

ORIGINAL ARTICLE

Ethical Dilemmas in Educational Sciences: A Bibliometric Analysis (1998–2025)

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ABSTRACT

Ethical dilemmas, situations where educators must choose between conflicting moral principles, are common in educational practice but remain underexplored systematically. This study aims to map the evolution, structure, and trends of ethical dilemma research in educational sciences from 1998 to 2025. Employing a descriptive bibliometric approach, the study analyzed 105 journal articles indexed in the Web of Science (WoS) Core Collection. Data were processed using VOSviewer 1.6.20 to conduct citation, co-authorship, keyword co-occurrence, and bibliographic coupling analyses, allowing for the visualization of scholarly networks, conceptual linkages, and research patterns. The findings reveal a steady growth in the number of publications, particularly after 2017, reflecting rising scholarly interest in ethical issues within teaching, leadership, and assessment. Highly cited works, such as Ehrich et al. (2011), have shaped the field, while emerging studies address digital ethics, social-emotional competencies, and AI-supported decision-making. The United States, Australia, and Finland are identified as leading contributors, and key journals include Teachers and Teaching and Journal of Moral Education. “Ethical dilemma” and “ethics” were the most frequently occurring keywords, indicating the field’s conceptual centrality. The study demonstrates that ethical dilemmas have become a significant and evolving research focus in educational sciences, characterized by interdisciplinary approaches and expanding thematic scope. Findings highlight the increasing complexity of ethical decision-making in education and underscore the need for continued scholarly exploration integrating cognitive, emotional, and contextual dimensions.

Keywords: Bibliometric Analysis, Educational Ethics, Ethical Dilemma, Professional Ethics, Teacher Decision-Making.

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INTRODUCTION

An ethical dilemma arises when an individual must choose between two or more options that appear ethically justified. In such situations, whichever choice the person makes, they must compromise a certain moral value, making it difficult to determine the “right” decision (Börü, 2020). Ethical dilemmas are highly prevalent in education because both teaching and administration inherently involve moral judgments. Since teaching is a profession deeply grounded in values, teachers frequently encounter ethical dilemmas in their daily work (Ehrich et al., 2011). Similarly, ethical dilemmas have become routine in the professional lives of school administrators, and such challenges are often described as an indispensable aspect of educational leadership (Cranston et al., 2006).

Ethical decision-making in educational settings is a multidimensional and delicate process. When teachers, administrators, or researchers face a dilemma, they typically identify the situation, determine the relevant values and stakeholders, evaluate possible courses of action, and anticipate potential outcomes. In this process, decisions are shaped not only by personal moral values but also by institutional culture, legal regulations, and professional standards (Treviño, 1986). Consequently, many countries have established professional codes of ethics to guide educators’ decision-making. Codes such as the NEA Code of Ethics for Teachers or the ethical standards for educational leaders emphasize core values like justice, honesty, responsibility, and impartiality, offering a framework for everyday professional choices (Campbell, 2010). When faced with a dilemma, an educator strives to act in accordance with these principles, balancing personal conscience with professional duty.

The present study aims to provide a holistic overview of education-based literature focusing on the concept of the “ethical dilemma” within the Web of Science (WoS) database. Specifically, the analysis investigates how publications have evolved over time, identifies the most frequently cited articles, and examines the journals that have served as the primary outlets for related research. Moreover, it determines the most productive authors, institutions, and contributing countries. The study also explores the most frequently used keywords and recurring concepts in article abstracts. Through this approach, both the historical development and current trends in educational research on ethical dilemmas are systematically assessed in light of quantitative data, thereby revealing the intellectual structure and research trajectories of the field in a comprehensive manner.

Literature Review

Ethical Decision-Making and Theoretical Foundations

Ethical decision-making in education requires the consideration of multiple perspectives. Strike et al. (1988) emphasize that school leaders should integrate rule-based (deontological) and consequence-oriented (teleological) reasoning when making decisions. Similarly, Shapiro and Stefkovich (2016) propose that educational leaders approach complex problems through multiple ethical paradigms. Drawing on perspectives such as the ethics of justice, care, critique, and profession, administrators can make more balanced and context-sensitive decisions (Starratt, 2004).

Different ethical theories further illuminate the dilemmas encountered in education. Deontology focuses not on the consequences of actions but on their adherence to moral principles and rules. According to this approach, an educator’s primary responsibility is to act in accordance with universal ethical principles such as honesty, promise-keeping, and justice, as well as with professional obligations (Beauchamp & Childress, 2019). Consequentialism, or teleological ethics, evaluates the moral worth of an action based on the overall goodness of its outcomes. In an educational context, when

a consequentialist perspective is adopted, a teacher's or administrator's decision should aim to produce the best possible outcome for the greatest number of students (Bentham, 1970). Virtue ethics emphasizes the character and virtues of the person performing the action rather than the action itself. Care ethics is particularly visible in student-centered education and guidance practices, where the educator's moral responsibility is to consider each student's well-being (Noddings, 1984).

These theoretical approaches have deep philosophical roots. The concept of an ethical dilemma has long occupied a central position in moral philosophy. The fundamental question of moral philosophy can be summarized as follows: How can the right action be determined when moral duties conflict with one another? In ancient Greek tragedies, Agamemnon's conflict between duty and his daughter, or Antigone's struggle between family loyalty and obedience to law, are early representations of such dilemmas. Plato illustrated a similar tension in Socratic dialogues through the example of returning a borrowed weapon to a friend, showing that an apparently right act could lead to morally problematic outcomes under certain conditions. Kant (1785/1996) argued that moral laws are universal and consistent, asserting that genuine conflicts between duties cannot exist. In contrast, Mill (1863/1998), with his utilitarian perspective, maintained that the right action is the one that produces the greatest overall benefit, thereby grounding moral choice in consequences. From the twentieth century onward, some contemporary ethicists have recognized that, in certain cases, two moral values cannot be fulfilled simultaneously, thus acknowledging the existence of genuine ethical dilemmas (McConnell, 2018; Sinnott-Armstrong, 1988). According to Sinnott-Armstrong (1988), in a genuine moral dilemma, an individual faces two actions, each supported by valid moral reasons, yet it is impossible to perform both. Similarly, in the field of education, teachers and administrators often face ethical dilemmas when they are unable to choose between two morally justifiable values.

Ethical Practice and Interdisciplinary Approaches

Strategies developed to support ethical decision-making in education require comprehensive approaches at the individual, institutional, and technological levels. Ehrich et al. (2011) recommend that teachers share ethical dilemmas with their peers, cultivate school cultures where ethical issues are openly discussed, and clarify their personal ethical principles. Campbell (1999) highlights the importance of administrators fostering ethical awareness to build fair decision-making processes and trust-based school climates. Tortola (2024) demonstrates that adopting ethical leadership practices and institutionalizing professional codes of ethics enhance the quality of decisions across schools. Furthermore, Karakuş et al. (2025) found that AI-supported ethical simulations improve teachers' ability to make ethical decisions in diverse scenarios, thereby strengthening their moral awareness.

The study of ethical issues within educational sciences inherently requires an interdisciplinary approach. Ethical dilemmas are examined at the intersection of numerous disciplines, ranging from pedagogy and philosophy to psychology and sociology. This multidimensional structure necessitates that ethical issues in educational research be explored through various theoretical perspectives and methodological frameworks (Beshyah et al., 2018; Smith & Williams-Jones, 2012). In this context, the motivation to conduct a bibliometric analysis covering the literature from 1998 to 2025 stems from the aim of holistically evaluating this interdisciplinary body of knowledge. Such an analysis provides a broader understanding of how studies on ethics in educational sciences have evolved over time, revealing major research trends and interactions among different academic domains.

Bibliometric Analyses in Educational Ethics

Bibliometric methods provide a meta-analytical perspective on the literature, allowing researchers to identify general trends and patterns within a field. These methods enable the systematic analysis of the “big picture” of existing studies on a particular topic, thereby revealing the intellectual structure of the field and its emerging themes (Ellegaard & Wallin, 2015). For instance, through citation analyses and co-authorship networks, it becomes possible to determine which studies and researchers have shaped the field, while keyword co-occurrence analyses highlight the key concepts and subtopics that have gained prominence. In recent years, the development of scientific mapping tools has significantly enhanced the visualization capacity of such bibliometric analyses, offering valuable insights to researchers. These software tools map and visualize relational data derived from thousands of academic publications, such as citation networks, co-citation clusters, and author collaborations, making the structural dynamics of the field more comprehensible (van Eck & Waltman, 2010; Aria & Cuccurullo, 2017).

In recent years, numerous bibliometric studies have been conducted at the intersection of educational sciences and ethics. Maral (2024) analyzed 1,406 studies on academic integrity published between 1966 and 2023, noting a rapid expansion of the literature in the past decade and the growing prominence of issues such as plagiarism. Kuru Çetin and Eren (2023) examined ethics-related publications in education from 1980 to 2023, identifying a significant rise in output and influential researchers since the 2010s. Hidayat et al. (2023) utilized VOSviewer to map thematic networks and collaborations concerning ethical behavior in educational institutions. Similarly, Suryaningrum et al. (2022) explored the relationship between online learning and ethics from 2012 to 2022, revealing a sharp increase in publication and citation counts during the COVID-19 period. Collectively, these studies provide a comprehensive overview of research trends situated at the intersection of education and ethics (Hidayat et al., 2023; Kuru Çetin & Eren, 2023; Maral, 2024; Susilowati et al., 2022). However, these analyses mostly approach ethics in education as a broad theme or concentrate on particular subdomains (e.g., integrity or online learning), rather than isolating the “ethical dilemma” construct itself. To address this gap, the present study offers a dedicated bibliometric mapping of “ethical dilemma” research in educational sciences (1998–2025) using network-based indicators and VOSviewer visualizations.

METHODOLOGY

Research Design

This study is a descriptive bibliometric analysis conducted to identify the bibliometric characteristics of education-based research on the concept of the “ethical dilemma.” Bibliometric analysis is a quantitative approach that examines the distribution of publications, citation networks, productivity levels, and scientific collaborations within a specific research field using objective indicators (Donthu et al., 2021). In this regard, the present research was designed within the framework of a documentary screening model, aiming to reveal the conceptual structure and developmental trends in the field of ethical dilemmas.

Data Source and Sampling

The data source for this study is the Web of Science (WoS) Core Collection database. This database was selected because it provides interdisciplinary access to studies published in international peer-reviewed journals. WoS is widely recognized as one of the most reliable sources for assessing scientific productivity. The data retrieval process was carried out in 2025. In the Web of Science (WoS) search, we initially used the keyword “ethical dilemma”, which yielded

2,393 records. Although the concepts of “ethical conflict,” “moral dilemma,” and “professional ethics in education” are closely related, they were not included as primary search terms to maintain conceptual specificity and manageability of the dataset. In pilot searches, these alternative terms tended to (i) retrieve a substantially broader and more heterogeneous body of literature (often outside the educational context), (ii) introduce considerable overlap and duplicate coverage across records, and (iii) capture studies focused on general ethics or professional ethics education rather than dilemma-based decision situations. From these, only studies categorized as articles were selected ($n = 1,790$). English was chosen as the language filter ($n = 1,637$), and the research area was limited to the “Education Educational Research” category. Following these filtering steps, a final dataset consisting of 105 articles was obtained.

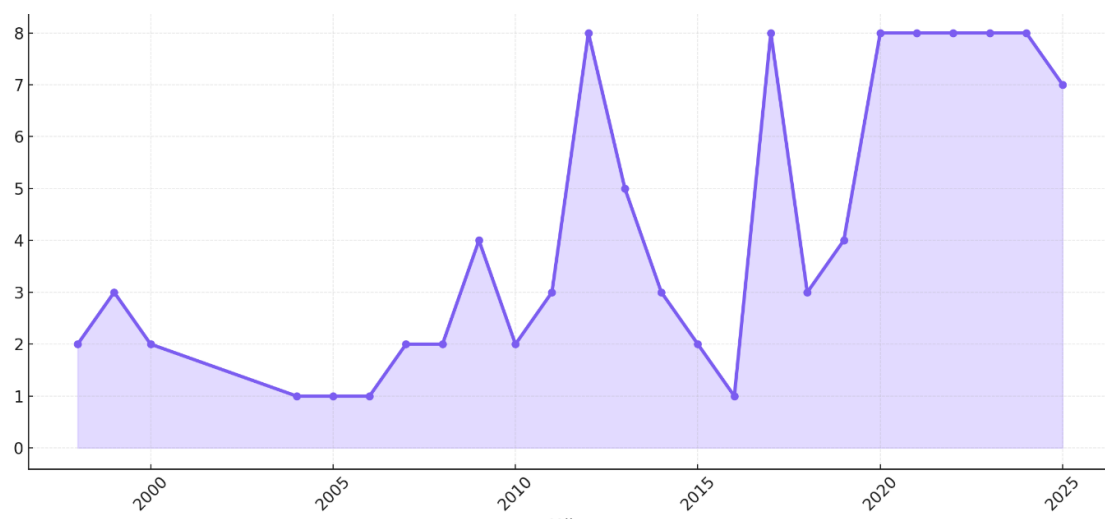
Data Analysis

The collected data were analyzed using the VOSviewer 1.6.20 software. This software is a powerful analytical tool that enables the visual mapping of bibliometric relationships, including citation linkages, author, country, institutional, and keyword co-occurrences. The analysis process consisted of several main stages. First, the WoS search results were exported in Plain Text format with the “Full Record and Cited References” option selected. Next, the exported data were imported into VOSviewer using the “Create Map Based on Bibliographic Data” function. In the final stage, different types of analyses were performed. Specifically, Bibliographic Coupling analyses were conducted at the document, source, author, institution, and country levels, while Co-occurrence analyses were performed at the author keyword and term levels. Through these analyses, the scientific collaboration networks and conceptual relationships within the field were examined in detail.

RESULTS

Publication Trends by Year

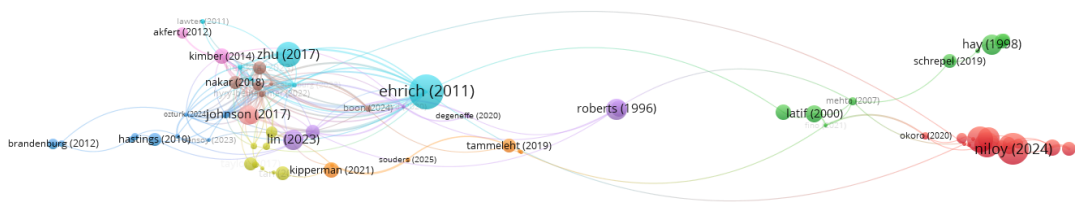
Fig. 1 Publication Trends by Year



An examination of the distribution of education-based publications on “ethical dilemmas” by year indicates a steadily increasing trend between 1998 and 2025. During the period from 1998 to 2006, the number of publications was quite limited, and the studies conducted in this period were primarily theoretical in nature. A noticeable increase in

publications began in 2009, with a brief surge in productivity between 2011 and 2013. This period corresponds to the emergence of applied studies focusing on ethical dilemmas in the contexts of healthcare and teacher education. Although a slight decline occurred in 2016, the years following 2017 represent the most productive phase in the field. From 2017 onward, publication numbers rose steadily, and between 2020 and 2024, a consistently high level of research output was maintained. This upward trend can be associated with the renewed emphasis on themes such as ethical decision-making, digital ethics, and professional ethics, particularly in the post-pandemic period. Overall, the growing number of publications on ethical dilemmas demonstrates that the topic is being addressed not only at philosophical or theoretical levels but also increasingly across interdisciplinary domains such as teacher education, health sciences, and digital ethics. This tendency indicates that the subject has evolved into a continuously renewed research focus shaped by contemporary social and technological developments.

Fig. 2 Distribution Mapping of the Articles



Articles by Citation Performance and Total Link Strength

As shown in Table 1, the study with the highest CP and TLS is “Ethical Dilemmas: A Model to Understand Teacher Practice” by Ehrich et al. (2011). This article stands out with 77 CP and 50 TLS, clearly surpassing other works in the dataset. Within the research network, this highly influential study is followed by those of Hyry-Beihammer et al. (2022) and Johnson et al. (2017), each with 45 TLS. Although the studies by Van Stekelenburg et al. (2023) and Heikkilä et al. (2023) have relatively fewer citations, they continue to maintain a significant positional influence within the network. These findings indicate that earlier research focusing on ethical dilemmas and teacher practices has served as a strong reference point in the literature, while more recent studies have shown an increasing level of scholarly interaction.

Table 1. Articles by Citation Performance (CP) and Total Link Strength (TLS)

Article	CP	TLS
Ethical dilemmas: a model to understand teacher practice- Ehrich et al. (2011)	77	50
Moral imagination in student teachers' written stories on an ethical dilemma- Hyry-Beihammer et al. (2022)	3	45
A model for making decisions about ethical dilemmas in student assessment – Johnson et al. (2017)	24	45
How do students use their ethical compasses during internship? An empirical study among students of universities of applied sciences- Van Stekelenburg et al. (2023)	2	44
Ethical dilemmas and well-being in teachers? work: A three-wave, two-year longitudinal study- Heikkilä et al. (2023)	11	39

Note. The table presents the top five articles with the highest TLS.

Distributions of Publications

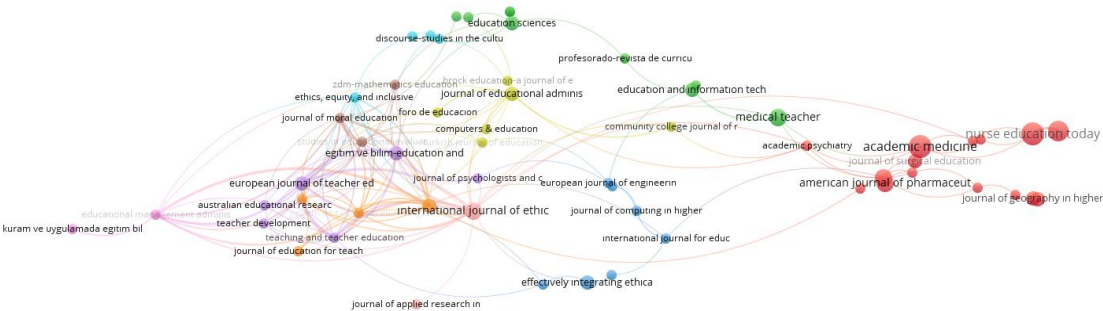
Table 2. Distribution by Journals

Journal	Articles	CP	TLS
European Journal of Teacher Education	2	9	72
International Journal of Ethics Education	3	4	66
Teachers and teaching	2	80	59
Journal of Moral Education	1	24	45
Teaching and Teacher Education	1	11	39

Note. The table presents the top five journals with the highest TLS.

Firstly, distribution by journals were taken into consideration, as presented in Table 2 and Figure 3. According to the table, among the journals publishing studies on ethical dilemmas in education, the European Journal of Teacher Education, International Journal of Ethics Education, Teachers and Teaching, Journal of Moral Education, and Teaching and Teacher Education stand out. In terms of CP, Teachers and Teaching is particularly notable; despite containing only two articles, it reached the highest level of influence with 80 CP and 59 TLS. In contrast, the International Journal of Ethics Education published three articles but showed a comparatively limited impact in terms of CP. The European Journal of Teacher Education and the Journal of Moral Education display an interdisciplinary profile that bridges ethics, teaching practice, and values education, functioning as key connectors within the citation network. Overall, these findings reveal that research on ethics and teacher education tends to cluster within education- and ethics-focused journals, while citation intensity is concentrated around a few core outlets.

Fig. 3 Distribution Mapping by Journals



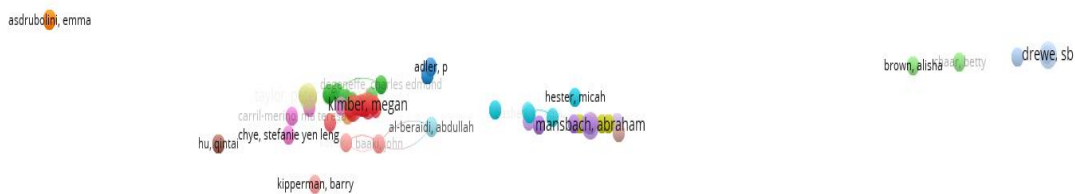
Distribution by authors were also considered. Table 3 and Figure 4 show that the authors Hu, Q., Hwang, G-J., Li, W., Liang, Z-M., and Lin, X-F. share equal levels of CP and TLS. Each author reached 28 CP and 759 TLS, suggesting a high level of co-citation relationships among their works. This finding implies that these researchers may belong to the same research group or collaborate on similar thematic areas. Moreover, the high TLS indicates that these authors occupy an influential position in the literature, forming a dense area of interaction, particularly within Asia-based research on instructional technologies and ethics-focused educational studies.

Table 3. Distribution by Authors

Author	Articles	CP	TLS
Hu, Qintai	1	28	759
Hawng, Gwo-Jen	1	28	759
Li, Wenyi	1	28	759
Liang, Zhong-Mei	1	28	759
Lin, Xiao-Fan	1	28	759

Note. The table presents the top five authors with the highest TLS.

Fig. 4 Distribution Mapping by Authors



Furthermore, institutional distribution was also considered. As indicated in Table 4 and Figure 5, the University of Georgia emerges as the leading institution contributing to research on ethical dilemmas in education. With two articles, 31 CP, and 432 TLS, the university demonstrates a higher level of influence compared to other institutions.

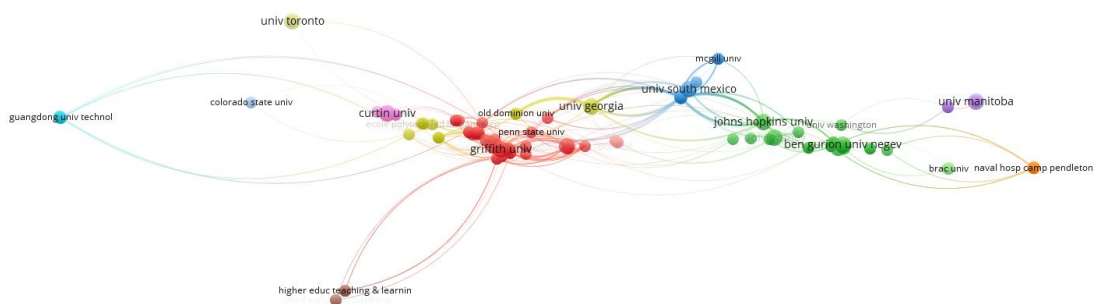
Table 4. Distribution by Institutions

Institution	Articles	CP	TLS
Univ Georgia	2	31	432
Guangdong Univ Tec	1	28	422
NATL Taichung Univ	1	28	422
NATL Taiwan Univ	1	28	422
South China Normal Univ	1	28	422

Note. The table presents the top five institutions with the highest TLS.

Although the Guangdong University of Technology, National Taichung University of Education, National Taiwan University, and South China Normal University each contributed only one article, they show notable visibility with 28 CP and 422 TLS. These findings suggest that institutions based in Taiwan and China occupy strong positions within collaborative research networks in the field, while the University of Georgia holds a central position within the international citation network.

Fig. 5 Distribution Mapping by Institutions



Lastly, distribution by countries was analyzed. As shown in Table 5 and Figure 6, the United States (USA) clearly stands out among contributing countries. With 34 articles, 366 CP, and 291 TLS, the USA holds the highest values in both productivity and influence. Australia follows in second place with 12 articles and 181 CP, reflecting the country’s significant role in teacher education, ethics, and values-based research.

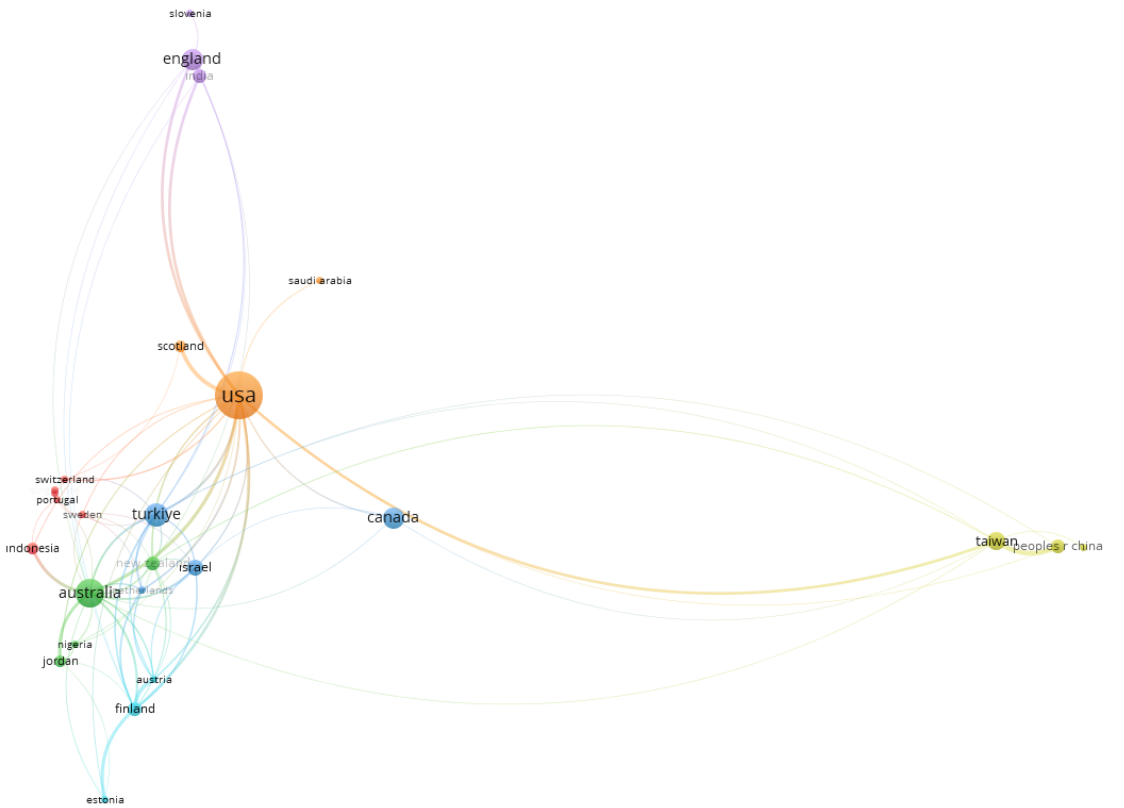
Table 5. Distribution by Countries

Country	Articles	CP	TLS
USA	34	366	291
Australia	12	181	182
Finland	3	27	179
Taiwan	5	78	119
Austria	1	3	100

Note. The table presents the top five countries with the highest TLS.

Although Finland and Taiwan have produced fewer publications, they display noteworthy levels of interaction, particularly in terms of TLS. Austria, despite being represented by only one article, achieved a visible position in the literature with 100 TLS. Overall, these findings indicate that Anglo-Saxon and Northern European countries occupy the core of the research network, while East Asian countries have recently begun to strengthen their presence and collaborations in this field.

Fig. 6 Mapping Distribution by Country



Keyword Co-Occurrence Analysis

Table 6 and Figure 7 show that the most frequently used keyword in the literature is “ethical dilemma.” With 36 repetitions and 153 TLS, this term clearly stands out, highlighting its central position in ethics-focused educational research. The keyword “ethics” ranks second, appearing 14 times with 69 TLS, functioning as a complementary concept within the research network.

Table 6. Keyword Co-occurrence Frequency

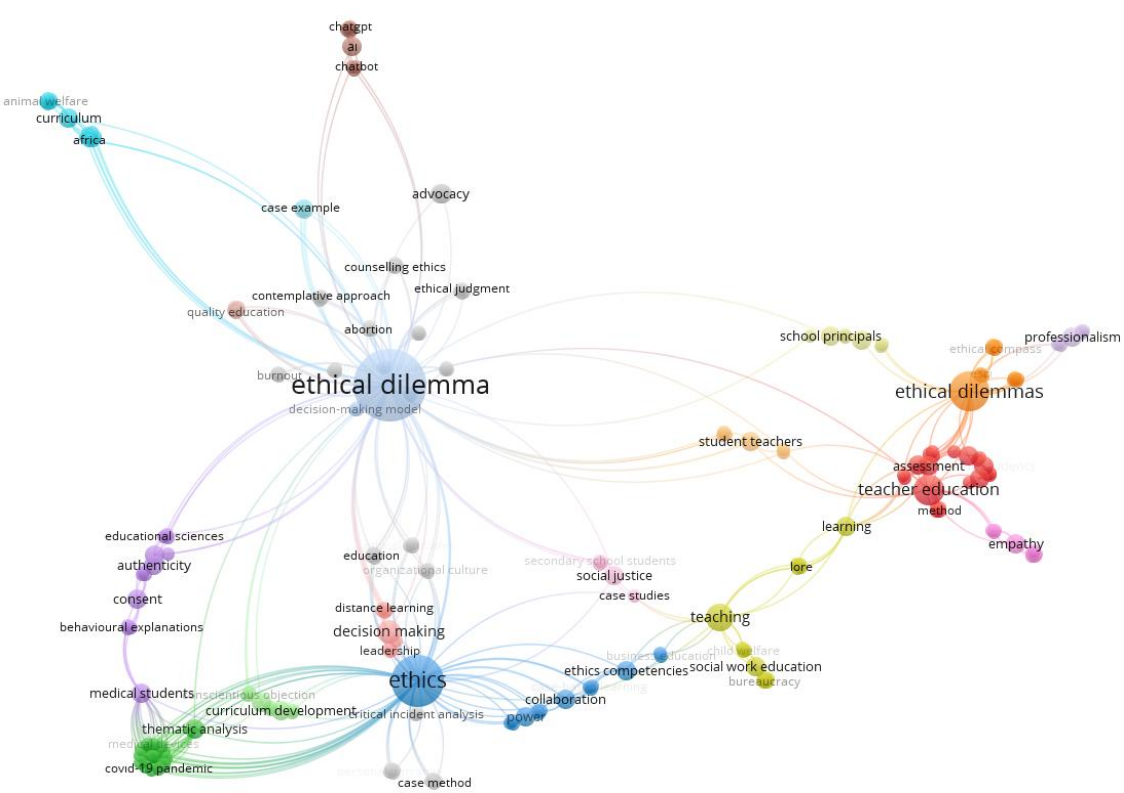
Keywords	Frequency	TLS
Ethical Dilemma	36	153
Ethics	14	69
Medical Students	2	24
Thematic Analysis	2	24
COVID-19 Pandemic	1	20

Note. The table presents the top five keywords with the highest TLS.

Although terms such as “medical students” and “thematic analysis” appeared only twice, they achieved 24 TLS, forming meaningful interaction areas within specific subthemes. The term “COVID-19 pandemic” recorded 20 TLS, reflecting its contribution to contemporary ethical discussions in education. Overall, these findings indicate that ethical dilemmas and

ethical decision-making processes are the most intensively discussed themes in the literature, while keywords related to health, the pandemic, and qualitative analysis appear primarily within sub-contexts.

Fig. 7 Mapping of the Keyword Co-occurrence Frequency



Most Frequent Terms in Abstracts

Using VOSviewer software, a term co-occurrence analysis was conducted to identify the most frequently used concepts in the abstracts of studies on “ethical dilemmas.” The binary counting method was applied, which counts terms based on their presence or absence and helps prevent weighting distortions caused by excessive repetition of certain words. A minimum occurrence threshold of 23 was set, and based on this criterion, only 5 of the 2,606 identified terms met the inclusion criteria, as seen in Table 7.

Table 7. Most frequent terms in abstracts

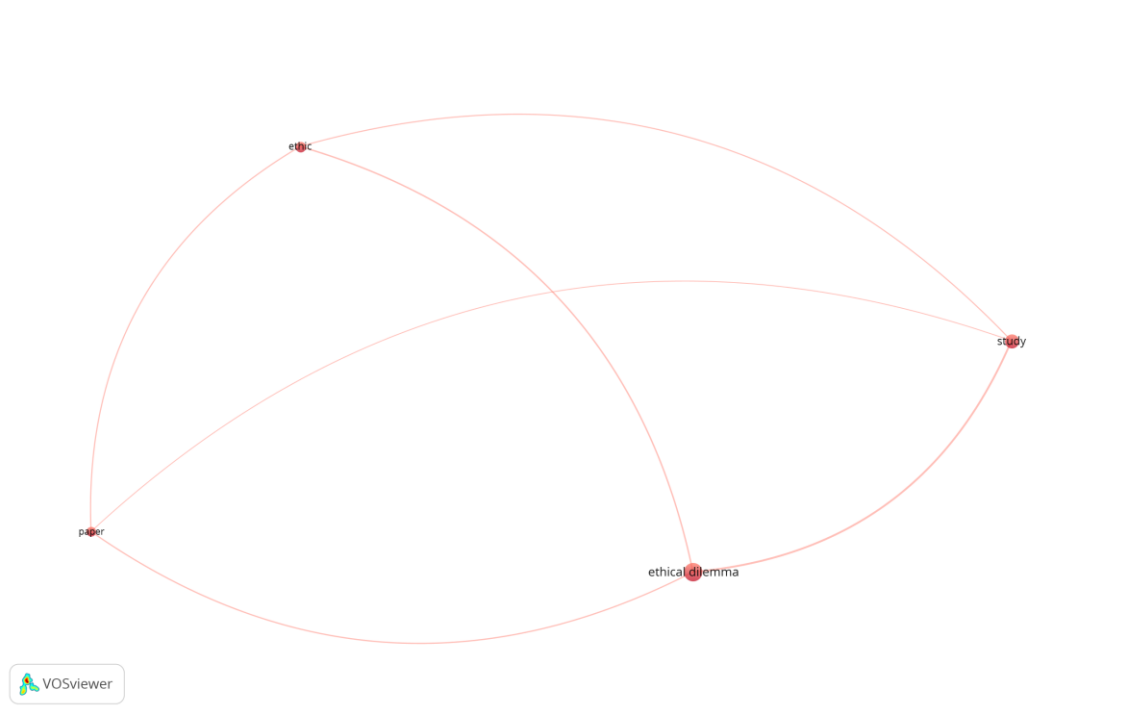
Terms	Frequency	Relevance
Ethical Dilemma	81	1.97
Student	51	1.23
Study	57	1.22
Paper	26	0.30
Dilemma	29	0.28

Note. The table presents the top five journals with the highest TLS.

According to the analysis results, seen in Table 7 and Figure 8, the term “ethical dilemma” had the highest frequency,

appearing 81 times with a relevance score of 1.97, thus forming the conceptual core of the field. This prominence indicates that the concept of ethical dilemmas constitutes the primary focus of research in this domain. The next most frequent terms were “study” (57 occurrences, relevance = 1.22) and “student” (51 occurrences, relevance = 1.23), suggesting that research on ethical dilemmas is largely student-centered and grounded in educational contexts. The other two common terms, “dilemma” (29 occurrences) and “paper” (26 occurrences), reveal that ethical dilemmas are discussed both at theoretical and academic levels. The frequent use of “paper” further indicates that scholars often approach this topic within a literature-based and conceptual framework.

Fig. 8 Mapping of the Most Frequent Used Terms in Abstracts



DISCUSSION

The present study reveals that publications focusing on ethical dilemmas in education have steadily increased during the 1998–2025 period. The findings align with existing literature emphasizing the prevalence of ethical dilemmas in value-laden domains such as teaching and educational leadership. For instance, Ehrich et al. (2011) emphasized that teaching is a “deeply value-laden” activity, leading teachers to frequently encounter ethical dilemmas in their daily practice. Similarly, Cranston et al. (2006) noted that ethical dilemmas faced by school leaders have become so common that they have turned into the “bread and butter” of professional life. Such studies indicate a growing scholarly interest in ethical issues in education in recent years (Ehrich et al., 2011; Cranston et al., 2006). The observed increase in publication numbers over time in our analysis further supports this trend.

The literature shows that ethical dilemmas in education have been explored across several subfields, particularly teacher education, school leadership, and assessment. In teacher education, Hyry-Beihammer et al. (2022) examined

the use of “moral imagination” in teacher candidates’ approaches to ethical dilemma narratives. Their study showed that preservice teachers tend to emphasize relational dimensions and adopt student-centered perspectives when responding to dilemmas. These results are consistent with earlier research highlighting the need to strengthen ethical awareness in teacher education programs (Ehrich et al., 2011; Mahony, 2009). Research on school administrators similarly underscores that leaders continually face ethical dilemmas. Cranston et al. (2006), through qualitative analyses, revealed that ethical conflicts are an unavoidable part of the daily decision-making processes of educational leaders. In our analysis, collaboration networks and keyword clusters related to leadership reflected this prevalence. The literature also emphasizes that leaders must balance multiple ethical perspectives, including the ethics of justice, care, and profession (Shapiro & Stefkovich, 2016). These observations align with our findings, suggesting that leadership studies correspond closely with the results of the bibliometric analysis. For example, Ehrich et al. (2011) and Cranston et al. (2006) described the need for ethics training and problem-based approaches in administrative practice, and our findings confirm the complex, multi-paradigmatic nature of ethical decision-making in leadership roles.

Ethical dilemmas in assessment processes also represent a significant subtheme in the literature. Johnson et al. (2017) developed a decision-making model specifically designed for ethical dilemmas related to grading and student evaluation. They outlined stages including identifying the context of the dilemma, determining conflicting factors, making ethical judgments, and evaluating possible alternatives. This framework provides teachers with practical guidance for navigating ethically challenging assessment decisions. In our analysis, concepts such as assessment, grading, and evaluation appeared prominently within keyword clusters, indicating that educators frequently encounter ethical responsibilities in examination and grading processes (Heikkilä et al., 2023). Overall, student assessment-related ethical dilemmas remain a central focus in both the existing literature and our bibliometric findings.

A growing trend in recent years concerns the integration of social and emotional competencies in addressing ethical dilemmas. Gat and Shapira-Lishchinsky (2025) investigated how teachers employ social-emotional skills such as empathy, self-awareness, and communication in ethical dilemma discussions, showing that these competencies contribute to more decisive and sensitive decision-making processes. Similarly, our findings identified “social-emotional competence” as a new focal area within the ethical dilemma literature. This pattern supports earlier research suggesting that teachers approach ethical challenges not only through cognitive reasoning but also through emotional and relational dimensions (Goleman, 1995; Jennings & Greenberg, 2009). The prominence of these terms in conceptual density maps underscores the multidimensional nature of ethical dilemmas in educational contexts, linking ethics, teaching, leadership, assessment, and emotional competence within a single network.

In summary, the discussion highlights that ethical dilemmas in education are examined across multiple dimensions (pedagogical, administrative, and emotional) and that the growing volume of research reflects the increasing complexity of moral decision-making in contemporary educational contexts. These findings collectively demonstrate that ethical dilemmas remain a central and evolving focus within the educational sciences, shaped by interdisciplinary approaches and expanding conceptual frameworks.

CONCLUSION and RECOMMENDATIONS

This study offers a comprehensive bibliometric examination of research on ethical dilemmas in education published between 1998 and 2025. The findings confirm a continuous increase in academic interest over this period, demonstrating that ethical dilemmas have become a persistent and expanding topic within educational research. The

results also verify that such dilemmas are central to value-laden areas like teaching, school leadership, and assessment, where professionals frequently face conflicts between moral principles and institutional expectations.

The bibliometric mapping further reveals the interdisciplinary nature of this research field, with strong contributions from education, psychology, philosophy, and technology. Core themes such as teacher education, ethical leadership, and assessment ethics continue to dominate the literature, while recent studies increasingly address social and emotional competencies as key components of ethical decision-making. These developments suggest an ongoing shift toward more holistic perspectives that integrate cognitive, affective, and contextual dimensions of ethics in education.

Overall, the study verifies that ethical dilemmas in educational settings are no longer treated as isolated professional challenges but as integral aspects of pedagogical, administrative, and institutional practice. The growing body of literature reflects both the complexity and the evolving understanding of moral reasoning in education, underscoring the need for continued interdisciplinary exploration of this field.

As for suggestions, some could be made for educational practice and theory. Studies on ethical dilemmas should have a greater presence in teacher education programs, as preparing future educators for ethically complex situations is essential. The literature highlights pedagogical approaches such as case-based learning and ethical writing assignments as effective tools for developing ethical understanding (Shapiro & Gross, 2008). Similarly, Ehrich et al. (2011) emphasized the importance of creating opportunities for teacher educators to discuss ethical scenarios and share experiences with colleagues, thereby fostering greater ethical awareness among preservice teachers.

The decision-making model proposed by Johnson et al. (2017) provides a practical framework that can be integrated into assessment-related coursework or professional development. This model encourages teachers to identify the context of ethical events, clarify conflicting values, and systematically evaluate potential alternatives. Furthermore, Heikkilä et al. (2023) found that teachers who frequently face ethical dilemmas are at a higher risk of burnout, highlighting the need for institutional support programs that address the emotional and moral dimensions of teaching.

In the context of educational leadership, adopting ethics training and professional codes of ethics can enhance administrators' decision-making processes. Cranston et al. (2006) recommended that professional development programs focused on moral dilemmas be implemented to strengthen ethical decision-making skills among school leaders. From a social and emotional perspective, teachers' and leaders' ability to manage ethical dilemmas can be supported through the cultivation of emotional intelligence and communication skills. In this regard, Gat and Shapira-Lishchinsky (2025) underscored the importance of incorporating social-emotional learning programs into professional environments where ethical discussions take place.

Collectively, the evidence suggests that teacher and leadership preparation programs, the adoption of professional ethical codes, the inclusion of ethics-based curricula, and the integration of social-emotional learning initiatives represent key strategies to strengthen educators' capacity to cope with ethical dilemmas. Such measures would not only promote ethical competence but also contribute to more reflective, just, and emotionally resilient educational communities. (In this section, provide recommendations that supporting reported results during the study)

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