

A Bibliometric Study on the Literature of Critical Pedagogy: Trends, Themes, and Future Directions

Ayhan URAL¹, Atilla ÖZDEMİR²

Abstract: This bibliometric analysis examines the literature on critical pedagogy from 1986 to 2023, highlighting significant trends, influential authors, key institutions, and the evolving nature of the field. The study reveals a substantial increase in publications, particularly in recent years, reflecting growing interest and expanding research addressing contemporary issues such as social power relations, inequality, and democratic education. Influential figures like Peter McLaren and Henry A. Giroux have significantly shaped the theoretical and practical foundations of critical pedagogy. Key institutions, including the University of California and Victoria University, have played crucial roles in advancing research and fostering collaborations. Thematic analysis identifies democracy, cultural literacy, and identity politics as central themes, explored through various lenses like poststructuralism, gender, race, and sexuality. The findings underscore the interdisciplinary nature of critical pedagogy and its application across diverse educational settings. Based on these insights, recommendations for future research include fostering interdisciplinary collaboration, expanding studies to underrepresented regions, investigating emerging issues, strengthening the link between theory and practice, and conducting longitudinal studies to track the long-term impact. These steps aim to promote educational practices that are democratic, inclusive, and transformative.

Keywords: Critical Pedagogy, Inequality and Education, Social Justice, Bibliometric Analysis

Eleştirel Pedagoji Literatürü Üzerine Bibliyometrik Bir Araştırma: Eğilimler, Temalar ve Gelecek Yönelimler

Öz: Bu araştırmanın amacı, eleştirel pedagoji çalışmalarına ilişkin bibliyografik bir çözümleme yapmaktır. Bu bibliyometrik analiz, 1986'dan 2023'e kadar olan eleştirel pedagoji literatürünü inceleyerek önemli eğilimleri, etkili yazarları, kilit kurumları ve alanın değişen doğasını vurgulamaktadır. Çalışma, özellikle son yıllarda eleştirel pedagoji üzerine yapılan yayınlarda önemli bir artış olduğunu ortaya koymaktadır. Bu artış, sosyal güç ilişkileri, eşitsizlik ve demokratik eğitim gibi çağdaş meseleleri ele alan araştırmalara olan ilginin arttığını ve araştırma kapsamının genişlediğini yansıtmaktadır. Peter McLaren ve Henry A. Giroux gibi etkili figürler, eleştirel pedagoji alanının teorik ve pratik temellerini önemli ölçüde şekillendirmiştir. California Üniversitesi ve Victoria Üniversitesi gibi kilit kurumlar, araştırmaları ilerletmede ve iş birliklerini teşvik etmede önemli roller oynamıştır. Tematik analiz, demokrasi, kültürel okuryazarlık ve kimlik politikalarının merkezi temalar olduğunu ortaya koymaktadır ve bu temalar postyapısalcılık, cinsiyet, ırk ve cinsellik gibi çeşitli mercekler aracılığıyla incelenmiştir. Bulgular, eleştirel pedagojinin disiplinler arası doğasını ve çeşitli eğitim ortamlarında uygulanmasını vurgulamaktadır. Bu bulgulara dayanarak, gelecekteki araştırmalar için öneriler, disiplinler arası iş birliğini teşvik etmek, yetersiz temsil edilen bölgelere yönelik çalışmaları genişletmek, ortaya çıkan meseleleri araştırmak, teori ile pratik arasındaki bağı güçlendirmek ve uzun vadeli etkiyi izlemek için boylamsal çalışmalar yapmaktır. Bu adımlar, demokratik, kapsayıcı ve dönüştürücü eğitim uygulamalarını teşvik etmeyi amaçlamaktadır.

Anahtar Sözcükler: Eleştirel Pedagoji, Eşitsizlik ve Eğitim, Sosyal Adalet, Bibliyometrik Analiz

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Critical pedagogy emerged as a field focused on social justice and emancipation in education, rooted in the work of Paulo Regulus Neves Freire (1921–1997) in the 1960s (Freire, 1967; 1968). Freire's pedagogical approach, which sought to address social inequalities by fostering individuals' critical thinking skills, laid the foundation for this discipline (Freire, 1990). Over time, with contributions from scholars such as Michael Apple, Henry Giroux, and Peter McLaren, critical pedagogy evolved into an interdisciplinary field that examines power dynamics in education and structural issues like race, class, gender, and economic disparities (Apple & Apple, 2004; Darder, 2005; Giroux, 1997). The field goes beyond the traditional transfer of knowledge, aiming instead for social transformation within broader social and political contexts (Avcı & Özdemir, 2022).

Today, critical pedagogy retains its interdisciplinary nature and continues to influence various domains. Focused on educational emancipation and social justice, this body of work not only cultivates critical thinking skills in students and teachers but also encourages their active participation in social change processes (Darder et al., 2003; Gadotti, 2019). The global expansion of critical pedagogy has enriched its theoretical foundations and diversified its methodological approaches (Kincheloe, 2004; McCarthy & Apple, 1988; Ross, 2018).

Despite the numerous studies on critical pedagogy, there remains limited knowledge about the field's history, current trends, and development processes. In particular, the inadequate use of bibliometric methods has hindered a deeper understanding of the subject. This study employs the science mapping method (Small, 1999) to create a bibliometric analysis of critical pedagogy, using quantitative bibliometric techniques to explore the intellectual structure of the field by identifying key publications, authors, journals, and their interconnections, as seen in previous bibliometric studies across various disciplines (Özdemir et al., 2024).

Perspectives on Critical Pedagogy

Critical pedagogy, rooted in emancipatory ideals and aimed at fostering democratic, egalitarian, and just learning environments, has evolved into a diverse and multifaceted field. This educational approach, which includes concepts such as emancipation, awareness, dialogue, and hope, challenges mainstream educational policies and practices. As Apple et al. (2009) note, critical pedagogy engages with a broad range of debates concerning the purpose of education, how it should be conducted, and who should be empowered in the process. Its broad and complex nature, often described as discursively variable or a "sliding signifier" (Foner, 1998; Hall, 2017), complicates its definition, leading to ongoing discussions about its essence (Ural, 2020).

Critical pedagogy branches into various theoretical frameworks, each offering a different lens for analyzing education and its role in society. One such branch is governmental studies, which, through a Foucauldian lens, explores how power and control operate within educational systems, examining how institutions and policies shape individuals and their behaviors (Apple et al., 2009; Kyrlo, 2011). Another branch focuses on the reproduction of cultured individuals, viewed through an anthropological perspective, where scholars like Giroux (1997) examine how education systems shape individuals into cultured, knowledgeable citizens within specific social contexts. Additionally, reproduction studies, grounded in Marxist and Bourdieuan frameworks, investigate how education perpetuates existing social inequalities, particularly by reproducing class structures and power dynamics within the educational sphere (McLaren & Jaramillo, 2010).

These branches of critical pedagogy emphasize the theoretical diversity within the field, with each contributing unique insight into the intersections of education, power, and society (Özdemir & Avcı, 2024). Despite their differences, they all share the underlying aim of challenging educational structures that perpetuate inequality and injustice. This bibliometric analysis focuses on exploring these branches and their integration into educational research over time, offering a comprehensive overview of how these theoretical approaches have shaped the intellectual landscape of critical pedagogy (Elias, 1974; Shor & Freire, 1987).

This conceptualization also traces the revolutionary spirit of Marxist education, which emphasizes human needs and societal critique (Allman, 2001; Au, 2018; Breunig, 2011; Rikowski, 2004). With its

revolutionary character, critical pedagogy engages with questions of freedom and social transformation (Breunig, 2011; Brookfield, 2003), functioning as both an emancipatory educational theory (Freire, 1990; Gordon, 1985) and a form of resistance (Giroux, 2001). This dynamic and often controversial educational intervention has inspired, challenged, and frustrated educators, activists, and scholars alike, as it continues to shape educational research and practice (Apple & Au, 2015; Burbules, 2000; Porfilio & Ford, 2015).

Through its expansive intellectual landscape, critical pedagogy remains one of the most vital and growing movements in education, reinvigorating the popular education movement and igniting debates on educational justice and freedom (Aronowitz, 2013; Blackburn, 2000; Schugurensky, 1998).

In conclusion, while critical pedagogy encompasses a range of approaches, including governmental studies, the reproduction of cultured individuals, and reproduction studies, each branch contributes to a shared mission: to examine and challenge the ways in which education can either reinforce or resist social inequalities. This bibliometric analysis traces how these various branches have been integrated into educational research, revealing the complexity and diversity of critical pedagogy as it has evolved over time.

A Brief Historical Background

Critical pedagogy emerged in the 1960s (Gottesman, 2016) during a period of intensified debates on Marxism, neo-Marxism, social theory, and new educational approaches. Freire's work from 1967 to 1968 is considered foundational to the development of critical pedagogy (Giroux, 1981; 1985; Gottesman, 2016; Harmon, 1975). There is broad agreement among scholars that Freirean pedagogy has its intellectual roots in the critical theory of the Frankfurt School (Gur-Ze'ev, 1998; Porfilio & Ford, 2015). McKernan (2013) traces the origins of critical theory, which informs critical pedagogy, to the works of Kant, Hegel, Marx, and Engels. Influenced by critical theory (Jay, 1973), which seeks a comprehensive interpretation of social totality central to the Marxist tradition, Freire also drew upon its interdisciplinary nature (Horkheimer, 1976), combining philosophy and social theory with psychology, political economy, and cultural analysis (Berryman, 1987; Berthoff, 1990; Krank & Steiner, 2000).

Critical pedagogy centers on the belief that the dominant forces in society shape social culture and that schools and curricula serve to reproduce these power dynamics. It also focuses on the discourse and actions necessary to challenge these systems. The philosophical roots of critical pedagogy (Cevizci, 2011; Lamons, 2016; Quantz, 2015; Villanueva & O'Sullivan, 2019) are often linked to Plato's allegory of the cave, which explores the agency of learning. Critical pedagogy (Ural, 2024), bearing the influence of Marxist educational thought (Allman, 2001; Au, 2017; 2018; Breunig, 2011; Rikowski, 2004; McLaren & Jaramillo, 2010) with its emphasis on criticism, human needs, and freedom, is also connected to Dewey's (1915) learner-centered view of education and the critical theory of the Frankfurt School (Guess, 1981; Jay, 2003; McKernan, 2013; Slater, 1977).

Bibliometric Approach and Current Research

With questions of freedom and agency at its center (Funston, 2017), critical pedagogy studies have from the beginning been oriented towards creating a more democratic, egalitarian, and just learning environment and content. Breunig (2006) has stated the themes in critical pedagogy studies and the representatives who emphasize these themes as follows:

- Democracy: Paulo Freire
- Cultural literacy: Douglas Kellner, Donaldo Macedo
- Poststructuralism: Patti Lather, Wanda Pillow
- The politics of identity and difference as embodied in class discourse: Michael W. Apple, Henry A. Giroux, Peter McLaren
- Gender: Carolyn Shrewsbury, Kathleen Weiler
- Race: bell hooks

- Sexuality: Suzanne de Castell, Mary Bryson

Cho (2012) categorizes the areas of critical pedagogy into three key domains: theoretical, pedagogical, and political studies. Kincheloe (2004) characterizes critical pedagogy as a space for reconceptualization and radical rethinking. This includes examining what individuals can achieve, how social, cultural, and political factors shape human identity, and how power influences educational goals, which may not always align with the interests of students. Critical pedagogy also explores how teachers and students interact with knowledge, the effects of education on marginalized students, and the structure of schooling and teacher-student dynamics.

Mayo (1999) broadly defines critical pedagogy as the study of the politics of meaning and citizenship within multilingual and multicultural environments, including both schools and adult learning contexts. It also addresses the relationship between education and the economy, strategies for educational reform, and the politics of difference. In line with Freire's vision (Corbett & Guilherme, 2021), the primary objective of critical pedagogy is to encourage deep social transformation. Rather than enforcing a linear model of progress—whether individual or societal—often represented by the term "quality," critical pedagogy aims to provide every member of the community with the opportunity to discover their unique potential.

Purpose of the Study

Despite a substantial body of research on critical pedagogy (CP) spanning several decades, our understanding of its historical and current trends remains limited. Key elements such as publications, leading journals, prominent countries, institutions, authors, and researcher networks have not been thoroughly examined. Furthermore, no comprehensive study has investigated how CP research has evolved since its inception. Consequently, there is a significant need for information on the state and development of CP research, especially regarding emerging trends and areas that have gained prominence over time.

To fill these gaps, the authors conducted a bibliometric analysis of CP research. Bibliometric analysis is a quantitative approach used to evaluate the state and impact of scientific research (Ellegaard & Wallin, 2015). This method helps researchers identify gaps in the literature and pinpoint areas that require further investigation (Donthu et al., 2021). As a result, the use of bibliometric analysis has surged across various fields in the past decade. Researchers apply this method to uncover trends in article and journal performance, collaboration patterns, research constituents, and to explore the intellectual structure of specific domains in the literature (Donthu et al., 2021).

The primary aim of this article was to review and explore the existing literature on CP and to identify broad trends in its study. Using bibliometric analysis, we assessed how CP research has developed since its emergence in educational and psychological fields. Our study was guided by the following research questions:

- What are the prominent time periods, authors, articles, journals, countries, organizations, citations, publishers, keywords, and research networks in CP studies?
- What are the main research topics in CP studies and how have they changed over time?

Method

This descriptive research was conducted using the bibliometric analysis method. Bibliometric analysis is the quantitative evaluation of a body of literature based on bibliographic characteristics (Aria & Cuccurullo, 2017; Hawkins, 2001). In bibliometric studies, literature is reviewed based on specific criteria, and quantitative analysis is performed to uncover publication patterns (Agarwal et al., 2016; Donthu et al., 2021; Petrovich, 2022). Bibliometric studies have become a widely used research tool in various fields because they provide researchers with essential information about evolving research trends (Chuang et al., 2011; Zupic & Cater, 2015).

Data Source

The data used in this study were collected from the Scopus database, which was launched by the

publisher Elsevier in 2004 as a comprehensive database for the scientific community (Deis & Goodman, 2005; Gavel & Iselid, 2008). Scopus is one of the largest literature databases indexing academic journals, books, and conference proceedings in various research fields (Burnham, 2006; Elsevier, 2022). The specific dataset was retrieved on February 9, 2024, by querying for publications related to critical pedagogy. Scopus provides researchers and academics with a powerful search tool to access scientific literature, track citations, and assess the impact of their research. Compared to competitors such as Web of Science (WOS), Scopus covers a wider range of research areas, especially in the social sciences, offers about 20% more scope for citation analysis, and makes it easier to understand through visualizations (De-Moya-Anegón et. al., 2007; Mongeon & Paul-Hus, 2016). For these reasons, Scopus is considered a suitable option for conducting bibliometric analysis (Falagas et. al., 2008)."

Data Collection Process

The term "Critical Pedagogy" was used as the search criteria across all databases in Scopus. The criteria "all records" and "all time periods" were applied to retrieve relevant publications related to the search query. Researchers independently accessed the Scopus database on February 9, 2024, to collect data. Each accessed publication was categorized as 'eligible' (E) or 'not eligible' (NE) depending on its relevance to the study. Agreement between researchers was assessed using the formula 'number of agreements between coders / (number of agreements + number of disagreements between coders) × 100' (Van Houten & Hall, 2001), resulting in 100% agreement. Consequently, a total of 2808 articles on critical pedagogy published between 1986 and 2023 were identified. The collected data was prepared for analysis considering the requirements of bibliometric analysis and the study's objectives. Subsequently, a Thesaurus file was generated to detect overlapping data, and author names were integrated into a single file for analysis. No instances of overlapping author names or institutions were identified. The research process is illustrated in Figure 1.

Analysis of Data

In this study, bibliometric analysis methods including co-authorship, citation, co-citation analysis, keyword analysis, and identification of hot topics were employed. The bibliometric data were visualized using three software programs: R Bibliometrix, CiteSpace (6.2.R2), and VOS-viewer (1.6.20). Bibliometrix, developed by Massimo Aria and Corrado Cuccurullo in 2017, is a package for bibliometric analysis (Aria & Cuccurullo, 2017). It is a flexible tool that provides quantitative insights into scientific trends and is written in R, making it a powerful and versatile tool for statistical analysis (Aria & Cuccurullo, 2017; Gandrud, 2013; Guler et al., 2016).

CiteSpace, another tool used in this study, aids in understanding the state and dynamics of a knowledge domain. It supports qualitative and quantitative research by employing cluster views and time-slice views using Kleinberg's burst detection algorithm and Freeman's waypoint-centered metric (Freeman, 1979; Kleinberg, 2003). CiteSpace has been proven effective in identifying and visualizing emerging trends and sudden changes within a specific field (Chen, 2014). Therefore, integrating these bibliometric mapping tools with quantitative analysis can lead to comprehensive and effective results.

Limitations

Before discussing the results, we need to acknowledge some limitations. First, our analysis is primarily based on data from Scopus, which only searches global databases. For example, when we searched for articles in other databases, we found some articles published in local journals and databases, especially journals published in languages other than English, that were not included in our data set. Although we successfully identified these missing studies, we could not include them in our dataset because the CiteSpace software could not use them due to language limitations because these studies could not provide full text in English. In contrast, we were only able to find studies that were available online, which means that we could not include publications that were not listed in online databases. In addition, analyses based on the number of citations may highlight popular or highly cited studies and overlook less cited studies that make important contributions. Methodologically, bibliometric analysis may not fully capture the qualitative content of critical

pedagogy studies, focusing instead on quantitative trends. The mapping of research networks and collaborations is constrained by database limitations, particularly in accurately identifying informal or inter-institutional collaborations. Finally, reported citation counts may not be the most current and accurate, as different search engines yield different results; for example, Scopus often reports lower citation counts compared to Google Scholar, which searches a wider range of citation data. Given these limitations, our results should be interpreted with caution.

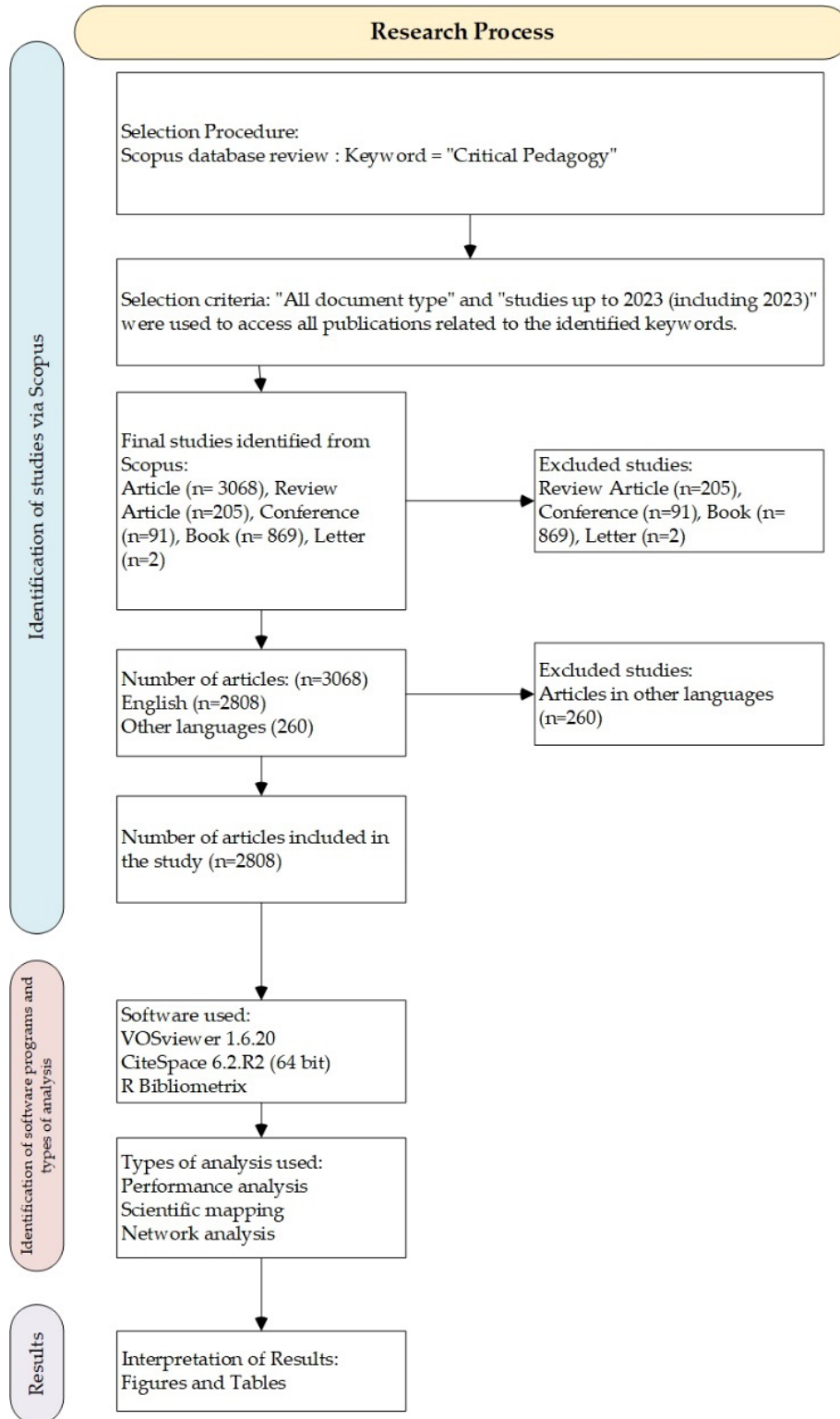


Figure 1. The research processes

Ethical Permissions of Research

This study adhered to research and publication ethics guidelines. It falls under the category of studies that do not require approval from an ethics committee.

Results

Under this heading, the findings of the studies related to critical pedagogy, in line with the research problems of the study, are presented.

What Are the Prominent Time Periods, Authors, Articles, Journals, Countries, Organizations, Citations, Publishers, Keywords, And Research Networks in CP Studies?

Total Number of Publications on Critical Pedagogy Between 1986 and 2023

Figure 2 shows the distribution of academic studies published in Scopus by year. It reveals that the first publication on critical pedagogy was documented in 1986. Notably, the years with the highest number of publications in this field were 2023 ($f=256$), 2021 ($f=242$), and 2022 ($f=223$), as shown in Figure 2 (Data from R Bibliometrix). Data obtained from the Scopus database indicates an annual growth rate of 14.01% for critical pedagogy. Upon analyzing the graph of publication numbers, it becomes clear that interest in the field of critical pedagogy has recently increased and continues to follow an upward trajectory.

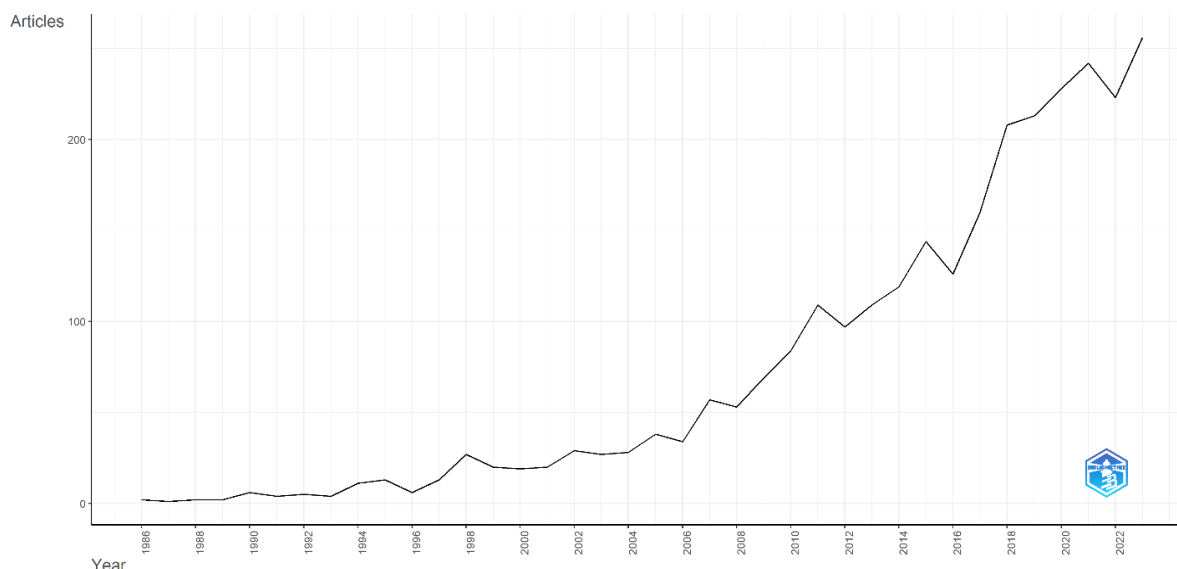


Figure 2. Annual number of articles

Ranking of the Most Productive Authors Researching Critical Pedagogy

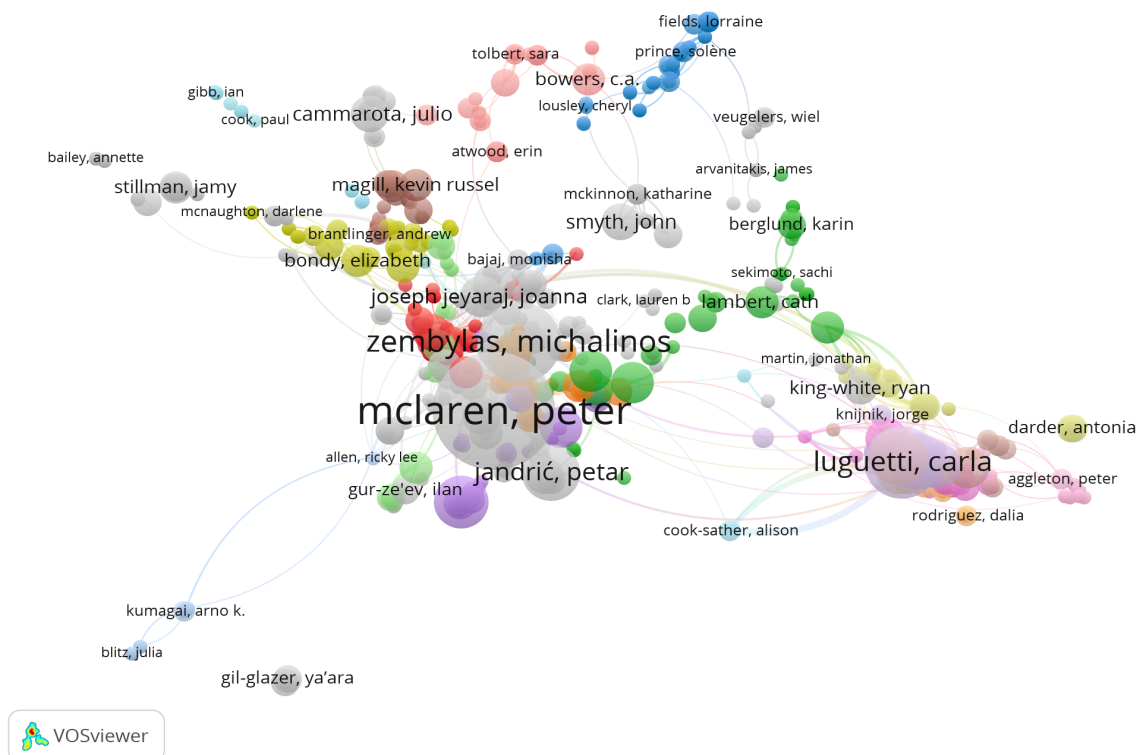
Four performance indicators were used in the study: total publications (TP), total citations (TC), citations per publication (CPP), and h-index. CPP is determined by dividing TC by TP. The h-index, developed by Hirsch (2005) to evaluate the scientific publication performance of researchers, is the last performance indicator used in this study. Table 1 presents the top 5 most productive authors (Data obtained from R Bibliometrix). The author ranking in the table is based on TP, prioritizing authors with higher TC in case of the same number of publications. Among the authors who have made significant contributions to the CP, McLaren, P. stands out as the most prolific author with thirty-five publications and a total of 597 citations. Giroux, H.A. (with nineteen publications (TC=800)) and Zembylas, M. (with nineteen publications (TC=553)) ranks second. Luguetti, C. is ranked third with fifteen publications (TC=233). Considering citations per publication (CPP), the authors with the highest CPP are Kirk, D. (CPP=55,45), Giroux, H.A. (CPP=44,44), Zembylas, M. (CPP=30,22).

Table 1. *The Five Most Productive Authors*

Rank	Authors	TP	TC	CPP	h-index
1	Mclaren, P.	34	598	17,59	15
2	Giroux, H.A.	18	800	44,44	10
2	Zembylas, M.	18	544	30,22	11
3	Luguetti, C.	15	233	15,53	9
4	Kirk, D	11	610	55,45	10
4	Bruch, P. L.	11	189	17,18	6
5	Jandrić, P	10	217	21,70	6
5	Philpot, R.	10	176	17,60	8

Note. TP = total publications; TC = total citations; CPP (TC/TP) = total citations per publication)

Figure 3 presents the citation analysis as another indicator of authors (Data obtained from VOSviewer 1.6.20). This analysis examined the authors' relationships based on reciprocal citations. The citation analysis revealed cross-citation relationships among 3,774 authors, each having at least one article out of a total of 4,450 authors, with 889 authors identified as having received at least one citation. These relationships are depicted in Figure 3, where authors in the same color group have publications in similar fields of study. The size of the circles represents the number of cited publications, with larger circles indicating a higher number. Curved links describe the citation relationships between publications, and their intensity influences the proximity of the groups in the analysis. The closeness of these groups can also be attributed to similarities observed between their publications. Figure 3 shows that the 889 authors involved in reciprocal citation relationships are divided into 36 clusters. Unlike Table 1, the author with the strongest overall link is "Luguetti, C." with 133 total link strength, followed by "Tinning, R." with 117 total link strength, and "Philpot, R." with 114 total link strength.

**Figure 3.** Mutual citation analysis of authors

When the authors' article production over time is analyzed, the number of publications and citations to these publications are given in Figure 4.

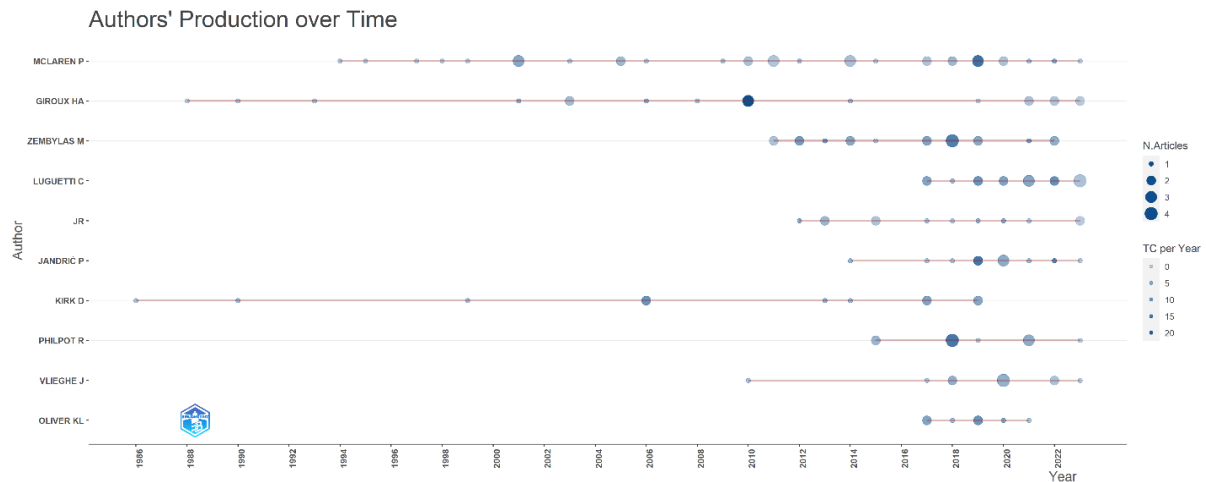


Figure 4. Productivity analysis of the most productive authors over time

Ranking of the Most Productive Institutions Researching Critical Pedagogy

Table 2 shows the distribution of authors of academic studies on critical pedagogy published in Scopus according to their affiliated institutions. The table includes three performance indicators: total publications (TP), total citations (TC), and citations per publication (CPP). TP determines the ranking of institutions in Table 2 (Data obtained from R Bibliometrix). Due to the large number of institutions in this category ($n=256$), the table includes only the top five institutions ranked by number of publications. In cases where institutions have the same number of publications, the ranking is based on the institution with the highest TC. Among the institutions contributing most to the literature on CP, the University of California stands out as the most significant contributor with fifty-one publications and a total of 539 citations. Victoria University ranks second with forty-three publications (TC=514), and the University of Toronto ranks third with forty-one publications (TC=360). Looking at institutions with the highest CPP, Victoria University ranks first with 11,95, followed by the University of California with 10,57. University of Auckland and University of Toronto also have significant CPP values of 10,24 and 8,78, respectively.

Table 2. Number of Publications by Institutions

Rank	Institutions	Country	TP	TC	CPP
1	University of California	United State	51	539	10,57
2	Victoria University	Australia	43	514	11,95
3	University of Toronto	Canada	41	360	8,78
4	University of Auckland	New Zealand	33	338	10,24
5	Columbia University	United State	30	158	5,26

Note. TP = total publications; TC = total citations; CPP (TC/TP) = total citations per publication.

Figure 5 shows the citation analysis of institutions, illustrating reciprocal citation relationships among 923 institutions connected through at least one article and at least one citation (Data obtained from VOSviewer 1.6.20). The analysis reveals that these 923 institutions can be categorized into 36 clusters based on cross-referencing. Unlike Table 2, which emphasizes the total publication impact of institutions, the institution with the strongest linkage is "The University of Queensland" with 66 links, followed by "Victoria University" with 56 links, and "University of Amsterdam" with 40 links.

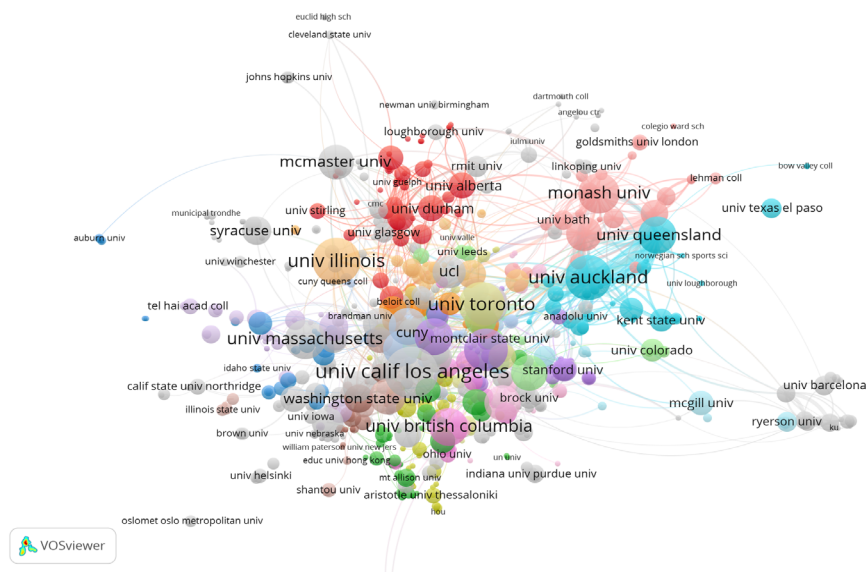


Figure 5. Mutual citation analysis of institutions

Ranking of the Most Publications and Cooperation Countries on Critical Pedagogy

Within the scope of the productivity analysis of countries, the total number of publications (TP), total citations (TC), and citations per publication (CPP) of the five most productive countries were determined, and the countries were ranked according to these numbers. This ranking was based on the total number of publications, with the country having the highest number of publications ranked first as the most productive. Information on this ranking is shown in Table 3 (Data taken from R Bibliometrix).

Table 3. Number of Publications by Institutions

Rank	Countries	TP	TC	CPP
1	United State	1211	22246	18,37
2	United Kingdom	417	6963	16,70
3	Canada	245	4049	16,53
4	Australia	195	4149	21,28
6	South Africa	112	758	6,77

Note. TP = total publications; TC = total citations; CPP (TC/TP) = total citations per publication.

Table 3 shows that according to TC and TP, the USA ranks first as the most productive country with 834 publications and a total of 11829 citations. Following the USA are United Kingdom (TP=417), Canada (TP=245), Australia (TP=195), and South Africa (TP=112). Additionally, when analyzing the number of publications per citation (CPP), it can be observed that Australia (CPP=21,28) and the USA (CPP=18,37) produce studies that are more effective in the literature compared to other countries.

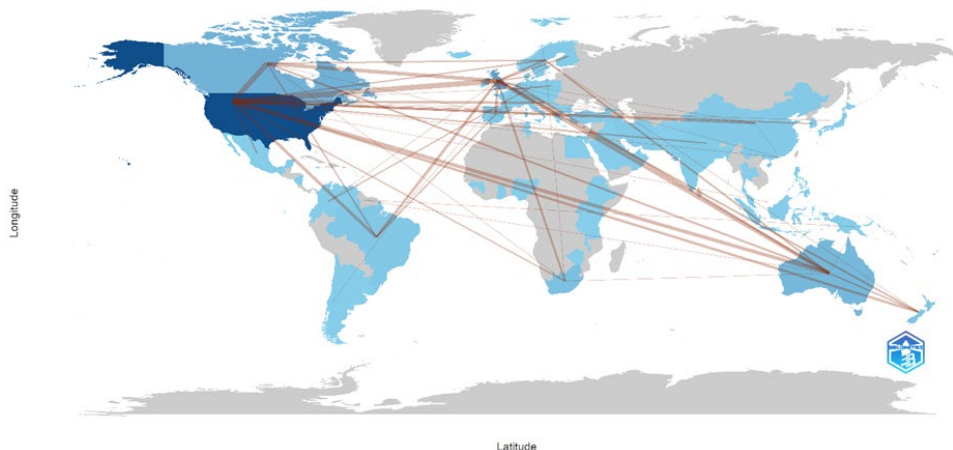


Figure 6. Cooperation Map of Countries

Figure 6 presents a map showing the analysis of countries' cooperation in research. The intensity of the blue color in the map corresponds to the number of publications produced by each country, with darker shades indicating higher numbers of publications. The red lines on the map represent collaborations between researchers from different countries. The analysis revealed several instances of international collaboration, such as twenty-four publications resulting from collaboration between the US and the UK, and the US and Canada, and thirteen between the UK and Australia. Analyzing the dataset, the result of international co-authorship reached 8.54%.

Overall, the map visually represents collaborative efforts between countries, with the blue color reflecting publication output and the red lines highlighting research collaborations between countries.

The 5 Most Cited Documents in the Field of Critical Pedagogy

The most influential publications on critical pedagogy are shown in Table 4, along with the number of citations and the average number of citations per year (Data from R Bibliometrix). This table reveals that the researcher with the most cited publications is Gruenewald (2003) with 1082 citations. Following them, Cook-Sather (2002) and Russell (1997) authored the second (539) and third (485) most cited studies, respectively.

Table 4. *The Five Most Cited Publications in Critical Pedagogy*

Rank	Title	Authors	PY	TC	ACP
1	The Best of Both Worlds: A Critical Pedagogy of Place	Gruenewald, D. A.	2003	1082	49,18
2	Authorizing Students' Perspectives: Toward Trust, Dialogue, and Change in Education.	Cook-Sather, A.	2002	539	23,43
3	Rethinking Genre in School and Society: An Activity Theory Analysis.	Russell, D. R.	1997	485	17,32
4	Reflexive Dialogical Practice in Management Learning.	Cunliffe, A. L.	2002	446	19,39
5	The Souls of White Folk: Critical pedagogy, whiteness studies, and globalization discourse	Leonardo, Z.	2010	338	14,70

Note. PY = publication year; TC = total citations; ACP = average citations per year.

Bibliographic Coupling Analysis of the Most Cited Articles

The concept of bibliographic relationship analysis, which examines the links between articles based on common references, first emerged in the 1960s (Kessler, 1963b; 1965; Van Eck & Waltman, 2019). This analysis considers the presence of a common third article in the bibliographies of two articles as an indication that they may be researching related topics (Jarneving, 2007; Kessler, 1963a; Martyn, 1964). Bibliographic matching aims to assess the similarity between two studies by comparing their bibliographic references. The degree of overlap in the bibliographies of these studies determines the strength of the links between them (Zan, 2019; Zupic & Čater, 2015). A higher overlap rate indicates a stronger relationship between studies. In summary, bibliographic relationship analysis and matching involves examining shared references to identify potential links between items. This approach provides insights into the similarity and relatedness of studies based on their bibliographic characteristics.

The bibliographic relationship analysis of the articles revealed that 1,494 articles that met at least five citation criteria were linked to each other out of a total of 2,808 articles (Data obtained from VOSviewer 1.6.20). These findings are visually represented in Figure 7, which shows the bibliographic matching map. The map displays the different groups characterized by various colors and densities, highlighting the connections between the articles.



Figure 7. Bibliographic coupling analysis of the most cited articles

Figure 7 shows that the 1,494 articles analyzed using bibliographic linkage analysis are divided into four clusters. These four clusters exhibit 118,241 links and total link strength of 145,537. The study by Cho (2010) has the highest total link strength, with 1,265 links.

Bradford Law

Bradford's Law, introduced by Bradford in 1985, serves as a benchmark for determining the main influence of journals in each field. In the context of this study, the purpose of using Bradford's Law is to identify the main journals in which research on critical pedagogy is predominantly published. The analysis covers 2,808 publications that make up the dataset of the study, distributed across 1,007 different journals. Figure 4 shows that 930 articles were published in 45 journals in the first region, followed by 953 articles in 201 journals in the second region, and 925 articles in 761 journals in the third region. Based on the application of Bradford's Law, these journals were categorized into three different regions. Specifically, the first region consists of ten core journals that serve as the primary source for research on critical pedagogy. The results for Bradford's Law are shown in Figure 8.

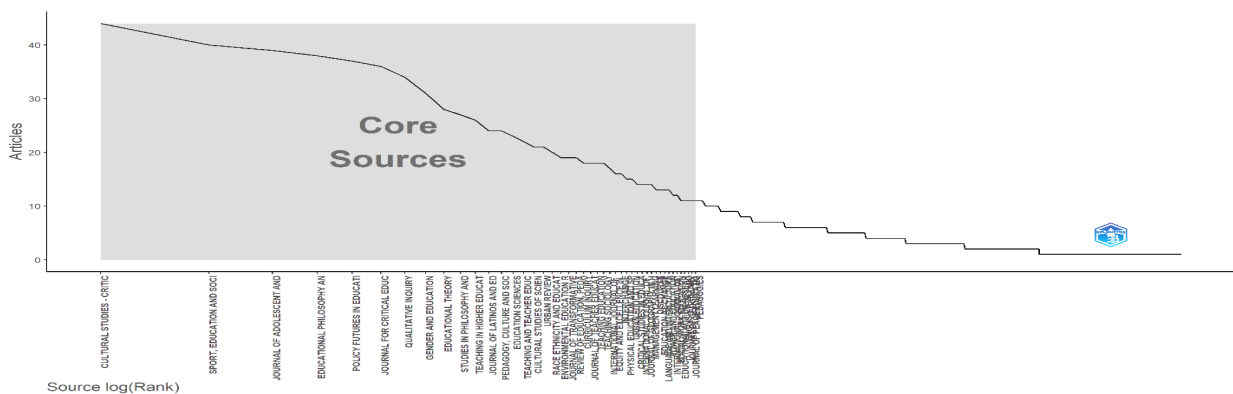


Figure 8. Bradford law results

The total publications, total citations, h-index, and CPP values of the 10 journals shown in Figure 8 are presented in Table 5 (Data obtained from R Bibliometrix). The analysis reveals that Cultural Studies - Critical Methodologies is the most prolific journal in terms of publications on critical pedagogy, with 44 articles. It is followed by Sport, Education and Society, with 40 articles. When the results are evaluated according to the

number of citations, Educational Researcher emerges as the most frequently cited journal, with 1,661 citations. Additionally, Sport, Education and Society ranked second, with 1,291 citations.

Table 5. Ranking of Journals Publishing Research on Critical Pedagogy

Rank	Journals	TP	TC	h-index	CPP
1	Cultural Studies - Critical Methodologies	44	802	28	18,23
2	Sport, Education and Society	40	1291	23	32,28
3	Journal of Adolescent and Adult Literacy	39	221	9	5,67
4	Educational Philosophy and Theory	38	611	13	16,08
5	Policy Futures in Education	37	521	10	14,08
6	Journal for Critical Education Policy Studies	36	102	5	2,83
7	Qualitative Inquiry	34	507	10	14,91
8	Gender and Education	31	452	12	14,58
9	Educational Theory	28	1124	15	40,14
10	Studies in Philosophy and Education	27	367	10	13,59

Note. TP = total publications; TC = total citations; CPP (TC/TP) = total citations per publication.

What Are the Main Research Themes in Critical Education Studies and How Have They Changed Over Time?

Hot Terms

To address our research question, we examined citations to articles covering relevant terms and concepts and their interrelationships. Cluster names were derived from the most frequent terms in the abstracts of each article, thus capturing the essence of each cluster. Various algorithms were used to characterize these clusters, with the LLR algorithm being particularly effective for term analysis (Chen, 2014; Rousseeuw, 1987). We used CiteSpace 6.2.R2 Advanced (64-bit) to visualize and extract the values. In Table 6, the LLR algorithm presents significant terms within each cluster, while Figure 9 shows the feature words associated with each cluster. The results revealed the existence of twelve clusters in the timeline view of the network, consisting of 1,348 nodes and 44,118 rows, with a density value of 0.3189. These values indicate that articles are not predominantly concentrated in a single cluster, thus supporting multiple cluster analyses.

Table 6. Core Terms of Clusters of Hot Topics (LLR algorithm)

Cluster Label	Size	SLH	Mean Year	Top Keywords (log-likelihood ratio, p-level)
#0	340	0.893	2005	critical pedagogy (6286.06, 0.05); miedema part (1556.08, 0.05); intellectual appropriation (1556.08, 0.05); critical management education (1372.57, 0.05); science classroom (1267.4, 0.05)
#1	291	0.775	2013	critical pedagogy (2441.08, 0.05); critical discourse analysis (1590.05, 0.05); language teacher (1487.75, 0.05); cultural wealth (1469.22, 10.05); high school youth (1463.93, 0.05)
#2	207	0.84	2011	peace education (1695.36, 1.0E-4); gender emotion (1638.91, 1.0E-4); global citizenship education (1590.16, 1.0E-4); education pedagogies (1306.7, 1.0E-4); post-critical pedagogy (1275.54, 1.0E-4)
#3	182	0.708	2007	nursing education (3021.71, 1.0E-4); physical education (1685.88, 1.0E-4); activist approach (1476.91, 1.0E-4); custodiet ipso (1414.53, 1.0E-4); health education (1269.59, 1.0E-4)
#4	65	0.973	1986	teaching preservice teacher (685.22, 1.0E-4); descriptive account (685.22, 1.0E-4); huey p (678.46, 1.0E-4); intercultural competence (671.65, 1.0E-4); teaching tourism (671.65, 1.0E-4)
#5	60	0.958	1989	theoretical discourse (488.12, 1.0E-4); elementary classroom (478.71, 1.0E-4); educational computing (478.71, 1.0E-4); electronic literacy (469.33, 1.0E-4); cyborg writing (469.33, 1.0E-4)
#6	50	0.987	1988	freirean critical pedagogy (236.92, 1.0E-4); popular culture (224.91, 1.0E-4); semiotic reading (212.96, 1.0E-4); puerto rico (212.96, 1.0E-4); social studies text (212.96, 1.0E-4)
#7	42	0.943	1989	professional knowledge (149.82, 1.0E-4); technocratic physical education (143.37, 1.0E-4); communicative action (128.27, 1.0E-4); communicative turn (128.27, 1.0E-4); o identity difference (113.26, 1.0E-4)
#8	40	0.95	1988	physical education (389.65, 1.0E-4); classroom practice (384.06, 1.0E-4); critical agenda (378.08, 1.0E-4); middle year (378.08, 1.0E-4); action research study (369.41, 1.0E-4)
#9	34	0.996	1987	critical management studies (352.5, 1.0E-4); applied oriented mathematical education (318.02, 1.0E-4); transition movement (306.53, 1.0E-4); video feedback (295.05, 1.0E-4); brief history (295.05, 1.0E-4)
#10	27	0.978	2000	revolutionary critical pedagogy (331.73, 1.0E-4); revolutionary pedagogy (320.48, 1.0E-4); che guevara paulo freire (309.19, 1.0E-4); college access (297.93, 1.0E-4); sociocritical matter

				(297.93, 1.0E-4)
#11	6	0.974	1994	co-operation (21.81, 1.0E-4); design (21.81, 1.0E-4); supporting co-operative work (21.81, 1.0E-4); troublesome issue (21.81, 1.0E-4); computer system (21.81, 1.0E-4)

Note. SLH = Silhouette.

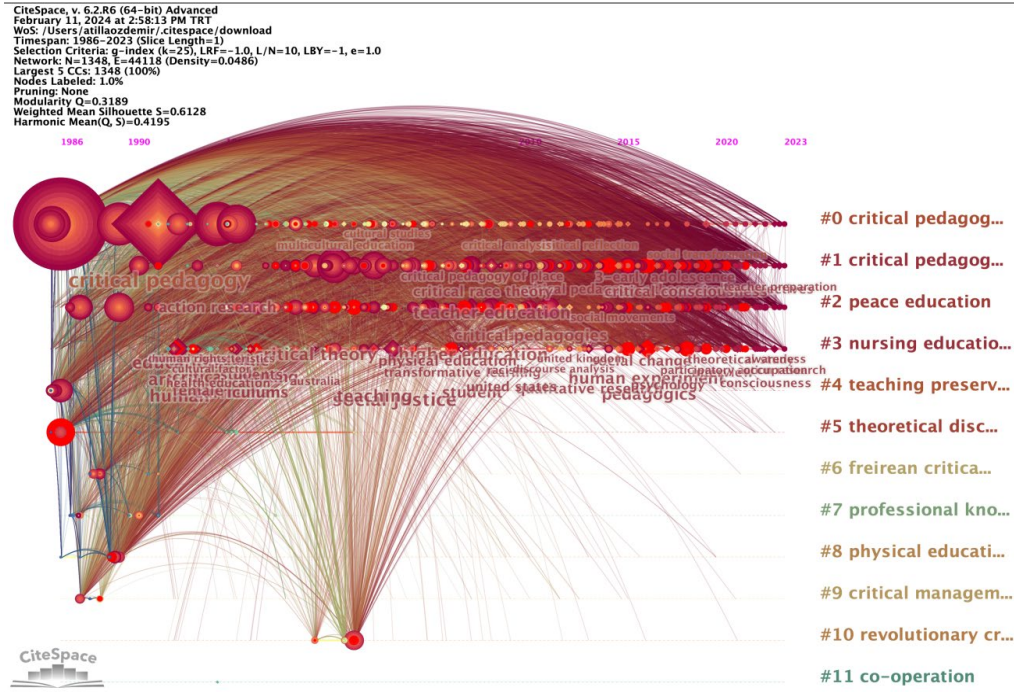


Figure 9. Cluster analysis of the most significant terms

To explore the evolution of research on critical pedagogy over time, we used a bibliometric analysis approach combining timeframe maps and explosion terms. We utilized the software tool CiteSpace 6.2.R2 Advanced (64-bit) to create a timeframe map showing the evolution of terms over time. The resulting visualization can be seen in Figure 10.

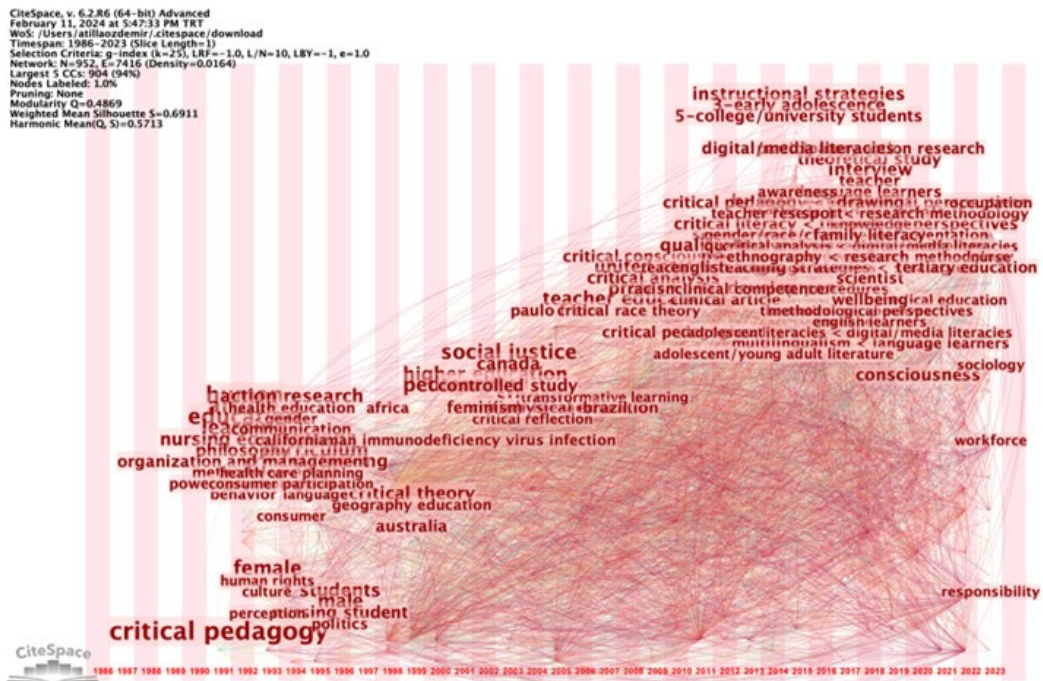


Figure 10. Timezone map of term evolution

According to our findings, Cluster #0 emerged as the most comprehensive cluster in the co-occurring phrase analysis, consisting of 340 studies focusing on critical pedagogy (6286.06, 0.05). The average publication year of the references cited by the studies in this cluster was 2005. While the silhouette values obtained in this analysis confirm the homogeneity of the clusters, they also indicate a wide range of values within the structure. In particular, the cluster exhibited a silhouette value of 0.893, indicating a homogeneous structure, which is considered a desirable network analysis indicator (Song et al., 2016). A silhouette value above 0.5 is generally considered a positive network structure indicator. Higher silhouette values indicate more stable structures within the cluster, and clusters with homogeneity tend to have high silhouette values. However, it is important to note that a high silhouette value does not necessarily imply high homogeneity, especially when the cluster size is small (Chen, 2014). As a result, the academic studies analyzed in this study exhibited strong clustering characteristics (Chen, 2014; Song et al., 2016).

Discussion, Conclusion, and Suggestions

The bibliometric analysis of critical pedagogy literature reveals significant trends, influential authors, key institutions, and the evolving nature of the field. Our study, spanning publications from 1986 to 2023, highlights the dynamic and interdisciplinary nature of critical pedagogy. This field is deeply rooted in the work of Paulo Freire and is heavily influenced by Marxist education and the Frankfurt School's critical theory.

The analysis indicates a notable increase in publications on critical pedagogy, particularly in recent years, with 2023 seeing the highest number of publications. This aligns with the findings of Ural and Çalmaşur (2023) and reflects a growing interest and expanding scope in critical pedagogy research, which now addresses contemporary issues like social power relations, inequality, and democratic education. Key figures such as Peter McLaren and Henry A. Giroux have played a pivotal role in shaping both the theoretical foundation and practical applications of the field.

Institutions like the University of California and Victoria University have been instrumental in advancing critical pedagogy research, fostering collaborations, and producing high-impact studies. Countries such as the United States, United Kingdom, and Canada are leading contributors, underscoring the global relevance of critical pedagogy across various educational contexts.

Our thematic analysis identifies democracy, cultural literacy, and identity politics as central themes in critical pedagogy. Scholars have examined these topics through diverse lenses, including poststructuralism, gender, race, and sexuality, all of which emphasize the need for emancipatory and transformative educational practices. Research has evolved to address emerging educational challenges, focusing on the politics of meaning, citizenship, and education's role in promoting social justice.

The clustering of research themes reveals a cohesive yet diverse body of literature, with significant contributions from multiple subfields. The largest cluster focuses on critical pedagogy itself, underscoring its interdisciplinary nature and wide application across different educational settings.

This bibliometric study provides a comprehensive overview of critical pedagogy literature, highlighting its historical development, influential contributors, and evolving themes. The findings illustrate the field's growth and its critical role in tackling contemporary educational challenges. By mapping its intellectual structure and identifying key trends, this study enhances our understanding of critical pedagogy and its impact on educational research and practice.

Based on our findings, we offer several recommendations for future research and practice in critical pedagogy. First, interdisciplinary collaboration among scholars from different fields can enrich critical pedagogy research by bringing in diverse perspectives and methodologies, enhancing both theoretical and practical dimensions. Expanding research to include studies from underrepresented regions and languages is also crucial for addressing the global applicability of critical pedagogy and fostering a more inclusive body of literature. Additionally, investigating emerging issues such as digital literacy, climate justice, and global migration within the framework of critical pedagogy is essential, as these contemporary challenges demand innovative educational approaches aligned with their principles.

Strengthening the connection between theory and practice by developing and evaluating critical pedagogy interventions in various educational settings can provide valuable insights into the effectiveness and adaptability of these principles. Finally, conducting longitudinal studies to track the long-term impact of critical pedagogy on learners, educators, and educational systems can offer evidence-based recommendations for policy and practice. Addressing these recommendations will enable future research to advance the field further, promoting educational practices that are democratic, inclusive, and transformative.

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