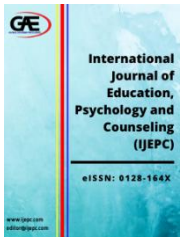
International Journal of Education, Psychology and Counseling
IJEPC
EISSN : 0128-164X
Volume 11 Issue 65 (December 2026) PP. 127-147



INTERNATIONAL JOURNAL OF EDUCATION, PSYCHOLOGY AND COUNSELLING (IJEPC)
https://gaexcellence.com/ijepc

CONTINUING PROFESSIONAL DEVELOPMENT FOR NOVICE TEACHERS: A RESEARCH TRENDS

Siti Nurzaida Rahayu Che Abdul[1]*, Nor Hasnida Che Md Ghazali[2]

[1]Faculty of Human Development Sultan Azlan Shah Campus, Sultan Idris Education University 35900, Tanjong Malim, Perak
sitinurzaidarahayu@gmail.com https://orcid.org/0009-0001-8804-589X
[2]Faculty of Human Development Sultan Azlan Shah Campus, Sultan Idris Education University 35900, Tanjong Malim, Perak
hasnida@fpm.upsi.edu.my https://orcid.org/0000-0001-7891-4943
*Corresponding Author

Article Info:

Article history:
Received date: 28.09.2026
Revised date: 15.10.2026
Accepted date: 04.11.2026
Published date: 01.12.2026

To cite this document:

Abdul, S. N. R. C., & Ghazali, N. H. C. M. (2026). Continuing Professional Development for Novice Teachers: A Research Trends. *International Journal of Education, Psychology and Counselling, 11*(65), 127-147.

Abstract:

Continuing Professional Development (CPD) is an important strand of research in supporting novice teachers as they move from initial teacher preparation to the more complex professional world; yet the conceptual frameworks, research output, and the collaborative nature of this research field are not sufficiently synthesized. This study thus chose to carry out a bibliometric analysis to draw a map of the development and knowledge structure of research on CPD for novice teachers. A search strategy was developed using two key concepts: "Continuing Professional Development" and "Novice Teachers," and bibliographic data were collected from the Scopus database. After the data screening and refinement, 431 records were kept for data analysis. The publication trend, top countries, top sources, and citation behavior were analyzed using Scopus Analyzer, and OpenRefine was used for cleaning and standardization of bibliographic metadata. Co-occurrence and co-authorship networks were then created and visualized using VOSviewer. The results reveal that there was a significant rise in the number of publications over the years, with the highest number of publications being 53 in 2024 (12.30%), followed by 52 (12.06%) in 2025. The United Kingdom was the top country in terms of publications, with 67 publications (15.55%), followed by the United States, which had a significant influence on citations. The keywords co-occurrence analysis revealed "continuous professional development" as the keyword with the highest number of appearances (170) and Total Link Strength (TLS: 169), which means that the keyword has a key role in the conceptual network. The publication with the most citations had 190, indicating the impact of coaching approaches to professional learning. In general, the results suggest that research on CPD for novice

International Journal of Education, Psychology and Counseling
IJEPC
EISSN : 0128-164X
Volume 11 Issue 65 (December 2026) PP. 127-147

teachers has become more and more multidisciplinary and international. The study offers a unified view of the research path followed and highlight's themes and influential research and collaboration networks that can guide future research, policymaking, and professional learning activities for novice teachers.

DOI: 10.35631/IJEPC.1165007

Keywords:

Beginner Teacher, Continuing Professional Development, New, Novice

© The authors (2026). This is an Open Access article distributed under the terms of the Creative Commons Attribution (CC BY NC) (http://creativecommons.org/licenses/by-nc/4.0/), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited. For commercial re-use, please contact ijepc@gaexcllence.com.

Introduction

CPD for novice teachers can be best thought of as an ongoing, contextually responsive learning journey which supports novice teachers to transition from preparation to competent, confident, and committed practice. Professional development is not a one-shot or a compliance issue. Rather, it is a multi-faceted way of professional learning that is influenced by length of time, collaboration, support, assessment, and context (Sancar et al., 2021) (Njenga, 2022). This emphasis is particularly relevant for novice teachers as they are often reported as experiencing a challenging transition period from theory to practice, as well as from the university to school, and in establishing their professional identities in the face of the demands of the classroom (Stewart & Jansky, 2022)(Diab & Green, 2024)(Kaplan, 2022)(Quoc et al., 2022). In both school and higher education contexts, early career teachers face similar issues with classroom management, workload, emotional demands, diversity of learners, institutional demands, and gaps between their ideals and the reality of teaching (Diab & Green, 2024)(Kaplan, 2022)(J. Hu, 2025). As such, CPD for novice teachers is not an add-on to educational quality. Instead, it is a key pathway to developing competence, resilience, and a sense of purpose in teaching for new teachers (Dyosini, 2024)(Fodor & Albulescu, 2025)(AbdulRab, 2023)(Kereyeva et al., 2025).

The literature demonstrates that CPD is best delivered to novice teachers when it is integrated into induction and mentoring and not as a standalone training. Formal induction programmes and mentoring schemes are statistically significant and have a positive impact on teacher retention, efficacy, and student outcomes. However, there is variation in the design of the schemes and a modest effect size (Keese et al., 2022). Research in various settings has found mentoring to be an important link between teacher preparation and school experience, as experienced mentors help novice teachers understand school procedures, pedagogy, as well as relationships, and offer emotional support, which is a very critical period in a teacher's career

International Journal of Education, Psychology and Counseling
IJEPC
EISSN : 0128-164X
Volume 11 Issue 65 (December 2026) PP. 127-147

(Mwesigwa & Nakato, 2025)(Stewart & Jansky, 2022). Meanwhile, there are cautionary tales against assuming that mentoring just happens. Mentor-mentee relationships are not sufficient for growth on their own (Stewart & Jansky, 2022), and the selection, training, and quality of mentoring significantly impact outcomes (Sánchez-Tarazaga et al., 2022)(Mwesigwa & Nakato, 2025)(Burger, 2023). Mentoring that is more constructivist in nature, focusing on collaboration and reflection, seems to have a positive impact on novice teachers' self-efficacy and decrease emotional exhaustion, while more transmissive/directive mentoring has less impact on well-being and professional development (Burger, 2023; Burger et al., 2021). This indicates that CPD for novices should take a less prescriptive form and be more of a process of inquiry, feedback, and reflective accompaniment over a period of time.

Another robust strand of research is that professional learning of the novice teacher is bound up with identity formation. While the induction period involves learning instructional techniques, it is also a time when teachers determine the type of teacher they are becoming and whether they can envision themselves staying in teaching (Kaplan, 2022) (Groenewald & Arnold, 2024) (Quoc et al., 2022). Early-career teachers frequently face conflicts between their beliefs developed during teacher education and the one-size-fits-all, resource-poor, or hierarchical contexts they find themselves in (Stewart & Jansky, 2022) (Nickel & Crosby, 2021). These tensions evolve over time; concerns about role and skills may eventually turn into maintaining work-life balance, maintaining motivation, and dealing with peers and/or supervisors (Schaap et al., 2021). CPD needs to be developmental, as identity development is dynamic. Reflective dialogue, narrative work, structured discussion of struggle and opportunities to express difficulties assist novices in reframing problems as a learning opportunity for their professional development, rather than a personal failing (Stewart & Jansky, 2022) (Sydnor et al., 2024)(H. Zhang & Wu, 2025). Recent work also argues that mentors and teacher educators should explicitly recognize that beginning teachers are at an identity crossroads, still exploring their commitment to teaching, and therefore need support that addresses motivation, belonging, and self-understanding as much as technical skills (Abramson & Schachter, 2024).

A further implication of the literature is that effective CPD for novice teachers depends on the wider ecology in which they work. Support from mentors matters, though it is most effective when combined with learning communities, collaborative school cultures, constructive leadership, and informal peer networks (Kaplan, 2022) (Burger et al., 2023) (Kilag & Sasan, 2023). Longitudinal evidence grounded in self-determination theory indicates that when learning-community facilitators and mentors support beginning teachers' needs for autonomy, competence, and relatedness, novices report stronger autonomous motivation, higher self-actualization, greater competence, and lower burnout (Kaplan, 2021, 2022). Informal support also matters. In some settings, novice teachers report that informal mentorship and peer-driven learning networks compensate for missing formal structures and enhance belonging and self-efficacy (Dyosini, 2024), (Eren & Atay, 2025). However, access to such supports is not even. There are a number of studies that report induction and CPD to be unpredictable, fragmented, or limited by workload, research needs, resources and/or administrative inconsistencies (Stewart & Jansky, 2022), (Porcenaluk et al., 2023), (Sale, 2026), (J. Hu, 2025). This irregularity can account for why individuals with comparable training can have vastly different career paths.

International Journal of Education, Psychology and Counseling
IJEPC
EISSN : 0128-164X
Volume 11 Issue 65 (December 2026) PP. 127-147

The research as a whole places CPD for new teachers at the intersection of teacher quality, teacher retention, and school improvement over the long term, as a strategic investment. Good CPD supports new teachers to develop new skills, to bridge the gap between theory and practice, to reflect on their practice and to increasingly take responsibility for their own learning (Dyosini, 2024), (AbdulRab, 2023), (Vadivel et al., 2021), (Mokoena & Van Tonder, 2024). It also seems to enhance professional identity, confidence, and adaptation if it involves practice-oriented training, reflection, collaboration, and ongoing mentoring instead of one-off events (Y. Gu, 2024), (Hooper et al., 2022), (Neacșu et al., 2024). Comparative research also indicates that successful systems provide for systematic and ongoing support for novice teachers through a combination of practical experience and structured support, and strong career pathways (Kereyeva et al., 2025). To conclude, a discussion about "Continuing Professional Development for Novice Teachers" must start with the understanding that it is not about providing more CPD for these teachers, but about creating coherent professional learning ecosystems that cater to their instructional, emotional, relational and identity needs. The key change in the literature is moving away from CPD as episodic upskilling to a vision of CPD as sustained, relational, and developmental support in the early years of teaching, and the greatest question is how can institutions provide that kind of support across different schools, subjects, and educational contexts in a consistent way.

Research Question

- **RQ1:** How has the volume of scholarly publications on Continuing Professional Development (CPD) evolved over time from 1993 to August 2026?
- **RQ2:** Which articles are the most influential in CPD research, as measured by citation impact?
- **RQ3:** Which countries are the leading contributors to CPD research in terms of publication output and citation performance?
- **RQ4:** What are the dominant and emerging research themes in CPD based on keyword co-occurrence analysis?
- **RQ5:** What are the patterns of international research collaboration in CPD, as revealed through country-level co-authorship networks?

Methodology

Bibliometric analysis can be used to systematically and quantitatively map the development, structure, and intellectual underpinnings of a research field by using bibliographic data (Alves et al., 2021; Assyakur & Rosa, 2022; Verbeek et al., 2002). In addition to descriptive indicators, like publication trends, source distribution, and influential authors (Wu & Wu, 2017), it allows relational techniques like document co-citation analysis to be used to identify underlying knowledge structures. For bibliometric studies, it is important to be methodologically rigorous, provide a clear and reproducible workflow, including the formulation of keywords, the retrieval of the database, the eligibility screening and the validation of the data (Fahimnia et al., 2015). For the present study, Scopus was chosen as the main data source for this reason: firstly, Scopus has a wide multidisciplinary coverage, and secondly, it is found to be useful in bibliometric studies (Al-Khoury et al., 2022; di Stefano et al., 2010; Khiste & Paithankar, 2017). To improve the consistency of the dataset and the quality of the research, only peer-reviewed journal articles were analyzed, and books and lecture notes were omitted (D. Gu et al., 2019). Then,

International Journal of Education, Psychology and Counseling
IJEPC
EISSN : 0128-164X
Volume 11 Issue 65 (December 2026) PP. 127-147
the publications related to the topic were retrieved from 1993 to August 2026 from Scopus, and a bibliometric analysis was performed on them.

Data Search Strategy

The bibliographic information was obtained from the Scopus database, following a search protocol which was predefined to ensure transparency, consistency, and reproducibility. Scopus was chosen as the only source for the data due to its extensive multidisciplinary coverage and structured bibliographic data to be used for large-scale bibliometric analysis. To improve the topical precision of the search and reduce the likelihood of publications where CPD is only a minor topic being retrieved, only the title of the article was searched. The search string used was TITLE ("Continuous Professional Development") with no restrictions on source type, document type, or subject area to ensure that the search was as broad as possible in terms of discipline and publication type in relation to the focal concept. Only English-language records were kept. However, for the subsequent bibliometric processing and interpretation of the records, linguistic consistency was ensured. The timeframe of publications was set to 1993-2024, with a long enough period to allow for tracking the evolution and development of research in the field. The full dataset was downloaded from Scopus on 10 August 2026, meaning that the bibliographic data were representative of the data in the database at the time of data collection.

After retrieval, the search results were filtered based on the scope and inclusion/exclusion criteria and then included in the bibliometric dataset. The final corpus was 431 records, and this formed the analytical sample for further performance and science-mapping analyses. The choice of only searching titles is a deliberately conservative retrieval strategy, suggesting that studies that address CPD, though they do not necessarily use that term in their titles, may not be included. However, the benefit is that the retrieved publications have the topic as a central rather than peripheral concern, thus increasing the conceptual specificity of the retrieved publications. Likewise, the use of all source types, document types, and subject areas at the first retrieval stage will minimize the danger of introducing a disciplinary or publication-format bias, and the English-language limitation will increase the chances of comparability of records. All of these procedures create a framework for data collection that is transparent and replicable and enhance the internal consistency of the bibliometric data. On the other hand, the time interval claimed in the report should be adjusted to align with the actual data set. If the 431 publications reported included publications from 2025 or from January to August 2026, the reported time interval should be 1993–2024, to be consistent with the search protocol, publication-trend analysis, and reported sample.

International Journal of Education, Psychology and Counseling
IJEPC
EISSN : 0128-164X
Volume 11 Issue 65 (December 2026) PP. 127-147

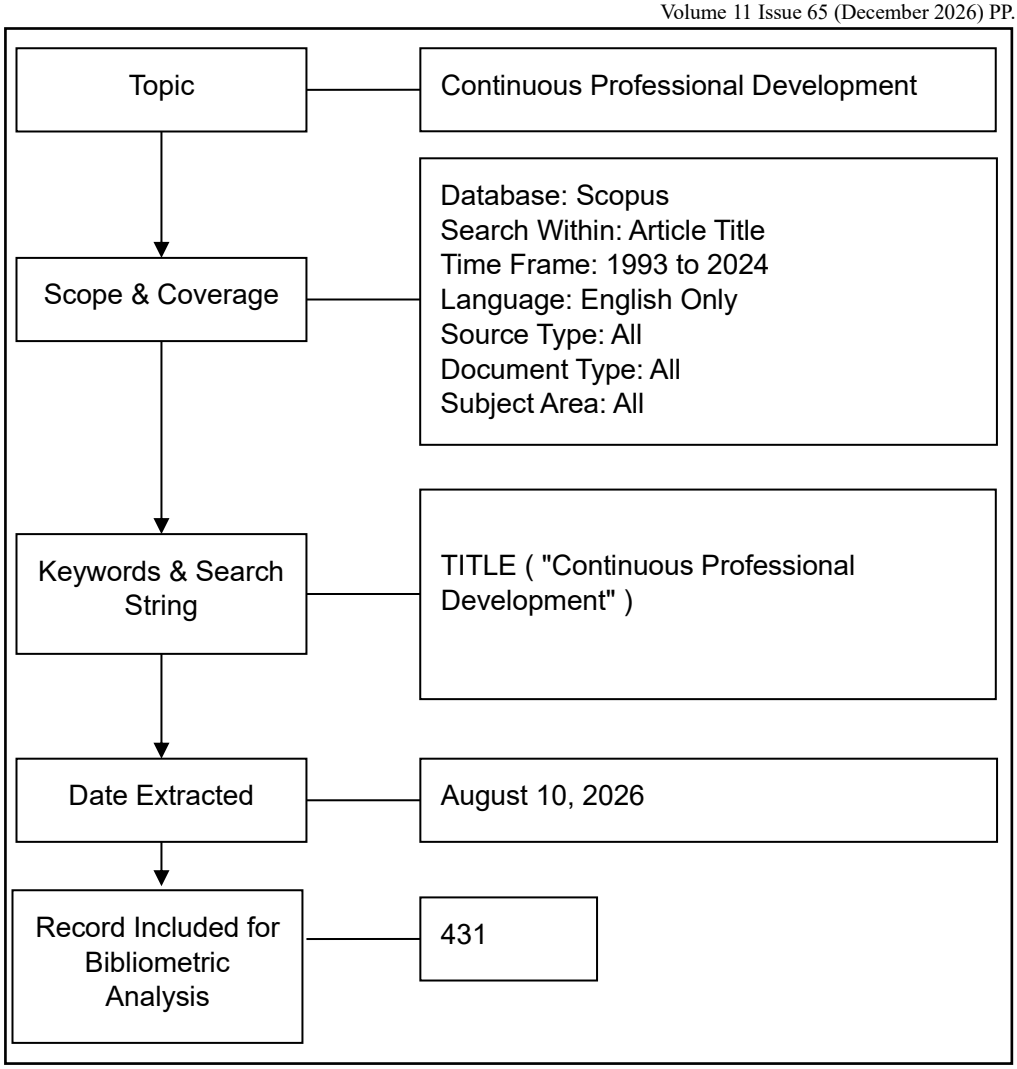


Figure 1: Flow Diagram of the Search Strategy

Data Analysis

VOSviewer is a well-known bibliometric mapping and visualization software, created by Nees Jan van Eck and Ludo Waltman from Leiden University, the Netherlands (van Eck & Waltman, 2010, 2017). It has been specially developed to build, analyze, and visualize bibliometric networks to explore complex relationships in large scientific literature. The software provides various types of science mapping, such as co-authorship, co-citation, bibliographic coupling and keyword co-occurrence analysis and visualizes the relationships in three different types of visualization: network, overlay, and density visualization. Its clustering option also enables you to easily identify clusters of related authors, documents, sources, or keywords, thus offering a glimpse into the social, intellectual, and conceptual structure of a research area. These features render VOSviewer especially useful for the analysis of large-scale bibliographic data for the identification of influential entities, thematic concentrations, and emerging patterns.

For the current study, the bibliographic records were downloaded in .csv file format from the Scopus database for the period from 1993 to August 2026 and analyzed using VOSviewer software version 1.6.21. Exported records included relevant metadata such as publication year, article title, authorship information, publication journal, number of citations, and keywords.

International Journal of Education, Psychology and Counseling
IJEPC
EISSN : 0128-164X
Volume 11 Issue 65 (December 2026) PP. 127-147

Then, VOSviewer was used to create and analyze bibliometric networks using the mapping and clustering algorithms. The maps that are produced indicate that the relative weight or frequency of an item is represented by the size of the item, and the links between items represent bibliometric relationships and the strength of the links. The proximity in space is analytically relevant, too: items that are closer tend to be more related than items that are further away. Together, these characteristics make it possible to capture the prevailing thematic structures, scholarly interaction patterns and connections between important bibliometric entities which may not be obvious from descriptive indicators.

The Visualization of Similarities (VOS) mapping technique, the method adopted by VOSviewer, is an alternative to conventional Multidimensional Scaling (MDS) for visualizing the relationships among the objects in a low-dimensional space (van Eck & Waltman, 2010), (Appio et al., 2014). While both methods try to capture the similarity structure between items, VOS mapping is designed to specifically work with bibliometric network data and is more concerned with the representation of strongly related pairs of items. In co-occurrence networks, the co-occurrence frequencies are normalized to remove the unequal influence of the overall occurrence frequencies of individual items, which suggests that the most frequent items do not dominate the co-occurrence network. Association Strength (AS) normalization is commonly used in VOSviewer, which is similar to the one used in the previous section, but in which the relatedness between two items i and j is calculated as the ratio of the observed co-occurrence frequency to the co-occurrence frequency expected based on the occurrence frequencies of *i* and *j* (Van Eck & Waltman, 2007). The AS will thus be determined as follows:

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

where (AS_{ij}) denotes the AS between items (i) and (j), (c_{ij}) represents the observed number of co-occurrences between the two items, and (w_i) and (w_j) denote the total occurrence frequencies of items (i) and (j), respectively. The concept behind the measure is whether two items co-occur more strongly than they would if they were statistically independent (Van Eck & Waltman, 2007). Association-strength values are thus higher the more normalized the relationships are, which means that the higher the value, the more solid the basis is for mapping and interpreting the underlying structure of the bibliometric network.

International Journal of Education, Psychology and Counseling
IJEPC
EISSN : 0128-164X
Volume 11 Issue 65 (December 2026) PP. 127-147

Result and Discussion

RQ1: How Has the Volume of Scholarly Publications on Continuing Professional Development Evolved Over Time from 1993 to August 2026?

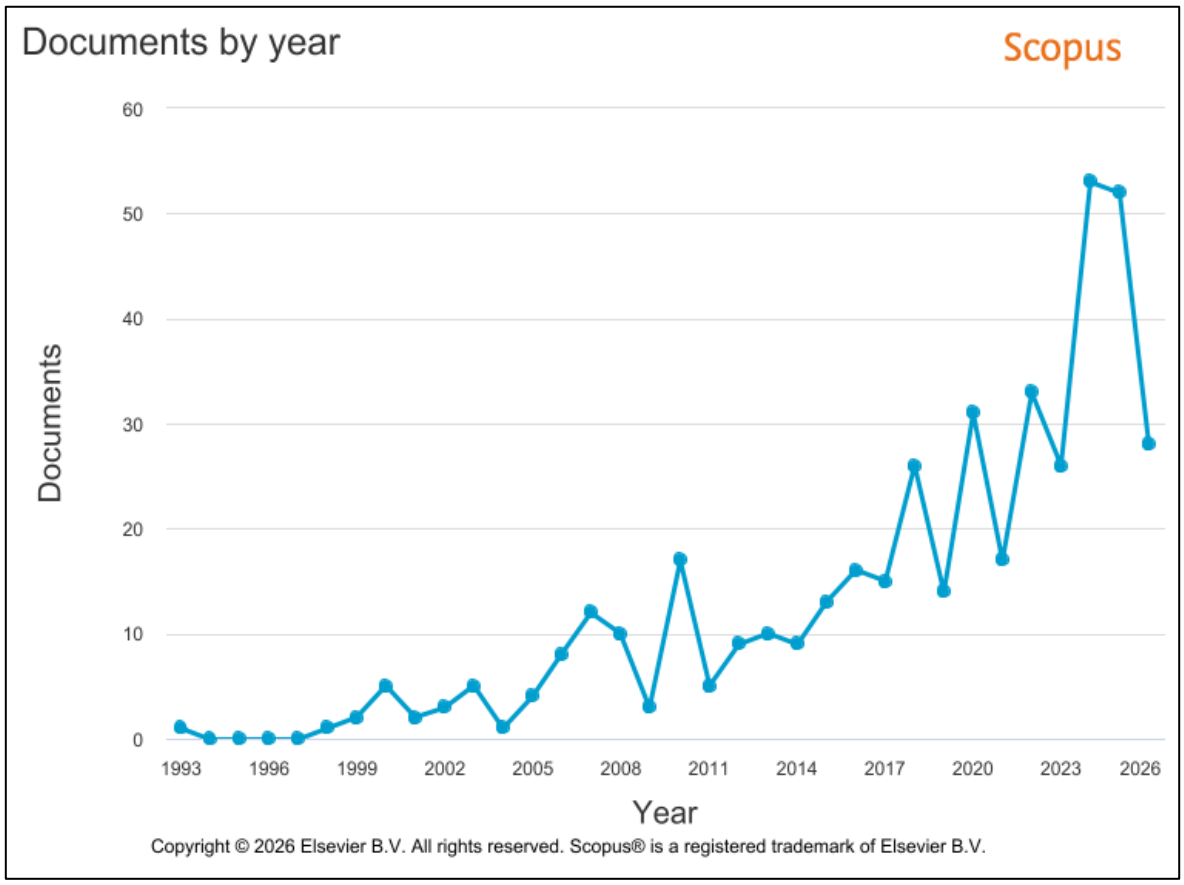


Figure 2: Trend of Research in Continuing Professional Development by Years

A search of publications on CPD for novice teachers from 1993 to August 2026 demonstrates an overall upward trend in the number of publications over the long term, but with significant fluctuations from year to year. In the 431 publications identified, the research output was very limited in the formative period (1993-2009), with most of the years having fewer than 10 publications (56.87% of the total had fewer than 10 publications). A more visible expansion occurred between 2010 and 2019, contributing 134 publications (31.09%), with noticeable increases in 2010 (17; 3.94%), 2018 (26; 6.03%), and 2019 (14; 3.25%). The most significant growth was, however, from 2020 onwards, with 240 publications (55.68% of the total) being created between 2020 and August 2026. The number of publications rose from 31 in 2020 to 33 in 2022 and then jumped significantly to 53 in 2024 (12.30%) and 52 in 2025 (12.06%), the highest number of publications per year. The years 2024 and 2025 alone accounted for 105 publications, which were around 24.36% of the publications during the period of 1993 to 2026. While just 28 publications (6.50%) were entered for 2026, this should not be read as a decreasing research trend, as this data is only for January to August 2026, and other publications might be published or indexed later in the year. In general, it would appear that CPD for novice teachers has been transformed from a relatively fringe research topic to a more and more established field of research, especially in the last decade.

There could be several reasons for this surge in publications. First, there is greater awareness that the quality, retention, induction, mentoring, and professional identity development from initial teacher education to classroom practice are all important and that novice teachers need ongoing and systematic professional support and not just pre-service preparation. The relatively small number of publications prior to 2010 could reflect the fact that, at this stage, research on professional development was relatively general, involving teachers as a general category of professionals, rather than the developmental needs of novice or beginning teachers becoming a specific research focus. The increase since 2010 and especially since 2020 could be due to an increased focus on policy and research on early career teacher struggles, such as classroom management, teacher efficacy, workload, culture, teacher attrition, and teacher preparation. Moreover, the COVID-19 pandemic hastened transformations in educational methods and the need for digital skills, online teaching and learning, flexibility, and ongoing professional development, which may have led to the significant surge in research since 2020. The significant increase in 2024 and 2025 could thus be a fleeting publication boom, or a paradigm shift toward using CPD as a key tool for boosting the professional capacity, resilience, effectiveness and sustainability of novice teachers. However, bibliometric publication counts do not provide definitive evidence of the exact reasons for this growth; Rather, they suggest that the research community has shifted its focus to the professional development of novice teachers in response to changes in the demands of the educational, technological, organizational, and workforce contexts.

RQ2: Which Articles are the Most Influential in Continuing Professional Development Research, as Measured by Citation Impact?

The most influential publications in the field of CPD research, as presented in Table 1, are from various disciplinary fields, suggesting that the intellectual impact of the field is not confined to teacher education. Hu et al. (2012), *Postgame analysis: Using video-based coaching for continuous professional development*, published in the *Journal of the American College of Surgeons,* is the most cited article with 190 citations. It is in the leading citation position, indicating that practice-based coaching and systematic reflection are influential approaches to professional learning, especially where professional performance can be observed, reviewed, and improved through systematic feedback. The second most cited study (Zhang et al., 2021) had 143 citations and explored teachers' motivation to engage in CPD in the context of personal and school factors. Its impact on citations, especially in such a short period of publications, is noteworthy, indicating a high level of interest in the scholarly community to understand the multidimensionality of CPD participation, from the individual's point of view and from the organizational context. Greenberg et al. (2018) is third in citations with 109 and also helps to support coaching as a tool for ongoing professional development. In the same way, Rich et al. (2021), with 101 citations, highlight the increasing importance of CPD in boosting teachers' self-efficacy in coding and computational thinking. Together, these widely referenced research articles suggest that there has been a shift in influential CPD scholarship from reporting on participation in professional learning to understanding the processes by which professional learning can impact motivation, competence, self-efficacy, feedback, and performance.

The other very popular publications also illustrate the interdisciplinary and dynamic nature of the CPD knowledge base. The article by Vadivel et al. (2021), which examined teacher self-awareness, perceptions, and feedback in English language teaching, has garnered 83 citations, while Peleman et al. (2018) have been cited 77 times for synthesizing evidence on the relationship between CPD and the quality of early childhood education and care. Holmes

International Journal of Education, Psychology and Counseling
IJEPC
EISSN : 0128-164X
Volume 11 Issue 65 (December 2026) PP. 127-147

(2013), with 72 citations, highlights the earlier emergence of online professional learning communities, whereas Bengtsson and Carlson (2015) and Austin et al. (2005), each with 67 citations, demonstrate the sustained importance of competence development and professional learning within nursing and pharmacy. Khademi et al. (2021), with 63 citations, further connect CPD with emotional intelligence and quality of professional practice. Importantly, citation counts should be interpreted in relation to publication age since older studies have had a longer period in which to accumulate citations. Against this background, the strong citation performance of several articles published in 2021 is especially significant and may indicate rapid scholarly uptake of emerging themes such as teacher motivation, digital competence, self-efficacy, and reflective professional learning. Overall, Table 1 suggests that citation influence in CPD research is associated less with a single disciplinary tradition than with studies addressing transferable mechanisms of professional improvement, particularly coaching, motivation, competence development, feedback, technology-mediated learning, and quality enhancement. This multidisciplinary citation structure supports the argument that CPD has evolved into a broad professional-learning framework whose most influential contributions are those that connect developmental activities with observable improvements in professional capability and practice.

Table 1: Leading Publications in Continuing Professional Development Research by Citation Count

No.	Authors	Title	Year	Source title	Cited by
1	Hu Y. et al. (Y.-Y. Hu et al., 2012)	Postgame analysis: Using video-based coaching for continuous professional development	2012	Journal of the American College of Surgeons	190
2	Zhang X. et al. (X. Zhang et al., 2021)	Teachers' motivation to participate in continuous professional development: relationship with factors at the personal and school level	2021	Journal of Education for Teaching	143
3	Greenberg C.C.et al. (Greenberg et al., 2018)	A Statewide Surgical Coaching Program Provides Opportunity for Continuous Professional Development	2018	Annals of Surgery	109
4	Rich P.J et al. (Rich et al., 2021)	Measuring the effect of continuous professional development on elementary teachers' self-efficacy to teach coding and computational thinking	2021	Computers and Education	101
5	Vadivel B. et al. (Vadivel et al., 2021)	Progress in English Language Teaching Through Continuous Professional Development—Teachers' Self-Awareness, Perception, and Feedback	2021	Frontiers in Education	83

6	Peleman B. et al. (Peleman et al., 2018)	Continuous professional development and ECEC quality: Findings from a European systematic literature review	2018	European Journal of Education	77
7	Holmes B. (Holmes, 2013)	School Teachers' Continuous Professional Development in an Online Learning Community: Lessons from a case study of an eTwinning Learning Event	2013	European Journal of Education	72
8	Bengtsson M.; Carlson E. (Bengtsson & Carlson, 2015)	Knowledge and skills needed to improve as a preceptor: Development of a continuous professional development course - a qualitative study (Part I)	2015	BMC Nursing	67
9	Austin Z et al. (Austin et al., 2005)	Continuous professional development: A qualitative study of pharmacists' attitudes, behaviors, and preferences in Ontario, Canada	2005	American Journal of Pharmaceutical Education	67
10	Khademi E. et al. (Khademi et al., 2021)	Emotional intelligence and quality of nursing care: A need for continuous professional development	2021	Iranian Journal of Nursing and Midwifery Research	63

RQ3: Which Countries are the Leading Contributors to Continuing Professional Development Research in Terms of Publication Output and Citation Performance?

A geographical mapping of the publications on CPD for novice teachers highlights a strong focus of research in a relatively small number of countries. The United Kingdom (67 publications, 15.55%), the United States (43 publications, 9.98%), and South Africa (34 publications, 7.89%) are the leading countries in terms of publications. These three countries combined represent 33.42% of all publications, which indicates that they have a significant contribution to knowledge development in this area. Australia is in fourth place with 22 publications (5.10%), followed closely by Malaysia with 20 (4.64%) and Indonesia with 16 (3.71%). Ethiopia has 14 publications (3.25%), France and Germany have 13 publications (3.02%) each, and Canada has 12 publications (2.78%). The top 10 countries have a combined total of 254 publications, which make up about 58.94% of the total publications, indicating that the majority of the publications are in the top 10 countries. This is perhaps linked to the UK's long history of research in teacher education, teacher induction, mentoring, early career teacher development, and school-based professional learning. Likewise, the high levels of activity in the United States, Australia, and Canada might be an indication of the more mature teacher-education research systems, and the ongoing policy focus on teacher quality, beginning-teacher retention, induction, and teacher professional learning. However, this bibliometric dominance does not necessarily imply that these countries have a higher need for CPD. It could also mean

International Journal of Education, Psychology and Counseling
IJEPC
EISSN : 0128-164X
Volume 11 Issue 65 (December 2026) PP. 127-147

that they have a better research infrastructure, publication capacity, international collaboration, and better representation of English-language publications in major bibliographic databases.

A significant discovery is that there are a significant number of developing and middle-income contexts (such as South Africa, Malaysia, Indonesia, and Ethiopia), indicating that the issue of professional development of novice teachers is not limited to established Western education systems. The third position is especially significant in South Africa and could be a result of the continued focus in research on teacher quality, the inequitable nature of the education system, teacher preparation and the challenges faced by new teachers as they enter a variety of school contexts with limited resources. Similarly, the comparatively high impact of Malaysia and Indonesia might relate to ongoing reforms in education and the growing focus on teacher professionalism, teacher competency development, teacher induction, and systematic professional learning as strategies to enhance the quality of education. The inclusion of Ethiopia in the top ten also suggests an increased focus on improving teacher capacity in the context of a lack of mentoring, resources, and ongoing professional development for novice teachers. On the other hand, the relatively low percentages of France and Germany should be understood with caution, as research on novice teachers could be published in different concepts, national languages, or in less visible outlets based on the search terms in the bibliometric data. The overall country distribution suggests that CPD for novice teachers has become a research field with a geographical spread, but also that the number of publications in the 10 countries with the highest number of publications (nearly 59%) indicates that there is a bias in knowledge production. This trend reinforces the need for increased research from underrepresented regions and cross-national research to broaden theories, models, and practices of novice-teacher professional development from a diversity of educational systems and sociocultural contexts.

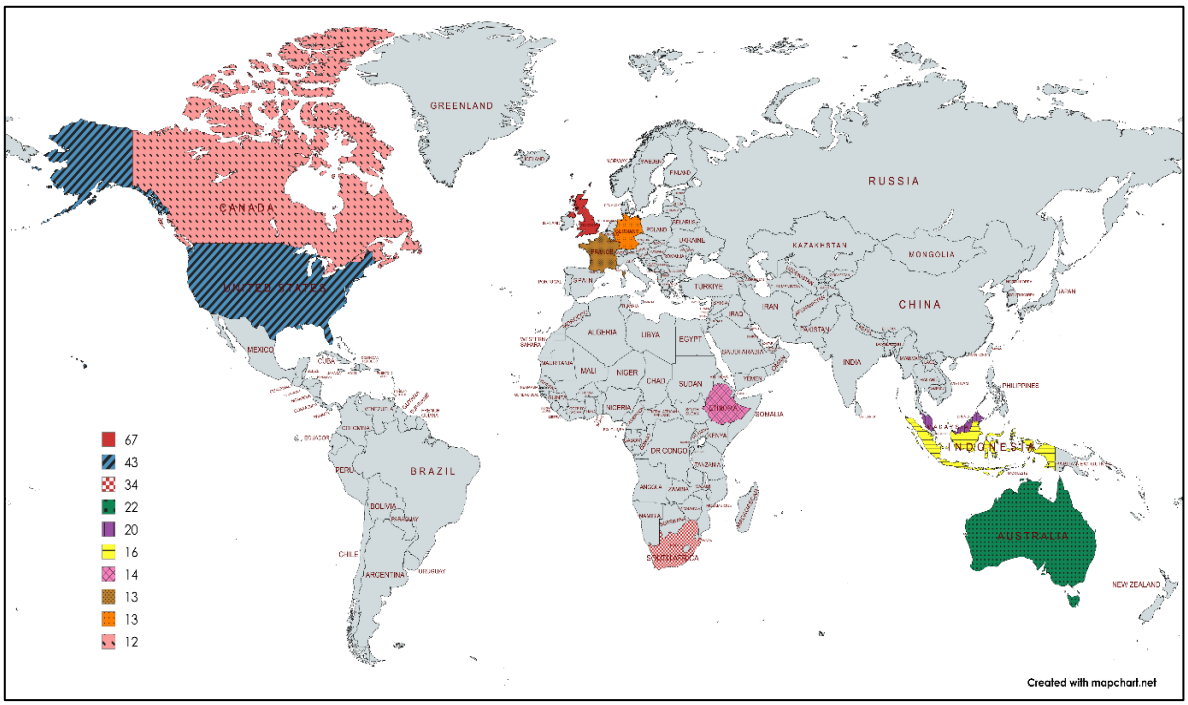


Figure 3: Leading Contributors To Continuing Professional Development Research In Terms Of Publication Output And Citation Performance

International Journal of Education, Psychology and Counseling
IJEPC
EISSN : 0128-164X
Volume 11 Issue 65 (December 2026) PP. 127-147

RQ4: ***What are the Dominant and Emerging Research Themes in Continuing Professional Development Based on Keyword Co-Occurrence Analysis?***

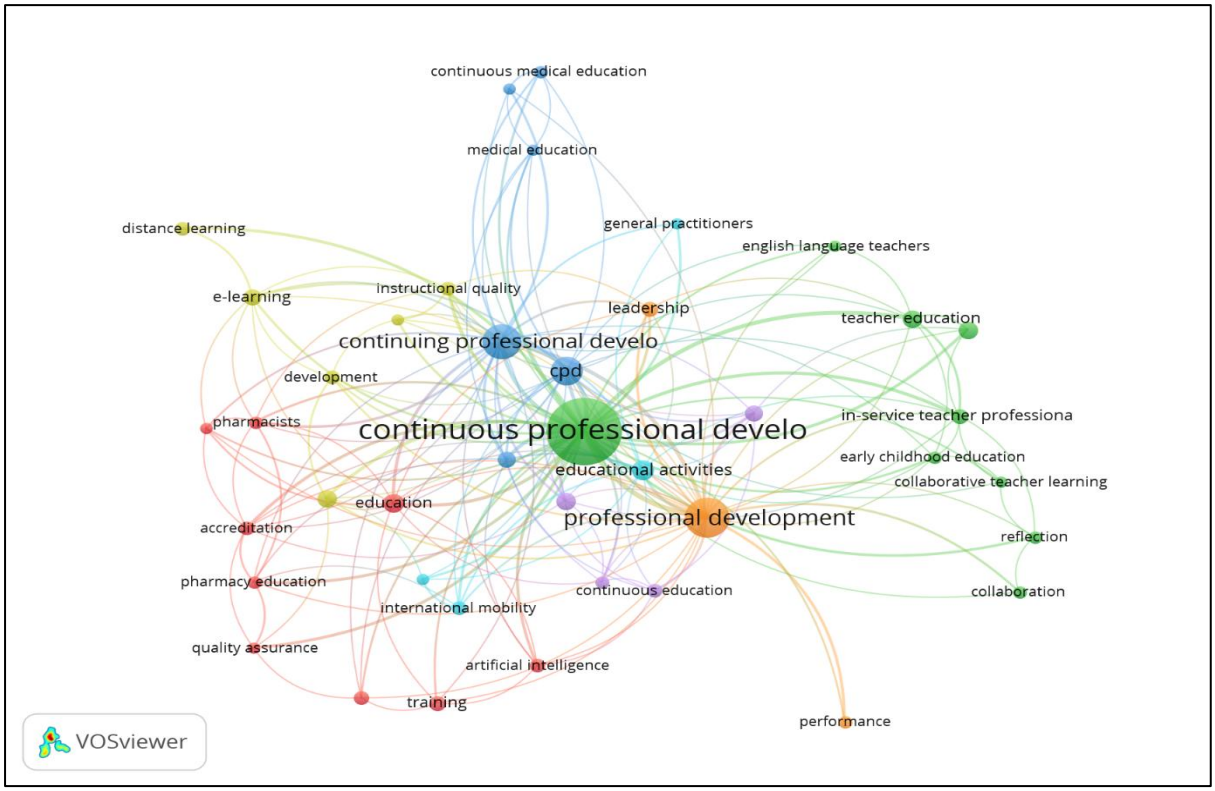


Figure 4: Dominant And Emerging Research Themes In Continuing Professional Development Based On Keyword Co-Occurrence Analysis

As displayed in Fig. 4, the keyword co-occurrence network has been significantly influenced by the keyword continuous professional development, which has the highest frequency of occurrence (170) and Total Link Strength (TLS = 169), suggesting that it is the main conceptual center in the literature. The next most frequent terms are professional development (61; TLS = 77), continuing professional development (45; TLS = 66) and CPD (30; TLS = 47). This co-occurrence of these two closely related phrases indicates a certain terminological confusion in the field, in the sense that conceptually similar expressions are used in a similar fashion in different disciplinary and institutional settings. The TLS of these terms, however, indicate that they are not standalone terms. Rather, they are deeply linked with a variety of substantive themes. The use of terms like educational activities (15; TLS = 29), education (13; TLS = 22), lifelong learning (11; TLS = 21), teacher education (12; TLS = 19), and in-service teacher professional development (9; TLS = 18) also suggest that CPD is conceptually located in the broader field of career-long learning, formal, and informal learning, and ongoing professional capability development. Evidence of teacher professional development (12; TLS = 10), instructional quality (7; TLS = 14), teachers (5; TLS = 9) and collaborative teacher learning (5; TLS = 6) further illustrates that the educational literature has come to view teacher professional development as a way to enhance instructional practice through ongoing, collaborative, and practice-based learning, not just through one-off training.

International Journal of Education, Psychology and Counseling
IJEPC
EISSN : 0128-164X
Volume 11 Issue 65 (December 2026) PP. 127-147

The network also suggests that the nature of CPD research is becoming more and more multidisciplinary and technology based. The keywords which mention information and communication technologies (12, TLS = 19), e-learning (11, TLS = 16), learning management system (5, TLS = 8), distance learning (7, TLS = 7), online learning (7, TLS = 7) and artificial intelligence (7, TLS = 10) indicate that technology-enabled professional learning has become a significant strand of the knowledge structure, especially when considering the shift of professional education towards more flexible, scalable, and digitally mediated forms. Meanwhile, the appearance of words like competence (12; TLS = 14), accreditation (8; TLS = 15), quality assurance (5; TLS = 10) and performance (6; TLS = 6) suggests there is a complementary focus on accountability and professional standards, and on the measurable outcomes of CPD. The presence of profession-specific terms such as pharmacists (6; TLS = 15), pharmacy education (6; TLS = 15), clinical competence (5; TLS = 10), continuous medical education (6; TLS = 9) and healthcare professionals (5; TLS = 8) indicates that the field of CPD has expanded beyond education to an interdisciplinary research area. The overall picture in Figure 2 indicates that the field is developing in the direction of three interrelated priorities: ongoing professional learning, technology-enabled development and competence-based quality development. The configuration suggests that today's research on CPD is not just about participation in CPD activities. It is also about the nature of CPD delivery, the integration of CPD into collaborative and lifelong learning systems, and the effectiveness of CPD in developing professional competence and practice.

RQ5: What are the Patterns of International Research Collaboration in Continuing Professional Development, as Revealed Through Country-Level Co-Authorship Networks?

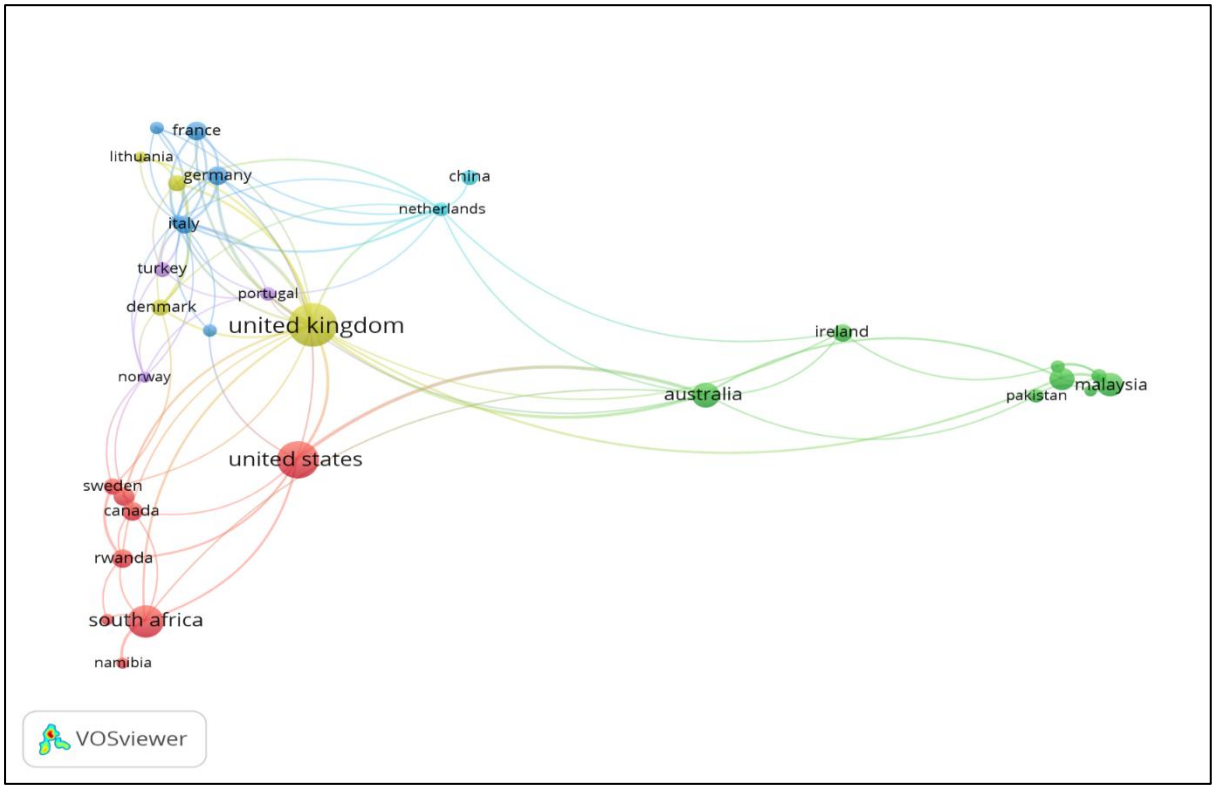


Figure 5: VOSviewer Visualization of Country-Level Co-Authorship Patterns

International Journal of Education, Psychology and Counseling
IJEPC
EISSN : 0128-164X
Volume 11 Issue 65 (December 2026) PP. 127-147

The country-level co-authorship network in Figure 5 indicates a clear clustering of research output and co-authorship ties among a relatively small number of countries. The United Kingdom is the largest contributor in terms of the number of documents (74), the number of citations (736) and the TLS of 40, and thus serves as the main collaboration centre in the network. The United States is next with 55 documents and the highest number of citations (765), though it has a significantly lower TLS of 15 compared to the United Kingdom. This contrast indicates that research from the United States has a strong influence in the scholarly world, though it is less integrated in cross-country collaboration in the mapped network. There is also a significant contribution from South Africa (41 documents; 214 citations; TLS = 11), which is an indication of increasing visibility of this country in the field of CPD research, and a moderate contribution from Australia (23 documents) with relatively strong international connectivity (TLS = 16). Malaysia and Indonesia have 22 and 19 documents, respectively, but Indonesia has a higher TLS (11 versus 7), indicating more international co-authorships per document published than Malaysia. The patterns demonstrate that publication productivity, influence of publications and intensity of collaboration are different aspects of national research performance and thus should not be interpreted as one another.

One interesting aspect of Figure 5 is that a number of countries with comparatively small publication volumes have very strong collaborations, suggesting strategic involvement in international research networks. Thus, Italy, which publishes only 12 documents, has a TLS of 29; Greece, which publishes six documents, has a TLS of 20; Germany (14; TLS = 18), Belgium (10; TLS = 17) and the Netherlands (8; TLS = 15) have high levels of collaborative connectivity relative to the number of documents published. These patterns indicate that these countries are involved in either very networked or multinational research partnerships that could help to share knowledge, diversify methods, and spread the results. On the other hand, countries like Ukraine (12 documents), India (11) and the Russian Federation (5) have a TLS of zero, which means that their publications were not linked to each other by cross-country co-authorship within the network created in VOSviewer based on the analytical criteria applied. Citation patterns also highlight the need to differentiate between visibility and productivity: Canada, Belgium, the Netherlands and Lithuania produce relatively high numbers of citations, but have small publication volumes, indicating that a small number of internationally visible publications can have a significant impact. All in all, the co-authorship topology reveals a somewhat uneven, but growing global network of research in which the traditional research systems are the key players, while smaller systems are emerging as important players through selective international collaboration. The results suggest that increasing transnational cooperation might be especially relevant to expand the geographical scope of CPD studies, the comparative relevance of CPD research, and the cumulative knowledge base of CPD research.

Conclusion

This study explored how CPD research has evolved and its knowledge structure, with a special focus on its relevance for novice teachers. The bibliometric analysis focused on five key aspects: evolution of publications over time, most influential publications (according to citation impact), leading countries of contribution, most prominent and emerging research areas, and international collaboration patterns. The results, from 431 records from 1993 to August 2026, indicate that CPD has been an increasing focus of research. While there was relatively little publication activity in the earlier years, this activity increased significantly after 2010, with the highest increase since 2020. The year with the most publications was 2024, with 53 publications, and the year with the second most publications was 2025, with 52 publications.

International Journal of Education, Psychology and Counseling
IJEPC
EISSN : 0128-164X
Volume 11 Issue 65 (December 2026) PP. 127-147

This trend highlights a growing interest in professional learning in the context of increased focus in education systems on professional competence, new ways of teaching, digital transformation, and continuous professional development.

The results also reveal that there is no linear relationship between publications and the influence of research. The most cited publication had 190 citations, and there were a number of recent publications with a high citation impact in a shorter time. On the country level, the United Kingdom had the highest number of publications and was a hub of the international collaboration network, while the United States had high citation influence. Research is concentrated in a few countries, suggesting a concentration of knowledge production, but the presence of some research in South Africa, Malaysia, Indonesia, Ethiopia and other developing contexts suggests some geographical spread. The co-authorship analysis also reveals that countries with lower numbers of publications can have high international connectivity, and that productivity, citation impact, and collaborative strength are all different facets of research performance.

The field is a conceptual structure that is characterized by continuity and change. Continuous professional development was the most common keyword (170 occurrences and a TLS of 169), followed by the term's professional development, continuing professional development, and CPD. This pattern indicates that there is some confusion in terminology and also that sustained professional learning is of interest to everyone. An important part of the knowledge base is the themes that are linked to teacher education, lifelong learning, quality of teaching, learning together, competence and education activities. Meanwhile, the increasing adoption of information and communication technologies, e-learning, online learning, learning management systems and artificial intelligence is a sign of the times and a move towards technology-supported professional learning. The findings of this research add to the literature by giving an overview of the evolution of research on CPD, the topics that have been more focused on and how research communities are linked across countries and professional settings.

In terms of practice, the results suggest that CPD for novice teachers is a process that needs to be continuous and linked together, rather than a series of training activities. There is a need for more focus on mentoring, collaboration, reflective practice, feedback, competence development and making use of digital technologies in professional learning initiatives. These strategies can facilitate the link between pre-service teacher training and in-service teacher practice and aid in teacher growth in the early years of teaching. In addition, the international patterns found in this study indicate the potential for increased collaboration between countries in education research, including with less-researched education systems. More context-sensitive evidence of the nature of professional development in various school systems, cultural contexts, resource circumstances and policy environments may be found through wider collaboration.

There are, however, some limitations that should be taken into account when interpreting the results. Only one bibliographic database was used, and English-language publications were included, which might underestimate relevant research published in other languages or in databases other than the one used. Limiting the search to the article-title field will increase the precision of the search but may exclude publications that may be relevant to the issue of CPD but do not include the specific terminology in the title. More significantly, the present search protocol was based on the title term "Continuous Professional Development" and so may include publications from professional fields other than novice-teacher education and may not

have included studies using other terms such as CPD, teacher professional development, beginning teachers, early-career teachers, or new teachers. Future bibliometric studies should use a wider range of CPD and novice-teacher terminology, include more databases, analyze indicators using citation normalization, and perform thematic and longitudinal analyses to understand how specific research topics evolve over time. The study has its limitations but is a useful evidence-based map of the development, influence, thematic structure and international connectivity of CPD scholarship. Bibliometric analysis, therefore, offers an important foundation for identifying established knowledge, locating areas that remain insufficiently examined, and guiding future research towards more systematic, inclusive, and context-responsive professional development for novice teachers.

Acknowledgements: The authors would like to express their sincere gratitude to Sultan Idris Education University for providing the necessary resources and support throughout the course of this research. Special appreciation is extended to colleagues and peers who contributed valuable insights and constructive feedback, which greatly enhanced the quality of this paper.

Funding Statement: No Funding

Conflict of Interest Statement: The authors declare that there is no conflict of interest regarding the publication of this paper. All authors have contributed to this work and approved the final version of the manuscript for submission to the International Journal of Education, Psychology and Counseling (IJEPC).

Ethics Statement: This study did not involve any human participants, animals, or sensitive data requiring ethical approval. The authors confirm that the research was conducted in accordance with accepted academic integrity and ethical publishing standards.

Author Contribution Statement: All authors contributed significantly to the development of this manuscript. Nor Hasnida was responsible for the conceptualization, methodology, and overall supervision of the study. Siti Nurzaida Rahayu handled data collection, analysis, and interpretation of results. Both authors contributed to the literature review, drafting, and critical revision of the manuscript. The article was read and approved the final version of the manuscript prior to submission.

International Journal of Education, Psychology and Counseling
IJEPC
EISSN : 0128-164X
Volume 11 Issue 65 (December 2026) PP. 127-147

References

AbdulRab, H. (2023). Teacher Professional Development in the 21st Century. *African Journal of Education and Practice*. https://doi.org/10.47604/ajep.2237

Abramson, L., & Schachter, E. (2024). Beginning Teachers Navigating Identity Development Transitions: Identity Motives and Commitment to Teaching. *Education Sciences*. https://doi.org/10.3390/educsci14111170

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

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

Austin, Z., Marini, A., Glover, N. M., & Croteau, D. (2005). Continuous professional development: A qualitative study of pharmacists' attitudes, behaviors, and preferences in Ontario, Canada. *American Journal of Pharmaceutical Education*, *69*(1), 25–33. https://doi.org/10.1016/s0002-9459(24)08702-3

Bengtsson, M., & Carlson, E. (2015). Knowledge and skills needed to improve as preceptor: Development of a continuous professional development course - a qualitative study part I. *BMC Nursing*, *14*(1). https://doi.org/10.1186/s12912-015-0103-9

Burger, J. (2023). Constructivist and Transmissive Mentoring: Effects on Teacher Self-Efficacy, Emotional Management, and the Role of Novices' Initial Beliefs. *Journal of Teacher Education*, *75*, 107–121. https://doi.org/10.1177/00224871231185371

Burger, J., Bellhäuser, H., & Imhof, M. (2021). Mentoring styles and novice teachers' well-being: The role of basic need satisfaction. *Teaching and Teacher Education*. https://doi.org/10.1016/j.tate.2021.103345

Burger, J., Schulz, P., & Imhof, M. (2023). Patterns of formal and informal support within teacher induction – latent classes and their implications for novices' competence and well-being. *Mentoring & Tutoring: Partnership in Learning*, *31*, 612–634. https://doi.org/10.1080/13611267.2023.2279892

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

Dyosini, T. (2024). Professional development of teachers: Perceptions and challenges of foundation phase teachers. *South African Journal of Childhood Education*. https://doi.org/10.4102/sajce.v14i1.1572

Eren, E. U., & Atay, D. (2025). Constructing professional identities: the role of school climate in early-career university teachers. *Asian-Pacific Journal of Second and Foreign Language Education*, *10*. https://doi.org/10.1186/s40862-025-00329-w

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

Fodor, A. I., & Albulescu, I. (2025). Theoretical framework of teacher professional development. *Educatia 21*. https://doi.org/10.24193/ed21.2025.31.46

Greenberg, C. C., Ghousseini, H. N., Pavuluri Quamme, S. R., Beasley, H. L., Frasier, L. L., Brys, N. A., Dombrowski, J. C., & Wiegmann, D. A. (2018). A Statewide Surgical Coaching Program Provides Opportunity for Continuous Professional Development. *Annals of Surgery*, *267*(5), 868–873. https://doi.org/10.1097/SLA.0000000000002341

Groenewald, E., & Arnold, L. (2024). Teacher professional identity: agentic actions of a novice teacher in a challenging school context. *Teachers and Teaching*, *31*, 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

Gu, Y. (2024). A Study of The Identity Process of Novice Teachers and Their Professional Adaptation. *Journal of Education, Humanities and Social Sciences*. https://doi.org/10.54097/bcwcca80

Holmes, B. (2013). School Teachers' Continuous Professional Development in an Online Learning Community: Lessons from a case study of an eTwinning Learning Event. *European Journal of Education*, *48*(1), 97–112. https://doi.org/10.1111/ejed.12015

Hooper, A., Potts, C., & Walton, M. (2022). Novice early childhood teachers' perceptions of their professional development experiences: an interpretive phenomenological approach. *Journal of Early Childhood Teacher Education*, *44*, 310–329. https://doi.org/10.1080/10901027.2022.2043495

Hu, J. (2025). Professional Development Needs of Novice English Teachers in Higher Education. *Journal of International Education and Development*. https://doi.org/10.47297/wspiedwsp2516-250009.20250906

Hu, Y.-Y., Peyre, S. E., Arriaga, A. F., Osteen, R. T., Corso, K. A., Weiser, T. G., Swanson, R. S., Ashley, S. W., Raut, C. P., Zinner, M. J., Gawande, A. A., & Greenberg, C. C. (2012). Postgame analysis: Using video-based coaching for continuous professional development. *Journal of the American College of Surgeons*, *214*(1), 115–124. https://doi.org/10.1016/j.jamcollsurg.2011.10.009

Kaplan, H. (2021). Promoting Optimal Induction to Beginning Teachers Using Self-Determination Theory. *SAGE Open*, *11*. https://doi.org/10.1177/21582440211015680

Kaplan, H. (2022). The unique effects of supporting beginning teachers' psychological needs through learning communities and a teacher-mentor's support: A longitudinal study based on self-determination theory. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.859364

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

Kereyeva, O. Z., 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

Khademi, E., Abdi, M., Saeidi, M., Piri, S., & Mohammadian, R. (2021). Emotional intelligence and quality of nursing care: A need for continuous professional development. *Iranian Journal of Nursing and Midwifery Research*, *26*(4), 361–367. https://doi.org/10.4103/ijnmr.IJNMR_268_19

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

Kilag, O., & Sasan, J. M. V. (2023). Unpacking the Role of Instructional Leadership in Teacher Professional Development. *Advanced Qualitative Research*. https://doi.org/10.31098/aqr.v1i1.1380

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

Neacșu, M., Mag, A., Muntean-Trif, L., & Glava, A. (2024). Analysis of reflective learning practices of beginner teachers in an innovative induction programme. *Journal of Educational Sciences & Psychology*. https://doi.org/10.51865/jesp.2024.2.03

Nickel, J., & Crosby, S. (2021). Professional identity values and tensions for early career teachers. *Teaching Education*, *33*, 317–331. https://doi.org/10.1080/10476210.2021.1895107

Njenga, M. (2022). Teacher Participation in Continuing Professional Development: A Theoretical Framework. *Journal of Adult and Continuing Education*, *29*, 69–85. https://doi.org/10.1177/14779714221123603

Peleman, B., Lazzari, A., Budginaitė, I., Siarova, H., Hauari, H., Peeters, J., & Cameron, C. (2018). Continuous professional development and ECEC quality: Findings from a European systematic literature review. *European Journal of Education*, *53*(1), 9–22. https://doi.org/10.1111/ejed.12257

Porcenaluk, S., O'Neachtain, A., & Connolly, C. (2023). Reimagining a framework for teachers' continuous professional development during curriculum reform. *Irish Educational Studies*, *42*, 931–948. https://doi.org/10.1080/03323315.2023.2250765

Quoc, T., Duyen, T., & Thanh, L. (2022). Novice Teachers' Professional Identity Reconstruction. *International Journal of Educational Methodology*. https://doi.org/10.12973/ijem.8.3.449

Rich, P. J., Mason, S. L., & O'Leary, J. (2021). Measuring the effect of continuous professional development on elementary teachers' self-efficacy to teach coding and computational thinking. *Computers and Education*, *168*. https://doi.org/10.1016/j.compedu.2021.104196

Sale, H. (2026). Induction Program for Beginning Teachers (IPBT) Implementation. *Journal of Education and Academic Settings*. https://doi.org/10.62596/jdswg391

Sancar, R., Atal, D., & Deryakulu, D. (2021). A new framework for teachers' professional development. *Teaching and Teacher Education*, *101*, 103305. https://doi.org/10.1016/j.tate.2021.103305

Sánchez-Tarazaga, L., Ruíz-Bernardo, P., Cosentino, V. V., & Esteve-Mon, F. (2022). University teaching induction programmes. A systematic literature review. *Professional Development in Education*, *50*, 279–295. https://doi.org/10.1080/19415257.2022.2147577

Schaap, H., Want, A., Oolbekkink-Marchand, H., & Meijer, P. (2021). Changes over time in the professional identity tensions of Dutch early-career teachers. *Teaching and Teacher Education*, *100*, 103283. https://doi.org/10.1016/j.tate.2021.103283

Stewart, T., & Jansky, T. (2022). Novice teachers and embracing struggle: Dialogue and reflection in professional development. *Teaching and Teacher Education: Leadership and Professional Development*. https://doi.org/10.1016/j.tatelp.2022.100002

Sydnor, J., Davis, T., & Daley, S. (2024). Learning from the Unexpected Journeys of Novice Teachers' Professional Identity Development. *Education Sciences*. https://doi.org/10.3390/educsci14080895

Vadivel, B., Namaziandost, E., & Saeedian, S. (2021). *Progress in English Language Teaching Through Continuous Professional Development—Teachers' Self-Awareness, Perception, and Feedback*. *6*. https://doi.org/10.3389/feduc.2021.757285

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

van Eck, N. J., & Waltman, L. (2017). Citation-based clustering of publications using CitNetExplorer and VOSviewer. *Scientometrics*, *111*(2), 1053–1070. https://doi.org/10.1007/s11192-017-2300-7

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

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

Zhang, H., & Wu, X. (2025). A Narrative Inquiry Into the Role of Emotional Experience in Novice Secondary School English Teachers' Identity Construction. *International Journal of Applied Linguistics*. https://doi.org/10.1111/ijal.12740

Zhang, X., Admiraal, W., & Saab, N. (2021). Teachers' motivation to participate in continuous professional development: relationship with factors at the personal and school level. *Journal of Education for Teaching*, *47*(5), 714–731. https://doi.org/10.1080/02607476.2021.1942804