

Exploring cultural intelligence in educational studies: a bibliometric perspective on global literature

Laily Tiarani Soejanto¹ | Khairul Bariyyah^{2*} | Ifdil Ifdil³ | Santy Andrianie⁴ | Setyorini Setyorini⁵ | Restu Dwi Ariyanto⁶ | Abu Yazid Abu Bakar⁷

¹ Universitas PGRI Kanjuruhan Malang, Indonesia

² Universitas Negeri Malang, Indonesia

³ Universitas Negeri Padang, Indonesia

⁴ Universitas Sebelas Maret, Surakarta, Indonesia

⁵ Universitas Kristen Satya Wacana, Salatiga, Indonesia

⁶ Universitas Negeri Surabaya, Indonesia

⁷ Universiti Kebangsaan Malaysia, Selangor, Malaysia

Correspondence Email: khairul.bariyyah.fip@um.ac.id*

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Abstract

With the rapid growth of research on the topic of cultural intelligence in educational studies, it becomes increasingly important to understand the trends, patterns of scholarly collaboration, and direction of this research development. This study explores the development of research on the topic based on Scopus-indexed scientific publications, using a bibliometric approach. Data were obtained from 227 relevant articles based on the keywords “cultural intelligence” and “education” from 2015 to 2025. The analysis was conducted using VOSviewer and Biblioshiny to answer research questions. RQ1: Who are the authors who contribute the most to the publication of research and works on cultural intelligence in education studies? RQ2: What are the main keywords in cultural intelligence in education studies? RQ3: What are the potential topics for future studies in the field of research related to cultural intelligence in educational studies? Based on these research questions, it was found that Jacqueline E. McLaugh is the most prolific author. In addition, four main clusters of research were found, namely the Education and Students Cluster, the Cultural and Psychological Competence Cluster, the Learning and Cognition Cluster, and the Globalization, Leadership, and Cultural Diversity Cluster. Potential research on the topic of cultural intelligence in educational studies focuses on how cultural intelligence can increase international employment and how students can develop better skills in multicultural experiential learning.

INTRODUCTION

Cross-cultural interactions in the educational sphere are rapidly expanding in tandem with heightened academic mobility, student exchanges, and the increasing socio-cultural diversity within schools and universities (Dobrova, 2024; Lyu, 2024). In this increasingly complex academic environment,

it is expected that students, educators, and educational staff possess the skills to understand, adapt to, and effectively interact within diverse cultural contexts, enabling them to navigate cultural differences in both social and professional situations (Ang & Van Dyne, 2015; Thomas & Liao, 2023). In the realm of education, cultural intelligence is a pivotal aspect due to its effectiveness in aiding students to respond to various social norms, values, and cultural behaviors, thereby fostering harmonious interactions among students, teachers, and educational staff from diverse cultural backgrounds (Eden et al., 2024; Hong et al., 2021). Moreover, the significant role of cultural intelligence in education is closely linked to the growing demand for global and multicultural skills across various professional fields. In an increasingly globalized work environment, individuals with high levels of cultural intelligence tend to be more adept at working effectively with colleagues from different cultural backgrounds (Bobanovic & Grzanic, 2019; De Sisto & Dickinson, 2019; Sharma & Makhija, 2024a).

Several studies have underscored the importance of cultural intelligence in education. For instance, the development of cultural intelligence through social studies education has been shown to enhance understanding and appreciation of cultural diversity (Mahdiana, 2019). Another study focuses on the integration of cultural values into educational content, particularly in relation to character education and social etiquette. This approach aims to bolster individuals' soft skills and resilience in facing life's challenges, aligning with the development of cultural intelligence (Majda et al., 2021; Sakti et al., 2024). In terms of career preparation, cultural intelligence influences sustainable competitive career advantages among design students (Tu et al., 2019). An exploratory study on cultural intelligence, cooperative learning, motivation to learn English, and students' academic performance revealed that cooperative learning positively impacts students' cultural intelligence and motivation in EFL learning, ultimately contributing to their academic achievement in English (BeÄ, 2023). Furthermore, research on school counseling indicates that guidance and counseling teachers possess high levels of cultural intelligence, particularly in the motivational and behavioral dimensions. This study concludes that cultural intelligence is a vital competency for inclusive and adaptive counseling services (Soejanto, Bariyyah, et al., 2024). Additionally, within the field of guidance and counseling, the synergy between cultural intelligence and local wisdom can serve as an innovative strategy to support students' cultural diversity (Soejanto, Sari, et al., 2024).

The aforementioned studies on cultural intelligence in education demonstrate that research in this area is expanding in response to the growing need for multicultural skills in the global educational landscape. In this context, a bibliometric approach can be employed to examine citation patterns and the evolving scientific collaborations within the field of cultural intelligence. This approach enables researchers to comprehend how cultural intelligence is studied, developed, and applied across various educational settings (Zatrahadi et al., 2023). By understanding the development and trajectory of research on cultural intelligence in education, it is anticipated that broader insights can be gained into the theoretical and practical implications of this concept within academic and professional contexts.

METHODS

In this study, a bibliometric analysis was conducted to investigate the evolution of research on cultural intelligence within the educational domain. This methodological approach was selected to discern prevailing research trends, identify prominent authors, map patterns of scientific collaboration, and evaluate the influence of cultural intelligence studies on educational practices. Bibliometric research entails the systematic collection and examination of bibliographic data, including reference lists from scientific publications and citations linked to specific scholarly works (Ildil et al., 2023). Through the analysis of such data, bibliometric studies are capable of uncovering trends and patterns in the

development of literature on a given topic, thereby assessing its impact on the broader field of study (Donthu et al., 2021).

Study Design

The bibliometric research design encompassed three fundamental stages: (1) Defining the research question; (2) Selecting pertinent literature for analysis; and (3) Deriving conclusions from the bibliometric review that align with the study's objectives (Passas, 2024).

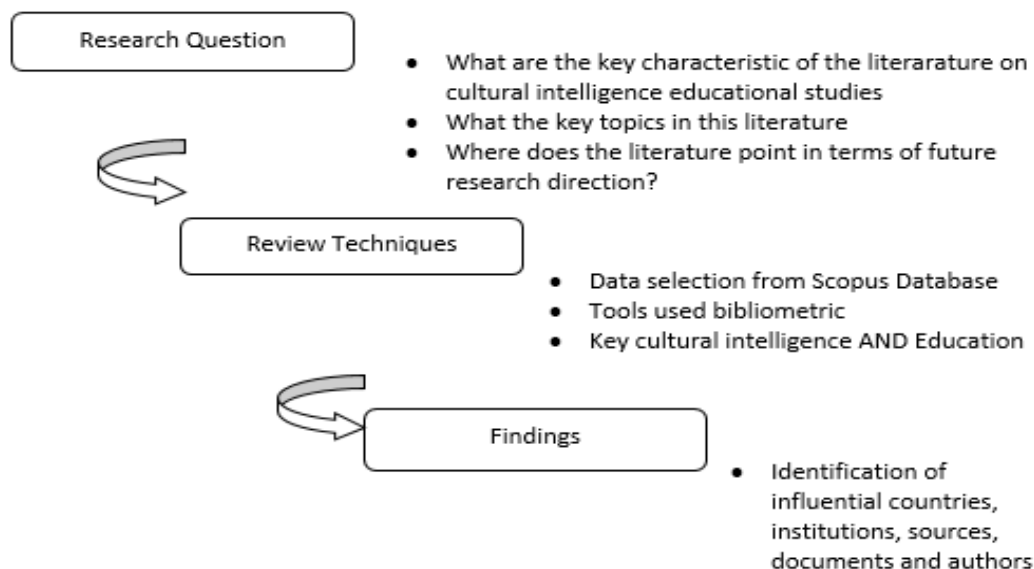


Figure 1 <Research Design Summary>

Data selection strategy

The present bibliometric study drew upon data from Scopus, a metadata database extensively utilized in scientific social research. Scopus was chosen for its comprehensive coverage of scientific publications, which facilitated a detailed examination of research trends, patterns of author collaboration, and the progression of specific research themes (Zamroni et al., 2022; Zhu & Liu, 2020).

Table 1 <Scopus Database>

Query wording	Scopus search appearances		Source Title	Key	Total
	Title	Abs Key			
"Cultural Intelligence"		1469	160	160	
Combine all Fields		2225			
'Education'		227			
Limitation					

Through the utilization of Scopus, a total of 1,469 articles indexed under the term "cultural intelligence" were identified. Upon incorporating the additional keyword "education," the search results expanded to 2,225 articles. Following a meticulous keyword analysis aligned with the research focus, 227 Scopus-indexed articles were ultimately selected for bibliometric analysis. This selection process was guided by the following research questions: (1) RQ1: Which authors have made the most significant contributions to publications and research on cultural intelligence within educational studies; (2) RQ2: What are the predominant keywords associated with cultural intelligence in the context of educational research?; (2) RQ3: What potential research topics warrant further exploration in the domain of cultural intelligence within educational studies?.

Analysis Tools

To address the aforementioned research questions, the analytical tools VOSviewer and Biblioshiny were employed. VOSviewer was utilized to construct and scrutinize bibliometric networks, commonly

known as maps, and to assess patterns of author collaboration, inter-researcher relationships, and citation dynamics (Arruda et al., 2022). Additionally, Biblioshiny, a web-based interface of the Bibliometrix package in R Studio, was leveraged to conduct advanced analyses and generate visualizations (Moral-Muñoz et al., 2020).

Analysis Stages

The bibliometric analysis undertaken in this study was structured into three distinct components: Overall performance analysis: This component furnished data on the temporal growth of the literature, while also identifying the most influential authors, countries, and institutional affiliations. Citation analysis: This analysis pinpointed the most frequently cited authors, documents, and publications within the field. Network and content analysis: This involved clustering techniques that integrated bibliographic, citation, and event-related data to map the intellectual structure of the field. The research was executed on January 20, 2025, employing keywords pertinent to cultural intelligence in educational studies. The search strategy encompassed titles, abstracts, and keywords to ensure comprehensive coverage.

Table 2 <Advanced Data Analysis>

Keyword Search	Number of scopus documents
TITLE-ABS-KEY (“cultural intelligence”) AND (education) AND Limit to (Pubyear 2015-2025) Limit To (language ‘English’)	227

RESULTS AND DISCUSSIONS

RQ1 : Who is the author who contributed the most to the publication of the research and work on cultural intelligence educational studies?

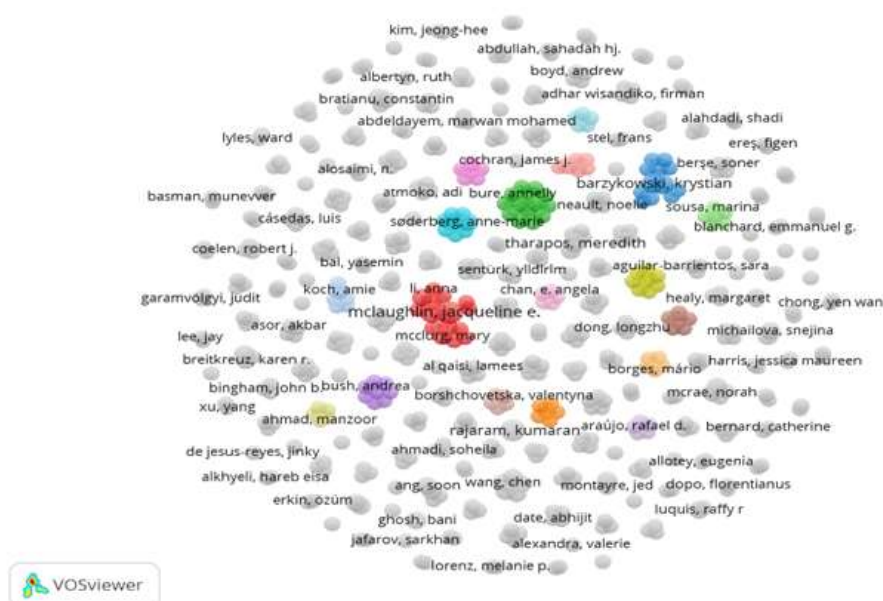


Figure 2 <Visualization of the Network of the Most Active Authors in the Publication>

Figure 2 presents the VOSviewer co-authorship map for research on cultural intelligence in educational studies. Each circle represents an author; links between circles denote collaboration, and the circle’s diameter is proportional to the author’s publication count—larger nodes indicate a higher output. The map shows that Jacqueline E. McLaughlin occupies the most central and voluminous node, signifying both the largest number of publications and the widest collaborative reach within the field. Other prominent contributors—Mary McClurg, Anna Li, and Rajaram Kumaran—also play important roles, yet they appear in different clusters, implying that although they address the same topic, they do so from distinct methodological or conceptual vantage points.

On the basis of this analysis, scholarship on cultural intelligence within educational studies can be organised into four principal clusters, each reflecting a distinct constellation of concepts identified in the literature. Cultural intelligence emerges as the pivotal keyword, intersecting with multiple educational dimensions—namely teaching and learning processes, cultural competence, international experience, as well as leadership and diversity. The network divides into four principal clusters that delineate conceptual relationships in the literature:

Education and Student Cluster (red)

This cluster (eight keywords: students, higher education, international students, student satisfaction, teaching, cultural distance, academic performance, e-learning) addresses how cultural intelligence shapes university students' academic experiences, especially for international cohorts navigating multicultural classrooms and cross-cultural communication.

Cultural and Psychological Competence Cluster (green)

Centred on psychosocial aspects, this cluster comprises cultural competence, cultural competency, cultural awareness, cultural humility, cultural sensitivity, race, empathy, and psychology. The terms emphasise how learners and educators develop the skills and dispositions needed for effective intercultural interaction. Keywords such as medical education and pharmacy education signal the construct's salience in professional health programmes.

Learning and Cognition Cluster (blue)

Featuring intelligence, learning, education, self-efficacy, self-concept, metacognition, epidemiology, self-report, and academic performance, this cluster links cultural intelligence to students' expectations and strategies for learning. Metacognitive research focuses on how learners in culturally homogeneous settings adapt their approaches to achieve higher academic success, underscoring the role of educational psychology and pedagogy in CQ development.

Globalisation, Leadership, and Cultural Diversity Cluster (yellow/orange)

Core terms—leadership, diversity, cross-cultural competence, cross-cultural communication, business education, international business, international experience—highlight the application of cultural intelligence to leadership and workforce preparation, particularly the cultivation of cross-cultural communication skills in global professional contexts. Collectively, these clusters demonstrate the multifaceted integration of cultural intelligence into academic, social, and professional dimensions of education.

RQ3 : What are potential topics for future studies in the field of research related to cultural intelligence in educational studies?

The thematic-map analysis indicates that cultural intelligence in educational studies offers ample scope for further inquiry—particularly into how cultural intelligence supports educational and cognitive outcomes. In addition, its application within everyday learning environments and engineering education remains under-examined. Emerging (or still nascent) themes—cultural intelligence, engineering education, experiential learning, and international employment—show that integrating cultural intelligence into engineering curricula and practice-based learning is still in its infancy. Consequently, future research might focus on (i) how cultural intelligence can enhance graduates' prospects for international employment and (ii) how students can develop stronger skills through multicultural, experiential learning.

Research on “cultural intelligence in educational studies” has expanded rapidly, recognising CQ as a pivotal competence in both academic and professional spheres. Bibliometric analyses underscore the need to cultivate cultural intelligence within multicultural education, as CQ provides the foundation for cross-cultural understanding, mitigates intercultural conflict, and fosters more inclusive and adaptive academic environments (Idrus, 2021; Katitaş et al., 2024; Tharapos & O'Connell, 2023). Consequently,

integrating cultural intelligence into educational curricula is imperative. In professional settings, CQ likewise plays a crucial role in honing communication, adaptability, and collaboration skills within diverse workplaces (Min et al., 2023; Pacheco, 2024). Empirical studies consistently show that individuals with high cultural intelligence adapt more readily to global challenges and enjoy greater competitiveness in the labour market (Afsar et al., 2021; Azevedo & Shane, 2019; Bhatti, 2023; Sharma & Makhija, 2024b).

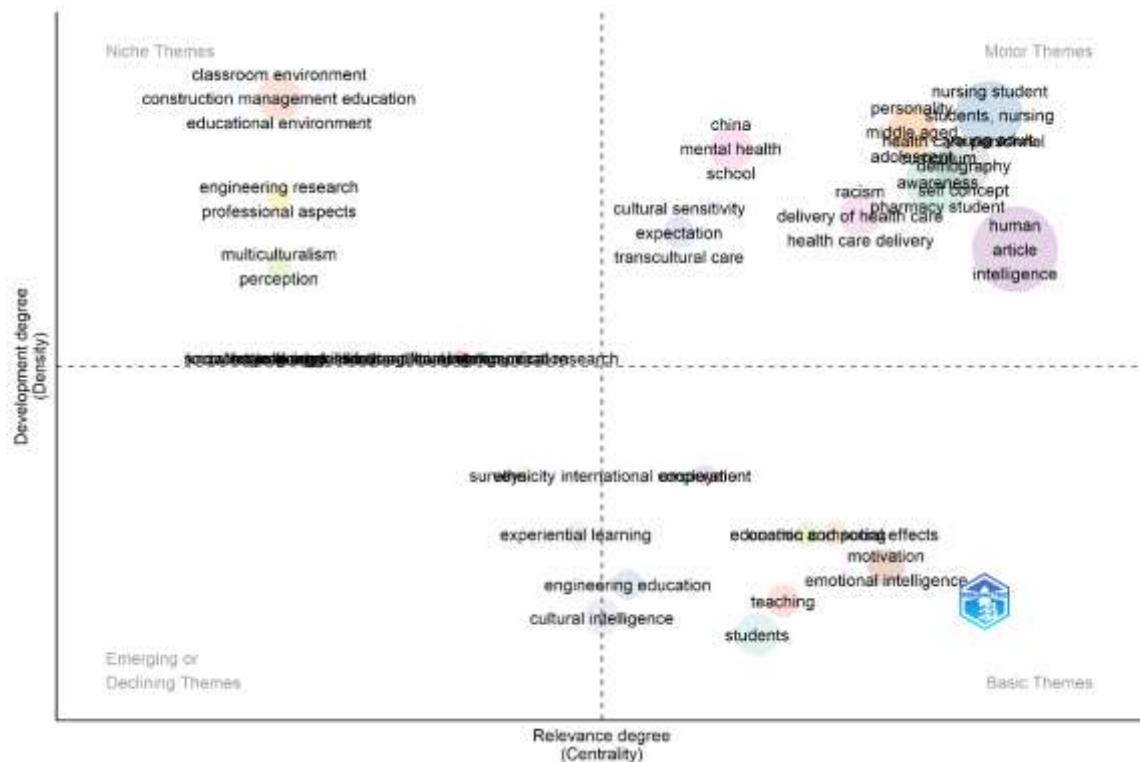


Figure 5 <Thematic Map>

Cross-institutional and interdisciplinary collaboration further enriches our understanding of this phenomenon. The growing volume of publications across multiple disciplines indicates that research on cultural intelligence now extends well beyond the field of education. Psychology, business management, healthcare, and other social sciences contribute fresh perspectives on CQ's vital role in diverse contexts. In psychology, CQ is linked to the development of empathy, cultural awareness, self-efficacy, cultural humility, and cultural sensitivity—attributes that facilitate respectful interpersonal interactions across cultures (Drame et al., 2021; Jurasek & Wawrosz, 2023; Wawrosz & Jurásek, 2021). In business, CQ is a key determinant of success in international negotiations and managerial effectiveness (Caputo et al., 2019; Garamvölgyi & Rudnák, 2023; Klafke et al., 2019). Similarly, in the health sector, CQ is regarded as essential for delivering inclusive patient care amid growing diversity (Barzykowski et al., 2019; Majda et al., 2021; Porkodi et al., 2022).

Overall, bibliometric findings demonstrate that scholarly work on cultural intelligence makes a significant contribution not only to education but also to various other disciplines, positioning CQ as a critical competence for navigating multicultural situations and global challenges in the modern era.

CONCLUSIONS

Using a bibliometric approach, the present study demonstrates that research on cultural intelligence in educational studies has expanded rapidly, with a primary emphasis on its effects on learning, the

development of cross-cultural competencies, and students' preparedness for an increasingly global labour market. The mapping exercise also pinpoints the most influential authors in this domain, delineates four major research clusters, and highlights promising avenues for future inquiry into cultural intelligence. Although the topic clearly lends itself to broader investigations beyond the educational sphere, the current analysis is constrained by its exclusive reliance on Scopus-indexed publications; relevant work housed in other databases could not be examined exhaustively. Future studies should therefore draw on additional sources—such as Web of Science, ScienceDirect, and Google Scholar—to offer a more comprehensive account of the field's evolution. To deepen insight into how cultural intelligence functions across diverse educational settings, subsequent research might also employ systematic literature reviews.

AUTHOR CONTRIBUTION STATEMENT

The authors of this study contributed in the following ways: L.T.S. conceptualized the research, led the bibliometric analysis, and contributed to the manuscript writing. K.B. assisted with data collection, analysis, and provided critical feedback on the manuscript. I. conducted the bibliometric analysis, assisted in the interpretation of data, and reviewed the manuscript. S.A. provided insights into the practical implications of the research findings and reviewed the manuscript for clarity and coherence. S. assisted in the data analysis and provided feedback on the manuscript's structure. R.D.A. contributed to the interpretation of the findings and provided valuable suggestions during the writing process. A.Y.A.B. contributed to the discussion on the application of cultural intelligence in educational settings and reviewed the manuscript.

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