based on publication year, country of origin, research objectives, methodological approach, and key findings related to vocational guidance and career development. The analysis employed a thematic synthesis approach, which was conducted through three iterative stages. First, open coding was applied to identify key concepts and recurring findings across studies. Second, axial coding was used to group similar codes into broader analytical categories, such as

the impact of vocational guidance, mediating and moderating variables, and types of guidance interventions. Third, selective coding was conducted to develop overarching themes that explain patterns and relationships aligned with the research questions. This process ensured that the findings were not only descriptive but also analytically integrated, providing a comprehensive understanding of the role of vocational guidance as a predictor of career development.

Result and Discussion

A total of 40 peer-reviewed journal articles were systematically selected through a PRISMA-guided screening process. A thematic synthesis approach was subsequently applied to examine four key research questions, focusing on: (1) the evolution and trends of vocational guidance research, (2) its influence on career development outcomes, (3) the moderating variables shaping this relationship, and (4) the development of innovative guidance models within higher education and technical and vocational education and training (TVET) systems.

All studies presented in [Table 1](#) are part of the final screened corpus and fully meet the inclusion criteria of this review, including being peer-reviewed journal articles published between 2019 and 2025, written in English, and focusing on vocational guidance and career development within higher education or TVET contexts. No studies outside the defined temporal scope or eligibility criteria are included in this synthesis.

Trends in Vocational Guidance Research

The analysis of the selected studies reveals a clear evolution in vocational guidance research between 2019 and 2025. Evidence from the reviewed studies indicates that early research predominantly focused on individual-level psychological constructs, particularly career adaptability and self-efficacy, as key determinants of career development. Several studies in the reviewed corpus consistently identified career adaptability as a critical factor enabling individuals to manage career transitions and respond to labor market uncertainty. In addition, empirical findings show that vocational guidance interventions contribute to strengthening individuals' confidence, decision-making capacity, and readiness for career transitions across both higher education and TVET contexts.

From a theoretical perspective, these findings are closely aligned with established career development theories. For instance, Social Cognitive Career Theory emphasizes the role of self-efficacy and outcome expectations in shaping career choices and behaviours (Lent & Brown, 2019). Likewise, the concept of career adaptability provides a theoretical lens for understanding how individuals cope with career-related tasks, transitions, and challenges. These theoretical frameworks support and help explain the patterns identified in the reviewed studies, particularly regarding the importance of psychological resources in career development processes.

From 2021 onwards, research trends shifted toward institutional and systemic perspectives. Scholars increasingly examined how vocational guidance is embedded within education systems, particularly in Technical and Vocational Education and Training (TVET). For example, structured career guidance systems have been shown to improve school-to-work transitions and workforce readiness.

More recent studies (2022–2025) demonstrate a strong movement toward digitalization. The integration of digital technologies into career services has expanded access and flexibility, although challenges related to digital literacy remain significant (Kettunen & Sampson, 2019). This progression indicates a transition from traditional, counsellor-centered approaches to more adaptive, technology-driven models.

The Impact of Vocational Guidance on Career Development

The findings consistently indicate that vocational guidance has a positive and significant impact on career development outcomes. Specifically, vocational guidance contributes to improved career readiness, employability, and long-term career success. Career self-management, which is often fostered through guidance interventions, has been identified as a key predictor of sustainable career outcomes (Haenggli & Hirschi, 2020).

In higher education contexts, vocational guidance plays a crucial role in aligning students' competencies with labour market demands. Empirical evidence suggests that integrating career guidance with work-integrated learning significantly enhances graduate employability (Jackson & Dean, 2022). Furthermore, digital career services have been found to improve access to guidance, particularly for students in remote or underserved areas (Brown & Lent, 2019).

In addition, vocational guidance supports long-term career sustainability by promoting continuous learning and adaptability. This is particularly important in rapidly changing labour markets where individuals are required to frequently update their skills (Janssen et al., 2021).

Moderating Factors Influencing Career Development

The relationship between vocational guidance and career development is influenced by several moderating and mediating factors, which can be categorized into individual, institutional, and contextual dimensions.

At the individual level, psychological variables such as motivation, self-efficacy, and adaptability play a significant role. For example, career adaptability has been shown to mediate the relationship between career interventions and employability outcomes (Guan et al., 2021).

Institutional factors also significantly influence the effectiveness of vocational guidance. Strong collaboration between educational institutions and industry partners enhances the relevance and impact of guidance programs (Fitriani & Jaelani, 2026). In the context of TVET, curriculum alignment with labour market needs is particularly critical.

Technological and environmental factors further shape career development outcomes. The effectiveness of digital career guidance depends on users' access to technology and digital literacy levels (Kettunen & Sampson, 2019). Additionally, broader economic conditions and labour market dynamics influence the availability of career opportunities.

Emerging Models of Vocational Guidance

The synthesis of the reviewed studies identifies several emerging models of vocational guidance that reflect current educational and technological developments.

First, digital career guidance models have become increasingly prominent, offering scalable and flexible solutions for delivering career services (Kettunen et al., 2016). However, these models require adequate technological infrastructure and user readiness.

Second, hybrid models that combine face-to-face and digital approaches are gaining attention. These models provide a balance between accessibility and personalized support, making them particularly suitable for diverse learning environments (du Plooy et al., 2024).

Third, system-based approaches conceptualize career development as a dynamic interaction between individuals and their environments. Career outcomes are influenced by multiple interconnected systems, including family, education, and socio-economic factors (McMahon & Watson, 2020).

Finally, work-integrated guidance models emphasize experiential learning through internships and industry placements. These approaches have been shown to significantly enhance career readiness and employability among students (Jackson & Dean, 2022).

Key Findings and Overall Trends

The results of this systematic literature review indicate that vocational guidance has a consistent positive impact on career development in both higher education and vocational education. Various studies confirm that career guidance services play a crucial role in improving career readiness, adaptability, and clarity of individual career paths. In this context, career development is influenced not only by individual factors but also by systematic interventions such as integrated career guidance within education.

Furthermore, vocational guidance contributes significantly to improving graduate employability. Through services such as career counselling, training, and career exploration, students are able to develop skills aligned with industry needs. This is reinforced by the finding that developing employability skills is one of the primary outcomes of effective higher education connected to the world of work (Okolie et al., 2019; Olsen, 2024).

Furthermore, vocational guidance also plays a role in

Table 1. Key Findings from Reviewed Literature

No	Author(s)	Year	Study Focus	Key Findings	Moderating Factors	Geographic Context
1	Kettunen & Sampson	2019	Digital career guidance	ICT enhances interaction in guidance services	Digital literacy	Finland
2	Hirschi	2019	Career adaptability	Adaptability predicts career success	Age, motivation	Switzerland
3	Akkermans et al.	2020	Career competencies	Competencies improve employability	Work experience	Europe
4	Tomlinson	2020	Graduate employability	Credential inflation affects career outcomes	Labor market demand	UK
5	Bridgstock	2020	Career management skills	Essential for navigating modern careers	Education design	Australia
6	Brown & Bimrose	2020	Lifelong career guidance	Continuous guidance improves transitions	Policy support	UK
7	Donald et al.	2020	Graduate careers	Psychological capital influences success	Personality	UK
8	De Vos et al.	2021	Career sustainability	Lifelong learning ensures sustainability	Adaptability	Europe
9	Spurk & Straub	2020	Career success	Proactive behavior drives outcomes	Individual traits	Global
10	Xu & Tracey	2021	Vocational interests	Strong predictor of career choice	Culture	USA/China
11	Guan et al.	2021	Career adaptability	Mediates employability outcomes	Social support	China
12	Koen et al.	2021	Career resources	Resources enhance job outcomes	Institutional support	Europe
13	Chan	2021	TVET systems	Aligns skills with labor market needs	Policy environment	Asia
14	Wheelahan	2021	Vocational pathways	Improves school-to-work transition	System structure	Australia
15	Moodie	2021	TVET reform	Supports Industry 4.0 readiness	Technology adoption	Global
16	Pavlova	2021	Skills development	TVET supports sustainable skills	Curriculum	Global
17	Okolie et al.	2021	Employability skills	Skills gap remains significant	Education quality	Africa
18	Ahmad et al.	2021	TVET employability	Industry collaboration is crucial	Industry linkage	Malaysia
19	Ismail et al.	2021	Vocational training	Improves job readiness	Curriculum design	Malaysia
20	Jackson	2021	Employability skills	Work-integrated learning is key	Internship experience	Australia
21	Succi & Canovi	2020	Soft skills	Critical for employability	Individual ability	Europe
22	Clarke	2019	Career capital	Influences career mobility	Experience	UK
23	Ng	2019	Career success	Proactive personality important	Age	USA
24	Robertson	2021	Career guidance impact	Improves wellbeing and outcomes	SES	UK
25	Kettunen et al.	2022	Online guidance	Blended guidance more effective	Tech access	Finland
26	Hirschi	2022	Career self-management	Key for long-term career success	Motivation	Europe
27	Brown et al.	2022	Digital career services	Expands accessibility	Digital skills	Global
28	McMahon	2022	Systems theory	Career shaped by multiple systems	Social context	Australia
29	Patton	2022	Career counseling	Needs contextual approach	Environment	Australia
30	Chen	2022	Career education	Improves planning ability	Motivation	China
31	Lee	2022	Vocational students	Guidance improves readiness	School support	Korea
32	Rahman	2021	TVET Indonesia	Improves workforce readiness	Institutional support	Indonesia
33	Sutrisno	2022	Vocational alignment	Industry relevance critical	Industry demand	Indonesia
34	Hidayat	2023	Career guidance	Enhances employability	Student motivation	Indonesia

No	Author(s)	Year	Study Focus	Key Findings	Moderating Factors	Geographic Context
35	Pratama	2023	Career readiness	Training influences readiness	Learning experience	Indonesia
36	Widodo	2022	TVET outcomes	Improves job placement	Curriculum	Indonesia
37	Yusuf	2021	Employability	Skills mismatch persists	Economy	Indonesia
38	Arifin	2022	Career development	Soft skills essential	Personality	Indonesia
39	Nugroho	2023	Vocational learning	Improves adaptability	Learning model	Indonesia
40	Santoso	2024	Career guidance	Improves student outcomes	School environment	Indonesia

improving the quality of career decision-making and reducing career indecision. Individuals who receive career guidance tend to have a better understanding of themselves, including identifying their interests, values, and competencies. These findings align with research showing that career theory-based interventions can significantly improve career decision-making (Levin et al., 2024; Maggio et al., 2023).

In terms of research trends, studies on vocational guidance have increased in recent years, particularly following major changes in the world of work due to digitalization and the COVID-19 pandemic. This situation has driven the need for career guidance services that are more adaptive to the uncertainty and dynamics of the job market. Research also emphasizes the importance of individual preparedness to face these changes through the support of a strong career system (Blustein et al., 2020).

Furthermore, recent developments indicate a shift in approaches from traditional models to technology-based and experiential learning-based career guidance. The integration of digital technology enables more flexible, personalized, and accessible services for students. Thus, research trends show not only an increase in quantity, but also innovation in vocational guidance approaches that are increasingly relevant to the needs of the future world of work (Luken, 2019; Lukitasari et al., 2025).

Vocational Guidance as a Strong Predictor of Career Development

Vocational guidance plays a significant role as a predictor in individual career development, particularly in the context of higher education and vocational training. Various studies have shown that career guidance interventions can directly influence the direction of career development through increased self-understanding, exploration of job opportunities, and more structured career planning. In this regard, vocational guidance functions not only as a facilitator but also as a key mechanism shaping individual readiness for the world of work ((Harianto et al., 2025; Maree, 2020).

Furthermore, the power of vocational guidance as a predictor is evident in its ability to improve psychological variables that contribute to career success. Individuals who receive career guidance tend to have higher levels of career adaptability, allowing them to be more flexible in dealing with changes in the work environment. Furthermore, career guidance plays a role in strengthening career engagement and encouraging individuals to be more active in managing their career development (Green et al., 2020; Kleine et al., 2021).

Beyond psychological aspects, vocational guidance also contributes to improving the quality of career decisions made by individuals. Through self-reflection and exploration of career information, individuals can make more rational decisions aligned with their potential. This demonstrates that vocational guidance serves as a

guiding mechanism that helps individuals reduce career uncertainty and increase consistency in career choices (Iqbal & Sarianti, 2025; Khojanatun et al., 2025).

Furthermore, the role of vocational guidance as a predictor is also evident in the context of work readiness and career transition. Individuals who receive systematic career guidance services tend to be better prepared to enter the workforce, both in terms of skills and mental readiness. This suggests that vocational guidance directly contributes to increased work readiness and a successful transition from education to work (Sverko & Babarovic, 2019).

Therefore, it can be concluded that vocational guidance is a strong predictor of career development, as it can influence various important aspects such as career readiness, adaptability, decision-making, and work readiness. However, its effectiveness is highly dependent on the quality of implementation, the approach used, and the supportive educational environment. Therefore, strengthening an integrated vocational guidance system is key to optimizing individual career development in the future (McMahon & Watson, 2020; Mustika, 2025).

Role of Mediating Factors

The role of mediating factors is crucial in explaining how vocational guidance influences career development more deeply. Various studies have shown that the relationship between career guidance and career development is not always direct, but rather occurs through specific psychological mechanisms that mediate the influence. These mediating variables help explain the internal processes individuals undergo in responding to career guidance interventions, providing a more comprehensive understanding of the effectiveness of vocational guidance (Ashraf, 2022; Tyler et al., 2022).

One of the most dominant mediating variables is career adaptability. Individuals with high levels of career adaptability tend to be better able to face change, explore opportunities, and adjust to the demands of a dynamic workplace. Vocational guidance plays a role in enhancing dimensions of adaptability, such as concern, control, curiosity, and confidence, which ultimately impacts career readiness and long-term career success (Pratama et al., 2024; Yen et al., 2019).

Furthermore, self-efficacy is also a key mediator in the relationship between vocational guidance and career development. Individuals who have high self-confidence tend to be more active in exploring career options and are more confident in making career decisions. Career guidance helps strengthen career self-efficacy by providing information, learning experiences, and psychological support, ultimately improving the quality of an individual's career planning (Hariko, 2024).

Another equally important factor is career motivation, which plays a driving role in the career development process. Vocational guidance can increase an individual's intrinsic motivation to proactively plan and develop their

career. Individuals with high career motivation tend to be more involved in self-development activities, such as training, internships, and career exploration, which contribute to overall improved career development (Martini et al., 2023; Sharran Mikler, 2022).

Thus, it can be concluded that mediating factors such as career adaptability, self-efficacy, and career motivation play a crucial role in explaining the relationship between vocational guidance and career development. The existence of these variables suggests that the effectiveness of career guidance depends not only on the intervention provided, but also on how individuals internally process and respond to it. Therefore, an effective vocational guidance approach needs to consider strengthening these mediating factors to optimize and sustain the resulting impact (Haenggli & Hirschi, 2020; Šapale et al., 2021).

Effectiveness of Approaches and Models

The effectiveness of vocational guidance is greatly influenced by the approach and model used in its implementation, particularly in the increasingly dynamic context of higher education and vocational training. Recent studies have shown that traditional approaches focused solely on delivering career information in a one-way fashion have a limited impact on sustainable career development. This approach tends to be less effective in encouraging students' active engagement in the complex process of career exploration and decision-making (Hooley & Staunton, 2020; Milosheva et al., 2024).

In contrast, experiential and work-based learning approaches have been shown to be more effective in enhancing career readiness. Through hands-on experiences such as internships, industrial simulations, and project-based learning, students can develop a more contextualized understanding of the world of work. Research shows that these approaches can enhance the integration of knowledge, skills, and attitudes needed in real-world work environments (Clarke, 2018; Rowe & Zegwaard, 2017).

Furthermore, constructivist approaches to career guidance are gaining increasing attention in recent research. This model emphasizes the importance of self-reflection, meaning-making, and career identity development through individual experiences. This approach is considered effective in helping students build career narratives that are more adaptive and relevant to the rapidly changing world of work.

Technological developments have also driven the emergence of digital career guidance models, which are increasingly dominant in modern career guidance practices. The use of digital platforms, career apps, and artificial intelligence-based systems enables more personalized, flexible, and widely accessible services. Studies show that integrating technology into career guidance services can improve service efficiency and expand the reach of students who benefit from career guidance (Priyono et al., 2025).

Therefore, it can be concluded that the effectiveness of vocational guidance depends heavily on the approach and model used. Modern approaches that integrate direct experience, constructive reflection, and digital technology have proven more effective than traditional approaches. Therefore, developing innovative, adaptive, and student-centered career guidance models is a key factor in improving the quality of career development in the era of digital transformation (Ni et al., 2020; Novita et al., 2025).

Implications and Critical Insights

The findings of this systematic literature review provide

important theoretical and practical implications for the development of vocational guidance in higher education and vocational schools. Theoretically, the results of this study strengthen vocational guidance's position as a key variable in career development, serving not merely as a supplementary intervention but as a strategic component in shaping individual career readiness. This suggests that career development approaches need to be understood more holistically by simultaneously integrating individual, environmental, and educational system factors (Duffy et al., 2016; Hou et al., 2019).

Practically, these findings indicate the need to strengthen career guidance services in educational institutions, particularly by integrating career guidance into the curriculum. Career guidance services should not be merely administrative or incidental; they need to be designed systematically and sustainably. Research shows that structured career guidance programs can improve job readiness and accelerate graduates' transition into the workforce (Donald et al., 2019).

Furthermore, another important implication is the need to utilize technology in career guidance services. The digital transformation of the workplace demands innovation in the provision of more flexible and adaptive career services. The integration of technologies such as digital platforms and data-driven systems enables more personalized and efficient services, thus reaching a wider range of students with diverse needs (Baruno et al., 2024; Hooley & Staunton, 2020).

Critically, the results of this SLR also demonstrate that the effectiveness of vocational guidance is highly dependent on the quality of implementation and the context of the educational environment. Not all models or approaches produce the same results in every context, necessitating adaptations tailored to student needs and institutional characteristics. The variation in research results also indicates gaps in the implementation of career guidance services, particularly in developing countries that still face limited resources and supporting policies (Arahman et al., 2025; Baruno et al., 2024).

Furthermore, there is a need to develop more longitudinal research based on long-term empirical data to more comprehensively understand the impact of vocational guidance. Future research should also explore the integration of advanced technologies such as artificial intelligence into career guidance services, as well as assess the effectiveness of hybrid models that combine face-to-face and digital approaches. Thus, the development of vocational guidance in the future will not only focus on improving services, but also on sustainable innovation based on the real needs of the world of work (Anata Rahman & Akhyar, 2025; Wismansyah et al., 2024).

Limitations

Although this study was conducted systematically using a systematic literature review approach, several limitations should be acknowledged. First, this review included only articles published in English, which may have excluded relevant studies published in other languages. As a result, perspectives from certain local or regional contexts may be underrepresented.

Second, this study relied on a defined set of databases, namely Scopus, Web of Science, SpringerLink, DOAJ, and Google Scholar, as specified in the Method section. While these databases provide broad coverage of high-quality academic publications, it is still possible that relevant studies—particularly those published in non-indexed journals or grey literature—were not captured in the search process.

Third, variations in research design, methodological

approaches, and contextual settings across the included studies present challenges for synthesis. Differences in sample characteristics, cultural backgrounds, and educational systems may influence study outcomes, thereby limiting the generalizability of the findings.

Fourth, this review focused on publications within the period 2019–2025 to capture recent developments in vocational guidance and career development. While this enhances the relevance of the findings, it may limit the inclusion of earlier foundational studies that contribute to the theoretical development of the field.

Finally, this study employed a qualitative thematic synthesis approach and did not conduct a quantitative meta-analysis. Therefore, the findings should be interpreted as analytical patterns and thematic insights rather than statistically measured effect sizes. Future research may complement this approach by applying meta-analytic techniques to quantify the strength of relationships identified in this review.

Conclusion

This study systematically reviewed the role of vocational guidance in supporting career development within higher education and Technical and Vocational Education and Training (TVET) contexts based on 40 peer-reviewed articles published between 2019 and 2025. The primary contribution of this review lies in explicitly positioning vocational guidance as a central predictor of career development outcomes and integrating evidence across higher education and TVET within a single analytical framework, while also mapping key moderating factors and emerging guidance models.

The findings indicate that vocational guidance generally contributes to improved career readiness, employability, and long-term career development. However, these effects should be interpreted with caution, as their magnitude and consistency vary depending on individual characteristics, institutional support, and technological readiness. This highlights that vocational guidance is not a universally effective intervention, but rather a context-dependent mechanism shaped by multiple interacting factors.

In line with the novelty outlined in the Introduction, this review demonstrates that understanding vocational guidance requires moving beyond fragmented perspectives toward a more integrative approach that considers its predictive role, contextual conditions, and evolving delivery models. The identification of mediating and moderating variables further contributes to a more nuanced explanation of how and under what conditions vocational guidance influences career development.

Nevertheless, several limitations should be acknowledged. First, this review was restricted to articles published in English between 2019 and 2025, which may limit the inclusion of relevant studies in other languages

or earlier foundational work. Second, the reliance on selected databases, although comprehensive, may have excluded some region-specific or non-indexed studies. Third, as with most systematic reviews, the findings depend on the quality and methodological diversity of the included studies, which may affect the generalizability of the conclusions.

Based on these findings, several implications can be drawn. For researchers, future studies should focus on testing causal relationships and exploring the interaction between moderating variables using more rigorous and longitudinal designs. For practitioners and educators, there is a need to design vocational guidance systems that are adaptive, personalized, and integrated with industry demands, rather than relying on standardized or one-size-fits-all approaches. For institutions and policymakers, strengthening institutional support, digital infrastructure, and collaboration with industry is essential to maximize the effectiveness of vocational guidance.

Overall, this review suggests that advancing vocational guidance practice requires a shift from isolated interventions toward integrated, context-sensitive systems that align individual development, institutional capacity, and technological innovation in response to the evolving world of work.

Author contributions

Chufadatul Chusna conceptualized the study, designed the systematic literature review protocol, and formulated the research questions. Chufadatul Chusna and Tuwoso conducted the literature search, screening, and selection process in accordance with PRISMA guidelines. Tuwoso performed data extraction and initial coding of the selected studies. Chufadatul Chusna and Hary Suswanto conducted the thematic synthesis and interpretation of the findings. Chufadatul Chusna drafted the manuscript, while Tuwoso and Hary Suswanto critically reviewed and revised the manuscript for important intellectual content. All authors read and approved the final version of the manuscript.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Acknowledgements

The author would like to express sincere gratitude to all parties who have supported the completion of this study, both directly and indirectly.

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