

Global Competence of Teachers in Education: A Systematic Literature Review

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ABSTRACT

This study aimed to synthesise empirical evidence on the internal and external factors influencing teachers' global competence development through a systematic literature review guided by the ROSES protocol, PRISMA 2020 guidelines, and the PICo framework. Global competence has become increasingly important in twenty-first-century teacher education; however, previous studies have largely examined influencing factors separately, limiting understanding of their interconnected roles. A systematic search of the Scopus database identified 421 records published between 2020 and 28 June 2026. Following screening, eligibility assessment, and quality appraisal using the Mixed Methods Appraisal Tool (MMAT) 2018, 38 studies were included for final synthesis. Inductive thematic analysis identified two overarching dimensions: Internal Factors and External Factors, comprising ten subthemes. The findings indicate that teachers' global competence develops through the dynamic interaction between individual capacities and educational contexts. Based on the synthesis, this review proposes an Integrated Model of Teachers' Global Competence Development, consisting of three interrelated processes: internal capacity formation, contextual enabling conditions, and global competence enactment in professional practice. The model highlights that teachers' beliefs, values, identity, and readiness interact with curriculum, pedagogy, institutional support, and professional development to facilitate global competence development. This review contributes a theoretical foundation for designing teacher education programmes and policies that strengthen teachers' capacity to respond to global education demands.

Keywords: Global competence; Teachers global competence; Global education; Moral competence; Sustainable Development Goal 4

INTRODUCTION

The 21st century demands a profound transformation in global education systems. The rapid pace of globalization, advances in digital technology, increased human mobility, and increasingly widespread cross-cultural interaction have fundamentally reshaped the landscape of global education. Within this context, educational institutions no longer bear merely the traditional responsibility of producing individuals who master academic knowledge alone. Rather, these institutions must shape individuals capable of analyzing complex global issues, appreciating cultural diversity, communicating effectively across borders, and acting responsibly toward global well-being. To meet this critical demand, global competence has emerged as one of the core attributes most emphasized in contemporary educational reform.

Recognition of the importance of this aspect is clearly reflected through two of the most influential international initiatives in the global education arena. First, the Organisation for Economic Co-operation and Development (OECD, 2018) introduced global competence as a new assessment domain in the Programme for International Student Assessment (PISA) in 2018. Through this initiative, a globally competent individual is defined as one

capable of analyzing local, global, and intercultural issues, while also being able to understand and appreciate the perspectives and worldviews of others. Such individuals are also able to engage in open, appropriate, and effective interactions with people from different cultural backgrounds, and to act toward collective well-being and sustainable development (OECD, 2020). In line with this agenda, UNESCO emphasizes the importance of global competence through Global Citizenship Education (GCED) and Sustainable Development Goal 4.7 (SDG 4.7), which aims to ensure that all learners acquire the knowledge and skills needed to promote sustainable development by 2030 (UNESCO, 2021). Within this dynamic framework, the role of teachers is absolute and irreplaceable. Teachers with global competence are able to integrate global perspectives into the curriculum, effectively manage multicultural classrooms, foster meaningful intercultural dialogue, and guide students to become responsible global citizens. Therefore, global competence should no longer be viewed merely as an added value in the teaching profession, but rather as a fundamental professional competency that every educator must master in order to face the challenges of contemporary education.

Although there has been an increase in the quantity of studies in this field, this development does not necessarily reflect an improvement in the quality of synthesis produced. Previous literature reviews, despite their important contributions, still exhibit several significant limitations. Zhao (2010) was among the pioneers who highlighted the need for globalization in teacher education; however, that study's focus was more centered on educational policy aspects rather than concrete pedagogical practices. Meanwhile, Jooste and Heleta (2017) discussed issues of internationalization in higher education, but the scope of their study was limited to the South African context without involving a systematic evaluation of methodological quality. In general, existing reviews have made insufficient use of formal quality assessment instruments, in addition to failing to reflect recent shifts in the field particularly the profound changes in global pedagogical approaches following the COVID-19 pandemic.

This study aims to conduct a systematic literature review (SLR) of research related to global competence in teacher education, with particular focus

on the internal and external factors interrelated with this competence. To ensure that the synthesis of findings directly addresses the stated objectives, this review is guided by three main research questions: (1) What internal factors influence the development of teachers' global competence? (2) What external factors influence the development of teachers' global competence? and (3) What dominant patterns and conceptual relationships exist between these internal and external factors? The findings of this study are expected to provide clear direction and reference for future research in this field, particularly in geographical contexts that remain underexplored, such as Malaysia and the Southeast Asian region.

METHODOLOGY

Review Protocol ROSES

This Systematic Literature Review (SLR) was guided by ROSES (Reporting Standards for Systematic Evidence Syntheses). ROSES, developed by Haddaway et al. (2018), aims to strengthen and maintain a robust methodology for conducting SLRs by enhancing transparency and ensuring and controlling review quality. This review protocol is suitable for the current review because it was developed to accommodate the nuances and heterogeneity across diverse situations and research related to synthesis methods (Haddaway et al., 2018).

Guided by ROSES, the SLR process began with formulating the research question using the PICO method: 'P' for Population, 'I' for Interest, and 'Co' for Context. Next, the document search strategy was planned and conducted according to three systematic phases: identification, screening, and eligibility. The quality appraisal process was then carried out based on criteria adapted from Hong et al. (2018). Finally, the selected articles were processed through data extraction and thematic analysis.

Research Questions

The research questions were formulated using the PICO framework (Lockwood et al., 2015), comprising three components: Population, Interest, and Context. The 'Population' component refers to teachers, specifically secondary school teachers. The 'Interest' component encompasses teachers' global competence in secondary

school education. The 'Context' component refers to teacher education (pre-service and in-service) and encompasses national education policy and teacher competence. Based on this PICO framework, the main research question was formulated as: "How is global competence conceptualised, developed, and implemented in teacher education based on the existing literature for the period 2020 to 2026?"

Table 1. PICO Framework for the SLR on Global Competence in Teacher Education

PICO Element	Description	Application in This Study
Population	The group that is the focus of the study	Teachers, pre-service teachers, and in-service teachers
Interest Phenomenon /	The phenomenon or concept examined	Global competence in education: conceptualisation, dimensions, influencing factors, pedagogical approaches
Context	The setting or background of the study	Teacher education; Malaysian and international contexts

Identification

Based on the formulated research question, three main keywords were identified: teacher, global competence, and education. To enrich these keywords, the researchers searched for synonyms, related terms, and variations referring to keywords used in previous studies as well as keywords suggested by the Scopus database.

Scopus was selected as the primary database as it is one of the largest and most comprehensive bibliographic databases in the fields of social science and education (Lazzarini & Foguet, 2017). This study acknowledges that the use of a single database constitutes a methodological limitation; high-standard SLRs typically employ multiple databases. However, the use of Scopus alone is justified for two reasons: (1) Scopus provides the most comprehensive coverage in the fields of social science and education; and (2) the use of a single database allows for a more controlled and replicable search strategy.

Table 2. Search String Used in the Scopus Database

Database	Search String
Scopus	TITLE-ABS-KEY ("global competence" OR "global competency" OR "global competencies" OR "global competences") AND ("education" OR "teacher" OR "educator")

Screening

Screening was the second procedure carried out to determine whether identified articles were eligible for inclusion or exclusion, based on the inclusion and exclusion criteria established prior to the search (Table 3). This study set the publication period from 2020 to 28 June 2026 as the inclusion criterion, based on two main considerations. First, the need to synthesise recent developments in the field of global competence following the COVID-19 pandemic, which began in 2020 and profoundly changed global pedagogical approaches. Second, the need to ensure the study's findings reflect the current state of the field, in order to support the development of models relevant to contemporary educational realities. Only peer-reviewed journal articles published in English within the Social Sciences field were included; conference proceedings, book chapters, theses, review articles, and non-journal publications were excluded, as they did not meet the empirical evidence standards required for a rigorous SLR.

Table 3. Inclusion and Exclusion Criteria

Criterion	Inclusion	Exclusion
Period	2020 to 28 June 2026	2019 and earlier
Document type	Peer-reviewed journal articles	Review articles, book chapters, books, conference proceedings, theses, and others
Language	English	Other than English
Field	Social Sciences	Other than Social Sciences
Database	Scopus	Other databases

Study focus	Global competence in education, teachers, teacher education, or educators	Studies unrelated to education or global competence
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Eligibility

At this stage, all articles that passed the screening were manually assessed by examining the title, abstract, and full-text content. Articles were excluded if global competence was mentioned only incidentally without substantive discussion, if they were unrelated to the field of education, or if they did not meet the scope of the study. Articles without accessible full text were also excluded. The entire screening process, guided by PRISMA 2020, is summarised in Figure 1. Of the 421 records identified through Scopus, 73 records were deemed ineligible by the tool (not within the Social Sciences field), leaving 348 records for screening. Following further automated exclusion ($n = 108$, not articles), 240 reports were sought for retrieval, of which 12 could not be retrieved. Of the 228 reports assessed for eligibility, 154 were excluded (143 not in English; 33 with an irrelevant scope or inaccessible full text), resulting in 38 final articles that were included in the study and assessed using the MMAT 2018.

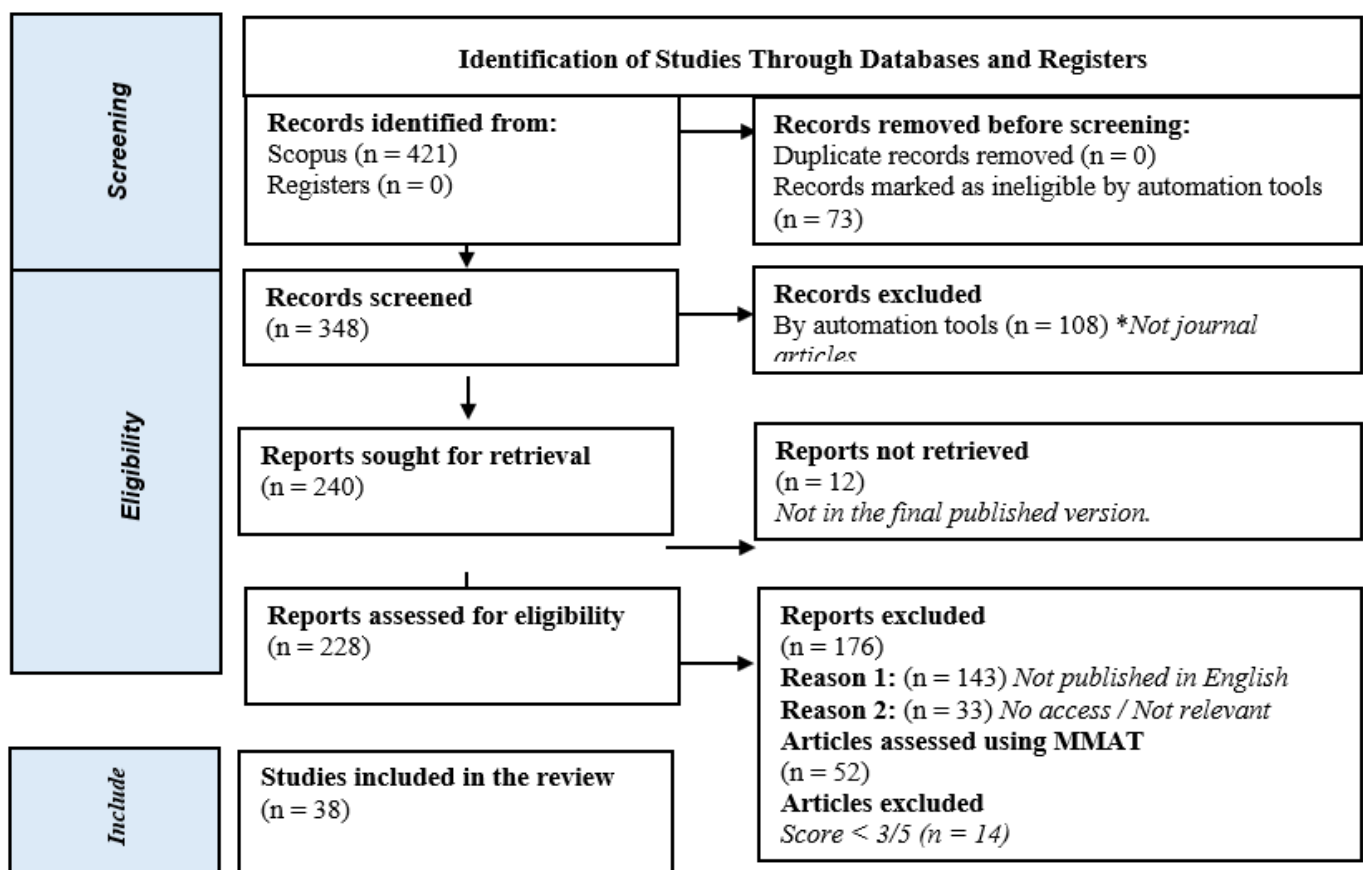


Figure 1 (PRISMA 2020 flow diagram summarising the identification, screening, and eligibility process) is available in the original review dataset.

Quality Appraisal

Quality appraisal was carried out using the Mixed Methods Appraisal Tool (MMAT) 2018, developed by Hong et al. (2018). The MMAT enables researchers to systematically assess mixed-methods studies and covers the assessment of five study types: qualitative research, randomised controlled trials, non-randomised studies, quantitative descriptive studies, and mixed-methods studies (Hong et al., 2018). For each selected study, two screening processes were conducted prior to proceeding to the quality appraisal, as shown in Table 4, which presents the criteria for assessing the methodological rigour and analysis of the selected articles.

Table 4. Criteria for Assessing Methodological Rigour and Analysis of Selected Articles (Source: Hong et al., 2018)

Study Design	Appraisal Criteria
Qualitative	QA1 – Is the qualitative approach appropriate to answer the research question? QA2 – Are the qualitative data collection methods adequate to address the research question? QA3 – Are the findings adequately derived from the data? QA4 – Is the interpretation of results sufficiently substantiated by data? QA5 – Is there coherence between the data sources, collection, analysis, and interpretation?
Quantitative: Randomised Controlled Trials	QA1 – Is randomisation appropriately performed? QA2 – Are the groups comparable at baseline? QA3 – Are outcome data complete? QA4 – Are outcome assessors blinded to the intervention received by participants? QA5 – Did participants adhere to the assigned intervention?
Quantitative (Descriptive)	QA1 – Is the sampling strategy relevant to address the research question? QA2 – Is the sample representative of the target population? QA3 – Are the instruments and measures used appropriate? QA4 – Is the risk of non-response bias low? QA5 – Is the statistical analysis appropriate to answer the research question?
Quantitative (Non-Randomised)	QA1 – Are the participants representative of the target population? QA2 – Are the measurements appropriate for both the outcome variable and the intervention (or exposure)? QA3 – Are outcome data complete? QA4 – Are confounders accounted for in the study design and analysis? QA5 – Was the intervention (or exposure) administered as intended throughout the study period?
Mixed Methods	QA1 – Is there an adequate rationale for using a mixed-methods design? QA2 – Are the qualitative and quantitative components effectively integrated to answer the research question? QA3 – Are the outputs of the integration of the qualitative and quantitative components adequately interpreted? QA4 – Are divergences and inconsistencies between qualitative and quantitative findings adequately addressed? QA5 – Do the different components of the study meet the quality criteria of their respective methodological traditions?

The researchers jointly assessed the methodological rigour and analysis of each article, focusing on the methodology and analysis sections. Guided by the MMAT, each article was assessed against five criteria with three possible responses: "Yes", "No", and "Cannot tell". Articles were included in the review if they achieved a minimum score of 3 out of 5. Overall, all 38 included articles passed the MMAT 2018 appraisal with a score of at least 3 out of 5 criteria. Articles scoring 5 out of 5 were considered of high quality, those scoring 4 out of 5 of good quality, while those scoring 3 out of 5 met the minimum inclusion requirement. This formal quality appraisal enhanced the reliability of the synthesis, as it (1) ensured that only empirical evidence with adequate methodological rigour was included, (2) reduced the risk of selection bias commonly found in traditional literature reviews, and (3) enabled the researchers to weigh the strength of evidence when interpreting the findings of the thematic synthesis.

Table 5. Overall MMAT Scores for the Selected Articles

Author	Year	Country	Design	QA1	QA2	QA3	QA4	QA5	Score
Magulod et al.	2020	United States	QN	Y	N	Y	N	Y	3/5
Newton et al.	2020	United States	MM	Y	Y	Y	N	N	3/5
Chandir & Gorur	2021	Australia	QL	Y	Y	Y	Y	N	4/5

López & Lara	2021	United States / Chile	QL	Y	Y	Y	N	N	3/5
Mardi et al.	2021	Indonesia	QN	Y	N	Y	N	Y	3/5
Anderson	2022	United States	QN	Y	Y	Y	N	N	3/5
Garcia-Esteban & Colpaert	2022	Spain / Belgium	QL	Y	Y	Y	N	N	3/5
Karanikola et al.	2022	Greece	QL	Y	Y	Y	N	Y	4/5
Khoo	2022	Canada	QL	Y	Y	Y	Y	N	4/5
Parmigiani et al.	2022	Canada / Italy	QL	Y	Y	Y	Y	N	4/5
Sokal & Parmigiani	2022	Canada / Italy	QL	Y	Y	Y	N	Y	4/5
Baidoo-Anu et al.	2023	Canada / Ghana	QL	Y	Y	Y	Y	Y	5/5
Karanikola & Panagiotopoulos	2023	Greece	QL	Y	Y	Y	N	Y	4/5
Samofalova et al.	2023	Russia	QL	Y	Y	Y	N	N	3/5
Wu & Li	2023	Canada / China	QL	Y	Y	Y	Y	Y	5/5
Biay & Tenorio	2024	Philippines	QL	Y	Y	Y	N	Y	4/5
Bilbokaitė et al.	2024	Latvia / Lithuania	QL	Y	Y	Y	Y	N	4/5
Glimäng & Sauro	2024	United States / Sweden	QL	Y	Y	Y	Y	N	4/5
Ng	2024	Australia	QL	Y	Y	Y	Y	Y	5/5
Richter & Kjellgren	2024	Sweden	QN	Y	Y	Y	N	Y	4/5
Wu & Zhang	2024	China	QL	Y	Y	Y	Y	Y	5/5
Yacob et al.	2024	Malaysia	QL	Y	Y	Y	Y	N	4/5
Zhang et al.	2024	China	QL	Y	Y	Y	Y	Y	5/5
Braičić	2025	Croatia	QN	Y	Y	Y	N	Y	4/5
Jones et al.	2025	United Kingdom / Australia	QN	Y	Y	Y	Y	N	4/5
Li	2025	China	MM	Y	Y	Y	Y	N	4/5
Low	2025	Singapore	QL	Y	Y	Y	Y	Y	5/5
Triyanto	2025	Indonesia	QL	Y	Y	Y	N	Y	4/5
Wang et al.	2025	Australia	QL	Y	Y	Y	N	Y	4/5
Ying et al.	2025	China	QN	Y	Y	Y	Y	N	4/5
Yoon et al.	2025	United States / South Korea	QN	Y	Y	Y	Y	N	4/5
Anapey	2026	Ghana	MM	Y	Y	Y	Y	N	4/5
Fujishima & Johnson	2026	Japan	QL	Y	Y	Y	Y	N	4/5
Karumanthra et al.	2026	United States	QL	Y	Y	Y	Y	N	4/5
Kolachev & Kovaleva	2026	Russia	QN	Y	Y	Y	Y	Y	5/5
Sabaté-Dalmau et al.	2026	Spain	QL	Y	Y	Y	Y	N	4/5
Slimani	2026	Tunisia	QN	Y	Y	Y	N	N	3/5
Yang	2026	China	QL	Y	Y	Y	N	Y	4/5

Note: QN = Quantitative; QL = Qualitative; MM = Mixed Methods; Y = Yes; N = No.

Data Extraction and Analysis

The selected articles were analysed using thematic synthesis, given that this literature review encompassed a variety of research designs. This diversity of study designs made thematic synthesis an appropriate approach for integrating findings from heterogeneous sources (Thomas & Harden, 2008). This study adapted the thematic



synthesis approach proposed by Flemming et al. (2019), supported by the thematic analysis principles of Braun and Clarke (2006, 2019) and the six-step guide of Kiger and Varpio (2020), which affirm that this method is suitable for synthesising evidence from diverse research designs due to its flexible and systematic nature.

The first process involved the researchers familiarising themselves with the entire dataset through repeated reading of all selected articles. The second process involved generating initial codes: all articles were read systematically, and information relevant to the research questions was extracted and coded according to key aspects. Subsequently, codes with similarities were merged to form themes through inductive coding, producing two descriptive themes and 11 subthemes, which were refined through iterative review.

At the final stage, to ensure the findings directly addressed the three research questions guiding this review, the two descriptive themes were re-synthesised without altering any subtheme, code, or original finding into two main themes aligned with the PICO structure and study objectives: (1) internal factors developing teachers' global competence, (2) external factors developing teachers' global competence, and (3) the dominant patterns and conceptual relationships between internal and external factors. This process merely combined the existing descriptive themes according to their analytical function, without generating new findings. The final results of this thematic synthesis were used to identify research trends, developmental factors, dimensions of global competence, outcomes or impacts, and research gaps in the field of teachers' global competence in education. Table 5 presents the overall MMAT scores for the selected articles; the journals in which the 38 articles were published are also documented in the review dataset.

FINDINGS

Of the 38 articles analysed, 6 articles (15.8%) were classified as predominantly addressing internal factors, 21 articles (55.3%) predominantly addressed external factors, 2 articles (5.3%) discussed both types of factors in a balanced manner, while 10 articles (26.3%) showed no clear indication of factor type at the abstract level. This finding confirms the pattern reported in previous reviews, namely that external factors are far more frequently examined than internal factors in the literature on teachers' global competence.

In terms of study design, qualitative approaches dominated with 24 articles (63.2%), reflecting that the field of global competence in teacher education remains largely focused on exploring concepts, experiences, and pedagogical practices. A total of 11 articles (28.9%) employed quantitative designs, and 3 articles (7.9%) used mixed methods. This dominance of qualitative studies indicates that the causal relationships between factors, dimensions, and outcomes of global competence have yet to be empirically confirmed through robust quantitative studies. Figure 2 shows the trend in study designs conducted from 2020 to 2026.

The trend of studies on teachers' global competence in the United States indicates that current understanding of teachers' global competence remains largely shaped by Western educational perspectives and contexts.

Studies from Southeast Asia, including Malaysia, remain very limited, suggesting that the global competence models produced may be less relevant, or may require adaptation, for the educational context of this region. The United States was the largest contributor with 7 studies, followed by China (6 studies), Canada (5 studies), and Australia (4 studies). Italy, Sweden, Ghana, Indonesia, Greece, Russia, and Spain each contributed 2 studies, while 12 other countries each contributed only one study. Figure 3 shows the trend of countries publishing articles from 2020 to 2026 (publications up to 28 June 2026).

Based on year of publication, the highest number of articles was published in 2025 and 2024, with 8 articles each, followed by 2026 (7 articles), 2022 (6 articles), 2023 (4 articles), 2021 (3 articles), and only 2 articles in 2020. This trend shows an increase in the number of studies after 2020, a decline in 2023, and renewed growth from 2024 onward, in line with the maturation of this field in the post-pandemic period. Figure 4 shows the annual publication trend of articles from 2020 to 2026 (publications up to 28 June 2026).

Overall, the selected articles demonstrated good methodological quality. The trend towards qualitative studies reflects that the field of global competence in teacher education remains at the stage of concept exploration,

experience, pedagogical practice, and framework development. Nevertheless, the presence of quantitative studies, mixed methods, and quasi-experimental designs indicates that this field is progressing towards empirical measurement, model testing, and evaluation of intervention effectiveness.

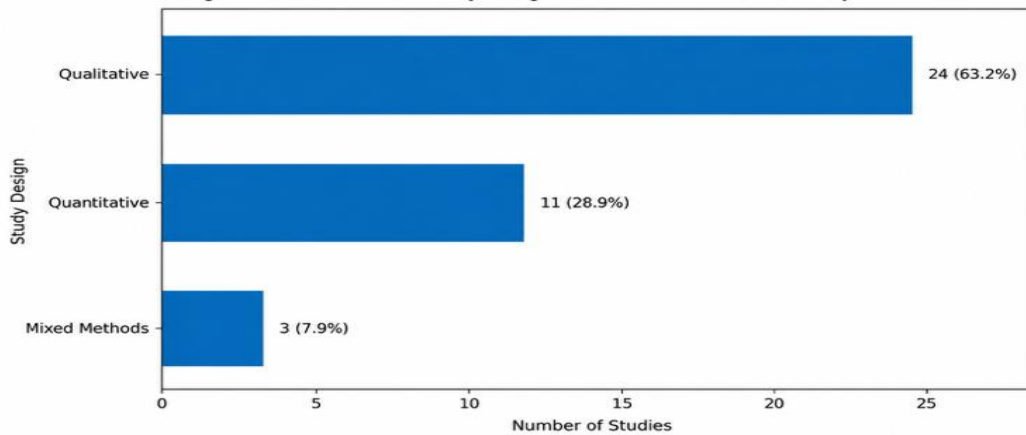


Figure 2. Trend in Study Designs, 2020–2026

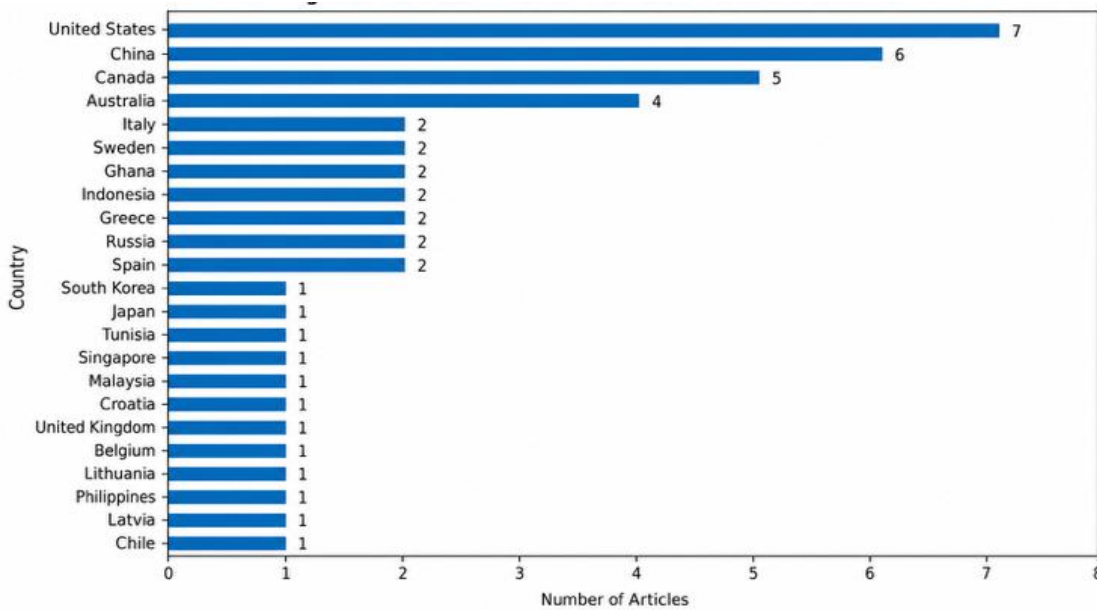


Figure 3. Trend in Countries of Article Publication, 2020–2026

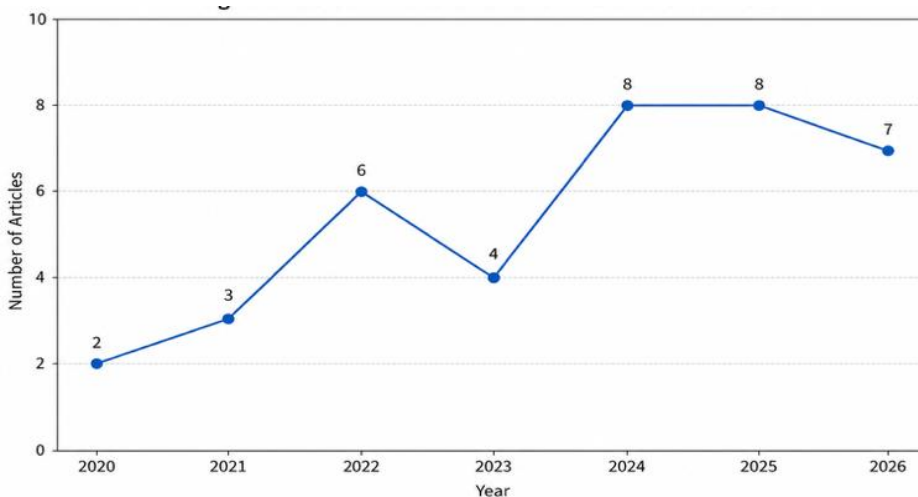


Figure 4. Annual Publication Trend of Articles, 2020–2026

Themes Developed

Inductive thematic analysis of the 38 selected articles initially produced two descriptive themes and 10 subthemes. To ensure the findings directly addressed the purpose of this literature review, the two descriptive themes were re-synthesised without altering the subthemes, extraction codes, or original findings into two main themes aligned with the three research questions: (1) What internal factors influence the development of teachers' global competence? (2) What external factors influence the development of teachers' global competence? and (3) What are the dominant patterns and conceptual relationships between internal and external factors? Table 7 presents the overall distribution of the 10 subthemes across the 38 articles analysed.

Table 7. Distribution of Subthemes Across the 38 Analysed Articles

Author	Year	Theme 1: Internal Factors				Theme 2: External Factors				
		AVB	PDI	SEC	MR	PC	PCP	ILS	IEM	PDT
Magulod et al.	2020	✓				✓	✓			
Newton et al.	2020		✓			✓			✓	
Chandir & Gorur	2021					✓				
López & Lara	2021						✓	✓	✓	
Mardi et al.	2021				✓			✓		
Anderson	2022	✓	✓		✓					
Garcia-Esteban & Colpaert	2022					✓	✓	✓		
Karanikola et al.	2022						✓			✓
Khoo	2022					✓		✓		
Parmigiani et al.	2022		✓				✓			
Sokal & Parmigiani	2022									
Baidoo-Anu et al.	2023	✓		✓		✓	✓			
Karanikola & Panagiotopoulos	2023	✓								✓
Samofalova et al.	2023		✓				✓			
Wu & Li	2023						✓			
Biay & Tenorio	2024				✓	✓	✓		✓	
Bilbokaitė et al.	2024							✓		✓
Glimäng & Sauro	2024	✓	✓					✓	✓	
Ng	2024	✓				✓				
Richter & Kjellgren	2024		✓			✓				
Wu & Zhang	2024	✓		✓						
Yacob et al.	2024	✓	✓			✓	✓			✓
Zhang et al.	2024	✓							✓	
Braičić	2025	✓				✓			✓	
Jones et al.	2025									
Li	2025	✓	✓							
Low	2025					✓				
Triyanto	2025	✓				✓	✓	✓		
Wang et al.	2025				✓	✓	✓	✓		✓
Ying et al.	2025							✓		
Yoon et al.	2025	✓	✓	✓	✓		✓	✓		✓
Anapey	2026		✓			✓	✓			

Fujishima & Johnson	2026		✓	✓		✓	✓	✓		
Karumanthra et al.	2026	✓	✓			✓				
Kolachev & Kovaleva	2026	✓								
Sabaté-Dalmau et al.	2026					✓	✓			
Slimani	2026	✓				✓	✓			
Yang	2026	✓	✓				✓			✓
Number of Studies		17	13	4	5	19	18	11	6	7
AVB = Attitudes, Beliefs, and Values; PDI = Professional Identity and Disposition; SEC = Self-Efficacy and Confidence; MR = Motivation and Readiness; PC = Policy and Curriculum; PCP = Pedagogy and Classroom Practices; ILS = Institutional Support, Leadership, and Collaboration; IEM = International Experience and Mobility; PDT = Professional Development and Training; GASDG = Global Agenda and Sustainable										

This theme addresses the first and second research questions: what factors are associated with, or develop, teachers' global competence? The ten descriptive subthemes are re-synthesised here into two classes of internal and external factors to reveal patterns that are more analytically critical than a mere listing of subthemes.

Internal Factors Influencing Teachers' Global Competence

Analysis of the 38 articles identified four internal-factor subthemes: Attitudes, Beliefs and Values (SN, n = 17); Professional Identity and Disposition (ID, n = 13); Motivation and Readiness (MO, n = 5); and Self-Efficacy and Confidence (EK, n = 4).

Attitudes, Beliefs and Values

Braičić (2025) reported that teachers and teacher trainees in Croatia considered themselves better prepared to teach human rights, global inequality, and democracy, but less prepared regarding topics of migration and energy. Karanikola and Panagiotopoulos (2023) found that adult educators in Greece recognised the importance of global-competence training, although the majority had not received formal exposure to it. Triyanto (2025) found that Indonesian teachers displayed a positive orientation towards multicultural education, but that their conceptual understanding was shallow and inconsistent. Baidoo-Anu et al. (2023) identified four belief factors held by Ghanaian teachers regarding students' self-assessment; the majority of teachers displayed disinterest or negative views. Zhang et al. (2024), through a meta-analysis of 37 teacher-training studies, found that formal interventions had a greater effect on knowledge and skills than on attitudes.

Anderson (2022) found that the personal ideology and learner identity of an American hyperpolyglot shaped his readiness to communicate across cultures. Li (2025) found that the conceptual framework held by rural Chinese teachers regarding global education was shaped by individual teaching experience. Karumanthra et al. (2026) found that the personal sustainability values of teacher candidates in Germany, India, and the United States shaped how they interpreted the need for sustainable-energy education. Yoon et al. (2025) reported improvements in the cultural intelligence and STEM affinity of American and Korean teacher candidates following a virtual collaboration programme, although the motivational dimension of cultural intelligence did not increase. Magulod et al. (2020) found that being a "values-driven educator" ranked lowest among five graduate attributes compared with other attributes such as being a lifelong learner. Wu and Zhang (2024) examined predictors of students' global competence via PISA 2018, with teachers' intercultural attitudes as one secondary variable. Kolachev and Kovaleva (2026) measured teachers' cognitive abilities relative to students', with global competence as a minor component of the test instrument. Ng (2024) focused on preschool pupils. Yacob et al. (2024), Yang (2026), and Slimani (2026) were, respectively, an expert-consensus study, a bibliometric analysis, and a conceptual discourse study.

Professional Identity and Disposition

Newton et al. (2020) found that the curriculum and co-curricular activities of study-abroad programmes deepened pre-service teachers' understanding of global social justice. Glimäng and Sauro (2024) found that a

seven-week virtual-exchange programme increased participants' intercultural awareness and self-reflective pedagogy. Richter and Kjellgren (2024) found that engineering students believed effective global educators require open-mindedness, a global mindset, and social skills. Fujishima and Johnson (2026) constructed a nine-component framework to address challenges such as low self-efficacy and passive learning within the context of English-Medium Instruction (EMI) in Japan. Anapey (2026) found that the professional dispositions of West African teachers remained tied to textbook-based teaching practices. Parmigiani et al. (2022), through a study of 24 teacher educators from 15 European countries, conceptualised global competence as a multidimensional construct related to cooperation, inclusion, and social engagement. Yaccob et al. (2024) built an ESL knowledge-domain framework through expert consensus. Samofalova et al. (2023) linked adaptive (flipped-classroom) learning to the OECD discourse on global competence, with findings centred on linguistics students' achievement. Li (2025), Karumanthra et al. (2026), and Yoon et al. (2025) also contributed findings as noted in the preceding subsection.

Motivation and Readiness

Mardi et al. (2021) found that the competence of Indonesian vocational accounting teachers was influenced by work motivation rather than principal leadership. Wang et al. (2025) found that STEM teachers' motivational challenges within regional joint education programmes (language barriers, pedagogical conflict) hindered the translation of training into practice. Anderson (2022) contributed a motivation-related finding through the concept of willingness to communicate. Biay and Tenorio (2024) found that year of study influenced the level of global citizenship among Filipino pre-service teachers more strongly than overseas experience did. Yoon et al. (2025) reported all four internal subthemes concurrently, with the motivational dimension of cultural intelligence increasing less than the other dimensions.

Self-Efficacy and Confidence

Baidoo-Anu et al. (2023) identified teachers' confidence in students' capacity to conduct self-assessment as one of four belief factors. Fujishima and Johnson (2026) identified low self-efficacy as one of six recurring challenges within Japanese EMI contexts. Wu and Zhang (2024) found that students' self-efficacy regarding global issues was linked to teachers' intercultural attitudes. Yoon et al. (2025) found an increase in the cognitive and metacognitive dimensions of cultural intelligence following the intervention.

External Factors Influencing Teachers' Global Competence

Six external-factor subthemes were identified: Policy and Curriculum; Pedagogy and Classroom Practice; Institutional Support, Leadership and Collaboration; International Experience and Mobility; Professional Development and Training; and Global Agenda and Sustainable Development Goals.

Policy and Curriculum

Magulod et al. (2020) found that programme learning outcomes were related to the extent to which global competence was formally integrated into the curriculum. Low (2025) proposed a "cline of glocality" model for English-language teacher education curricula in Singapore. Anapey (2026) found that content-based assessment remained prioritised despite standards-based curricula demanding authentic assessment. Braičić (2025) found that Croatian teachers and teacher trainees recognised the influence of the European Union on national education policy. Chandir and Gorur (2021) found that PISA instruments were not yet able to provide useful guidance for policy and practice in achieving SDG 4.7. Karumanthra et al. (2026) found a gap between national policy ambitions and the reality of teacher preparation for sustainable-energy education across three countries. Ng (2024) applied the OECD 2018 framework to analyse preschool drama pedagogy. Richter and Kjellgren (2024) found that engineering curricula need to explicitly integrate global-competence learning. Yaccob et al. (2024) developed an ESL knowledge-domain framework. Triyanto (2025) found that Indonesian teachers' pedagogical practices were shaped by curriculum relevance and institutional support. Wang et al. (2025) identified curriculum standards as an institutional constraint. Fujishima and Johnson (2026), Sabaté-Dalmau et al. (2026), and Slimani (2026) respectively examined tensions between internationalisation policy and implementation realities (Japanese EMI, Catalan EMI, and Anthropocene discourse). Khoo (2022) found that international twin-school

networks (Canada–China) supported teacher learning without full reliance on centralised formal policy. Garcia-Esteban and Colpaert (2022) found that integrating the SDGs into the curriculum improved certain dimensions of global competence while reducing others.

Pedagogy and Classroom Practice

Garcia-Esteban and Colpaert (2022) found that SDG-based CLIL approaches combined with telecollaboration effectively shaped global competence. Yoon et al. (2025) found that virtual-classroom collaboration between American and South Korean teacher candidates enhanced culturally responsive teaching. Wu and Li (2023) found that critical dialogue within comparative-education courses shaped Chinese pre-service teachers' global engagement. Karanikola et al. (2022) found that Greek teachers in priority education zones used dialogue, role-play, and project-based learning techniques, but felt insufficiently prepared. Samofalova et al. (2023) found that the flipped-classroom model improved linguistics students' achievement. Baidoo-Anu et al. (2023) found that most Ghanaian teachers were disinterested in, or held negative views towards, students' self-assessment. López and Lara Morales (2021) found that short-term study-abroad experiences broadened teachers' repertoire of teaching strategies, accompanied by cross-cultural challenges. Parmigiani et al. (2022) identified methods and contexts for integrating global competence into pre-service programmes. Biay and Tenorio (2024) recommended multicultural campus activities. Triyanto (2025) and Wang et al. (2025) found that institutional resources and support shaped teachers' pedagogical practices. Anapey (2026), Fujishima and Johnson (2026), Sabaté-Dalmau et al. (2026), Slimani (2026), and Magulod et al. (2020) each contributed findings on institutional structural challenges to pedagogy. Sabaté-Dalmau et al. (2026) found that students continued to reproduce ethnocentric frames regarding language and culture after the intervention, despite an increase in awareness of global competence. Yang (2026), through a CiteSpace bibliometric analysis, found global competence to be a recurring theme within the foreign-language teaching-materials literature.

Institutional Support, Leadership and Collaboration

López and Lara Morales (2021) and Garcia-Esteban and Colpaert (2022) found that cross-border institutional collaboration requires clear leadership support. Khoo (2022) found that partnership-oriented twin-school networks supported teacher learning. Fujishima and Johnson (2026) found that the facilitators and barriers to teachers' professional development depended on school-level structural support. Wang et al. (2025) found that institutional constraints hindered the translation of training into practice. Mardi et al. (2021) found that principal leadership had no significant effect on teacher competence compared with individual work motivation. Ying et al. (2025), in a forum paper, argued that the effectiveness of teacher education for global competence in Europe is influenced by institutional policy. Bilbokaitė et al. (2024), through a critical review, found that empowering leadership practices enhanced teacher effectiveness and engagement. Glimäng and Sauro (2024), Triyanto (2025), and Yoon et al. (2025) also contributed findings on institutional support, as noted under other subthemes.

International Experience and Mobility

Newton et al. (2020) found that overseas study experience increased pre-service teachers' awareness of global social justice. López and Lara Morales (2021) found that short-term experiences also exposed participants to cross-cultural challenges and language-proficiency demands. Glimäng and Sauro (2024) found that virtual exchange produced comparable outcomes without requiring physical mobility. Biay and Tenorio (2024) found that overseas experience did not significantly affect the level of cultural intelligence or global citizenship among Filipino pre-service teachers, with year of study having a more pronounced effect. Zhang et al. (2024) found that the effect of training, including international components, was more pronounced on knowledge and skills than on attitudes. Braičić (2025) found that Croatian respondents associated globalisation with broader learning and student-exchange opportunities.

Professional Development and Training

Zhang et al. (2024), through a meta-analysis of 105 effect sizes drawn from 37 studies, found a moderate-to-large effect ($g = 0.46$) of training programmes on global competence, with the effect more pronounced on knowledge and skills than on attitudes. Wang et al. (2025) found that professional development for regional

STEM teachers requires a culturally responsive approach. Karanikola et al. (2022) and Karanikola and Panagiotopoulos (2023) found that Greek teachers and adult educators recognised the importance of training but felt insufficiently prepared, and recommended optional and blended training formats. Yacob et al. (2024) built expert consensus for the knowledge domains of an ESL framework. Bilbokaitė et al. (2024) found that empowering leadership practices enhanced teachers' professional development. Yoon et al. (2025) found that a six-week virtual-collaboration programme increased readiness to design culturally responsive teaching.

Global Agenda and Sustainable Development Goals

Triyanto (2025) found that explicit references to the SDGs were limited within Indonesian teachers' practices, although their pedagogical practices implicitly reflected SDG 4.7. Chandir and Gorur (2021) found that PISA instruments were inadequate to capture the complexity of SDG 4.7. Garcia-Esteban and Colpaert (2022) found that SDG integration had mixed effects across dimensions of global competence. Glimäng and Sauro (2024) found that virtual exchange based on the UN SDGs built global-citizenship awareness and pedagogical self-awareness among TESOL teacher candidates.

DISCUSSION

When the findings on internal and external factors are examined together, a fairly consistent pattern can be observed across the analysed articles. Teachers' internal factors attitudes, identity, motivation, and self-efficacy were frequently reported to develop through their relationship with external exposure and structures, such as international education, policy, institutions, and training, rather than existing as isolated innate traits. At the same time, external factors such as policy, curriculum, pedagogy, institutional support, mobility, training, and the global agenda showed a greater effect on teachers' cognitive domain and practice than on their affective domain. When these two patterns are combined, the analysis reveals an asymmetric pattern: external interventions were found to more readily shape teachers' internal outcomes at the level of knowledge and skills, but were less effective in influencing attitudes, values, and cultural frames, which are more resistant to change. This pattern is demonstrated by Zhang et al. (2024) through a meta-analysis of teacher training, and is supported by Sabaté-Dalmau et al. (2026), who found that pre-service teachers' ethnocentric frames persisted despite increased awareness of global competence.

However, the relationship between these two categories of factors was not entirely uniform across the analysed articles. Nine articles that discussed internal and external factors together showed that the direction of influence between the two categories does not necessarily follow a one-way hierarchy in which external factors shape internal factors. For example, Mardi et al. (2021) showed that individual work motivation was a stronger predictor of teacher competence than principal leadership. Similarly, Khoo (2022) found that non-hierarchical twin-school networks could support teacher learning without depending on centralised policy. Both findings indicate that internal factors can sometimes precede or substitute for the role of external structures. The discrepancy between studies that position external factors as antecedents of internal factors, and studies showing internal factors outweighing the influence of external structures, suggests that the relationship between the two categories of factors is bidirectional and may be shaped by contextual factors such as institutional type, national education system, or programme maturity, rather than being a fixed one-way relationship, as is often assumed.

Overall, the existing literature on teachers' global competence tends to portray the development of teacher competence as a one-way flow originating from national or international policy, translated through curriculum and training, which then shapes teachers' pedagogical practices, attitudes, and identity. However, the findings of this study particularly the difficulty of changing attitudes through external intervention, and instances in which internal factors precede external structures indicate that this one-way flow model remains insufficient to explain the pattern reported across the 38 articles. Instead, the development of teachers' global competence is more appropriately explained as a reciprocal system, in which internal and external factors mutually influence one another depending on context. Nonetheless, this reciprocal relationship has not yet been empirically and comprehensively tested in any of the analysed studies, indicating that a theoretical gap concerning the direction of causality remains in the current literature.

A comparison between the findings of Zhang et al. (2024) and Mardi et al. (2021), which respectively show external factors preceding changes in internal factors, and internal factors more strongly influencing outcomes than external factors, indicates that the direction of the relationship between the two categories of factors is complex and not necessarily unidirectional. As none of the nine articles empirically tested a bidirectional interaction, the relationship between internal and external factors remains assessed separately and has not been comprehensively explained in terms of causal direction. This gap supports the need for future studies employing a theoretical framework capable of comprehensively explaining bidirectional relationships. Social Cognitive Theory (Bandura, 1986), through the concept of triadic reciprocal determinism, and the COM-B Behaviour Model (Michie et al., 2011), are among the theories with the potential to empirically test the reciprocal relationship between teachers' internal and external factors in this field.

Study Implications, Research Gaps, And Recommendations For Future Research

Several important implications emerge from this study. The OECD (2023) report states that many countries have integrated global competence into their respective education systems. However, a lack of clear understanding of the concept, pedagogy, and assessment of global competence complicates its systematic implementation within education. Strategies for teacher readiness regarding global competence within education systems therefore need to be investigated more deeply by researchers in this field.

Nevertheless, this SLR concludes that teachers often show limited interest in enacting global education within teaching and learning, given that such practice is shaped by various intervening factors. This situation offers future opportunities for government agencies, the private sector, NGOs, and other stakeholders to help teachers prepare students to face global challenges. Such support would, in turn, enable teachers to improve the pedagogical environment and infrastructure needed to engage inclusively with the currents of global education.

In this SLR, themes relating to the interaction of specific factors influencing teachers' global competence within a global education framework were found to be less prominent than other themes. Similarly, limited research has examined and tested the elements of these influencing factors. Researchers and scholars should therefore explore how these elements can further strengthen teacher-preparation strategies. Furthermore, regarding the constructs of psychological disposition and self-values (internal factors), scholars need to test how positive affective bonds between teachers and their professional identity, together with their closeness to global humanistic values, can strengthen their readiness for the demands of global education. In addition, government agencies, the private sector, NGOs, and other stakeholders need to examine how school communities can sustain the well-being and continuity of collaborative social-learning environments in the post-curriculum-reform phase. These parties also need to be equipped with sufficient information, given that different individuals and educators may respond differently to the impact of policy change. Some teachers may be only slightly affected, while others may experience severe professional anxiety or constraints, making their strategies for coping with and adapting to global educational innovation a matter worth investigating.

The comparison between the findings of Zhang et al. (2024) and Mardi et al. (2021), which respectively suggest that external factors precede changes in internal factors and that internal factors exert a stronger influence on outcomes than external factors, indicates that the relationship between these two categories of factors is complex rather than unidirectional. This highlights the need for a more comprehensive theoretical explanation of how internal and external factors interact in shaping teachers' global competence. Drawing on the synthesis of 38 empirical studies, this review proposes an Integrative Conceptual Framework of Teachers' Global Competence to explain the underlying mechanisms linking internal and external factors in the development of teachers' global competence. Unlike previous studies, which have typically examined these two categories of factors independently, the proposed framework integrates Social Cognitive Theory (Bandura, 1986), the Four Component Model (Rest, 1986), Moral Competence Theory (Lind), and the COM-B Behaviour Model (Michie et al., 2011) into a coherent explanatory framework. Within this framework, external factors including educational policies, professional development, and collaborative learning environments influence teachers' internal attributes, such as psychological dispositions, affective value orientations, professional identity, self-efficacy, cultural intelligence, and teacher agency. These internal attributes are subsequently translated into moral competence through the processes of moral sensitivity, moral judgment, moral motivation, and moral character, as conceptualised in Rest's Four Component Model and Lind's Moral Competence Theory. Moral

competence, in turn, strengthens the development of teachers' global competence, which is ultimately manifested through professional behaviours such as globally oriented pedagogy, ethical decision-making, respect for cultural diversity, and cross-cultural collaboration.

Accordingly, the proposed framework extends beyond merely identifying the factors associated with teachers' global competence. It offers a theoretically grounded explanation of the dynamic interactions between internal and external factors and clarifies the psychological, moral, and behavioural mechanisms through which these factors contribute to the development of teachers' global competence. By addressing the theoretical gap identified in the existing literature, this integrative framework strengthens the theoretical contribution of the review and provides a foundation for future empirical research to validate the proposed relationships. This existing gap could be narrowed if future scholars focus on implementing qualitative and mixed-methods approaches, producing more systematic integrative reviews, and developing more robust publication standards. The empirical data from this study illustrate that quantitative research designs have dominated the existing literature on global education readiness, thereby presenting a significant gap for qualitative and mixed-methods study designs. Both approaches have their own strengths and should therefore be investigated by future scholars. Qualitative designs offer a fundamental and comprehensive source of explanation regarding teachers' adaptation processes within identifiable local contexts, thereby producing richer data than quantitative statistics alone (Ridder, 2014).

Conversely, the mixed-methods approach enhances data validity, informs the collection of secondary data sources, facilitates knowledge creation, and simultaneously integrates components that provide greater depth and detail to the findings and conclusions drawn (McKim, 2017). Future research on the readiness of the education community for global reform should also focus on integrative-review techniques that combine multiple research designs. Despite certain issues such as the risk of synthesising diverse types of literature arising from differing epistemological approaches and differing political and cultural contexts, including the political and scientific infrastructure of institutions (Sandelowski et al., 2006) Heyvaert et al. (2011) and Dixon-Woods et al. (2005) affirm that integrating multiple research designs within a single review study is a reasonable undertaking.

CONCLUSION

Given that the future landscape of global education is dynamic and difficult to predict with certainty within school systems, more comprehensive efforts must be devoted to enhancing teacher readiness. This step is critical so that educators' perspectives can progressively shift from the passive approach of "if global issues occur" towards a more proactive paradigm of "when global issues occur". To achieve this goal, this study conducted an SLR of previous research related to the readiness of the education community to face global education. This approach enabled the methodological rigour of prior studies to be critically assessed, while identifying research gaps and opening avenues for future research directions.

In this study, a total of 38 articles were comprehensively assessed for quality. Given that the selected studies employed diverse research designs, thematic analysis was conducted across all articles, producing two main themes and ten subthemes, namely: (1) Internal Factors of Teachers' Global Competence, encompassing psychological disposition, affective value orientation, professional identity, self-efficacy, cultural intelligence, and self-agency; and (2) External Factors of Teachers' Global Competence, encompassing macro-policy strength, structural curriculum pressure, the impact of professional training/CPD, and support from collaborative social environments as mechanisms shaping teachers' global competence in education.

The main contribution of this study is a systematic synthesis that consolidates empirical evidence on the internal and external factors influencing the development of teachers' global competence. This study integrates both categories of factors into a coherent synthesis, thereby identifying dominant patterns and theoretical, methodological, measurement, and contextual gaps in the literature. These findings not only strengthen understanding of the factors influencing teachers' global competence but also provide a conceptual foundation for developing a model of teachers' global competence and a reference for future research.

This study also shows that strong social relationships within the school ecosystem provide various benefits to the teaching community, including fostering a sense of shared responsibility through collaborative social-



learning environments, enhancing teacher agency to independently translate curricula without excessive reliance on centralised directives, reducing implementation conflicts at the micro level, and increasing professional trust among teachers. Nevertheless, this review has several limitations. Although Gusenbauer and Haddaway (2020) suggested 14 potentially useful databases for retrieving relevant articles, access constraints meant that only three main databases were used: Scopus, Web of Science, and ScienceDirect, supported by Emerald, Taylor & Francis, SpringerLink, and Sage Journals. In addition, the article quality-appraisal process relied entirely on the Mixed Methods Appraisal Tool (MMAT); the use of different appraisal instruments could potentially yield different quality ratings. Future studies are therefore encouraged to assess a larger or smaller number of articles using alternative quality-appraisal instruments. Shaffril et al. (2021) emphasise that the purpose of quality appraisal is not to identify flawless articles, but to ensure that the selected articles genuinely align with the objectives of the review. Furthermore, although meta-analysis is often recommended in SLRs for its capacity to produce more precise estimates of variable relationships and reduce bias compared with single studies, this study adopted a Qualitative Systematic Literature Review (QSLR) approach given the diversity of research designs, contexts, and methods across the 38 selected articles.

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Conflict Of Interest

The researchers declare that there is no conflict of interest related to this study.

Declaration On The Use Of Artificial Intelligence

Artificial intelligence (AI) technology was used to assist the literature search process through the Scopus AI function. This technology was not used to generate or fabricate data, make methodological decisions, or replace the authors' scholarly judgement. The authors have reviewed, edited, and verified the entire content of the manuscript and take full responsibility for the accuracy, integrity, and final content of the article.

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