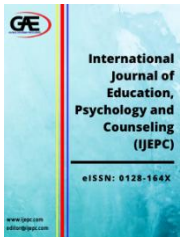
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RESEARCH TRENDS IN PROFESSIONAL DEVELOPMENT FOR NOVICE TEACHERS: A BIBLIOMETRIC INSIGHT

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Abstract:

Professional development plays a pivotal role in strengthening novice teachers' professional competence, instructional effectiveness, and long-term career sustainability. Despite the growing body of literature, a comprehensive understanding of the intellectual landscape, research evolution, and emerging trends in this field remains limited. This study aims to map the research trends in professional development for novice teachers through a bibliometric analysis of scholarly publications indexed in the Scopus database. Data were retrieved using an advanced search strategy based on the keywords "professional development" and "novice teachers". Following a rigorous screening process, 222 peer-reviewed journal articles published between 2022 and August 2026 were selected for analysis. The dataset was analysed using Scopus Analyzer for publication and citation performance, OpenRefine for data cleaning and standardisation, and VOSviewer (version 1.6.20) for network visualisation, including keyword co-occurrence and country co-authorship analyses. The findings indicate a steady increase in publication output, with the United States emerging as the most productive country, while Germany recorded the highest citation impact. Keyword analysis identified professional development, novice teachers, teacher education, induction, and mentoring as dominant research themes, whereas co-authorship analysis revealed expanding international collaboration. These findings provide a comprehensive overview of the field, identify emerging research directions, and offer valuable insights for researchers, educators, and policymakers seeking

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to strengthen evidence-based professional development initiatives for novice teachers.

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Keyword:

Bibliometric Analysis, Education, Novice Teachers, Professional Development

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Introduction

Research on supervision and professional development for novice teachers shows that the field increasingly treats early-career support as a systemic condition for teacher quality, retention, and student learning rather than as a short transitional phase. Across international reviews, meta-analyses, bibliometric studies, and context-specific investigations, the strongest pattern is that novice teachers benefit most when supervision, mentoring, induction, and school-based learning are organized as sustained, relational, and context-responsive supports rather than isolated orientation activities (Keese et al., 2022; Kereyeva et al., 2025; Yii et al., 2025).

The contemporary literature positions novice teacher development at the centre of educational improvement because teaching quality early in a career shape both long-term professional trajectories and immediate classroom outcomes (Kereyeva et al., 2025). Comparative and international scholarship shows that high-performing systems tend to combine academic preparation with practical experience, structured induction, mentoring, collaborative learning, and clear career progression, suggesting that professional growth is most effective when embedded across the entry-to-practice continuum rather than confined to pre-service education (Kereyeva et al., 2025). This orientation also reflects expansion in the research base itself: bibliometric evidence covering 1945–2024 identifies sustained growth in publications on novice teachers, with mentoring, teacher identity, professional development, and professional practice emerging as prominent themes (Yii et al., 2025). Newer trends also point to the increasing complexity of novice teachers' roles, with growing attention to emotional intelligence, digital fluency, technology integration, and adaptive support models (Yii et al., 2025).

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A major research trend is the consolidation of evidence that induction and mentoring have measurable benefits, although the magnitude and mechanisms of those benefits vary across studies and settings. A meta-analysis of studies published from 2010 to 2019 found statistically significant positive effects of induction and mentoring programs on teacher retention, teacher efficacy, student achievement, and related outcomes, indicating that formalized support is associated with benefits for both teachers and learners (Keese et al., 2022). Yet the same meta-analysis found that program "comprehensiveness" did not significantly predict stronger effects, which has shifted the research conversation away from simple program expansion toward questions of quality, coherence, and implementation (Keese et al., 2022). More recent syntheses reinforce this point by arguing that induction is not effective merely because it exists; its impact depends on how professional, social, and personal support are integrated and aligned with the wider school environment (Ma'rof et al., 2026). This emphasis on design quality is echoed in studies of mentoring practice showing that some mentoring behaviors predict retention while others do not, making targeted program construction more important than assuming that all mentoring structures are equally beneficial (Maready et al., 2021).

Another strong trend is the movement from technical supervision models toward more relational, developmental, and holistic conceptions of support. Qualitative and mixed-methods studies increasingly frame mentors as providers of emotional, professional, and pedagogical support, and these multiple forms of support are linked to novice teachers' resilience, well-being, self-efficacy, and professional identity formation (A.-K. Diab & Green, 2024). Induction workshops and communities of practice are also treated as important social infrastructures because they foster belonging, collective resilience, collaboration, and peer learning during the induction year (A.-K. Diab & Green, 2024). Related reviews of mentorship in teacher education show that mentoring supports professional identity, instructional skills, classroom management, reflection, job satisfaction, and long-term commitment, while also helping novices bridge the persistent gap between theory and classroom practice (Mwesigwa & Nakato, 2025). Research on beginner teachers' autonomy extends this line of argument by showing that effective mentoring positively influences self-directedness and helps early-career teachers cope with the practical demands of teaching that pre-service preparation alone does not resolve (Mokoena & Van Tonder, 2024).

Alongside mentoring, the supervision literature increasingly emphasizes clinical, academic, and instructional supervision as workplace-based mechanisms for developing competence when they are conducted as cycles of observation, feedback, dialogue, and follow-up. Studies from Tanzania and Indonesia report that clinical supervision supports competencies such as lesson organization, subject knowledge, interactive pedagogy, assessment practice, and broader pedagogic, social, personality, and professional development (Arifin et al., 2023; Chaula et al., 2024). Research on school leaders' academic supervision similarly describes supervision as encompassing observation, coaching, workshops, performance assessment, technical guidance, and seminars, suggesting that supervision is increasingly conceptualized as an umbrella for continuous professional learning rather than only as inspection (Fujiono et al., 2023). Other studies show that teachers respond more positively when supervision is collaborative and supportive, because constructive feedback can strengthen teaching skill, communication, confidence, motivation, and professional attitudes, whereas time constraints and overly evaluative approaches reduce its developmental value (Novianti et al., 2024). This explains why recent supervision scholarship also calls for reflective supervision, strengthened supervisory capacity among principals, and individualized frequencies of supervisory contact

that better match teachers' specific needs (Abdurahman et al., 2025; Desrianti & Asmendri, 2024).

A further research trend is the widening of the support ecosystem beyond the mentor–novice dyad to include principals, peers, universities, families, and policy systems. Studies of supportive ecosystems argue that school culture, principal involvement, peer support, and even family and cultural networks all shape novice teachers' resilience and success, indicating that effective professional development is relationally distributed across multiple actors and settings (A.-K. Diab & Green, 2024). University–school partnerships have therefore gained attention as promising structures for combining strategic mentoring, extensive professional development, and competency-based micro credentials, especially where local systems seek to improve effectiveness and retention simultaneously (Eirich & Wildesen, 2023). Research during crisis conditions also highlights the decisive influence of school leadership and administrative care, showing that comprehensive mentoring and induction can reduce turnover, while weak or inconsistent support leaves novices more vulnerable to transfer or exit (Fallen & Mullen, 2022). In some contexts, the literature now proposes national mentorship frameworks with explicit mentor selection, training, ratios, assessment schedules, and one-year duration requirements to replace informal, inconsistent arrangements with more equitable and scalable systems (Ifarajimi et al., 2025).

Recent studies also reveal an important shift toward innovation, contextual diversity, and stronger evidence standards in novice teacher research. Emerging work highlights e-mentoring, online support, and technology-rich professional development as promising responses to rural isolation, digital teaching demands, and changing delivery models, with evidence that e-mentoring can reduce intentions to leave and that online modalities are becoming a more visible part of teacher development design (Rehman et al., 2025; Yii et al., 2025). In STEM-related professional development, current reviews emphasize interdisciplinary integration, curriculum innovation, technological proficiency, longer training periods, and more targeted support for regional challenges, showing how professional development literature is becoming more specialized and responsive to subject-specific demands (Rehman et al., 2025). At the same time, the evidence base remains uneven: recurring gaps include limited longitudinal research, reliance on interviews and surveys, uneven methodological robustness, and insufficient attention to leadership, policy, resources, and underrepresented linguistic or geographic contexts (Rehman et al., 2025; Yii et al., 2025).

Although previous bibliometric research has mapped the broader landscape of novice-teacher scholarship, limited attention has been devoted specifically to the structure and development of research on professional development for novice teachers. Existing bibliometric studies encompass a wide range of issues associated with novice teachers, including identity, mentoring, classroom challenges, professional practice, and retention, without isolating professional development as a distinct domain of inquiry. Consequently, the recent evolution of this specialised literature—particularly its publication growth, citation influence, geographical distribution, thematic structure, and international collaboration patterns—remains insufficiently synthesised. Addressing this gap, the present study provides a focused bibliometric analysis of Scopus-indexed research published between 2022 and August 2026 to clarify how professional development for novice teachers has evolved and to identify emerging directions for future research.

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Research Questions

- **RQ1:** How has the volume of scholarly publications on professional development for novice teachers evolved between 2022 and August 2026?
- **RQ2:** Which publications have exerted the greatest scholarly influence in professional development for novice teachers**,** as reflected by citation impact?
- **RQ3:** Which countries are the leading contributors to professional development for novice teacher research in terms of publication productivity, citation impact, and international collaboration?
- **RQ4:** What are the dominant and emerging research themes in professional development for novice teachers, as identified through keyword co-occurrence analysis?
- **RQ5:** What are the patterns of international research collaboration in professional development for novice teacher research, as revealed by country-level co-authorship networks?

Methodology

Bibliometric analysis is a quantitative research approach that systematically collects, organizes, and evaluates bibliographic information from scholarly publications to reveal the intellectual structure and developmental trajectory of a research field (Alves et al., 2021; Assyakur & Rosa, 2022; Verbeek et al., 2002). Beyond providing descriptive indicators, such as publication sources, annual publication trends, and influential authors (Wu & Wu, 2017), bibliometric analysis incorporates advanced analytical techniques, including co-citation analysis, bibliographic coupling, co-authorship analysis, and keyword co-occurrence analysis, to uncover knowledge structures, research networks, and emerging thematic trends. Consequently, a rigorous bibliometric review requires a systematic and iterative process involving the careful formulation of search keywords, comprehensive database retrieval, and critical data screening and analysis. Such a structured approach enhances the reliability, transparency, and reproducibility of the findings while facilitating the development of a comprehensive understanding of the research landscape (Fahimnia et al., 2015).

In line with these principles, the present study focused exclusively on high-quality scholarly publications to ensure a robust representation of the knowledge base underpinning research on professional development for novice teachers. Scopus was selected as the primary source for data retrieval because of its extensive coverage of high-impact, peer-reviewed literature and its widespread recognition as a reliable database for bibliometric research. To maintain methodological rigor and data consistency, only open access peer-reviewed journal articles were included, whereas books, book chapters, conference proceedings, editorials, and lecture notes were excluded from the analysis. Using Elsevier's Scopus database, publications from 2022 to August 2026 were retrieved and subsequently analysed to identify publication patterns, influential contributors, collaboration networks, and the evolving intellectual structure of the research domain (Al-Khoury et al., 2022; di Stefano et al., 2010; Khiste & Paithankar, 2017; Gu et al., 2019).

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Data Search Strategy

The bibliometric data collection followed a structured workflow to enhance transparency and reproducibility (Figure 1). The search was conducted in Scopus and restricted to English-language journal articles within the Social Sciences subject area. The study reports a publication window from 2022 to August 2026. Searches were performed in the TITLE-ABS-KEY fields using the core terms "professional development" and "novice teacher*". The search generated 1,383 records, extracted on 6 August 2026. Records were subsequently screened for direct relevance to professional development among novice teachers.

Following retrieval, the records were screened against the study's inclusion criteria. Of the 1,383 records identified, 1,161 were excluded as ineligible or insufficiently relevant, leaving 222 publications for the final bibliometric analysis. The final dataset therefore represents 16.05% of the initially retrieved records. This screening step reduced conceptual noise and produced a more focused corpus for analysing publication trends, citation patterns, collaboration networks, and thematic structure.

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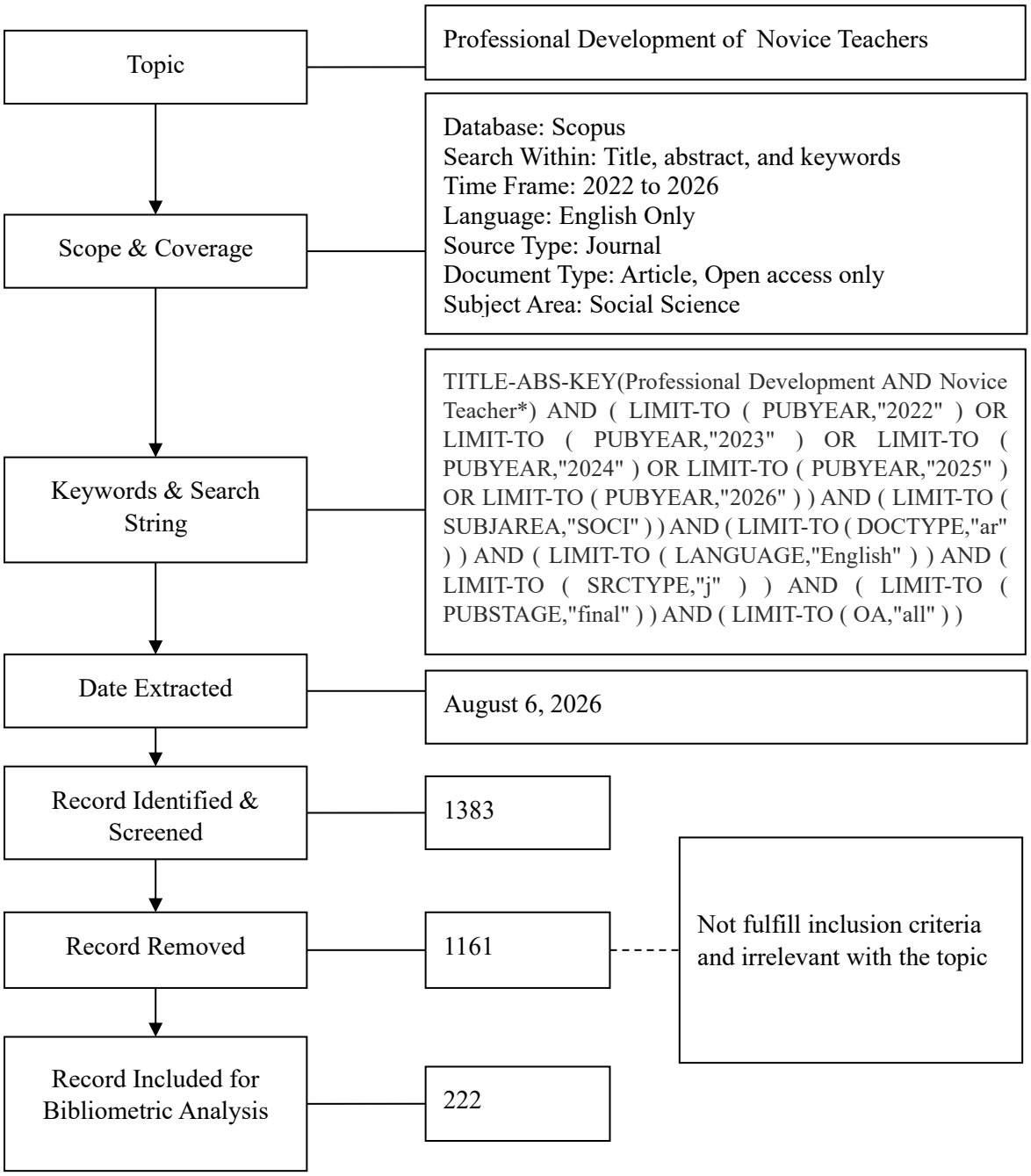


Figure 1. Data Collection Workflow

Data Analysis

VOSviewer is widely used to construct, visualize, and explore bibliometric networks (van Eck & Waltman, 2010). It supports analyses such as co-authorship, co-citation, bibliographic coupling, citation analysis, and keyword co-occurrence, enabling researchers to examine collaboration patterns and the conceptual structure of a research field. In this study, VOSviewer

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was used specifically for network-based analyses relevant to the stated research questions (van Eck & Waltman, 2010).

VOSviewer converts bibliometric relationships into network visualisations in which the proximity and linkages among items help reveal clusters and patterns. These maps can be used to examine relationships among publications, authors, countries, and keywords. Its normalisation and clustering procedures are particularly useful for interpreting bibliometric networks containing items with different publication or citation frequencies.

Bibliographic records were retrieved from Scopus in plain-text format and included publication year, article title, author names, source title, citation counts, and author keywords. The final dataset comprised 222 publications from 2022 to August 2026. Scopus Analyzer was used for publication and citation indicators, Open Refine for data cleaning and standardisation, and VOSviewer version 1.6.20 for keyword co-occurrence and country co-authorship analyses.

VOSviewer applies the Visualization of Similarities (VOS) mapping approach to represent bibliometric relationships in a low-dimensional space (van Eck & Waltman, 2010). In the present analysis, association-strength normalisation was used to account for differences in occurrence frequencies and to support interpretable network maps (van Eck & Waltman, 2010;Appio et al., 2014)

$$AS_{ij} = \frac{C_{ij}}{w_i w_j}$$

Under association-strength normalisation, the relatedness of two items is assessed relative to their observed and expected co-occurrence frequencies (Van Eck & Waltman, 2007).

Results and Discussion

RQ1: How has the volume of scholarly publications on *professional development for novice teachers* evolved between *2022 and August 2026*?

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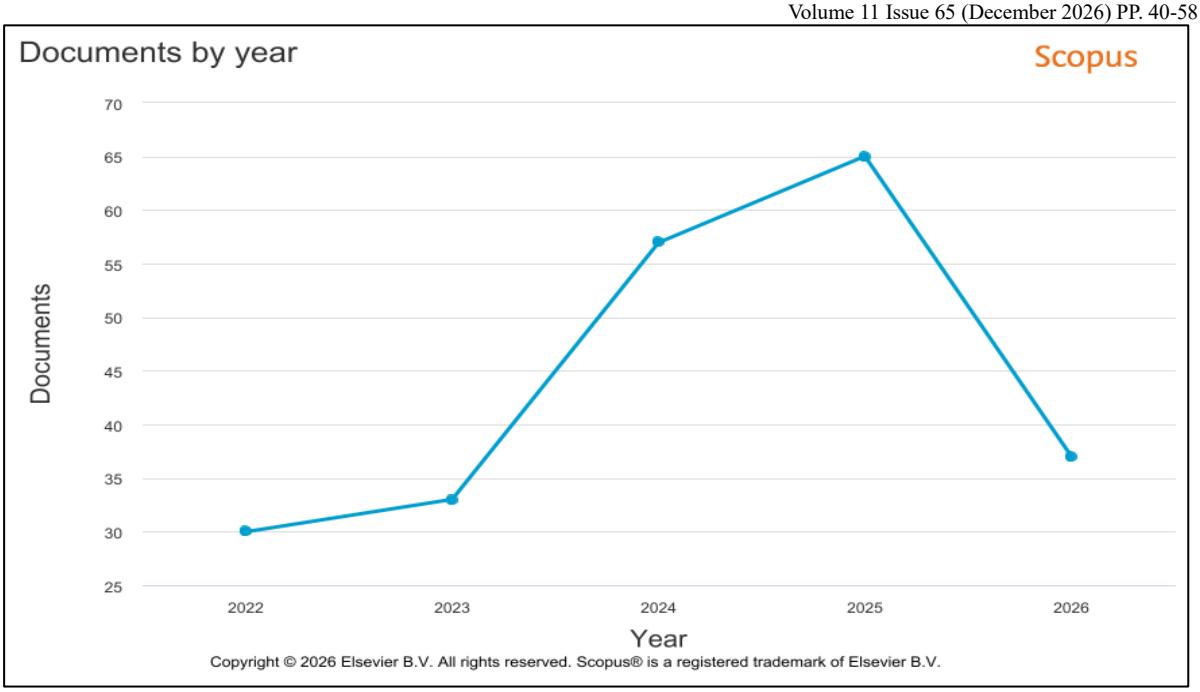


Figure 2. Publication Trend From 2022 To August 2026

Table 1. Annual Distribution of Publications from Year 2022 To August 2026

Year	No. of publications	Percentage
2026	37	16.67%
2025	65	29.28%
2024	57	25.68%
2023	33	14.86%
2022	30	13.51%

The annual publication trend shows substantial growth in research on professional development for novice teachers between 2022 and August 2026. Output increased from 30 publications in 2022 to 33 in 2023, followed by a marked rise to 57 in 2024 and 65 in 2025. The 37 publications recorded for 2026 represent only January–August and are therefore not directly comparable with complete calendar years. Accordingly, the 2026 count should be interpreted as partial-year output rather than evidence of declining scholarly interest.

The increase in publication activity indicates growing scholarly attention to professional development during the early career stage. The literature reviewed in this study links this attention to recurring concerns about induction, mentoring, professional learning, teacher resilience, professional identity, digital competence, and school-based support. However, the bibliometric data alone do not establish the causal factors responsible for annual publication growth; these contextual explanations should therefore be interpreted as literature-informed rather than as direct results of the bibliometric analysis.

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RQ2: Which Publications Have Exerted the Greatest Scholarly Influence in Professional Development for Novice Teachers, As Reflected by Citation Impact?

Citation analysis shows that the most highly cited publications in the dataset address teacher expertise, reflective practice, preparedness, and professional support. Bastian et al. (2022) received the highest citation count (75), followed by Cevikbas et al. (2024) with 47 citations and Keller et al. (2022) with 44. These citation counts indicate comparatively strong scholarly visibility within the study's dataset. Because citation accumulation is time-dependent, however, citation counts should not be treated as direct measures of methodological quality or research validity.

The highly cited publications also indicate diversification beyond conventional induction and mentoring. Studies published from 2023 onward address resilience, professional identity, collaborative learning, social support, and technology-enhanced professional development (Admiraal et al., 2023; Arefian et al., 2026; Aslam et al., 2023; A. Diab & Green, 2024; Groenewald & Arnold, 2025; Jin et al., 2025). The presence of research on artificial intelligence, ChatGPT, and online professional learning communities suggests that digital transformation is becoming more visible within the field. Given the recency of several of these publications, their citation counts should be interpreted cautiously and in relation to publication year.

Table 2. Top 10 Publications Ranked by Citation Count

No.	Authors	Title	Year	Source title	Cited by
1	Bastian et al., 2022	Teacher noticing and its growth toward expertise: an expert–novice comparison with pre-service and in-service secondary mathematics teachers	2022	Educational Studies in Mathematics	75
2	Cevikbas et al., 2024	Empirical research on teacher competence in mathematics lesson planning: recent developments	2024	ZDM - Mathematics Education	47
3	Keller et al., 2022	Noticing and weighing alternatives in the reflection of regular classroom teaching: Evidence of expertise using mobile eye-tracking	2022	Instructional Science	44
4	Aslam et al., 2023	Challenges in Implementing STEM Education: Insights from Novice STEM Teachers in Developing Countries	2023	Sustainability (Switzerland)	43
5	Admiraal et al., 2023	Mind the gap: Early-career teachers' level of preparedness, professional development, working conditions, and feelings of distress	2023	Social Psychology of Education	41

6	Diab & Green, 2024	Cultivating Resilience and Success: Support Systems for Novice Teachers in Diverse Contexts	2024	Education Sciences	39
7	Ferry & Westerlund, 2023	Professional networks, collegial support, and school leaders: How physical education teachers manage reality shock, marginalization, and isolation in a decentralized school system	2023	European Physical Education Review	35
8	Arefian et al., 2026	Understanding EFL teachers' experiences of ChatGPT-driven collaborative reflective practice through a community of practice lens	2026	Innovation in Language Learning and Teaching	33
9	Groenewald & Arnold, 2025	Teacher professional identity: agentic actions of a novice teacher in a challenging school context	2025	Teachers and Teaching: Theory and Practice	31
10	Jin et al., 2025	Knowledge (Co-)Construction Among Artificial Intelligence, Novice Teachers, and Experienced Teachers in an Online Professional Learning Community	2025	Journal of Computer Assisted Learning	30

RQ3: Which Countries Are the Leading Contributors to Professional Development for Novice Teacher Research in Terms of Publication Productivity, Citation Impact, And International Collaboration?

The geographical distribution of publications shows that research on professional development for novice teachers is concentrated in several countries. The United States was the leading contributor with 34 publications (15.32%), followed by China with 23 (10.36%). The Netherlands contributed 15 publications (6.76%), while Indonesia, Malaysia, and South Africa each contributed 14 (6.31%). Germany produced 13 publications (5.86%), the United Kingdom 12 (5.41%), and Australia and Iran 11 each (4.95%). These figures describe publication productivity within the final dataset and should not, by themselves, be interpreted as evidence of national research quality or policy effectiveness.

The representation of Indonesia, Malaysia, South Africa, and Iran among the more productive countries indicates that scholarship in this area extends beyond North American and European contexts. This geographical spread is important because novice-teacher professional development is shaped by different policy, institutional, and school contexts. Further comparative research could examine how national and local conditions influence the design and outcomes of induction, mentoring, and continuing professional development.

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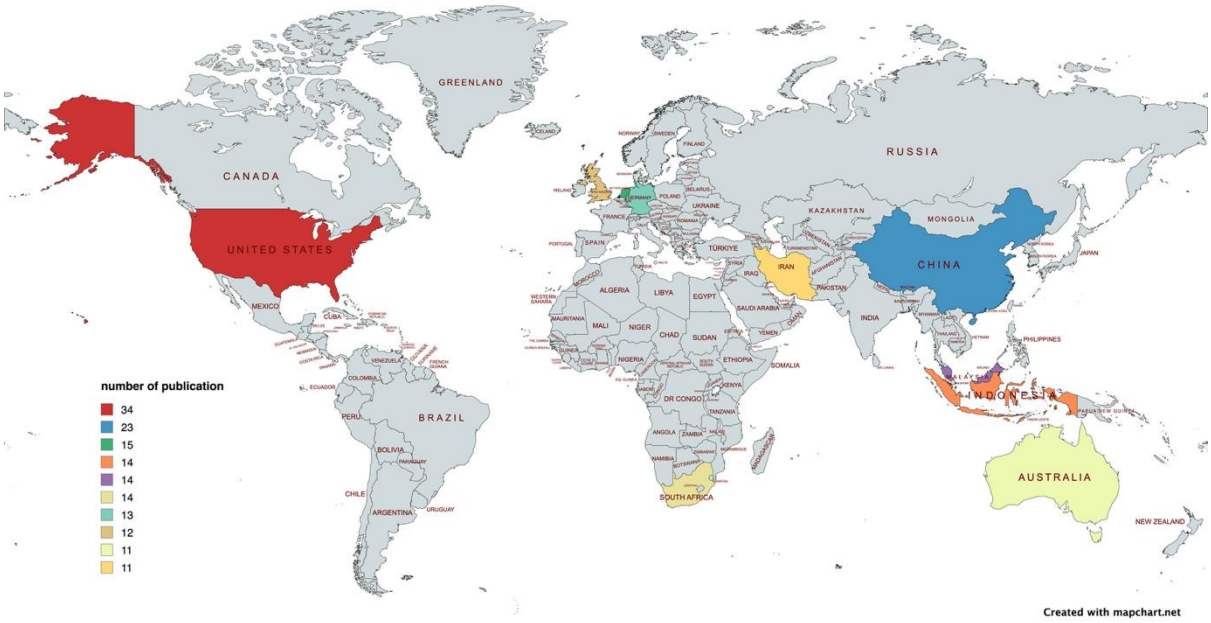


Figure 3. Top 10 Contributing Countries by Publication Output

RQ4: What Are the Dominant and Emerging Research Themes in Professional Development for Novice Teachers, As Identified Through Keyword Co-Occurrence Analysis?

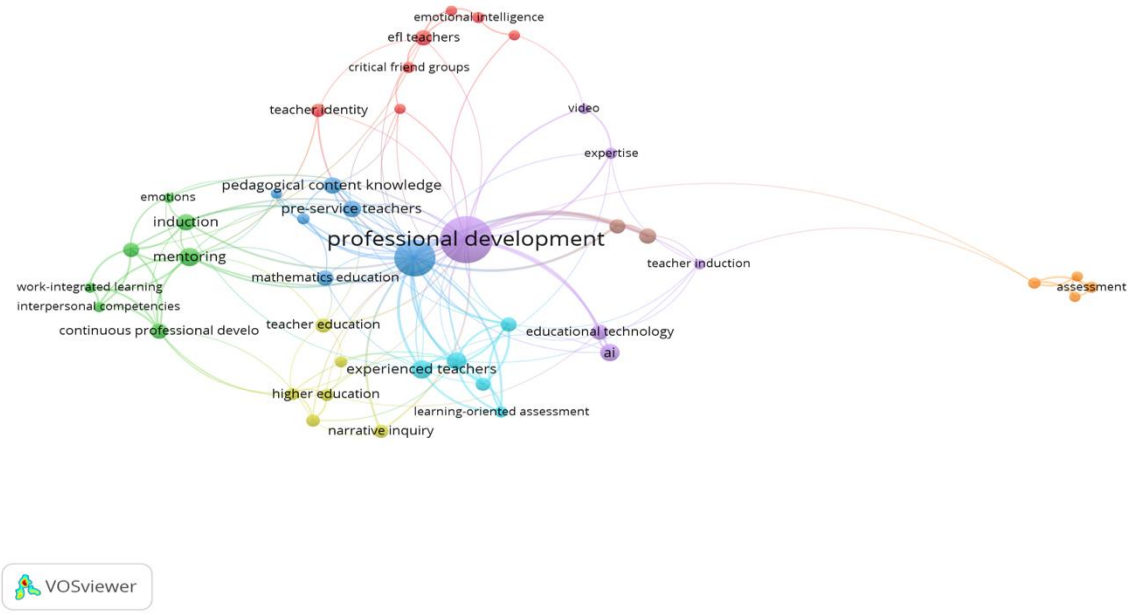


Figure 4. Network Visualisation of Author Keyword Co-Occurrence

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The keyword co-occurrence network shows that "professional development" and "novice teacher" form the conceptual core of the dataset. "Professional development" recorded 91 occurrences and a total link strength (TLS) of 129, while "novice teacher" recorded 58 occurrences and a TLS of 123. Other connected terms included experienced teachers (15 occurrences; TLS = 41), mentoring (15; TLS = 40), teaching experience (13; TLS = 40), teacher beliefs (9; TLS = 38), teacher socialisation (10; TLS = 28), continuous professional development (10; TLS = 27), and induction (11; TLS = 23). Pedagogical content knowledge (11; TLS = 19), collaborative reflection (9; TLS = 31), and teacher perception (8; TLS = 34) further connect professional development with practice-based knowledge, reflection, and teachers' interpretations of professional experience.

The network also indicates diversification beyond established themes of mentoring and induction. AI appeared 13 times with a TLS of 16, while educational technology recorded 10 occurrences and a TLS of 16. Relative to the core terms, these lower link strengths suggest that technology-related professional development is an emerging rather than dominant theme in this dataset. Additional keywords concerning teacher identity, emotional intelligence, assessment, mixed methods, narrative inquiry, and specialised educational contexts point to broader conceptual and methodological diversity. These patterns suggest that research on novice-teacher professional development increasingly encompasses professional, pedagogical, social, emotional, contextual, and technological dimensions.

RQ5: How Is International Scientific Collaboration Structured Within the Field of Professional Development for Novice Teachers, Based on Country-Level Co-Authorship Analysis?

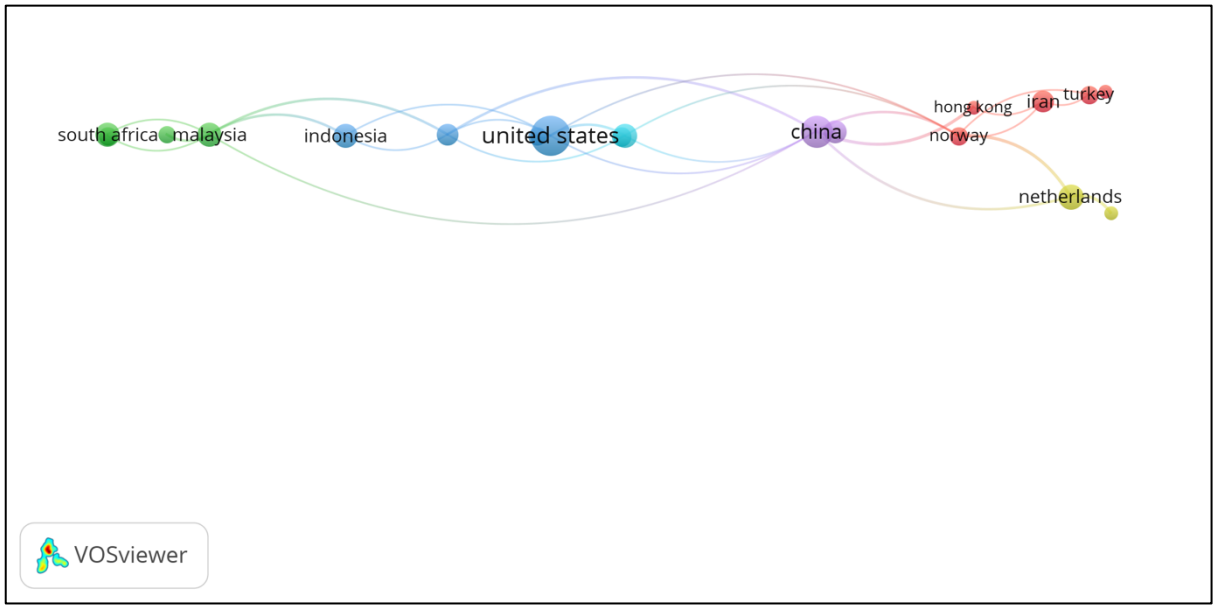


Figure 5. Country Co-Authorship Network (2022–2026)

The country co-authorship network shows a diverse but uneven pattern of international collaboration. The United States produced 34 publications and accumulated 235 citations, while Germany produced 13 publications and recorded 243 citations. The Netherlands (15 publications; 156 citations) and Norway (8 publications; 128 citations) also showed relatively

high citation totals in relation to publication output. China, with 23 publications, recorded the highest total link strength (TLS = 14), indicating the strongest country-level co-authorship connectivity among the countries reported. Citation totals and TLS capture different dimensions of bibliometric performance and should therefore be interpreted separately.

International collaboration intensity varied across countries. Malaysia and Norway each recorded a TLS of 9, while the United States and Australia recorded a TLS of 7. South Africa, Spain, Canada, and Israel showed lower collaboration intensity (TLS = 1–2) in the reported network. These results describe the structure of co-authorship links in the dataset; they do not establish that collaboration itself causes higher research quality or citation impact. Nevertheless, the network demonstrates opportunities for broader cross-national partnerships in future research on novice-teacher professional development.

Conclusion

This bibliometric study examined the research landscape of professional development for novice teachers by analyzing peer-reviewed journal publications indexed in the Scopus database from 2022 to August 2026. The analysis addressed five main areas: publication growth, scholarly influence, geographical contributions, dominant and emerging research themes, and international collaboration patterns. Based on the systematic screening process, 222 publications were retained from an initial 1,383 records, providing a focused evidence base for understanding the current development of this research field.

The findings demonstrate that research on novice teachers' professional development has experienced clear expansion during the examined period. Publication output increased from 30 articles in 2022 to 65 articles in 2025, while the 37 publications recorded in 2026 reflect data collected only until August. The citation analysis indicates that influential research has concentrated on teacher expertise, reflective practice, preparedness, professional support, resilience, professional identity, and technology-enhanced learning. Geographically, the United States was the most productive contributor with 34 publications, whereas Germany achieved the highest citation impact with 243 citations. China demonstrated the strongest country-level collaboration, while Malaysia and Norway also showed relatively strong collaborative connections. These findings indicate that productivity, scholarly influence, and international collaboration do not necessarily develop at the same rate across countries.

The keyword co-occurrence analysis further indicates that "professional development" and "novice teacher" remain the conceptual foundation of the field, with mentoring, experienced teachers, teaching experience, teacher beliefs, teacher socialization, continuous professional development, and induction forming important supporting areas. At the same time, the appearance of artificial intelligence and educational technology demonstrates an emerging shift towards technology-supported professional learning. The integration of teacher identity, emotional intelligence, interpersonal competencies, collaborative reflection, assessment, pedagogical content knowledge, and specialized educational contexts also indicates increasing conceptual and methodological diversification. Consequently, novice teacher professional development is no longer represented only through conventional induction and mentoring approaches but increasingly through interconnected professional, pedagogical, social, emotional, organizational, and technological dimensions.

This study contributes to the field by providing a structured overview of publication growth, citation visibility, geographical participation, thematic structure, and international collaboration during a defined period. The bibliometric approach makes relationships among established professional development concepts and emerging areas, including artificial intelligence and digital learning, more visible. For teacher education providers, school leaders, policymakers, and professional development designers, the findings highlight research attention to sustained mentoring, collaborative learning, reflective practice, professional identity, well-being, and context-sensitive technology integration. These implications should be understood as directions suggested by the mapped literature rather than as causal evidence of intervention effectiveness.

Several limitations should be considered when interpreting the findings. The analysis relied exclusively on the Scopus database and therefore may not represent publications indexed in other academic databases. The search strategy was also restricted by selected keywords, English-language journal articles, the Social Sciences subject area, and the period from 2022 to August 2026. In addition, citation counts may favour earlier publications because recently published studies have had less time to accumulate citations. Future research could therefore combine multiple databases, extend the observation period, employ broader search strategies, and apply longitudinal or systematic review approaches to examine the effectiveness of specific professional development interventions. Further investigation is also needed in underrepresented geographical contexts and real-world school settings, particularly through interdisciplinary, comparative, and mixed-method research addressing digital transformation and artificial intelligence.

Overall, professional development for novice teachers is a growing and increasingly multidimensional research field. The bibliometric evidence identifies established knowledge structures, emerging themes, geographical differences, and patterns of international collaboration. Continued monitoring of the field, together with systematic reviews and empirical studies of intervention effectiveness, can help translate these bibliometric patterns into more robust evidence for the design of professional development systems responsive to novice teachers' changing needs.

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References

Abdurahman, A., Sabtula, S. B., & Abdurahman, F. (2025). Leveraging Classroom Learning: Strengthening Instructional Supervision to Foster Teacher Development. *Sprin Journal of Arts, Humanities and Social Sciences*. https://doi.org/10.55559/sjahss.v4i1.469

Admiraal, W., Kittelsen Røberg, K.-I., Wiers-Jenssen, J., & Saab, N. (2023). Mind the gap: Early-career teachers' level of preparedness, professional development, working conditions, and feelings of distress. *Social Psychology of Education*, *26*(6), 1759–1787. https://doi.org/10.1007/s11218-023-09819-6

Al-Khoury, A., Hussein, S. A., Abdulwhab, M., Aljuboori, Z. M., Haddad, H., Ali, M. A., Abed, I. A., & Flayyih, H. H. (2022). Intellectual Capital History and Trends: A Bibliometric Analysis Using Scopus Database. *Sustainability (Switzerland)*, *14*(18). https://doi.org/10.3390/su141811615

Alves, J. L., Borges, I. B., & De Nadae, J. (2021). Sustainability in complex projects of civil construction: Bibliometric and bibliographic review. *Gestao e Producao*, *28*(4). https://doi.org/10.1590/1806-9649-2020v28e5389

Appio, F. P., Cesaroni, F., & Di Minin, A. (2014). Visualizing the structure and bridges of the intellectual property management and strategy literature: a document co-citation analysis. *Scientometrics*, *101*(1), 623–661. https://doi.org/10.1007/s11192-014-1329-0

Arefian, M. H., Çomoğlu, I., & Dikilitaş, K. (2026). Understanding EFL teachers' experiences of ChatGPT-driven collaborative reflective practice through a community of practice lens. *Innovation in Language Learning and Teaching*, *20*(2), 318–333. https://doi.org/10.1080/17501229.2024.2412769

Arifin, S., Sutama, S., Aryani, S. A., Prayitno, H. J., & Waston, W. (2023). Improving The Professional Teacher Competence Through Clinical Supervision Based on Multicultural Values in Pesantren. *Nazhruna: Jurnal Pendidikan Islam*. https://doi.org/10.31538/nzh.v6i3.4037

Aslam, S., Alghamdi, A. A., Abid, N., & Kumar, T. (2023). Challenges in Implementing STEM Education: Insights from Novice STEM Teachers in Developing Countries. *Sustainability (Switzerland)*, *15*(19). https://doi.org/10.3390/su151914455

Assyakur, D. S., & Rosa, E. M. (2022). Spiritual Leadership in Healthcare: A Bibliometric Analysis. *Jurnal Aisyah : Jurnal Ilmu Kesehatan*, *7*(2). https://doi.org/10.30604/jika.v7i2.914

Bastian, A., Kaiser, G., Meyer, D., Schwarz, B., & König, J. (2022). Teacher noticing and its growth toward expertise: an expert–novice comparison with pre-service and in-service secondary mathematics teachers. *Educational Studies in Mathematics*, *110*(2), 205–232. https://doi.org/10.1007/s10649-021-10128-y

Cevikbas, M., König, J., & Rothland, M. (2024). Empirical research on teacher competence in mathematics lesson planning: recent developments. *ZDM - Mathematics Education*, *56*(1), 101–113. https://doi.org/10.1007/s11858-023-01487-2

Chaula, L., Lawrent, G., & Iramba, I. F. W. (2024). School heads' clinical supervision practices in Tanzania: implications for teachers' professional competency development. *Cogent Education*, *11*. https://doi.org/10.1080/2331186x.2024.2362551

Desrianti, D., & Asmendri, A. (2024). Educational Supervision and Teacher Development: Addressing the Challenges of Instructional Improvement in Schools. *Journal of Social Studies Arts and Humanities (JSSAH)*. https://doi.org/10.33751/jssah.v4i3.12836

di Stefano, G., Peteraf, M., & Veronay, G. (2010). Dynamic capabilities deconstructed: A bibliographic investigation into the origins, development, and future directions of the

research domain. *Industrial and Corporate Change*, *19*(4), 1187–1204. https://doi.org/10.1093/icc/dtq027

Diab, A., & Green, E. (2024). Cultivating Resilience and Success: Support Systems for Novice Teachers in Diverse Contexts. *Education Sciences*, *14*(7). https://doi.org/10.3390/educsci14070711

Eirich, J., & Wildesen, J. (2023). Accelerating teacher effectiveness: the power of partnerships. *PDS Partners: Bridging Research to Practice*, *18*(1), 54–60. https://doi.org/10.1108/pdsp-01-2023-0005

Fahimnia, B., Sarkis, J., & Davarzani, H. (2015). Green supply chain management: A review and bibliometric analysis. In *International Journal of Production Economics* (Vol. 162, pp. 101–114). https://doi.org/10.1016/j.ijpe.2015.01.003

Fallen, M., & Mullen, C. (2022). "Navigating Uncharted Waters": New Teacher Mentoring and Induction. *Research in Educational Administration & Leadership*. https://doi.org/10.30828/real.1165667

Ferry, M., & Westerlund, R. (2023). Professional networks, collegial support, and school leaders: How physical education teachers manage reality shock, marginalization, and isolation in a decentralized school system. *European Physical Education Review*, *29*(1), 74–90. https://doi.org/10.1177/1356336X221114531

Fujiono, F., Hanayanti, C., Suwarna, A., Rais, R., & Ridani, A. (2023). Developing Teacher Professionalism Through Academic Supervision Activities of School Principle. *Journal on Education*. https://doi.org/10.31004/joe.v5i4.2562

Groenewald, E., & Arnold, L. (2025). Teacher professional identity: agentic actions of a novice teacher in a challenging school context. *Teachers and Teaching: Theory and Practice*, *31*(3), 453–470. https://doi.org/10.1080/13540602.2024.2308890

Gu, D., Li, T., Wang, X., Yang, X., & Yu, Z. (2019). Visualizing the intellectual structure and evolution of electronic health and telemedicine research. *International Journal of Medical Informatics*, *130*. https://doi.org/10.1016/j.ijmedinf.2019.08.007

Ifarajimi, M., Bolaji, S., Mason, J., & Jalloh, S. (2025). Teachers' Beliefs About Mentoring Practices in Nigeria's Public School System: A Proposed Framework to Curb Teacher Attrition. *Education Sciences*. https://doi.org/10.3390/educsci15050526

Jin, F., Peng, X., Sun, L., Song, Z., Zhou, K., & Lin, C.-H. (2025). Knowledge (Co-)Construction Among Artificial Intelligence, Novice Teachers, and Experienced Teachers in an Online Professional Learning Community. *Journal of Computer Assisted Learning*, *41*(2). https://doi.org/10.1111/jcal.70004

Keese, J., Thompson, C., Waxman, H., McIntush, K., & Svajda-Hardy, M. (2022). A Worthwhile Endeavor? A meta-analysis of research on formalized novice teacher induction programs. *Educational Research Review*. https://doi.org/10.1016/j.edurev.2022.100505

Keller, L., Cortina, K. S., Müller, K., & Miller, K. F. (2022). Noticing and weighing alternatives in the reflection of regular classroom teaching: Evidence of expertise using mobile eye-tracking. *Instructional Science*, *50*(2), 251–272. https://doi.org/10.1007/s11251-021-09570-5

Kereyeva, O. Zh., Yegenissova, A., & Bayar, A. (2025). PROFESSIONAL DEVELOPMENT OF NOVICE TEACHERS: A REVIEW OF INTERNATIONAL EXPERIENCE. *PEDAGOGY AND PSYCHOLOGY*. https://doi.org/10.51889/2960-1649.2025.62.1.012

Khiste, G. P., & Paithankar, R. R. (2017). Analysis of Bibliometric term in Scopus. *International Research Journal*, *01*(32), 78–83.

Ma'rof, A., Sahak, S. N. M., & Harun, M. M. (2026). Building Better Beginnings: Core Components of Effective Induction for New Teachers. *Pertanika Journal of Learning, Pedagogy and Educational Leadership*. https://doi.org/10.47836/pjlpel.2.1.06

Maready, B., Cheng, Q., & Bunch, D. (2021). Exploring Mentoring Practices Contributing to New Teacher Retention: An Analysis of the Beginning Teacher Longitudinal Study. *International Journal of Evidence Based Coaching and Mentoring*, *19*, 88–99. https://doi.org/10.24384/rgm9-sa56

Mokoena, T., & Van Tonder, G. (2024). Influencing beginner teachers' autonomy: the impact of mentorship in fostering self-directed learning. *International Journal of Educational Management*. https://doi.org/10.1108/ijem-05-2023-0247

Mwesigwa, F., & Nakato, N. (2025). Mentorship in Teacher Education Programs: A Review of Practices, Outcomes, and Challenges. *Acta Pedagogia Asiana*. https://doi.org/10.53623/apga.v5i1.679

Novianti, Tri, S., Studi, P., Administrasi, M., Pendidikan, U., Satya, K., & Wacana. (2024). Analysis of the Role of Educational Supervision in Enhancing Teacher Professionalism. *Journal of Studies in Academic, Humanities, Research, and Innovation*. https://doi.org/10.71305/sahri.v1i2.145

Rehman, N., Huang, X., Mahmood, A., Zafeer, H. M. I., & Mohammad, N. K. (2025). Emerging trends and effective strategies in STEM teacher professional development: A systematic review. In *Humanities and Social Sciences Communications* (Vol. 12, Number 1). Springer Nature. https://doi.org/10.1057/s41599-024-04272-y

Van Eck, N. J., & Waltman, L. (2007). Bibliometric mapping of the computational intelligence field. *International Journal of Uncertainty, Fuzziness and Knowldege-Based Systems*, *15*(5), 625–645. https://doi.org/10.1142/S0218488507004911

van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, *84*(2), 523–538. https://doi.org/10.1007/s11192-009-0146-3

Verbeek, A., Debackere, K., Luwel, M., & Zimmermann, E. (2002). Measuring progress and evolution in science and technology - I: The multiple uses of bibliometric indicators. *International Journal of Management Reviews*, *4*(2), 179–211. https://doi.org/10.1111/1468-2370.00083

Wu, Y. C. J., & Wu, T. (2017). A decade of entrepreneurship education in the Asia Pacific for future directions in theory and practice. In *Management Decision* (Vol. 55, Number 7, pp. 1333–1350). https://doi.org/10.1108/MD-05-2017-0518

Yii, B. P. J., Zalli, M. M. M., Ahmi, A., Law, H., Benlahcene, A., Jamil, M., & Quah, W. B. (2025). From classroom challenges to scholarly insights: A bibliometric analysis of novice teacher research. *British Educational Research Journal*. https://doi.org/10.1002/berj.4153