

Research Trends in Digital Career Guidance and Counseling Services: A Bibliometric Analysis for E-Module Development

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Abstract

The digital transformation of education has reshaped guidance and counseling services, particularly in supporting students' career readiness through technology-mediated approaches. However, research on digital career guidance remains dispersed across disciplines, making it necessary to map its intellectual structure and emerging directions. This study aims to analyze global research trends in guidance and counseling services, with particular attention to career guidance and digital learning, as a conceptual basis for future e-module development. A bibliometric analysis was conducted using publication data retrieved from Scopus and Web of Science covering the period 2018–2025. The article selection process followed the PRISMA framework, resulting in 456 documents for final analysis. Bibliographic data were analyzed using VOSviewer through publication growth analysis, keyword co-occurrence, source distribution, thematic mapping, and citation-related indicators. The findings show that research in guidance and counseling services has grown substantially, with an annual growth rate of 18.89%, involving 1,538 authors across 294 publication sources. The dominant themes include counseling, students, career guidance, and decision-making, while thematic mapping indicates that career guidance and decision-making are emerging areas with strong potential for further development. These findings suggest a shift from conventional counseling models toward more personalized, student-centered, and technology-supported services. The study contributes by identifying research gaps and future directions for developing digital career guidance media, particularly e-modules, to support more accessible, flexible, and context-responsive counseling services in contemporary education.

Keywords: Bibliometric Analysis; Guidance and Counseling; Career Guidance; Digital Learning; E-Module Development

INTRODUCTION

The pressing needs arising from the rapid globalization of technological advancements have generated significant initiatives, prompting contemporary education to shift its services to become more adaptive, innovative, and responsive to diverse student needs (Dianis Sviri & Arlinayanti, 2024; Suhada et al., 2025). Technology integration transcends the boundaries of traditional classroom learning experiences, infiltrating the optimization of guidance and counseling services, which are essential components in enhancing students' academic and personal development (Madeline, 2025; Zisquit et al., 2025). This scenario requires educators to provide guidance and counseling that aligns with the attributes of the digital generation, using interactive and versatile media. One potential innovation to explore is the implementation of e-modules as a systematically structured medium for guidance and counseling services, aiming to increase student engagement and facilitate autonomous, sustainable access to these essential services (Triyanto et al., 2022; Yue, 2023).

E-modules are digital pedagogical resources that can be used independently on electronic devices such as mobile phones and computers (Holisoh et al., 2023; Manggala et al., 2024; Maghfiroh & Ellianawati, 2026). The implementation of e-modules is considered more practical, adaptable, and easily accessible to educated individuals in various educational contexts

(Kismiati, 2020; Roussi et al., 2025). In the field of career guidance services, e-modules can help educated individuals access information on further education, the employment sector, and career development strategies. Furthermore, the application of digital media aligns with the attributes of contemporary education participants, who are inherently connected to technological and information advancements.

Career guidance services play a crucial role, especially for vocational high school students preparing for the transition to the labor market (Harianto et al., 2025; Tanjung et al., 2025). Students need services that help them understand their interests, talents, competencies, and job prospects aligned with their specific field of study. The delivery of engaging, understandable career guidance services is a crucial factor in enhancing students' readiness for future careers. Consequently, integrating e-modules into career guidance services can serve as an alternative medium that enhances the delivery of these services more effectively and innovatively (Salam et al., 2023; Raudasoja et al., 2024)

Several scholarly investigations have examined the integration of e-modules into tutoring and counseling services, with a particular emphasis on career guidance initiatives in educational settings. This body of research encompasses media formulation, e-module implementation, and the integration of digital technologies into guidance and counseling services. However, existing research remains fragmented across various academic sources, failing to provide a comprehensive overview of progress in this field. This situation underscores the need for research that systematically and purposefully describes the development of e-module research in career guidance services (Anwar et al., 2026). One methodological approach to ensure research progress is bibliometric analysis, which uses data derived from scientific publications (Salinas-Ríos & García López, 2022; Lazarides et al., 2023). Bibliometric analysis examines various metrics, including publication volume, authorship, keywords, citation counts, and interrelationships among researchers within a specific study domain. By applying bibliometric analysis, research progress can be explained, offering a comprehensive overview of emerging trends and focal points in the scientific landscape. Furthermore, findings from bibliometric analysis can facilitate the identification of research opportunities and highlight subjects that warrant further exploration in future investigations (Hassan & Duarte, 2024; Demir et al., 2025).

Although digital media and e-modules have been increasingly discussed in guidance and counseling services, existing studies remain limited in explaining how career guidance, counseling services, and digital learning are positioned within the broader research landscape. Most previous studies focus on product development or implementation, while fewer studies systematically map publication trends, dominant themes, influential sources, and emerging research directions in this field. Moreover, the literature is dispersed across counseling, educational technology, vocational education, psychology, and digital learning, resulting in limited understanding of whether career guidance e-modules represent a mature, central, or emerging area of inquiry. This gap highlights the need for bibliometric analysis to identify the intellectual structure and future direction of digital career guidance research. Therefore, this study contributes by mapping research trends in guidance and counseling services and linking the findings to the conceptual basis for developing career guidance e-modules.

Based on this characterization, this investigation examined the evolution of scholarly discourse on e-modules used in career guidance services through a bibliometric analysis framework. This investigation is anticipated to provide a comprehensive overview of prevailing research patterns, the progress of thematic studies, and emerging research trajectories within the domain. Furthermore, the findings of this study are expected to serve as valuable resources and references for future scholars seeking to advance research on e-modules and career guidance services. Consequently, this investigation is expected to make a significant contribution to advancing research on digital technology-oriented guidance and counseling.

METHODS

This study uses a bibliometric analysis within a quantitative descriptive framework to examine the development of scientific inquiry into e-modules in the context of career guidance services. Bibliometric analysis describes the evolution of academic publications by using bibliographic information such as publication volume, citation metrics, authorship, keywords, and interrelationships among researchers in a particular academic domain (Passas, 2024; Talmale & Motewar, 2025). This methodological approach was chosen because of its capacity to provide a systematic representation of research trajectories and progress as reflected in the corpus of published scientific literature (Oliva, 2026).

The research data sources were obtained from the Scopus and Web of Science databases, both of which provide broad coverage of international scientific publications and are respected within the academic community. The data retrieval process involved examining scientific articles related to career guidance services, digital media, and learning technology, using a systematic combination of keywords: (“career guidance” OR “career counseling” OR “vocational guidance”) AND (“digital learning” OR “learning systems” OR “educational computing” OR “digital media”). The article search was conducted systematically across author names, abstracts, and keywords, calibrated to the specified publication year range specified by the research requirements. The data collection phase was carried out through systematic identification and selection of articles related to the research focus. Articles that were not aligned with the research topic, contained duplicate information, documents lacking comprehensive metadata, processes deemed irrelevant, and articles outside the specified research scope were eliminated from the analysis process. Furthermore, articles that met the established inclusion criteria were used as research data and exported in CSV and RIS formats to facilitate bibliometric analysis. Article selection was carried out sequentially, including identification, screening, eligibility assessment, and inclusion in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework (Banozic et al., 2026; Tohirin, 2026). The PRISMA diagram provides a systematic overview of the article screening process leading to the final articles used in the study. The stages of article selection in this study are illustrated in Figure 1.

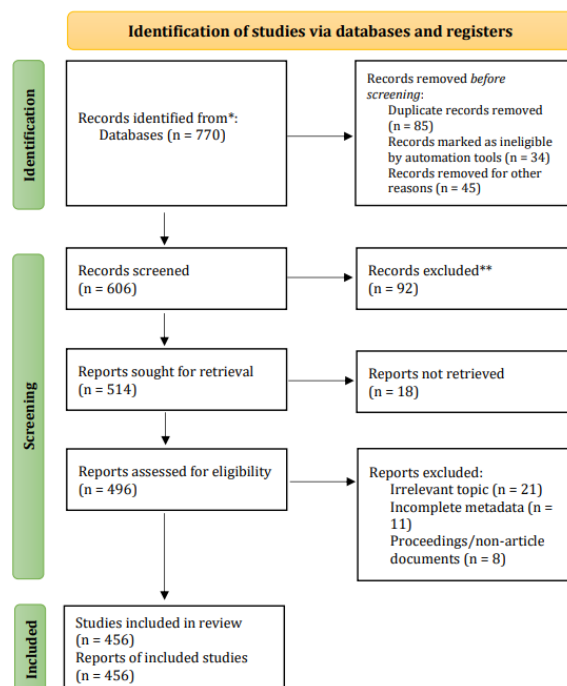


Figure 1. PRISMA Flowchart for Research Article Selection

The identification phase, as depicted in the PRISMA diagram, was carried out by systematically collecting scientific articles from the Scopus and Web of Science databases using keywords related to career guidance services and digital technologies. In the subsequent

screening phase, a thorough evaluation of the articles was conducted by aligning their titles, abstracts, and keywords with the designated research focus (Rožanc & Mernik, 2021). Following this, an eligibility assessment was conducted by examining the articles for their relevance to the topic, the completeness of their metadata, and their relationship to research themes encompassing career guidance, vocational guidance, digital learning, learning systems, and educational computing. In the final phase, articles that met all inclusion criteria were used as primary data for the bibliometric analysis. The study selection procedure for this systematic review began with the identification of 770 records from various databases. However, before further screening, 85 duplicate records were removed, along with 34 records deemed ineligible by the automated tool. Furthermore, an additional 45 records were removed for unspecified reasons. As a result, of the 606 records that underwent screening, 92 were excluded for irrelevance or non-compliance with other established criteria.

Subsequently, a total of 514 reports were retrieved; however, 18 were not successfully located, potentially due to access-related issues or other technical limitations. Among the 496 reports ultimately evaluated for eligibility, 21 were excluded for irrelevance, 11 for incomplete metadata, and 8 for failing to meet the criteria for scholarly articles, such as conference proceedings. Ultimately, after a careful screening and eligibility assessment process, a total of 456 studies were included in this review, with each report linked to an included study. This procedure underscores the importance of rigorous selection to ensure that only relevant, high-quality studies are included in the final analysis.

The collected bibliographic data were then analyzed using the VOSviewer application, which visualizes scientific networks based on co-authorship, co-occurrence, and citation analysis. Co-authorship analysis was used to explain collaboration patterns among authors and across states in scientific publications. Co-occurrence analysis was used to illustrate the relationships among key terms and the evolution of research themes, including career guidance, employment, vocational guidance, decision-making, learning systems, and educational computing. Simultaneously, citation analysis was applied to determine the impact of publications, authors, and documents that significantly advance research on digital technology-based career guidance services.

Data visualization in this investigation was achieved through various analytical methods using VOSViewer software, including network, overlay, and density visualization. Network visualization illustrates the connections and interconnections among authors, documents, publication sources, and research keywords. Overlay visualization facilitates the examination of research trend evolution by publication year, enabling the identification of which research themes are evolving (Mani & Dodd, 2022). Conversely, density visualization was used to ascertain the density and dominance of the most frequently encountered keywords in academic publications. In addition to these forms of visualization, this study further incorporates co-authorship, co-occurrence, and citation analysis to illustrate patterns of research collaboration, interrelationships between research topics, and the impact of publications in the career guidance services domain (Kim & Moon, 2024; Marzi et al., 2025).

The results of the bibliometric investigation are then systematically articulated to provide a comprehensive overview of the evolution of scholarship in career guidance services. The examination is conducted based on annual publication frequency, most prolific contributors, dominant publication sources, research collaboration patterns, citation frequency, and the most frequently used keywords in academic publications (Chou & Chow, 2024; Arifin, 2025). The research findings are then presented through tables, graphs, and research network visualizations to enhance data interpretation and explain the trajectory of research progress within the domain of inquiry.

RESULT AND DISCUSSION

Result

This research endeavor seeks to describe the evolution and patterns of inquiry in the domain of

guidance and counseling services through a bibliometric analysis of scholarly publications spanning 2018 to 2025. The findings from this analysis provide a broad overview of the efficacy of publications, the focal points of research themes, and the primary sources that significantly influence scholarly advancements in guidance and counseling. The results of the investigation are presented through analyses of bibliometric metrics, keyword frequencies, and the distribution of publication sources, thereby providing a comprehensive explanation of the intellectual framework in this academic field.

Growth and Characteristics of Scientific Publications in the Field of Guidance and Counseling

A preliminary examination was conducted to determine the overall attributes of the publications included in the research dataset. This examination included scientific productivity, patterns of author collaboration, and citation effectiveness in the domain of mentoring and counseling services.



Figure 2. Bibliometric Statistical Overview of Guidance and Counseling Research (2018–2025)

The analysis revealed 456 published documents across 294 journal sources, with contributions from 1,538 individual authors. The annual publication growth rate reached an impressive 18.89%, signaling a substantial increase in scholarly interest in guidance and counseling services over recent years. A collaboration index of 3.6 authors per document indicates that academic partnerships and inter-institutional collaborations facilitate research in this domain. Furthermore, 1,423 author-defined keywords and 40,306 cited references were identified, underscoring the strong theoretical framework and multidisciplinary connections in guidance and counseling research. The average age of the documents, at 3.82 years, suggests that this field of study is dynamic and largely influenced by contemporary research. Collectively, these findings confirm that research on guidance and counseling services is undergoing rapid expansion and attaining greater academic significance worldwide.

Dynamics of Research Publications in the Field of Guidance and Counseling

To provide a comprehensive overview of the evolution of scholarly inquiry in the domain of guidance and counseling services, a careful examination of the number of academic publications by year of publication during 2018–2025 was conducted. This examination sought to explain the growth rate of publications, alongside fluctuations in scholarly focus on guidance and counseling inquiry, particularly within the framework of educational advancement and digital technology integration. The findings derived from the annual publication trajectory analysis are depicted in Figure 3.

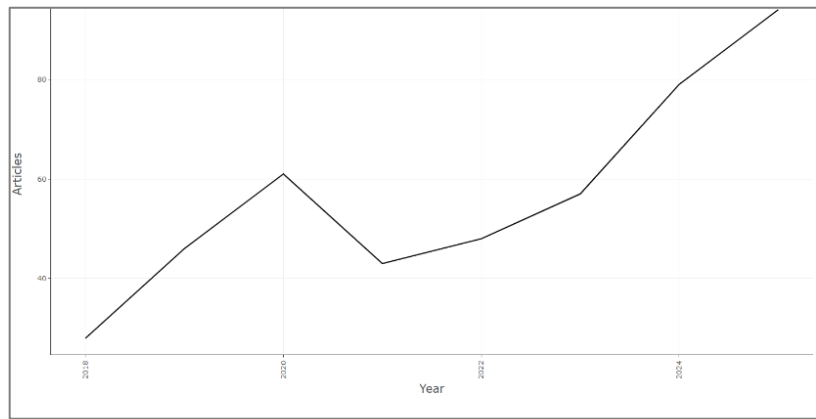


Figure 3. Growth Trend of Research Field Publications 2018–2025

According to Figure 3, the number of scientific publications in the guidance and counseling services domain shows a very substantial upward trajectory over the period 2018–2025. In 2018, the publication volume remained relatively modest, then gradually escalated until 2020. Despite a decline in publication volume in 2021, the research trend shows a resurgence in the following years, culminating in 2025. The consistent increase in publications since 2021 underscores the growing scientific interest in advancing guidance and counseling services, particularly through the incorporation of digital technologies, the enhancement of career services, and innovations in educational media and counseling methodologies. These observations indicate that the guidance and counseling discipline is undergoing dynamic evolution and has increasingly significant relevance in addressing contemporary educational demands and in developing learner attributes in the digital age.

Dominant Research Themes Based on Keyword Emergence Analysis

Keyword analysis was conducted to identify key research themes and the trajectory of scholarly inquiry in the guidance and counseling domain. The authors' keywords reflect the primary conceptual emphases in each of their publications.

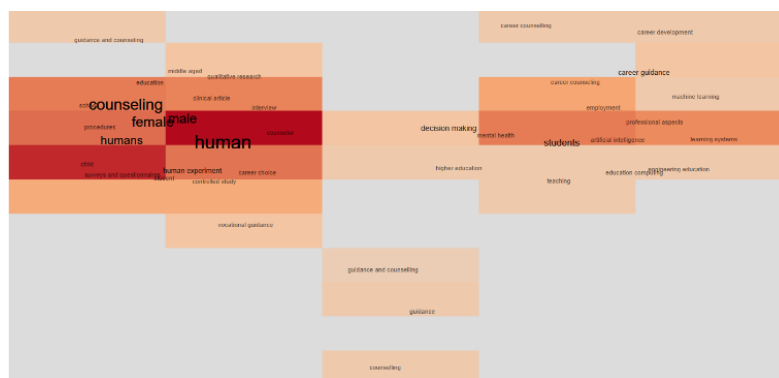


Figure 4. Keywords with the Highest Frequency of Appearance in the Study

The analysis showed that counseling-related keywords had the highest frequency, followed by terms such as human, student, and career guidance. These results indicate that the primary focus of research remains centered on individual learner development, the human psychological dimension, and the provision of career guidance services. The identification of keywords such as decision-making, adult categories, and gender (female and male) indicates a progressive trend in guidance and counseling research toward a personalized, context-based service framework. The prevalence of learner-related terminology reinforces the notion that educational settings remain the primary context for delivering guidance and counseling services. These findings illuminate the trend toward a transition to person-centered guidance and counseling practices and the enhancement of decision-making capabilities, which are essential foundations for the evolution of more practical and innovative tools in guidance and counseling services.

Primary Publication Sources in Guidance and Counseling Research

A publication source analysis was conducted to identify scientific journals that make a dominant contribution to the dissemination of knowledge in the field of guidance and counseling services. Identification of publication sources is important for understanding the centers of scientific development and the direction of research dissemination.

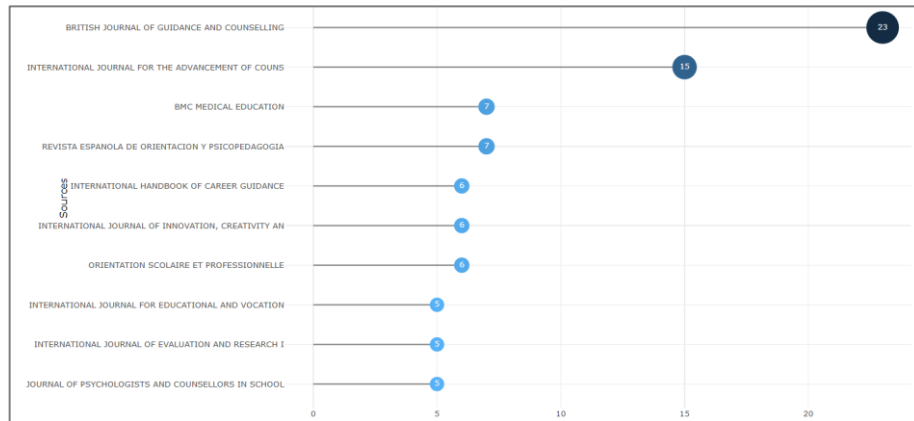


Figure 5. Distribution of Publications Based on Primary Journal Source

The analysis revealed that the British Journal of Guidance and Counseling was the most productive publication outlet, with the highest number of articles in the research dataset. The International Journal for the Advancement of Counseling followed suit, further demonstrating its significant contribution to the advancement of guidance and counseling scholarship. The presence of interdisciplinary journals such as BMC Medical Education and Revista Española de Orientación y Psicopedagogía indicates that research in guidance and counseling extends beyond traditional psychological frameworks, encompassing education, health, and innovative learning methodologies. The distribution of publication sources confirms that the field of guidance and counseling is experiencing cross-disciplinary expansion and is becoming increasingly intertwined with contemporary educational paradigms and learning technologies.

Conceptual Structure of Research Based on Thematic Map

To understand the trajectory of scientific progress and the interrelationships between research themes in the guidance and counseling domain, a conceptual structural analysis was conducted using a Thematic Map. The purpose of this analysis was to determine the strategic position of each research theme based on its centrality (level of significance) and density (level of conceptual maturity). Through this mapping process, it became feasible to describe research themes as key catalysts, foundational themes, niche themes, themes in development, and themes in decline.

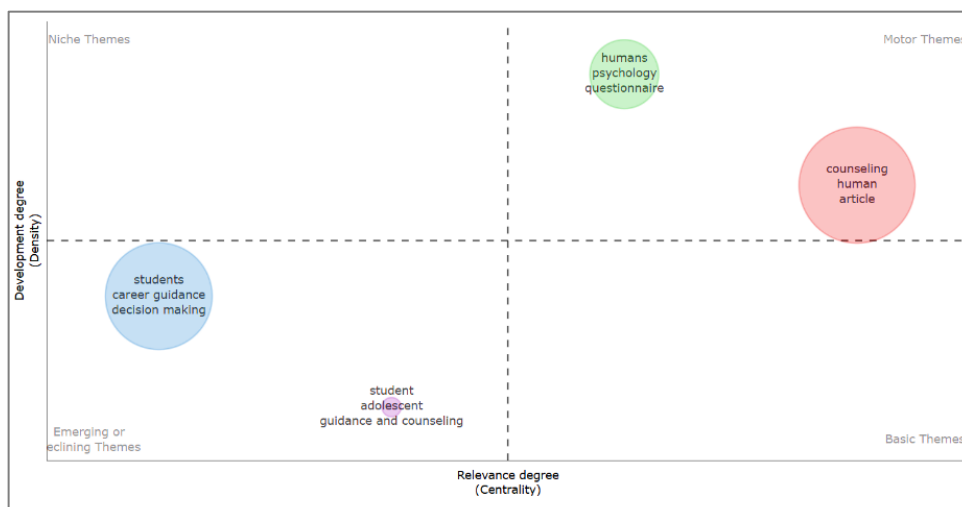


Figure 6. Thematic Map of Guidance and Counseling Research

According to Figure 6, the conceptual framework of guidance and counseling research is

depicted in four main quadrants that summarize the developmental attributes of the research themes. In the Motor Themes quadrant (upper right), topics such as counseling, individuals, and scientific articles exhibit increasing centrality and density metrics. This positioning indicates that the themes are taking on a significant role while simultaneously demonstrating substantial conceptual maturation. Consequently, these themes emerge as focal points of research interest and serve as major catalysts for advancement in the guidance and counseling domain. The Niche Themes quadrant (upper left) is characterized by themes related to psychology, questionnaires, and various methodological considerations. The themes in this quadrant exhibit significant conceptual advancement; however, their interconnections with other themes remain relatively limited. This phenomenon illustrates the existence of in-depth specialization in research, particularly in psychological methodology and the evolution of evaluative instruments in counseling services.

Furthermore, in the Basic Themes quadrant (bottom right), one can observe themes such as students, adolescents, and guidance and counseling. These themes are highly relevant to the research domain; however, the level of conceptual advancement remains moderate. The positioning indicates that these themes serve as a foundational foundation for research that continues to be utilized while simultaneously presenting avenues for further inquiry and innovation. In contrast, the Emerging or Declining Themes quadrant (found in the bottom left) includes themes such as career guidance and decision-making. This positioning implies that the themes are currently in transition, signaling a potential shift toward new research trajectories or a decline in the intensity of scholarly inquiry. This suggests a reorientation of research emphasis toward more adaptive counseling service frameworks that align with the demands of individual career development and decision-making. Collectively, the thematic map illustrates that guidance and counseling research is undergoing a metamorphosis toward integrating psychological methodologies, career development, and learner-centered services. These results simultaneously affirm the potential for continued research on innovations in technology-mediated counseling services and contemporary educational environments.

Gap Analysis and Further Research Opportunities

Findings from the bibliometric analysis indicate that the guidance and counseling research domain remains influenced by traditional counseling methodologies and comprehensive psychological investigations. In contrast, the integration of digital technology into career guidance services has not yet made significant progress. Topics such as career guidance and decision-making, categorized as emerging themes, demonstrate that technology-enhanced counseling services constitute a nascent and evolving research field. This situation supports the existence of significant opportunities to advance e-module career guidance media, which serve as an innovative approach to providing more interactive, adaptable, and congruent guidance and counseling services that align with the characteristics of the digital generation. Consequently, the advancement of e-modules is not only relevant to contemporary educational transformation trends but also has the potential to serve as a strategic solution to enhance the efficacy of tutoring and counseling services in the digital era (Astuti et al., 2022; Irene Maya Simon et al., 2025).

Discussion

The evolution of scientific research in guidance and counseling services between 2018 and 2025 indicates that the field is undergoing a significant transformation in response to shifting contemporary educational paradigms. The increasing volume of publications each year demonstrates that guidance and counseling services are no longer considered merely an additional component in the educational landscape, but have evolved into a fundamental element supporting students' academic, personal, social, and career readiness. The upward trajectory of research activity also signals a growing demand for services adept at addressing the complexities posed by technological advances, the evolving labor market, and the increasingly dynamic attributes of the digital generation (Fitri et al., 2023; Anggia & Anggia, 2025). This pattern is in line with recent bibliometric and review studies showing that guidance and counseling research

has expanded beyond conventional face-to-face services toward digital, career-oriented, and student-centered models. Xie (2025), for example, found that career guidance research in higher education increasingly emphasizes employability, career adaptability, and student development, while Herath et al. (2024) showed that computer-assisted career guidance tools are becoming more relevant in supporting students' career path planning. Therefore, the growth trend found in this study should not be interpreted merely as an increase in publication quantity, but as an indication of a broader transformation in the intellectual orientation of guidance and counseling scholarship.

Findings from keyword analysis indicate that the research focuses on the transition to a more learner-centered service paradigm, emphasizing enhanced decision-making competencies, career readiness, and personal growth. This situation implies that contemporary guidance and counseling services not only address psychological issues but also significantly enhance students' adaptive abilities to navigate the complexities of life and future needs (Sitinjak & Canu, 2023). This shift in emphasis demonstrates that counseling services are progressively oriented toward prevention strategies, potential development, and sustainable individual empowerment. The dominance of keywords such as counseling, students, career guidance, and decision-making further confirms that the field is increasingly concerned with students' agency in making educational and occupational choices. In this sense, career guidance is no longer limited to providing information about jobs or further education; rather, it has become a developmental process that helps learners understand their interests, competencies, values, and opportunities. This interpretation is consistent with Raudasoja et al. (2024), who emphasized the importance of holistic student-centered guidance in vocational education, and with studies on digital career guidance showing that effective guidance must combine information access, self-reflection, and structured decision-making support.

Furthermore, findings from the thematic map indicate a trend toward integrating psychological paradigms and educational technology to improve guidance and counseling services. The emergence of themes related to career guidance, decision-making processes, and digital learning signals a shift in research focus toward creating technology-mediated services that are more adaptable and contextually relevant. This evolution is crucial, as the characteristics of learners in the digital age require services that are accessible, interactive, and capable of supporting collaborative and autonomous learning (Raudasoja et al., 2024). Consequently, the integration of digital media into guidance and counseling services is increasingly recognized as a crucial requirement for enhancing the efficacy of contemporary educational services. However, the position of career guidance and decision-making as emerging themes needs to be interpreted carefully. The bibliometric findings do not necessarily indicate that e-modules have already become the dominant topic in guidance and counseling research. Rather, the results show that career guidance, decision-making, digital learning, and student-centered services are developing themes that can provide a conceptual basis for future e-module development. Thus, the argument for developing career guidance e-modules should be positioned as a research implication derived from emerging bibliometric trends, not as a claim that e-modules already dominate the current literature. This distinction is important to avoid overgeneralization and to strengthen the methodological caution of the study.

The findings also correspond with systematic reviews on technology-assisted and online counseling, which suggest that digital tools may increase accessibility, flexibility, and personalization of counseling services. Nevertheless, previous studies also caution that the success of digital counseling media depends on the quality of instructional design, students' digital readiness, counselor competence, and institutional support. Therefore, the present study contributes by identifying a bibliometric foundation for e-module development, while also acknowledging that bibliometric evidence alone cannot prove the effectiveness of an e-module. Future research must still conduct design validation, usability testing, and empirical evaluation to determine whether career guidance e-modules improve students' career awareness, career decision-making, and career planning.

The results further demonstrate that guidance and counseling services in contemporary society have evolved in a multidisciplinary manner, incorporating contributions from education, learning technology, and advances in digital media. This implies that innovation in service delivery no longer relies solely on theoretical frameworks; rather, it requires integrating media resources to enhance learner engagement and improve their overall educational experience. Within this framework, the formulation of e-modules dedicated to career guidance emerges as a significant innovation, possessing considerable potential to facilitate more effective, systematic, and adaptive counseling services tailored to learners' specific needs (Harsani et al., 2022; Raudasoja et al., 2024). This multidisciplinary development is particularly relevant for vocational and secondary education contexts, where students need guidance that connects self-understanding, learning pathways, occupational information, and labor-market demands. In such contexts, e-modules can serve as complementary media that support counselors in delivering structured career guidance materials. However, digitalization should not be understood merely as converting printed counseling materials into electronic format. A high-quality career guidance e-module should be pedagogically structured, interactive, reflective, and developmentally appropriate. It should include self-assessment activities, career exploration tasks, decision-making exercises, reflection sheets, and follow-up guidance activities that can be integrated with professional counseling services.

Compared with previous studies, the novelty of this research lies in its attempt to connect bibliometric mapping with the conceptual foundation for developing career guidance e-module media. Previous bibliometric studies generally focus on mapping publication productivity, author collaboration, keyword networks, citation patterns, or thematic evolution in counseling and career guidance. Meanwhile, systematic reviews on digital or computer-assisted career guidance tend to focus on the effectiveness, features, or technological applications of particular tools. This study bridges these two orientations by using bibliometric evidence to identify the intellectual structure of guidance and counseling research and translating the findings into implications for future digital media development. Therefore, the contribution of this study is not merely descriptive, but also developmental, because it provides an evidence-based rationale for designing career guidance e-modules that respond to emerging themes in the literature.

The theoretical implication of this study is that guidance and counseling research is moving toward the convergence of psychological support, career development, decision-making, and digital learning. This convergence suggests that future counseling models need to integrate humanistic, developmental, and technological perspectives. Practically, the findings may help school counselors, vocational educators, and educational technology developers design more responsive career guidance media. E-modules can be used as supplementary tools to support face-to-face counseling, independent learning, and structured career exploration. Nevertheless, e-modules should not replace the role of professional counselors. Instead, they should function as supportive media that help counselors provide more systematic, accessible, and student-centered services.

Overall, the findings of this investigation demonstrate that the trajectory of progress in guidance and counseling research is evolving toward an increasingly personalized, technology-driven, and service-oriented framework to enhance learners' career readiness. These findings simultaneously underscore the importance of innovative digital service platforms as a critical component in transforming guidance and counseling services in the contemporary educational landscape. Consequently, the formulation of career guidance e-modules not only aligns with prevailing global research paradigms but also represents a strategic initiative to develop counseling services better aligned with the needs of future learners. At the same time, the results should be understood as a starting point for further empirical work. Bibliometric analysis is useful for identifying research trends, dominant themes, and emerging topics, but it cannot directly determine the effectiveness of a digital product. Therefore, future studies should proceed to research and development designs that develop, validate, and test career guidance e-modules with students and counselors. Such studies should examine not only usability and

accessibility, but also the impact of e-modules on students' career awareness, career decision-making, career planning, and readiness for further education or employment. By combining bibliometric evidence with product development and empirical validation, future research can produce career guidance media that are theoretically grounded, methodologically sound, and practically useful in educational counseling settings.

CONCLUSION

This bibliometric study provides a systematic overview of the development of guidance and counseling research, particularly in relation to career guidance and digital learning, based on 456 documents retrieved from Scopus and Web of Science during the 2018–2025 period. The findings indicate that this research field has experienced substantial growth, with an annual growth rate of 18.89%, involving 1,538 authors across 294 publication sources. Keyword and thematic analyses show that counseling, students, career guidance, and decision-making are the dominant themes, while career guidance and decision-making appear as emerging themes that indicate promising directions for future research. These findings suggest that guidance and counseling scholarship is shifting from conventional service models toward more student-centered, personalized, and technology-supported approaches. In practical terms, the results provide a bibliometric foundation for developing career guidance e-modules as flexible, accessible, and context-responsive media to support students' career readiness in digital learning environments. However, this study has several limitations. The analysis was limited to Scopus and Web of Science databases, meaning that relevant studies indexed in other databases may not have been included. The results may also be influenced by the keyword combinations used in the search strategy, metadata completeness, and variations in author keywords across publications. In addition, the study relied on bibliometric indicators and did not conduct full-text content validation of each article. Therefore, future research should expand the database coverage, refine search terms, combine bibliometric analysis with systematic content review, and proceed to design, validate, and test career guidance e-modules in real counseling practice.

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