ABSTRACT

Title of Dissertation: MAPPING THE INTELLECTUAL LANDSCAPE OF COMPARATIVE AND INTERNATIONAL EDUCATION: A BIBLIOMETRIC CO-CITATION ANALYSIS

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This dissertation addresses the longstanding phenomenon of thematic dispersion within the field of Comparative and International Education (CIE), marked by a multitude of perspectives and the absence of a unified theoretical framework. By building upon and expanding existing bibliometric studies, this research leverages bibliometric analysis and information visualization techniques to provide a novel, data-driven mapping of CIE's intellectual landscape.

Focusing on the academic outputs of two leading journals—*Comparative Education Review* (CER) and *Comparative Education* (CE)— comprising approximately 2,800 articles published between 1957 and 2023, the study identifies connections between scholarly contributions that these articles have consistently drawn upon.

Through the clusters unveiled by the bibliometric mapping, it seeks to identify key overarching themes, concepts, and methodological approaches that have shaped CIE during this period. Employing document co-citation analysis and utilizing VOSviewer software for visualization, the study constructs a bibliometric map that reveals patterns of engagement and thematic clusters within CIE.

The analysis uncovers three clusters: (1) Classic Debates in Comparative Education, centered on policy borrowing, methodological evolution, and globalization; (2) Education as an Instrument of Social Reproduction and Domination, highlighting critical perspectives on how education perpetuates inequalities; and (3) From Neo-Institutionalism to World Culture Theory, illustrating the development of theoretical frameworks through consistent collaborative scholarship.

By mapping these clusters, the study demonstrates the potential of bibliometric methods to complement traditional analyses, offering a holistic understanding of CIE's complex terrain. It underscores the value of data-driven approaches in navigating the field's inherent diversity, ultimately contributing to a deeper understanding of the landscape of Comparative and International Education.

MAPPING THE INTELLECTUAL LANDSCAPE OF COMPARATIVE AND INTERNATIONAL EDUCATION: A BIBLIOMETRIC CO-CITATION ANALYSIS

by

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Dedication

To Dirce de Almeira Pezzuto and Irenice Soares Pacheco—what I wouldn't give for just one more hug.

Acknowledgments

Festina lente

With love to my parents, Eliane Pezzuto and Sergio Soares Pacheco—who weathered fire, rain, and everything destiny had in store for us.

To Elisabete Soares Pacheco—my aunt by blood, my Godmother by blessing, and a lifelong gift of love and care.

To Stella, the one. She couldn't always be here, yet somehow always was.

To Dr. Steven Klees, whose insight as a teacher, skill as a debater, wisdom as a mentor, guidance as an advisor, and kindness as a friend not only shaped this work but also redefined how I think, learn, and engage with the world.

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Chapter 1: Introduction

The Paradox of Comparative and International Education: Embracing Diversity, Seeking Coherence

> Are you a "relativist," "hologeistic," a "neopositivist," "pre-theoretical," a "neo-Marxist," "epistemocentric," "structural functionalist," "metascientific," "ethnomethodological," "paradigmatic," "cultural imperialist," "evolutionary," "*dependista*," "new realist," "benevolent ethnocentricist," "melioristic," "phenomenologist," "determinist," "educologist," or, perhaps, "morphogenetic?" Before you decide, you may wish to ask yourself a question: Does it really matter? (Psacharopoulos, 1990, p. 369)

Despite its apparent convolution and derisive tone, the excerpt above presented one of the most captivating and thought-provoking pieces of scholarship I encountered throughout my doctoral journey. From my early days in Maryland, I was drawn to the challenge of understanding "what Comparative and International Education is." With my background in law, I felt a unique pressure to thoroughly understand the field and grasp this fundamental question before tackling other, ostensibly more sophisticated inquiries. Little did I know then that not only would this basic question become the central focus and driving force behind my dissertation, but also that I would reach the completion of my training excited about devoting a research career to further exploring it.

Psacharopoulos' laundry list of terms (which, it should be noted, could be considerably longer) does indeed raise a challenging question about the ongoing debate regarding a cohesive theoretical framework in Comparative and International Education (CIE). It is a testament to the multitude of perspectives and approaches that exist within the field and, relevant to this dissertation, highlights the tangible consequences that this complexity and breadth may have for those aiming at understanding the field as a whole. And, although I do not necessarily agree with Psacharopoulos regarding his solution to the challenges of thematic dispersion, i.e., an

exclusive focus on "conceptualization, methodological design, statistical sampling, rigorous data analysis, and hypothesis testing," I definitely join him in his concluding call: "Comparative educators of the world unite—you have nothing to lose but your labels!" (p. 380).

The absence of a unified theoretical framework stems from the inherent multifaceted character of CIE, which Epstein (2008) aptly defines as "the application of the intellectual tools of history and the social sciences to understanding international issues of education" (p. 382) (definitional issues will be addressed in greater detail in Chapter 2 below). Compounding the matter is the fact that in our globalized world (driven by a knowledge economy), "education is being asked to do different things in different ways, and not just the same things in different ways" (Dale, 2005, p. 146).

The multiplicity of perspectives that marks CIE, while certainly an asset in many ways, can, in theory and has, in practice, hindered the development of a unified self-understanding of the field, as the proliferation of theories and methodologies fails to provide a comprehensive account of the complex and dynamic nature of education on a global scale.

Without a shared foundation for understanding educational phenomena across different contexts, researchers may face challenges in developing research questions, selecting appropriate methods, and interpreting findings. In addition, this lack of a unified theoretical framework can make it difficult to compare and synthesize findings from different studies, potentially reducing the generalizability of research results. For these reasons, Broadfoot (2003) acidly suggests that CIE can be labeled "a rather promiscuous field of study," seduced by "every passing dandy" and ultimately doomed to "spoiled promise and ultimate destitution with no name to call its own" (p. 275).

That said, it is important to note that one might question—with good reason—whether the pursuit of a unified self-understanding is desirable or even feasible in a field as inherently interdisciplinary and globally contextual as CIE. The absence of a singular theoretical framework is not unique to this field; it is a characteristic shared by other dynamic areas of

inquiry that draw upon multiple intellectual traditions. Rather than viewing this as an inherent limitation, I see this phenomenon as an invitation to identify patterns and connections that emerge within this intellectual landscape.

For decades, numerous influential figures in CIE have, to varying degrees, criticized the field's lack of a well-defined and coherent theoretical framework (Bereday, 1964; Cook et al., 2004; Cowen, 1990; Kazamias & Schwartz, 1977; Noah and Eckstein, 1969). Before we examine how to address this challenge, however, it is essential to clarify that, despite the weight of those voices, the matter is not universally agreed upon, and many a scholar has steadily objected to such a view—some have, in fact, gone so far as to champion approaches predicated on the diversity of and openness to as many perspectives as possible.

Jacob and Cheng (2005), for example, posit that the strength of CIE emerges from its "ability to combine multiple theoretical perspectives that offer researchers a variety of potentially fruitful metatheoretical analyses" (p. 221). In the same vein, but taking the notion a step further, Paulston (1999), through the use of Foucault-inspired cartographic depictions (maps) of "knowledge communities in comparative education discourse" (p. 444), invites CIE scholars to venture into "a more heterotopic space of critically reflexive understanding" (p. 463).

Nonetheless, the problem has been and continues to be one of the most pressing matters that the CIE community must address. In this context, Cook et al. (2004) rhetorically ask:

> If comparativists do not share a common sense, however ambiguous, of their field's borders, how can they "teach" the field to new generations? Without such a sense of boundary, how can we know what is appropriate scholarly material to include in our journals and other forums? How, indeed, can we carry on meaningful discourse about the field? (p. 125)

On a positive note, the challenge has never been set aside, and many scholars have over the years consistently tried to map (I use the term loosely here) or delineate the boundaries of CIE, including Bereday's (1964) foundational *Comparative Method in Education* and the stream

of works that, from a methodological standpoint, build on it (Brickman, 1966; Noah and Eckstein, 1969; Tretheway, 1976; Phillips and Schweisfurth, 2006; Kubow and Fossum, 2007). The common denominator among these works is a historic/evolutionary (or, as Epstein (2008) interestingly puts it, "Darwinian") approach to the central questions of what CIE is, what it does, why it does it, and how it does it. These studies, in summary, chronicle the development of the field as it transitions from one period to the next while tracing the dynamics behind each paradigm shift.

Such an evolutionary approach to reflecting on the very essence of CIE has been deeply ingrained in our community since even before Bereday (1964) asserted that "comparative education developed as the contemporary part of the history of education and hence had its roots in the discipline of history" (p. 4) and has seldom been challenged or, at least, used in conjunction with ancillary methods and techniques. Perhaps the best-known and most sophisticated alternative to it advanced to date is Epstein's (2008) attempt to identify and examine the normative epistemological boundaries within CIE:

> Drawing the normative boundaries of comparative education by viewing crucial epistemological benchmarks as I have done is a more accurate way of describing the field than the usual method of showing a kind of Darwinian progression from travellers' tales to scientific exploration. . . . Contrary to the usual approach, I contend that comparative education has developed along parallel lines, not by one stage eclipsing another but by the positioning of conceptual frameworks in juxtaposition and in tension with one another. (pp. 383–384)

The passage above highlights two fundamental aspects of our discussion: first, it shows us that there can be viable alternatives to the ubiquitous phase-based approaches to identifying CIE's boundaries; and second, it reminds us that these theoretical frameworks, usually taken as purely factual representations of the CIE landscape that differ only in emphasis, can also be

positional, much like any discussion on contentious education policy issues. The keyword here is "positional."

In what is arguably the most accessible and comprehensive traditional mapping effort in the entire body of CIE literature, Manzon (2011) posits, drawing on Bourdieuian concepts and Johnson's (1993) scholarship, that "definitions, theories and concepts—like art works—can only be fully understood in relation to the position held within the intellectual field by those who produced them" (p. 154). That is to say, when authors like Paulston (1999) devise maps featuring domains such as "Semiotic Society," "Radical Alterity," or "Post Paradigmatic Eclecticism," they do so inescapably biased by the nature of their influence among their peers. Importantly, this is also true, for the most part, for community reactions to such approaches—a case in point being Carnoy's (2006) criticism of Paulston's constructs: "[Postmodern discourse] so easily slips into academic narcissism. In this narcissism we, the researchers, already highly self-centered, get to focus on ourselves with no pretense of discovering larger truth, since in postmodernism there is no larger truth" (p. 564).

Definitions, Manzon (2011) concludes, "are therefore positional [and] formulated by persons who occupy different locations within the intellectual field, giving them symbolic power to define and delimit the boundaries and objects of study of their field" (p. 155). Such positionality is thus intrinsically linked to the human condition, which renders it virtually unavoidable.

But this is not necessarily a bad thing; on the contrary, CIE scholarship is often at its best when it leverages this very aspect. For example, in one of the most compelling volumes on the impact of international organizations' policies on the educational enterprise, Klees et al. (2012) could not possibly have made as effective a case against the World Bank's championing of market-based solutions and privatization had their approach been bereft of positionality.

Nevertheless, as it pertains specifically to the issue of mapping frameworks, the theoretical advantages of positionality can, in fact, be a detriment to CIE, especially considering

that in the past few decades the number of works published in the field has increased by an order of magnitude. In the present context of overwhelming information, positionality may act as a multiplying force that makes it extremely difficult for one to discover the larger truth Carnoy refers to. The influx of views and perspectives, though certainly enriching, also leads to an infinite number of fractures in knowledge, effectively obscuring one's ability to see the forest for the trees and hindering the development of a comprehensive understanding of the field.

Beyond the Debate: Thematic Dispersion as an Opportunity

The consequences of this phenomenon are difficult to understand, frame, measure, and forecast, and just as difficult is it to position oneself in the debate surrounding it in a way that is ultimately conducive to the field's advancement. I find myself, on the one hand, agreeing in spirit with authors like Jacob and Cheng (2005) and Paulston (1999), who view the diversity of voices as an inherent strength of the field. On the other hand, I also recognize that this very diversity does lead to an inability to discern the overarching themes and main directions within CIE. But that is where my agreement stops. I do not share, for example, Cook et al.'s (2004) portrayal of this diversity as something that may hinder our ability to "carry on meaningful discourse about the field."

In addition, I believe that our reduced ability to produce comprehensive mappings, especially when compounded by factors such as the disproportionate perceived importance of certain experts and scholars, may lead to challenges in problem identification—the indispensable first step in the policy cycle. This aspect is particularly significant for me, given my training in International Education Policy. Just as it is a scholarly issue, the phenomenon may quickly become an issue of power.

I also believe it is past time we move beyond charged debates and reframe the subject as—why not—an opportunity. The evolving nature of CIE, marked by its dynamism and continuous expansion into new areas of inquiry, creates, in my estimation, a constant need to map the field's intellectual landscape. The rapid growth in scholarly output, while a testament to

the field's vitality, has also, for decades, exacerbated the challenge of synthesizing vast amounts of information. Here, the role of technology has become quite transformative. Advances in data analysis and visualization tools offer us the means to transform what was until very recently an overwhelming and unmanageable volume of information into coherent and accessible knowledge. By leveraging these technological innovations, we can turn a potential weakness—the sheer scale of available data—into a strength that propels the field forward.

I am convinced that certain approaches commonly employed in Information Science and related fields have a very promising potential to complement traditional CIE qualitative analyses, offering a quantitative component that can provide fresh insights into the knowledge structure of the field. Through the application of these techniques, researchers can gain a comprehensive understanding of CIE's scope and boundaries, while also removing a layer of subjectivity that traditionally comes with manual data management, coding, and categorization processes.

This dissertation, therefore, draws on both bibliometric analysis and information visualization techniques to explore the scholarly landscape of CIE. Specifically, it will analyze the academic output of two leading journals in the field: *Comparative Education Review* (CER) and *Comparative Education* (CE). The overarching research question guiding my investigation is:

> **What are the main themes, influential works, and leading debates in the intellectual landscape of Comparative and International Education, as revealed through a co-citation network derived from the references cited in articles published in *Comparative Education Review* and *Comparative Education* from 1957 to 2023?**

Using these methods, I seek to offer a novel perspective on the field's intellectual structure. Central to this combined approach is the generation of detailed and easily digestible maps, which offer the potential to paint a clearer picture of some of the core themes, seminal contributions, and ongoing dialogues—some of which may have been overlooked or even

neglected by previous mapping efforts—that have defined CIE, thereby further clarifying its scope and boundaries.

In this project, bibliometric analysis serves as the primary method, facilitating the analysis of bibliometric data extracted from CER and CE articles, and employing measures such as co-citation counts to unveil the connections between the works these journals' articles have traditionally drawn upon. Information visualization, in turn, serves as a tool to render and display complex data as more accessible graphic representations.

The research process begins with the extraction of bibliometric data from the CER and CE archives spanning 1957–2023. This dataset encompasses details about the articles' authors, their countries of origin, the institutions they are affiliated with, abstracts, each reference of each article, and much more. After collecting this information, I use VOSviewer, a specialized tool for crafting and visualizing bibliometric networks—the heart of our analysis.

Before proceeding, however, it is essential to ground my exploration in the substantial body of existing CIE scholarship. The literature review that follows should serve as both a foundation and a guide, bringing into focus some of the authors, works, themes, and arguments that have shaped the field while also pointing towards areas that could benefit from further theoretical and/or methodological development. By examining a carefully curated selection of some of the landmark studies within CIE, I seek not only to acknowledge the foundational works that precede this study, but also to identify the gaps that I, hopefully, may help address.

Chapter 2: Literature Review

Chapter 1 laid the groundwork for my exploration of CIE, highlighting two key challenges that have impacted the mapping of the field's scholarship: the absence of a unified theoretical framework and the persistence of thematic dispersion across perspectives, methodologies, and subject foci.

Now I examine and synthesize foundational works and distinct approaches within CIE's scholarly tradition. This exploration should provide context for the novel methodological approach presented later in the study. Given the vast body of literature accumulated within CIE over many decades, comprehensively surveying the full spectrum of perspectives and schools of thought is a virtually impossible task; instead, this review takes a more focused, selective approach centered on scholarship most relevant to the aims of this bibliometric and information visualization-based study.

Specifically, the chapter closely examines five important categories that represent influential attempts to chronicle CIE's historical development and grapple with issues of knowledge production, disciplinary identity, and the evolving theoretical paradigms of the field. Here, it is worth noting that while most works in these categories do not expressly attempt to map CIE, they nonetheless provide vital historical context and conceptual grounding for the field. As such, I approach them as invaluable contributions that lay the foundation for more targeted mapping efforts like the present study.

Attention then turns more specifically to scholarship utilizing bibliometric techniques and citation analysis to map CIE's terrain. This section aims to synthesize and critically review recent research trends and methodological innovations in this subdomain, allowing the reader to better situate this study within the evolution of data-driven mapping of the field.

Ultimately, Chapter 2 provides essential grounding and context for the mapping methodology elaborated in detail in Chapter 3. By judiciously blending coverage of foundational approaches to understanding CIE scholarship with targeted analysis of relevant bibliometric

literature, it provides vital scholarly justification and backdrop for this study's novel approach to charting CIE's knowledge structure. The review, thus, establishes an essential connection between the foundations laid in Chapter 1 and the core methodological framework presented in Chapter 3.

A Note on Selected Works

Reviewing the literature on subjects as complex as CIE inevitably involves difficult design choices about scope and focus. Moreover, whatever direction the researcher decides to pursue, comprehensively surveying the full range of perspectives and schools of thought that have shaped the field over time poses a monumental challenge. The researcher faces an even greater challenge when reviewing studies that themselves map CIE's knowledge structure, as each of those studies, by definition, required the analysis and categorization of a vast and diverse body of literature produced over a significant period. Furthermore, as an inherently interdisciplinary field drawing from diverse areas as (public) administration, law, economics, psychology, and (international) development, to name but a few, CIE's boundaries are remarkably fluid, which further complicates efforts to define its knowledge structure.

When faced with dilemmas such as these, the researcher must choose between two less-than-ideal options. The first is to simply attempt an exhaustive cataloguing of sources; while undeniably thorough, this approach often lacks narrative coherence and risks losing sight of the big picture. Alternatively, the researcher can take a more selective approach, focusing on the sources and perspectives that, in his estimation, are most relevant for framing his specific line of argumentation. This allows for greater coherence and alignment with the researcher's argument but comes at the cost of excluding potentially valuable sources.

In this study, I have opted for the latter, more targeted, approach. As mentioned in the introduction and elaborated in the following chapters, the core argument advanced here centers on combining bibliometric and information visualization techniques to map CIE's knowledge structure. Consequently, special attention is given to bibliometric studies within CIE.

However, to balance this specific focus with an acknowledgment of more traditional and established methods for reviewing the literature, I also analyze five important approaches to reviewing the CIE scholarship, drawing on representative examples from each: (1) foundational works, (2) the Darwinian paradigm, (3) the epistemological approach, (4) postmodern ideas, and (5) institutional contributions. While not exhaustive, these areas provide essential context for understanding the potential value of the mapping methodology proposed here. They represent influential attempts to chronicle CIE's historical development and engage with issues of knowledge production that this study, in its own way, aims to address.

Through the integration of these five approaches with the analysis of relevant bibliometric studies, I sought to strike a balance between breadth and depth. The goal, simply put, is to succinctly synthesize some of the most salient approaches needed to situate this study within efforts to map the intricate terrain of CIE as a field. Ultimately, difficult trade-offs are inevitable, but focusing on the sources most germane to this project's core framing and aims helps ensure the literature review provides appropriate scholarly grounding without losing sight of the forest for the trees.

Foundational Works

The foundational works included in this section have been so labeled not because they explicitly set out to map the field (regardless of how one interprets that term), but because they offer the guiding principles, conceptual structures, and methodological clarity on which later mapping initiatives frequently rest. These contributions address pressing questions about how comparative education might be studied, organized, and understood—questions pivotal to any systematic portrayal of the field's intellectual breadth.

Navigating the historical evolution of CIE is no small task, given its interdisciplinary complexity; even so, certain works stand out for the direction they provide. Chief among them is George Z.F. Bereday's 1964 publication, *Comparative Method in Education*, which lays out a systematic framework for evaluating educational systems worldwide.

Bereday explains that it is "implicit in the comparative method that an appraisal of a culture cannot be made without careful preparation on the part of the observer. This is a law of comparative education that no serious scholar… can afford to ignore" (p. 10). He emphasizes that genuine understanding comes through direct experience. He also cautions, however, that observation must be structured and purposeful, stating, "People visit schools for many reasons, but for the purpose of area or comparative analysis *definite systematic rules* [emphasis added] must be followed" (pp. 12-13). He further advises against relying on superficial impressions, noting that "the old method, the worst, is to go to schools completely at random or according to what the hosts are willing to show" (p. 13).

Interestingly, he also places a great deal of importance on the issue of language acquisition, stating, "Even when travel is impossible, students must make strenuous efforts to maintain close personal involvement" (p. 11). To achieve this, comparativists must engage in activities such as interviewing visiting foreign educators, listening to radio programs, and watching foreign films, which sharpen perception and foster a "fusion" with the studied culture. Overall, Bereday's approach reflects his conviction that rigorous scholarship demands in-depth immersion in the cultures under study.

Critically, Bereday outlines four key steps in the comparative method:

> First *description*, the systematic collection of pedagogical information in one country, then *interpretation*, the analysis in terms of social sciences, then *juxtaposition*, a simultaneous review of several systems to determine the framework in which to compare them, and finally *comparison*, first of select problems and then of the total relevance of education in several countries—these four steps… point the way to the future for comparative education. (pp. 27-28, emphasis added throughout)

In addition, Bereday stresses the need for an interdisciplinary perspective. As he explains, comparative education "is emerging together with and distinct from philosophy, history, and sociology of education as part of the field of theory of pedagogy" (p. 5). He argues

that understanding education requires analyzing it through diverse disciplinary lenses: “Every student of comparative education should have the working knowledge of at least one, and possibly two or three, disciplines other than education so that he may apply sociology, history, economics, or other areas to the field of his interest” (p. 20). He further elaborates on this point, stating

> By exposing the data to a rosette of different disciplines one emerges with an evaluation of not only educational happenings but also of their causes and connections. It is the *why* rather than the *how* that permits one to embark upon direct comparison. (p. 21)

Not even foundational works are without their critiques, however. Holmes (1965), for example, raises concerns about Bereday’s approach, questioning its comprehensiveness and the explicitness of its theoretical foundations. He suggests that while Bereday’s method offers a structured approach to CIE, it might overlook the complexity of integrating diverse disciplinary perspectives effectively. Rather rhetorically, he asks “But should [Bereday] have been quite so positive about his priorities and sequence of studies? Some students may justifiably feel that without a flair for languages the scope of their work will be seriously reduced” (p. 221).

Holmes (1965) further questions the value of travel-based observations compared to a well-formulated method of tackling problems based on economics or sociology. Moreover, he criticizes the lack of discussion on the theoretical bases and assumptions of Bereday’s approach, arguing that it leaves several important questions in CIE unanswered, such as the possibility of a science of education, the nature of knowledge, and the challenges of quantifying comparative data.

Following Bereday’s systematic approach in *Comparative Method in Education*, the work of Harold Noah and Max Eckstein in *Toward a Science of Comparative Education* (1969) marks a significant turning point in CIE. Their historical, phase-based framework for analyzing the field’s development has become profoundly influential, forming the basis upon which most subsequent scholarly mapping efforts have built. In addition, Noah and Eckstein’s emphasis on

empirical, quantitative research represents a significant methodological shift that has substantially shaped the trajectory of CIE.

While mapping out the evolution of CIE, Noah and Eckstein outline distinct historical phases, each characterized by its own set of motivating rationales and methodological approaches. They begin by describing the early phases of (1) travelers' tales, (2) educational borrowing, and (3) international cooperation, before moving into the more critical stages that emerged in the twentieth century. The fourth stage, as they describe it, is primarily concerned with shedding light on the diverse "forces and factors shaping national educational systems." However, it is the fifth stage—which they term "social science explanation"—that proved especially transformative for the field. As Noah and Eckstein explain, this phase is distinguished by the prominence of "the empirical, quantitative methods of economics, political science, and sociology to clarify relationships between education and society" (p. 4).

Through their phase-based conceptual mapping, Noah and Eckstein demonstrate a keen grasp of CIE's dynamic and continuously evolving nature over time, highlighting the significant post-World War II shift toward empirical social science methods. They note that "Since World War II, these trends have accelerated, and the empirical orientation of the social sciences has begun to reshape comparative education" (p. 7), and, recognizing the magnitude of this transition, further emphasize that "Contemporary cross-national study in education is thus founded upon the twin bases of vastly increased bodies of data and improved techniques in social science research" (p. 7).

While acknowledging the inherent challenges associated with empirical quantitative methods, Noah and Eckstein's stance on their necessity remains consistently unambiguous. As they assert, "Empirical quantitative methods in comparative education are still beset with serious difficulties, but there can be little doubt that their potential contribution to the field is so great that they will have to be reckoned with" (p. 7). This candid recognition of both the

difficulties and the indispensability of empirical quantitative methods reflects the complexity of the field and the rigor required to advance it.

In essence, Noah and Eckstein's contribution marks a critical turning point in the evolution of CIE. Their forceful advocacy for enhanced methodological precision, grounded in empirical and quantitative approaches, represents a strong call to action for heightened disciplinary standards. Their historiographical phase-based mapping not only provides a comprehensive perspective on the field's maturation, but also makes a compelling argument for the necessity of sustained methodological innovation in propelling CIE's ongoing development.

Despite the trailblazing nature of Noah and Eckstein's work, it has attracted critical perspectives. Halls (1970), for example, draws attention to a key challenge: the difficulty in applying broad hypotheses to the diverse and complex data inherent in cross-cultural and cross-national studies. He points out, "In the welter of data available it is increasingly difficult to choose what is relevant" (p. 103). Farine (1969), in turn, warns about limitations in the application of their models, particularly in the context of developing countries where "imperfection of data is the rule rather than the exception" (p. 289).

Robert F. Arnove's groundbreaking "Comparative Education and World-Systems Analysis" (1980) examines the complex landscape of CIE through the novel lens of world-systems analysis. Arnove contends that to fully comprehend the diverse forces shaping education systems worldwide, CIE scholarship must move beyond the confines of national borders and embrace a more interconnected global perspective. He asserts, "the field of comparative education is moving toward more sophisticated examinations of education in relationship to economic, political, and social forces" (p. 48).

At the core of Arnove's conceptual mapping is the argument that CIE would benefit greatly from adopting a world-systems perspective, which he thus characterizes:

> World-systems analysis restores the international dimension to the field of comparative and international education. It provides a framework that is essential to an

> understanding of educational developments and reforms (comprehensive high schools, educational technologies such as television, open universities, nonformal education) that are simultaneously sweeping many of the countries of the world. (p. 59)

This quotation encapsulates the core of Arnove's thesis: embracing a global, interconnected perspective is essential for fully understanding the educational policies and movements influencing classrooms around the world. By utilizing a world-systems framework, we gain a unifying lens through which to analyze the global dynamics shaping education internationally.

Arnove thoroughly examines the historical impact of colonialism and neocolonialism on present-day education systems. He asserts, "the present education systems in many of the countries of Africa, Asia, Latin America, and Oceania are the products of past colonial penetration" (p. 48). Because of this enduring colonial legacy, he argues that CIE must move beyond confining analyses within national borders. He advocates, instead, for aligning the field with an appreciation of global interdependencies and power dynamics that cross borders.

Additionally, Arnove explains that existing studies in the field "often fail to take into account an international context of transactions. To date, most macro studies of education have taken the nation-state as the basic unit of analysis" (p. 48). As a result, while colonialism has profoundly shaped current education systems in the developing world, comparative research has paradoxically continued utilizing the nation-state as the primary lens of analysis. Throughout the entirety of his work, Arnove forcefully contends that this narrow analytical framing cannot fully capture the complex global forces at play.

Another key aspect of Arnove's argument is the critical role of international aid networks and the influence they wield in shaping educational policy within developing countries. Cogently, he notes that these networks consist of entities that "increasingly come together to discuss ways of achieving improved coordination of programs and policies" (p. 51), hence affecting the trajectory of educational reforms globally.

To be sure, Arnove's analysis is not limited to policy and structure; it also explores the impact of educational movements on the lived experiences within the classroom. In language reminiscent of that of Paulo Freire, he offers a critical view on how education can serve as a mechanism for both empowerment and subjugation:

> Whether or not education programs are used for purposes of controlling and co-opting underclass and neglected groups, or providing the means to liberate individuals and collectivities from previous conditions of ignorance and exploitation, depends on the nature of the political regime within each country. (p. 53)

Even though Arnove's work substantially contributes to a better understanding of the global dimensions of education, it should be pointed out that it also opens up a debate on the subtleties of structural determinism. His focus on global economic structures, groundbreaking though it is, may be critiqued for potentially oversimplifying the dynamic interplay of forces at work, perhaps underestimating the role of state and local agency in shaping education systems. In addition, it could be similarly argued that Arnove's method might not fully account for cultural contexts that critically shape policy implementation at the local level.

Lastly, Altbach and Kelly (1986), in their edited volume *New Approaches to Comparative Education*, offer a remarkably insightful and reflective examination of the field's expansion since the late 1970s. Noting that "since 1977 the field of comparative education has broadened its research orientation" (p. 1), they observe that multiple methodologies have emerged, challenging the idea of a singular method. This diversity, while attracting scholars from various disciplines, creates "certain definitional problems" (p. 3) due to the vast array of disciplinary and methodological perspectives.

The authors' position is made clear from the outset. They argue that developing a unified methodology is both "impossible and probably undesirable as well" (p. 3), emphasizing that comparative education "takes the world as its research base and can encompass virtually any methodology… in cross-cultural perspective" (p. 3). They do not over-problematize it, however;

the resulting “considerable diversity in approaches to research and analysis” is considered “natural” given the field’s expansive scope (p. 3).

Highlighting the field’s vitality, they assert that it “is a healthy, intellectually viable field of study” (p. 8). Challenges aside, it has “successfully built the infrastructures necessary to ensure survival” (p. 8), reflected in its active scholarly community. This growth signifies maturation, as the field “has begun to arrive at a deeper understanding of the complexity of drawing relations between the meaning of education in today’s world” (p. 7). Importantly, Altbach and Kelly identify four major challenges that have emerged since 1977:

> Since 1977, four kinds of challenges to established research traditions in comparative education have emerged. These are (1) those that question the nation-state or national characteristics as the major parameter in defining comparative study; (2) those that question the use of input-output models and exclusive reliance on quantification in the conduct of comparative research; (3) those that challenge structural functionalism as the major theoretical premise undergirding scholarship; and (4) those that direct attention to new subjects of inquiry. (p. 310)

They welcome these challenges, which have “generated some debate” (p. 319), representing “vitality in the field and a self-conscious attempt to make the field relevant” (p. 7). Regarding the first challenge, they note scholars who “challenge the use of the nation-state as the dominant category” (p. 311), arguing that education is often more influenced by external factors and urging researchers to identify these forces. For the second challenge, they critique overreliance on quantitative models, observing that “much research… tended to focus almost exclusively on… inputs and outcomes” (p. 313), neglecting school processes deemed “unimportant” (p. 313).

Thirdly, they question structural functionalism as the predominant framework. Until the 1970s, they explain, North American comparative education assumed education functioned to maintain social fabric or develop nation-states along Western models (p. 314). They note that

scholars like Paulston, Bock, and Weiler introduced alternatives like conflict and legitimation theories, some adopting Marxian perspectives (pp. 314–315) in turn. The fourth challenge introduces new subjects, notably gender studies. They note the field has been challenged "to look at women in the context of educational and social structures that have resulted in gender-based inequalities" (p. 318), emphasizing research can no longer assume male-centric findings are universally applicable.

Concluding, they state that "there have been significant, exciting, and useful new developments… worthy of careful consideration" (p. 9). Their examination, which serves as a comprehensive mapping of these developments, documents the field's maturation and shows how it "has begun to arrive at a deeper understanding of the complexity of drawing relations between the meaning of education in today's world" (p. 7).

In summary, *New Approaches to Comparative Education* provides an essential examination of the field's diversification and methodological evolution, particularly since the late 1970s. As Currie (1988) notes, however, the editors' decision to designate 1977 as a "watershed year" for the field may be overly precise, as it "does not give enough credence to the existence of these approaches before that year" (p. 455). She acknowledges that "certainly the 1970s have thrown up a number of new perspectives and transnational analysis has become more prevalent," (p. 455) but implies that the shift may not be as sudden as Altbach and Kelly suggest. Furthermore, while the book effectively showcases the richness and vitality of comparative education, its reliance on educational studies may limit its appeal to scholars from other disciplines, as Currie (1988) also observes, potentially restricting its broader interdisciplinary relevance. She points out that "most of the examples are drawn from studies on education which may limit the readability or interest-value of the book for non-educationists" (p. 456).

Taken together, the foundational contributions of Bereday, Noah and Eckstein, Arnove, and Altbach and Kelly not only highlight, but also put forth and reflect on key methodological,

theoretical, and epistemological developments within CIE, collectively providing the essential basis for mapping the field. Bereday's systematic comparative method, Noah and Eckstein's call for greater methodological rigor and their historical phase-based framework, Arnove's emphasis on global interconnectedness, and Altbach and Kelly's exercise in reflection on challenges each address core questions about how comparative education is studied, structured, and understood. These works are not merely historical milestones; they offer enduring principles and frameworks that remain essential for comprehensively delineating CIE's intellectual terrain.

The Historical/Evolutionary/Darwinian Paradigm

Hayhoe and Mundy (2008) provide a detailed yet highly accessible historical approach to CIE and its importance in the modern world, effectively intertwining historical insights with contemporary analysis. In many respects, it constitutes a perfect representation of the historical/evolutionary/Darwinian approach mentioned in Chapter 1, which chronicles the field's development through various historical phases and paradigm shifts.

A noteworthy element of their narrative is the concept of "comparative impulse," (p. 1) a term that aptly encapsulates educators' longstanding endeavors to learn from other educational practices. Although Hayhoe and Mundy, interestingly, do not provide their readers with a specific, standalone definition of CIE, they manage to successfully frame their discussion by emphasizing the foundational purpose of the field:

> At its most basic, comparative education offers a starting point for improving our educational systems and our classroom practices. It also challenges us to think broadly about the link between local practices and global issues and to explore the overlapping values and social systems that underpin the educational enterprise itself. (p. 1)

To trace the discipline's roots, they examine early cross-cultural educational comparisons, such as Xenophon's introduction of Persian education to Greece and Cicero's analysis of Greek and Roman educational systems. Like many before and indeed after them, they pay homage to Marc-Antoine Jullien's 19th-century work as a pivotal moment, noting his

proposal for a Normal Institute of Education in Europe as a reflection of the field's early emphasis on sharing best practices (pp. 2-3).

Hayhoe and Mundy also examine 20th-century sociopolitical upheavals and their impact on education. They discuss, for example, how CIE expanded through deeper inquiry into governmental influences, all while spotlighting the growing role of education in terms of fostering international cooperation and peace, particularly following World War I.

Moving into the post-World War II era, they identify a general inclination towards scientific methodologies characterized by quantitative analysis within comparative education. Yet, they also highlight, for example, alternative visions such as Edmund King's:

> It is not only the top-level planner who is so engaged nowadays, but the teacher in the classroom too, and also the parent or politician or employer who may be no expert in comparative studies per se, but who has an experiential contribution to make to the world's comparative analysis. (King, 1979, as cited in Hayhoe and Mundy, 2008, p. 11)[1]

One important angle of their work is the exploration of CIE's diversification in the late 20th century, particularly their focus on the rise of critical and post-colonial perspectives. They discuss, among other things, Martin Carnoy's *Education as Cultural Imperialism* (whose impact they compare to that of a "bombshell") and dependency theory as key influences in shifting the focus towards a critical analysis of global educational dynamics (pp. 14-15).

In sum, Hayhoe and Mundy (2008) present a critical and comprehensive examination of CIE, tracing its evolution and examining its capacity to confront global educational challenges. In doing so, their analysis affirms the field's vital role in deciphering the complex relationship between local educational practices and broader policy frameworks, guided by the "comparative impulse" to understand and innovate.

[1] King's stance, it should be noted, reflects a broader "problem approach," (p. 12) which Brian Holmes later posited, advocating for solutions grounded in the specific cultural and societal fabric of each educational system.

Whereas Hayhoe and Mundy take a phased, evolutionary approach to mapping CIE's development, identifying distinct historical stages of progression, Phillips and Schweisfurth (2006) present a timeline-based conceptualization that deviates from this framework. Rather than segmentation into discrete periods, they offer a detailed chronological analysis tracing multiple overlapping strands of the field's evolution. Their narrative begins with a nod to a quote from Fraser and Brickman, which simply yet quite effectively encapsulates the genesis of the field: "Comparative education is as old as the custom of visiting countries other than one's own" (Fraser & Brickman, 1968, as cited in Phillips & Schweisfurth, 2006, p. 27).

Although, from a bird's-eye view, both Phillips and Schweisfurth's and Hayhoe and Mundy's mapping efforts appear as just two instances of the Darwinian approach, they fundamentally differ in that a reinterpretation and expansion of Noah and Eckstein's foundational framework is central to the former's analysis. Phillips and Schweisfurth (2006) thus offer an alternative perspective:

> Another way of looking at the phases of development in comparative inquiry in education… is to describe a sequential chain of emphases beginning at certain broadly defined historical points and continuing alongside the already existing emphases, while modifying them in various ways. (p. 28)

Phillips and Schweisfurth meticulously outline each historical pivot, tracing the discipline's maturation from simple recounting to more detailed scrutiny. Notably, they pay particular attention to the issue of terminology. For instance, they recast Noah and Eckstein's "stages" as "historical emphases," an expression that, in my estimation, more accurately reflects the ongoing and cumulative nature of scholarly inquiry in the field. Where the two frameworks intersect, Phillips and Schweisfurth's terminological choices, such as referring to the Noah and Eckstein's fourth stage not simply as "national character" but as "socio-economic evidence/understanding," are thoughtfully chosen and underscore a deeper methodological shift.

To be sure, Phillips and Schweisfurth's framework stands out, above all, for its careful attention to the interplay between successive emphases in the field's evolution. As they explain in further detail,

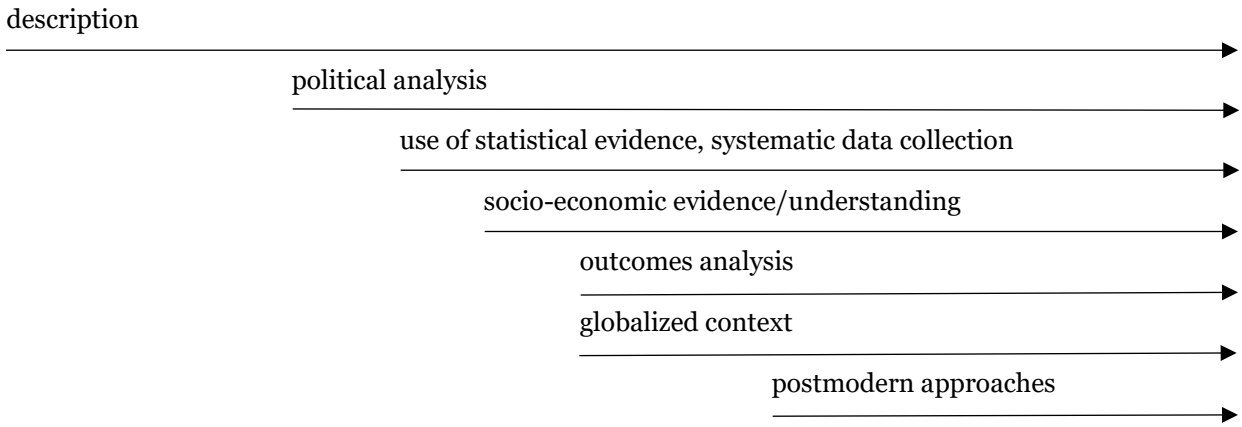
> [One] can see that [the] progression [of CIE] has not been so much a series of discrete advances, each one replacing that which preceded it; instead there has been a slow accretion of layers of sophistication placed upon the early descriptive work so that we now have a multi-dimensional field of educational inquiry which… draws on a wide range of expertise culled from other disciplines. (pp. 38-39)

The authors continue, also emphasizing that "there is strength in the fact that each period of development has added incrementally to what had gone before, rather than wiping the slate clean following the latest new direction to be identified" (p. 40). In this view, long-established traditions and approaches remain highly valuable alongside more recent developments.

Another key contribution of Phillips and Schweisfurth's mapping is the incorporation of layers such as the globalized context and postmodern approaches as part of the discipline's continuum. Though postmodern perspectives emerged outside of CIE, Phillips and Schweisfurth notably incorporate them into their framework as a defining element shaping the discipline's further development. As they explain, postmodernism "offers critiques of the 'grand narratives' that dominate what is accepted as knowledge, which consist mainly of white, male and western points of view, and therefore are seen to serve white male and western interests" (p. 38). By framing postmodernism as an influential emphasis adopted within CIE rather than an external critique, Phillips and Schweisfurth provide a more comprehensive view of the field's evolution.

In the following visual representation, Phillips and Schweisfurth depict the historical progression and thematic structures of CIE, condensing their detailed chronological analysis into a clear, illustrative format that reinforces the multilayered maturation of knowledge over time and guides us through the field's evolution:

Figure 1: *Historical emphases in comparative analysis*



Note. Adapted from Phillips & Schweisfurth (2006, p. 28).

Although I find much to value in Phillips and Schweisfurth's multi-dimensional, integrative approach to tracing CIE's evolution, I also see room for deeper acknowledgement of pivotal disruptions and paradigm shifts, since their decision not to divide the field's progress into distinct periods may result in a perspective that does not fully capture the impact of some of the transformations that have steered its course. In other words, because of this emphasis on continuity and the incremental accumulation of knowledge, they run the risk of underemphasizing the transformative power of disruptive theories, methods, and practices that have profoundly reshaped CIE at key junctures.

The Epistemological Approach

The overwhelming adoption of the Darwinian approach and its many facets notwithstanding, the effort to understand how research and theory interact with educational realities occasionally leads scholars down varied and intricate paths. One such path is the epistemological approach, which examines the very nature of knowledge within the field, including the bases upon which educational phenomena are understood, interpreted, and explained.

Building on his decades of scholarship, Erwin H. Epstein's 2008 "Setting the normative boundaries: Crucial epistemological benchmarks in comparative education," provides a sophisticated, in-depth exploration of the epistemological currents that have shaped, and continue to shape, the field of CIE. Epstein contends that the commonly accepted Darwinian, stage-based portrayal of CIE's evolution overlooks the influence of alternative epistemologies that have profoundly impacted its trajectory. As he explains, "I contend that the field's binding events have been within discrete epistemological currents that have brought common identities to comparative education" (2008, p. 373). His analysis designates positivism, relativism, and historical functionalism as the three main streams defining the "normative boundaries" of scholarship.

Following consensus, Epstein traces positivism's foundations to Jullien, who in 1817 proposed utilizing systematic surveys and quantitative analysis to identify scientific "laws" governing education across contexts (p. 375). He notes that this approach experienced a resurgence in the mid-20th century, embodied in large-scale statistical analyses by scholars like Foster (1960), Anderson (1961), and Noah (1974). As Epstein summarizes, for positivists comparison "requires looking at differences and similarities between units amenable to analysis" (p. 377).

The zenith of this approach, Epstein points out, was the International Project for the Evaluation of Educational Achievement survey conducted by Torsten Husén in 1967. Reflecting on this, however, the author also notes, "positivism may have been the initial epistemological platform for comparative education, but it was by no means… the only influential platform in the field" (p. 375).

Relativism, in contrast, emerged as an opposing epistemology stressing the particularities of national contexts. As Epstein explains elsewhere, "The first [relativist strand in CIE] has existed almost as long as positivism, and has achieved considerable acceptance especially in Europe. I refer here to cultural relativism, which in Comparative Education is

usually displayed by an adherence to some variation of the concept 'national character'" (1988, p. 8).

Epstein (2008) notes Ushinsky's emphasis on the inherent links between education and national character, which profoundly shaped Sadler's conceptualization of the need for 'understanding in a sympathetic spirit' of foreign systems on their own terms (p. 376). As Epstein explains, relativists view positivists' pursuit of cross-national generalizations as futile, instead seeking particularistic insight through deep immersion in a nation's history and culture. He observes that the focus on national character "occurred slightly earlier than the headiest period of positivism, which reached its peak in the US" (p. 377).

Of particular note, here, is phenomenology's extreme challenge to positivism in CIE. As Epstein (1988) explains, "Phenomenology, however, does claim that positivist inquiry is by nature unavoidably biased and judgmental, and therefore represents a more extreme repudiation of positivism than does cultural relativism" (p. 11).

Epstein argues, however, that the tension between universalism and particularism found reconciliation in historical functionalism's blended epistemology. He credits Dilthey's view of education as shaped by both universal human impulses and particular historical limitations as inspiration for Schneider and Kandel's inclusive conceptual framework intertwining positivist and relativist elements. Historical functionalism, he explains, examines education as "interrelated with other social and political institutions; and it can best be understood if examined in its social context" (p. 378, citing Kazamias and Massialas).

Epstein explains that Schneider and Kandel drew upon Dilthey's philosophical contributions to develop historical functionalism as a synthesis. Dilthey, he points out, asserted that "Along with the analysis of inner experience appears that of understanding [*Verstehen*], and both together give proof for the human sciences of the *possibility* and *limits* of universal knowledge in them" (p. 378, citing Dilthey as quoted by Owensby, 1994).

"Setting the Normative Boundaries," therefore, offers an indispensable conceptual map situating the tensions that animate CIE's foremost theoretical debates. Epstein's analysis underscores how fundamental differences in epistemology produce conflicting definitions of the field itself, and by highlighting the need to encompass positivism, relativism and historical functionalism within CIE's boundaries, he offers an expansive, inclusive perspective that is attuned to the field's inherent complexity.

It should be pointed out, however, that Epstein's work, rich though it is, overlooks, among others constructs, the epistemological influence of conflict theory perspectives—in the specific case of CIE, those articulated by thinkers like Philip Altbach, Robert Arnove, Martin Carnoy, Gail Kelly, and others. These scholars have, compellingly, argued that comparative education research must acknowledge how educational systems and policies often mirror societal inequalities and, just as importantly, they contend that research must also study how these systems and policies perpetuate such inequalities.

Postmodern Ideas

In the landmark 1999 work "Mapping comparative education after postmodernity" by Rolland G. Paulston, the author critically examines the landscape of CIE in the context of postmodernity. The author's inquiry is framed around three key questions: the identification of major positions in the postmodernism debate within the field, the possibility of mapping these positions as a discursive field, and the consequent conclusions about the challenge of multiperspectivism on comparative education practices.

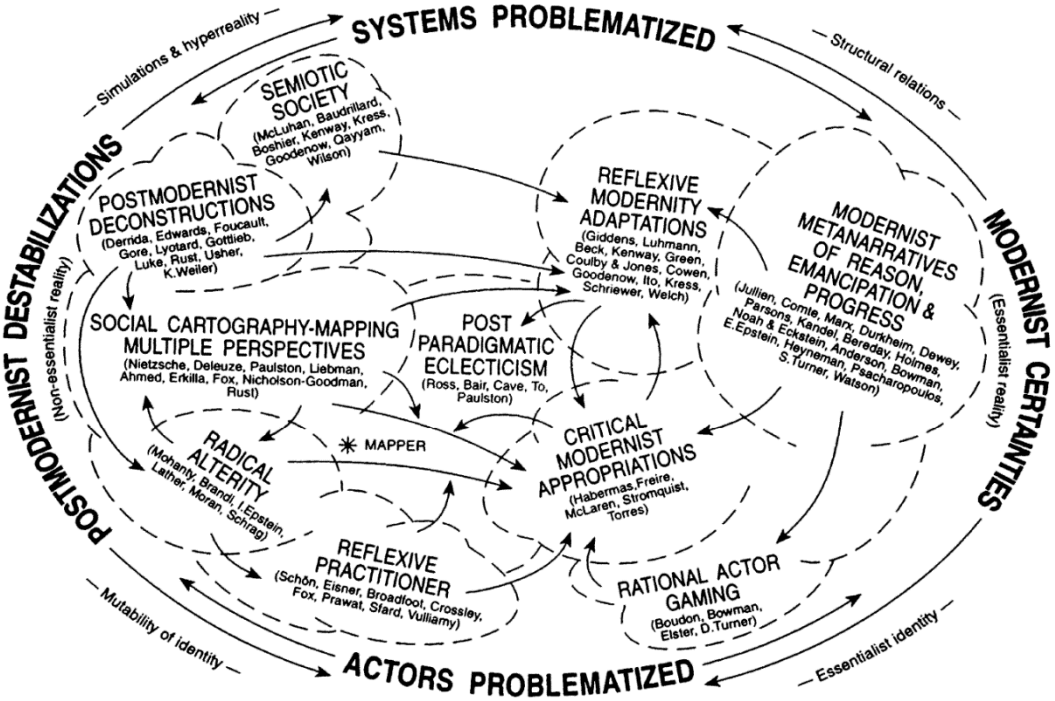
Central to Paulston's argument is the notion of heterotopia, a concept borrowed from Foucault, which he uses to describe the diverse and interrelated positions within CIE. He views these positions not as binary opposites but as part of an "intertextual space that allows the negotiation of meanings and values" (p. 439). He maintains that this approach paves the way for a more layered examination, transcending dualism and recognizing the field's complexity.

Moreover, the article is distinctly methodologically rich, as Paulston investigates the ontology, genealogy, and narratology of the texts in question. He chooses narrative as a thematic frame to highlight specific dimensions of texts while recognizing the foregrounding of some aspects over others. He asserts, “Readings by others, including the authors themselves, would most likely produce different interpretations and mappings” (p. 438), emphasizing the subjective nature of interpretation.

Paulston’s critique of postmodernism’s impact on CIE reveals a landscape where “reality constructs are seen to resist closure” and where “multiple and diverse truth claims become part of a continuous agonistic, or contested, struggle” (p. 440). He is particularly interested in how postmodernism challenges the grand narratives of modernity, which are seen as suppressing the smaller narratives or “minutely organized particulars” (Blake, as cited in Paulston, 1999, p. 438).

In his analysis, Paulston identifies at least five postmodern knowledge communities within comparative education—postmodernist deconstructions, radical alterity, semiotic society, reflexive practitioner, and social cartography—each with its way of understanding reality and practice. These communities are juxtaposed with four modernist positions, revealing a rich spectrum of ideological stances. The resulting framework’s complexity warrants reproducing it here:

Figure 2: *Paulston's "metaphorical mapping of knowledge"*



Note. Reprinted from Paulston (1999, p. 445).

An important note on mapping as a research method. Earlier, in Chapter 1, I mentioned Carnoy's critique that postmodern perspectives can slip into "academic narcissism" by overly focusing on the subjective researcher rather than larger truths. Though this is a valid concern, this should not wholly discount the potential of postmodern mapping approaches, especially given the profound influence Paulston's legacy and commitment to mapping has had on this dissertation. As he would compellingly argue in later works,

> social cartography, with its *deconstructive view* of all modes of representation and with its ludic tolerance of new ideas and *diverse ways of seeing*, can help us make this intellectual journey. In addition to its critical and demystification utility to *make visible ideas and relations that otherwise might remain hidden*, social cartography will also be

> useful to *convert increasing flows of data into visual images*. This will help comparativists *recognize patterns and relationships in spatial contexts* from the local to the global. (Paulston, 2012, p. 318, emphasis added throughout)

Furthermore, the article does not shy away from the challenges postmodernism poses to the field, as Paulston reflects on "the central question of social change" and whether contemporary developments mark a distinct new form of social conditions or simply a phase within a global and reflexive late modernity (Paulston, 1999, p. 438).

In conclusion, Paulston's article is both a critical analysis and a call to action, nudging CIE scholars to embrace the multiplicity found in postmodernist thought. He also advocates for an approach in line with Blake's "minute particulars," promoting a portrayal of the world that includes multiple voices and narratives. Through his heterotopic mapping, Paulston created a methodological tool that helps us visualize and understand the complex interplay of perspectives within comparative education, thus contributing to a more comprehensive and, above all, inclusive understanding of the field in the postmodern era.

Some CIE scholars, however, have challenged the encroachment of postmodernism into the field. Epstein, for example, joins Carnoy and argues that postmodern discourse, with its questioning of empirical reality and focus on the subjective researcher, represents an "extreme approach" that lies "beyond the normative boundaries in comparative education" (Epstein, 2008, p. 383). Specifically, he argues that

> Postmodernists claim that scholars subjectively construct the social reality of their observations and cannot escape the clutches of their prejudices in perceiving empirical reality. In so doing, postmodernists question the very foundations of 'knowability' and 'truth', disavowing even well-defined contexts and, indeed, eschewing any cultural context. (Epstein, 2008, p. 383)

Institutional Contributions

In CIE, institutional narratives often remain neglected; however, Martin Carnoy's 2019 *Transforming Comparative Education: Fifty Years of Theory Building at Stanford* provides a rare and compelling case for the significance of institutional contributions. His introspective examination of Stanford University's program not only showcases the institution's theoretical advancements, but also traces the dynamic interplay between institutional history and scholarly progress.

Carnoy identifies three major themes that, historically, have defined CIE: the application of social science methodologies; the focus on international development education; and the emphasis on international testing and data collection. For Carnoy, these strands stand as the leading intellectual currents in the field, each making a substantial contribution to CIE's evolution. In contrast to these general strands, Carnoy offers a distinct and concrete narrative by chronicling Stanford University's unique contributions. He reflects,

> Research by faculty and students at Stanford was of course greatly influenced by all three of the strands I have discussed. But these faculty and students seemed to be able to find the space to challenge underlying ideas and introduce new ones. (Carnoy, 2019, p. 23)

Carnoy's institutional focus provides a unique account of how specific environments can cultivate theoretical innovation. He asserts, "I firmly believe that intellectual thought, especially social scientific educational thought, is considerably shaped by its economic, social, and political environment" (p. 23). This belief, it is clear, underpins his exploration of how Stanford's internal dynamics, reflective of broader economic and political trends, influenced its academic output.

Central to Carnoy's approach is the notion of 'collective': "Because comparative and international education research has been shaped by 'collectives' of researchers and students coming together at various times, influencing one another in institutional settings, it is important to recognize these institutional histories" (Carnoy, 2019).

By focusing on how Stanford's faculty and students navigated the complexities of CIE, Carnoy offers a model in which academic institutions are not merely passive recipients of theoretical trends but can also function as epicenters of critical debate and conceptual shifts. His approach, thus, diverges from other maps by not only tracing the intellectual lineage of CIE theories but also by examining the institutional catalysts behind their emergence and evolution. All the other book's merits notwithstanding, this reason alone would justify the prominence I give it in this study.

Though Carnoy's focus on Stanford University's contribution to CIE provides valuable insights into the institutional impact on theory development, it also invites critiques that warrant consideration, one of which centers on the limited perspective of a single-institution study, which might not fully represent the global diversity of perspectives and theoretical contributions from other academic environments worldwide. This approach, in theory, risks overstating the influence of one institution, potentially at the expense of underrepresenting or neglecting other significant contributions to the field.

Works Based on Bibliometric Techniques

Despite limited research on mapping the knowledge structure of CIE through document co-citation analysis, studies since the late 1970s have employed diverse research designs, foci, and methodological orientations to identify the field's main themes via content and citation analysis. However, the connection between works co-cited by a multiplicity of authors and the clusters of themes they may form has received minimal attention.

Broad consensus exists that the pioneering study in this regard was conducted by Robert Koehl (Cook et al., 2004; Foster et al., 2012; Manzon, 2011). Koehl's (1977) analysis examines "the quality of comparison in comparative education" by evaluating "both the prescriptive statements of leading practitioners and the actual practice of comparison" in three leading journals–*Comparative Education Review* (CER), *Comparative Education* (CE), and *International Review of Education* (IRE) (p. 177).

Over a period spanning two decades, the study categorizes articles and book reviews from these outlets into "comparative" and "noncomparative" types. Comparative works are then further distinguished based on their focus—either cross-national or internal (p. 181). For this classification, Koehl utilizes a combination of descriptive and prescriptive definitions, considering an article comparative if it deals with "the systematic study of two or more systems of childhood socialization, particularly formal schooling, usually across cultures" (p. 179). This allows, the argument goes, for a broad inclusion of comparative work while excluding mere "information about world education" (p. 179).

Koehl finds comparative education literature often emphasizes prescriptions over realized practice, with many articles devoted to proper methodology without fully implementing proposed techniques (p. 182). He identifies a rather "loose" fit between guidelines and application (p. 183). Nonetheless, the article points out that common styles of comparison have emerged, frequently involving educational backgrounds of leaders, recruitment patterns in elite schools, returns to education, and test achievement (p. 191).

Importantly, Koehl concludes with a call for greater systematization and taxonomy building in the field, akin to the biological sciences, rather than sole reliance on social science methods (pp. 193-194). Among the criticisms that can be levied against his work, perhaps the most important is that his analysis focuses only on the binary presence or absence of comparative methods rather than examining, for example, the historical evolution of these methods along a spectrum of analytic detail. Nevertheless, Koehl's study provides an informative retrospective of trends in comparative education scholarship in the mid-20th century through a systematic analysis of leading journals in the field.

Building upon Koehl's analysis, Rust et al. (1999) offer a detailed examination of research strategies in CIE. Similar to Koehl, the authors analyze nearly 2,000 articles published in CER, CE, and *International Journal of Educational Development* (IJED) from the inception

of each journal through 1995 (p. 90). Their study classifies the data collection and analysis methods employed in these articles across time.

Rust et al. find that only around three percent of articles deal explicitly with research methodology, with most focusing on conceptual issues rather than data collection or analysis techniques—of the nearly 2,000 articles analyzed, just 65 (3.3 percent) were judged to deal mainly with research methodology (p. 91). Further analysis of 1960s articles shows heavy reliance on contemporary and historical literature reviews, with minimal use of fieldwork, surveys, interviews, or quantitative data (pp. 94-95). However, data show a diversification of methods by the late 20th century. While literature reviews remain prominent, field research, project evaluations, and content analysis grow substantially (p. 97).

Comparative analysis, they explain, is present in nearly a third of contemporary articles, though seldom drawing upon the comparative education methodological debates of earlier decades (pp. 101-102). Specifically, Rust et al. find that 30.9 percent of the 427 articles from the 1980s and 1990s utilize comparative analysis as a research strategy (p. 97). However, their citation analysis reveals that only five percent of these comparative studies reference key earlier works on comparative education methodology (p. 102).

Unsurprisingly, Rust et al. find that comparative education exhibits wide methodological variety, thus aligning with the full spectrum of social science approaches (p. 108). Yet, a qualitative orientation dominates, with over 70 percent of articles relying primarily on this analytic paradigm (p. 105).

In sum, Rust et al. offer a thorough overview of the evolution of research strategies within key CIE journals over time. Their identification of limited discussion on data collection and analysis techniques remains salient, as does the disconnect between conceptual comparative education methodology and its application. However, their broad qualitative versus quantitative classification provides a somewhat simplistic dichotomy; in addition, the subjective nature of coding articles into methodological categories allows room for inconsistency.

Expanding upon the bibliometric analyses of Koehl and Rust et al., Cook et al. (2004) undertook a wide-ranging survey aimed at understanding comparative education trends from the perspectives of the Comparative and International Education Society (CIES) members. The study analyzes survey responses from over 400 CIES members regarding the field's influential themes, works, figures, universities, and organizations. These data are supplemented with a citation analysis of CER, CE, and IJED. Cook et al. find limited consensus among respondents on salient themes, with globalization and gender most frequently identified (p. 136). The citation analysis reveals discrepancies between perceived influential works and actual citation frequencies (pp. 137-138). Comparativists also exhibit a "weak sense of the field's history", with most recognized figures being post-World War II era (p. 139).

Cook et al. conclude that CIE constitutes a highly eclectic field with fluid boundaries, continually incorporating new disciplinary voices (p. 149). Yet this pliancy poses challenges for epistemic continuity and transmission of knowledge between generations (p. 148). As the authors state, "Comparative education is a field that is alive and well, and will undoubtedly remain so for the coming century", but "increased globalization, along with value placed on inclusionary discourse, portend a future of continued diversity and change" (p. 149).

Building on earlier journal analyses, this study employs an unprecedented survey scope and a multi-pronged methodology that surpasses reliance on content analysis alone. In this way, Cook et al. incorporate direct polling of CIE scholars, offering a more comprehensive perspective on the field's self-conception. Consequently, their 2004 article represents one of the most comprehensive empirical mappings of the field's dimensions up to the present.

Expanding on the bibliometric analyses of his predecessors, Wolhuter (2008) undertakes a broad review of over 1,150 articles published in CER during its first half-century, employing detailed coding across multiple categories to offer a thorough understanding of the journal's scholarly identity and evolution. Country-level analysis, the study shows, persists as the dominant focus, though with some diversification toward supra-national, regional, and local

units (p. 325). Comparisons overwhelmingly emphasize single cases, and developed regions continue to attract disproportionate attention (pp. 326-329). Literature reviews, Wolhuter found, remain the primary methodology, while the hermeneutic paradigm continues to lead, despite growing paradigm plurality (pp. 333-336). Moreover, although there have been appeals to extend research into underexamined areas such as pre-primary and primary education (p. 337), higher education continues to receive disproportionate focus. Finally, while the significance of pre-formal and informal education is increasingly recognized, studies predominantly concentrate on formal education (p. 337).

According to Wolhuter, these trends exhibit "remarkable resilience/constancy amid a broadening" (p. 340); indeed, even though CIE has expanded across many dimensions over the past half-century, certain foundational elements exhibit remarkable consistency. The study also suggests potential new directions to further stretch the field's boundaries, such as increased attention to the developing world and non-formal education. As the author notes, incorporating micro-paradigms like ethnography could assist in making comparative education a "livelier project" (p. 341).

Focusing exclusively on CER across its first 50 years of publication, this longitudinal study builds upon prior research in a significant way. Unlike earlier projects that covered multiple journals, Wolhuter's CER-focused work distinguishes itself by offering a deep dive into how scholarship has evolved within this particular journal; furthermore, its detailed coding framework allows for a granular analysis of trends in aspects such as geographic focus, authorship, and underlying paradigms.

Foster et al.'s (2012) study of 605 articles published between 2004-2008 in CE, CER, Compare, and IJED uncovered significant imbalances in research priorities and themes. Analyzing article titles, abstracts, and full texts, the authors categorized content with greater specificity than prior studies that relied solely on titles or abstracts; their sophisticated coding

also enabled detailed tracking of trends across five dimensions, namely thematic focus, geographic region, education level, methodology, and funding sources (p. 715).

Several pronounced imbalances emerge in the prevailing themes and methods. The sociopolitical context of education receives more attention than pedagogical content (p. 720), with policy and theory dominating discussion while teaching methods and textbooks are scarcely addressed (p. 717). Despite global prioritization of basic education access, secondary education claims scholarly focus comparable to primary education across journals (p. 720). While comparative case studies and document analysis prevail among research methods, "longitudinal approaches" tracing institutions over time are severely limited, comprising just four of 605 articles (p. 722). Moreover, funding acknowledgements are largely absent from the articles reviewed, constraining analysis of how research incentives shape inquiry norms.

Through an exhaustive analysis of multiple journals over a five-year span, Foster et al.'s study builds upon and extends earlier bibliometric reviews which relied on selective journal samples. The authors' comprehensive full-text coding of articles enables more detailed tracking of subtle thematic and methodological shifts over time than prior studies coding mainly titles and abstracts. The disparities that persist across journal articles illuminate the complex forces shaping knowledge production norms within CIE.

Although this study provides a detailed analysis of content across four influential journals, a key methodological limitation hinders the conclusions it can offer: its narrow 5-year scope provides a highly focused snapshot of the field rather than revealing long-term evolutionary trends. Prior studies reviewing over 50 years of content were better positioned to identify shifts and trajectories in CIE over time. By focusing solely on 2004-2008, this analysis lacks that longitudinal perspective that could, for example, more clearly reveal changing prominence of themes, methods, and geographic foci. Overall, though, Foster et al.'s expansive journal analysis significantly advances bibliometric research on CIE and makes a great case for

the broadening of journal samples and exhaustively mining full article texts to discern nuanced thematic and methodological patterns.

Yamada (2015) extends prior bibliometric analyses to probe into research trends and epistemological debates within the realm of Japanese comparative education. Similar to Cook et al.'s 2004 CIES-based work, her analysis centers on member survey data from 264 members of the Japan Comparative Education Society (JCES) and classification of 551 articles published in *Comparative Education* (CE-J), the Japanese-language journal of JCES, from 1975-2011. The member survey offers a glimpse into researchers' subjective perspectives, whereas longitudinal coding of the journal articles enables an assessment of how actual publication patterns align with or diverge from stated member viewpoints.

Yamada's investigation yields several important findings. Invited CE-J articles focusing on research methodologies and the field's academic identity far outnumber similar peer-reviewed articles, indicating editors' greater preoccupation with fundamental epistemology compared to individual researchers (p. 242). Among peer-reviewed CE-J articles, policy and social change lead thematic trends, followed by curriculum and educational administration (p. 247). After 1990, research on basic education has grown markedly within the journal, though studies of formal education still heavily dominate (pp. 248-249). Despite increasing global diversity, nearly 90 percent of peer-reviewed articles focus on East Asia/Oceania and North America/Western Europe (pp. 249-250).

Following the presentation of her findings, Yamada compares the identified patterns within Japanese comparative education to those observed in CIES/CER, drawing on prior analyses by Cook et al. (2004) and Wolhuter (2008). This comparison reveals some thought-provoking differences between the journals, including, for example, CER's broader geographic focus than the Japanese emphasis on regional specialization, and CER's stronger emphasis on problem-solving and theoretical exploration, in contrast to the holistic, context-focused approach in Japanese scholarship (pp. 252-255).

Yamada's approach, which combines member surveys and longitudinal journal analysis, offers a uniquely comprehensive view of the forces shaping Japanese comparative education. Her study explores institutional contexts, sociohistorical background, member perspectives, and academic output; consequently, it provides a model for CIE scholars seeking to understand specific national landscapes. Although focused on the Japanese experience, the detailed picture she creates has broader relevance and potential applications elsewhere.

On Representation

The final selection of works and authors for this literature review was shaped by my perspective on what are some of the most influential and foundational contributions that have shaped CIE (for further information on the design of this Literature Review, please see "A Note on Selected Works"). These works, as products of their time, reflect the historical, geographical, and intellectual contexts in which they were created, as well as the broader dynamics of power and access in global academia.

For instance, when leading journals in the field such as CER and CE were first established, far fewer women scholars were represented, and their work was cited and co-cited less frequently, limiting their visibility in the early citation networks that have come to define the field's foundational literature. Accordingly, this lack of early representation has led many of the texts referenced here to reflect a noticeable prominence of Western male scholars, whose works have been widely disseminated and whose influence remains deeply ingrained in the theoretical and methodological foundations of CIE.[2]

I do not mean, through this observation, to diminish the value of these contributions but rather to contextualize them within the realities of their production, reception, and impact. The choice of these does not mean to imply an exclusivity of perspective; instead, it is a recognition that their methodologies, arguments, and findings have had a demonstrable and lasting impact

[2] Nonetheless my review includes such noted women comparative educators as Ruth Hayhoe, Gail Kelly, Karen Mundy, and Michele Schweisfurth.

on shaping the discourse and practice of CIE. Despite our commitment to diversity and inclusion, academia's global diversity of voices has historically been unevenly represented. This imbalance stands as a testament to the enduring legacies of colonialism, racism, and patriarchy that have systematically marginalized and excluded the contributions of women, people of color, and scholars from the Global South, where I come from. Ultimately, while this literature review focuses on works that have been influential in shaping the field—especially insofar as they are relevant to situate my study within efforts to map the terrain of CIE as a field—it is but a starting point for a much broader conversation.

Bridging the Gap

The field of CIE, as this literature review shows, has evolved through extensive scholarly examination. Researchers have worked to define its characteristics, identify its trends, and discern its intellectual landscape. Alongside conceptual mapping that traces the contributions of thinkers like Bereday, schools of thought like Postmodernism, and paradigm shifts like the increased emphasis on empirical research, recent bibliometric studies have added essential quantitative insights into the topics, methods, and geographic foci found in CIE journals.

As I try to make sense of this body of work as a whole, however, it becomes apparent to me that, even though it meaningfully contributes to an enhanced understanding of CIE, it also underscores the field's inherent complexity and fragmentation. Moreover, and importantly for this study, it highlights the detrimental effects that factors such as unreliable coding, limited periods of analysis, anecdotal recording, and overriding ideological perspectives may have on the ultimate CIE "maps" produced. If previous research offered invaluable insights into the CIE landscape at specific points in time and contexts, my approach, in contrast, seeks to capture, mainly, the multitude of ongoing, evolving dialogues within the field.

To understand the intellectual structure of CIE, I construct co-citation networks and cluster frequently cited articles; this approach, combining bibliometric analysis and information visualization, helps to reveal the complex relationships between authors, their ideas, and their

contributions. Furthermore, unlike other methods, it allows for the identification of otherwise hidden conceptual connections within the field.

This is where the present study's approach, as elaborated in Chapter 3 below, can make a significant contribution. With bibliometric and information visualization techniques, it seeks to generate a more holistic, layered, and, potentially, slightly less subjective picture of the intellectual landscape of CIE.

Chapter 3: Method

Research Question

What are the main themes, influential works, and leading debates in the intellectual landscape of Comparative and International Education, as revealed through a co-citation network derived from the references cited in articles published in *Comparative Education Review* and *Comparative Education* from 1957 to 2023?

Wolhuter (2008) recounts an anecdote involving Erwin Epstein's presentation at the Comparative Education World Conference of 2001 that is both amusing and insightful. Having kicked off the discussion by asking the fundamental question of "what is comparative education," Epstein was met with nothing but silence. Asking a second time did not do the trick, and conversation quickly turned into exhortation: "Come on, what is comparative education? … Anyone." It was finally then that a member of the audience gave Epstein something to work with: "That which gets published in the Comparative Education Review" (p. 323). The quip, however humorous, was not without scholarly merit.

As has been made clear previously, the way scholars think and interpret CIE phenomena varies as much as the number of individuals attempting to contribute to the still young field. Even though the same could also be argued with respect to other comparative disciplines, such diversity is particularly pronounced in CIE, especially in works revolving around definitional issues or aimed at chronicling its historical development.

As Chapter 2 illustrates, extensive literature grappled with the ontological and epistemological fluidity of CIE. Nevertheless, few studies focused on actually mapping the field and fewer still did so with any recourse to quantitative approaches. The inarguable originality, significance, and quality of the works previously mentioned notwithstanding, they are limited in that they are inevitably informed by their authors' biases and experiences—as will be, it must be clearly stated, the interpretation offered in this study. Bias, notably researcher bias, may limit

the learning experience, especially that of future educators in the early stages of their training, who may not necessarily be equipped to, firstly, identify specific instances of bias and, ultimately, tackle subjects that, by definition, are complex, multifaceted and interconnected.

Worse still, the challenges arising from the combination of historical lack of consensus and inherently biased works have been exacerbated by an explosion of scholarly contributions to the field of CIE in the past few decades. This surge has made it increasingly difficult for one to gain a comprehensive understanding of the field's broader contours, let alone identify its predominant themes, debates, and arguments with clarity. In such a context, the more one considers the matter, the more reasonable the point underlying that quip appears. CIE, arguably, has become unapproachably complex and, at this juncture, might benefit from research that offers a new perspective using a methodologically simplistic, data-driven, and computational approach.

This study, therefore, applies quantitative analysis to help map the field of CIE, using articles published in CER and CE from 1957 to 2023, and combines bibliometric with visualization techniques to present a fresh lens through which to examine the knowledge structure of CIE. Although the study itself cannot definitively determine the suitability and value of this approach, it seeks to demonstrate the potential findings that can be uncovered and allow readers to assess the utility of these methods for the field.

Object of Analysis

Adopting a considered yet practical approach, I concentrate my analysis on the scholarly output of two eminent journals in CIE—the *Comparative Education Review* (CER) and *Comparative Education* (CE)—a decision that, although grounded in pragmatic considerations, is well-aligned with the study's primary objectives.

Since its establishment in 1957, CER (the flagship journal of the Comparative and International Education Society) has served as a leading voice in the field; with American origins, the journal's reputation for publishing influential, groundbreaking articles positions it

as a valuable resource for exploring the CIE landscape. CE, founded in 1964 just a few years after CER, offers a complementary perspective from the United Kingdom and has consistently maintained a high standing within the community, making it an equally valuable counterpoint for understanding the CIE scholarship.

Adding to these considerations, the strong performance of both CER and CE on key bibliometric indicators, such as Impact Factor,[3] five-year Impact Factor, and CiteScore,[4] strongly supports the selection of these publications: CER, for example, with a 2023 Impact Factor of 2.0, ranks among the top 193 out of 756 journals in the "Education & Educational Research" category; CE, in turn, with a 2023 Impact Factor of 3.1, ranks in the top quartile (Q1) of its field.

Nevertheless, it is also important, at this point, to acknowledge the fundamental limitation of concentrating solely on these two journals. With a focus on English-language publications deeply rooted in Western academic traditions, the study is liable to present only a fragment of the global landscape of CIE, a field that, as established in Chapter 1, embraces a multitude of voices—many of which may not find adequate representation in these journals. To be sure, by acknowledging this constraint I do not mean to diminish the insights drawn from the selected journals; rather, this recognition allows me to position them within the broader context of the field's epistemological and methodological diversity.

It is also worth noting that any attempt to expand the dataset to include journals from other backgrounds would necessarily encompass a variety of practical challenges: differences in editorial practices, citation styles, and metadata standards across publications each present

[3] A central tool of Clarivate's Journal Citation Report, the Journal Impact Factor (JIF) may help one to assess a journal's relative importance by measuring the frequency with which the "average article" published in it has been cited in a particular year ($JIF_{2024} = \frac{\text{Citations in 2024 to items published in 2022 + 2023}}{\text{Number of citable items in 2022 + 2023}}$). For a summarized overview of the index see Garfield (1999).

[4] CiteScore is a metric that measures the average number of citations received per document published in a scholarly journal. It is calculated by Scopus and uses a four-year citation window. For more information, see Elsevier (n.d.-a).

significant obstacles to data aggregation and standardization. Likewise, the task of data cleaning and the processing power it requires would further hinder the creation of a cohesive and reliable dataset. Even though these technical constraints are not, strictly speaking, insurmountable, they do limit the feasibility of adopting a more comprehensive approach within the scope of this study.

In light of these challenges, focusing on CER and CE represents a carefully considered and strategic balance between the desire for a representative analysis and the practical realities of data management and processing; though not exhaustive, this concentrated examination of the outputs of CER and CE is anticipated to yield meaningful insights into some of the main themes and debates within CIE.

Clarifications

This work argues that bibliometric and visualization techniques have a hitherto untapped potential value for mapping the field of CIE (as represented by the bibliometric information of articles published in CER and CE). It is fitting, thus, that attention be given to some semantic clarification on key concepts, starting with that of *bibliometrics* itself.

The etymology of *bibliometrics* comes from the Greek words *biblos* ("book") and *metron* ("measure"). Also referred to in earlier literature as "statistical bibliography" (Gosnell, 1944; Hulme, 1923; Raisig, 1962), the term bibliometrics was first defined by Pritchard (1969) as "the application of mathematics and statistical methods to books and other media of communication" (p. 349). More refined definitions have been proposed by Broadus (1987), who defined the term as "the quantitative study of physical published units, or of bibliographic units, or of the surrogates for either" (p. 376) and Diodato (1994), who defined bibliometrics as "a field that uses mathematical and statistical techniques, from counting to calculus, to study publishing and *communication patterns* [emphasis added] in the distribution of information" (p. vii). One of the key elements of the latter definition, present in most current work definitions of bibliometrics, is that of communication or, more precisely, *scientific communication*.

Science, Cronin (1984) explains, is a "social process," wherein scientists operate on a "context-dependent" basis and whose proper understanding presupposes the understanding of not only how scientists conduct research, but also how they "communicate the results of their professional endeavors" (pp. 1-2). The scientific establishment, Cronin (1984) continues, "records and 'rubber stamps'" scientific achievements through a system aimed at (i) disseminating knowledge, (ii) preserving standards, and (iii) distributing "credits and recognition to those whose earlier work has contributed to the development of ideas in different fields" (p. 2).

At the core of the scientific communication system lies the citation, an indicator of such relevance that, according to Ball (2018), anyone who rejects the basic assumptions related thereto "will not be able to generate any insights from bibliometrics" (p. 2). The main idea is as simple as it is straightforward: citation numbers are reflective of both the quality and the importance of publications. As Ball (2018) succinctly puts it, "a publication that is cited frequently in other publications is an important publication, a publication that is cited rarely or not at all less so" (p. 2).[5] Ball's postulate is a necessary corollary of the assumption that a publication's importance is determined by the way it is perceived, from which follows that citation is, simply put, a quantifying mechanism. To be sure, citation is not to be confused with the closely related, but substantively different term *reference*. The distinction between the two lies in the directional flow of the action, as a reference is given by a paper, while a citation is received by a paper. This difference is clearly explained by Price (1970):

> It seems to me a great pity to waste a good technical term by using the words *citation* and *reference* interchangeably. I therefore propose and adopt the convention that if Paper R contains a bibliographic footnote using and describing Paper C, then R contains

[5] Although citation frequency often suggests influence, there are, naturally, exceptions where seminal early works may be infrequently cited yet retain significance, or where references proliferate in certain subfields lacking wider impact. Still, citation patterns offer insight into how central or peripheral a work is viewed and remain a useful, if imperfect, quantitative indicator for mapping influence.

> a *reference* to C, and C has a *citation* from R. The number of references a paper has is measured by the number of items in its bibliography as endnotes and footnotes, etc., while the number of citations a paper has is found by looking it up on some sort of citation index and seeing how many other papers mention it (Price, 1970, p. 3).

It should be noted, however, that bibliometrics is but one of several "metrics," that is, several subfields of Information Science whose objective is "to analyze, quantify, and measure communication phenomena to build accurate formal representations of their behavior for explanatory, evaluative, and administrative purposes" (De Bellis, 2009, p. 3). Bibliometrics' two most important cognate research areas are *scientometrics* and *informetrics*.[6]

From a chronological perspective, the history of the three major metrics started with bibliometrics, whose inception is generally associated with Cole and Eales' statistical analysis of the Comparative Anatomy literature (1917), and whose modern incarnation has been profoundly influenced by the contributions of Derek John de Solla Price and Eugene Garfield, to whom Godin (2006) specifically attributes the systematic development of the field.[7]

The impact of the works of Garfield, whose Institute for Scientific Information produced "the largest single international-interdisciplinary index to the literature of science ever compiled"–the *Science Citation Index* (1963, p. v)–and de Solla Price, who famously postulated that "if any sufficiently large segment of science is measured in any reasonable way, the normal mode of growth is exponential" (1963, pp. 4-5), was to be felt far and wide.

In the erstwhile USSR emerged the field of scientometrics, or at least that very nomenclature ("naukometriya" in Russian). Not dissimilarly to bibliometrics scholars before them, Nalimov and Mulchenko (1969) defined the new field as "a quantitative method of investigating the development of science as an information process" (p. 12, as cited in Haitun,

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[6] Other metrics, whose relevance is hereby acknowledged but are nonetheless beyond the scope of this study include "altmetrics," "cybermetrics," "webometrics," and "netometrics" (De Bellis, 2009).
[7] For comprehensive reviews of the historical development of the field which discuss in detail early seminal works, including the foundational mathematical models developed by Alfred Lotka (1926), Samuel Bradford (1934), and George Zipf (1936, 1949), see De Bellis (2009).

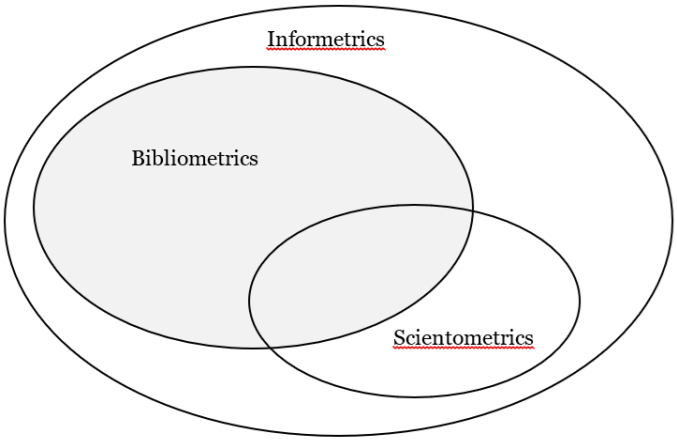
1980, p. 65). If bibliometrics, De Bellis (2009) explains, on one hand focuses on "the material aspect of the undertaking," that is, the counting of scholarly contributions such as books, articles, "any statistically significant manifestation of recorded information, regardless of disciplinary bounds," scientometrics, on the other hand, focuses on

> all quantitative aspects and models related to the production and dissemination of scientific and technological knowledge… scientometrics ultimately addresses the quantitative and comparative evaluation of scientists', groups', institutions', and countries' contribution to the advancement of knowledge… published documents are but one of the several possible units of analysis; manpower, instrumentation, facilities, and economic and financial inputs and outputs are worth considering as well. (p. 3)

The muddy distinction perhaps becomes clearer as one considers the subtitle of *Scientometrics*, the premier journal established in 1978 and published by Akadémiai Kiadó (the publishing house of the Hungarian Academy of Sciences) and Springer Science+Business Media: "An International Journal for all Quantitative Aspects of the *Science of Science* [emphasis added], Communication in Science and Science Policy" (Akadémiai Kiadó, n.d.).

Less subtle than the distinction between bibliometrics and the "science of science" is the distinction between either of those research areas and *informetrics*. First proposed by Otto Nacke in 1979 ("Informetrie," in the German original), informetrics is defined by Tague-Sutcliffe as "the study of quantitative aspects of information in any form, not just records or bibliographies, and in any social group, not just scientists" (1992, p. 1). The evident broader scope of this research area is captured in the stated focus of the *Journal of Informetrics*, established in 2007 by Leo Egghe and published by Elsevier: "The main focus of the journal is on topics in bibliometrics, scientometrics, webometrics, patentometrics, altmetrics and research evaluation" (Elsevier, n.d.-b). The relationship between the three major metrics is depicted in Figure 3.

Figure 3: *Relationships between the three major metrics*



Note. Adapted from Björneborn & Ingwersen (2004, p. 1217).

Although academic precision dictates that the distinguishing features and typical uses for the various research areas aimed at analyzing, quantifying, and measuring scientific communication phenomena be presented and highlighted (this subchapter, admittedly, is not a comprehensive attempt to do so), the specificity of the present study's research question coupled with the framing of its object of analysis ultimately render such distinctions of little practical relevance. For this reason and for sake of simplicity the term "bibliometrics" will be primarily used throughout the work, even though, strictly speaking, some considerations in the analysis chapters with respect to notions such as "science mapping" and "domain analysis" would be most commonly found in scientometric analyses.

This ambiguity is evidenced by the fact that articles which, based on their content and methodology, would seem to fall under one specific research area (e.g. bibliometrics) are at times published in journals whose very titles would suggest a focus on a different area altogether (e.g. *Journal of Informetrics* publishing bibliometric analyses). Table 1 shows how articles indexed under the topics "bibliometrics," "scientometrics," and "informetrics" are divided across the most prominent journals in the field, *Scientometrics* and *Journal of Informetrics*:

Table 1: *Distribution of metrics topic by source*

Topic	Total Articles	Articles in *Scientometrics*	Articles in *Journal of Informetrics*
Bibliometrics	4618	652	170
Scientometrics	1801	540	82
Informetrics	333	84	56

Note. Data retrieved from Web of Science on March 30, 2021.

Lastly, the terms "science" and "scientific" have been used liberally up to this point, but some clarifications are in order. Archambault et al. (2006) note that, albeit increasingly used in the social sciences and humanities (SSH), bibliometric approaches have been historically more widely used in the natural sciences and engineering (NSE). Hicks (1999, 2004) posits that this is due to the fact that the SSH has a book-based (as opposed to journal-based), fragmented (as opposed to consensus-based), and polyglot literature landscape, which ultimately produces less comprehensive indexing databases.

Hicks (1999) explains that, whereas in the NSE "a core of important, international, mostly English-language journals has been identified and fully indexed [into Clarivate's Science Citation Index Expanded]" (p. 193), the social sciences, which are marked by a more nationally-oriented publication behavior, build on theoretical concepts that "are subtle, and without the unifying language of mathematics, are expressed in national languages and can often be fully appreciated only in the original language" (p. 202). This is problematic, Archambault et al. (2006) observe, as Clarivate's Social Sciences Citation Index (SSCI) and Arts and Humanities Citation Index (AHCI) "do not cover adequately journals and articles in languages other than English" (Archambault et al., 2006, p. 330).

Social scientists, Hicks (1999) points out, are unburdened by the pressure to "discover" and thus publish at the same rate and pace as their NSE counterparts, which has historically allowed them to convey their insights through (often profitable) books. Moreover, social

scientists tend to "develop less consensus and adhere to more competing paradigms" (p. 194), which prevents indexing databases such as the SSCI and the AHCI from developing "an internationally recognized core literature to work with to achieve comprehensive international coverage" (p. 195).

Despite the fast-growing internationalization of the social sciences and the recent, welcome addition of the (still limited) Book Citation Index to Clarivate's suite of databases, all of these arguments do hold merit, although less so in disciplines such as Psychology and Economics, whose outputs traditionally display a higher share of journal articles. This results in SSH researchers willing to experiment with bibliometric tools wading through arduous and complex methodological justifications and resorting to excessively careful (albeit technically sound) terminological distinctions (e.g., Petrovich's (2018) "Accumulation of knowledge in para-scientific areas: the case of analytic philosophy"). This work will not go through such lengths.

Document Co-citation Analysis

Science, as stated above, is a social process whose communication dynamics are to a large extent influenced by bibliographic citations. If science is to be taken as "an evolving network of researchers, projects, and publication," it follows that citations are "links that glue the whole network together" (Golosovsky, 2019, p. 1). In other words, citations play a critical role in connecting scholarly works and facilitating the dissemination of knowledge.

This work uses, primarily, citation analysis, specifically document co-citation analysis, to study and map the field of CIE. Moed (2005), while strongly objecting to reductionist claims along the lines of "quality as measured by citation analysis is what quality is" (p. 26), defines citation analysis as involving "the construction and application of a series of indicators of the 'impact', 'influence' or 'quality' of scholarly work, derived from citation data, i.e. data on references cited in footnotes or bibliographies of scholarly research publications" (p. ix). Zhao and Strotmann (2015) thus enumerate the main uses of citation analysis:

1. assessing information resources and evaluating scholarly contributions,

2. mapping research fields to study their intellectual structures,

3. tracking knowledge flows and the diffusion of ideas,

4. studying users and uses of scholarly literature, and

5. assisting with information organization, representation, and retrieval. (p. 2)

Citation analysis often relies on two widely used techniques: bibliographic coupling frequencies and co-citation counts. Bibliographic coupling occurs when two documents share one or more references (Kessler, 1963; Martyn, 1964). Co-citation, in turn, occurs when two documents appear in the reference list of a third (Small, 1973, 1977).[8]

The underlying assumption of these techniques is that, if two documents are either referencing (bibliographic coupling) or being cited (co-citation) by a third, it is plausible to expect that structural relationships exist between them. These relationships may indicate shared topics, methodologies, or theoretical frameworks. According to De Bellis (2009),

> if highly cited documents are thought to convey key concepts, methods, and experiments, then the analysis and classification of heavily co-cited documents might well be expected to uncover the patterns of relationships between these key elements, thereby highlighting the sociocognitive structure of a research field, its articulation into subareas and emerging research fronts, and its connections with other specialties. (p. 158)

It has been said that bibliographic coupling does not constitute a unit per se, "but merely an indication of the existence of the probability, value unknown, of relationship" (Martyn, 1964, p. 236). The same principle, in theory, applies to co-citation analysis. Even though the precise nature of the relationship between co-cited works often remains uncertain, this method offers a powerful lens through which to uncover meaningful patterns within the literature.

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[8] In set theory notation, Small (1973) thus defines the notion: "If A is the set of papers which cites document *a* and B is the set which cites *b,* then A∩B is the set which cites both *a* and *b*. The number of elements in A∩B, that is n(A∩B), is the co-citation frequency. The relative co-citation frequency could be defined as n(A∩B) ÷ n(A∪B)" (Small, 1973, p. 269).

This inherent uncertainty, which might at first appear to be a limitation, is, in fact, one of the defining features of co-citation analysis. These connections are not to be construed as fixed markers of agreement or methodological similarity; rather, they often capture a more nuanced relationship. Co-citation networks, therefore, can, at the same time, reflect central ideas that unite researchers, identify shared approaches to inquiry, or even highlight areas of fundamental disagreement in pivotal debates. They may also emerge from the perception of certain works as "essential" within a given field, regardless of their actual alignment with one another.

A key element of these approaches is that of connection *strength*. In the case of co-citation analysis, Small (1973) explains, the strength of co-citation between two cited documents is determined by the number of "identical citing items," i.e., new documents which have cited both earlier papers; accordingly, "co-citation is a relationship which is established by the citing authors" (p. 265).

Significantly, the numbers of citing documents not only serve to discern "stronger" from "weaker" co-citations but may also even be used as a barometer of if and how the unveiled relationships change over time. Unlike bibliographic coupling, whose focus on items in reference lists makes it a fixed, static measure of relationship (thus making it more suitable for the analysis of more recently published documents), co-citation is a remarkably dynamic measure in that it allows analysts to understand the patterns in which documents, especially breakthrough, paradigm-shifting ones, accrue citations over time and relate to one another. As Garfield (2001) puts it, "bibliographic coupling is retrospective whereas co-citation is essentially a forward-looking perspective" (p. 3).

This feature, in conjunction with the ~2,800 articles that appeared in CER and CE over a period stretching over 65 years, allows one to use the totality of the data gathered to generate a map that offers a panoramic view of CIE. Such a comprehensive map can help scholars identify central themes, debates, and influential works within the field. Moreover, the dynamic nature of co-citation analysis suggests the potential for revealing the evolution of the field over time, as

the relationships between key works may shift and change across different, (arbitrarily) defined eras.

Information Visualization

Through certain computational tools and statistical techniques, researchers can leverage information visualization to interpret complex bibliographic data (such as that extracted from the Web of Science and similar databases) and, ultimately, uncover hidden structures and relationships within the data that are not readily apparent. According to Chen (2006), this analytical approach involves two key stages: structural modeling and graphical representation.

Structural modeling, in essence, aims primarily to detect, extract, and simplify the underlying relationships within a dataset. Utilizing computational, statistical, and various modeling techniques, researchers are able to derive what Chen (2006) refers to as a "virtual structure"—a construct that is not readily accessible in the original data but which emerges through the application of these methods.

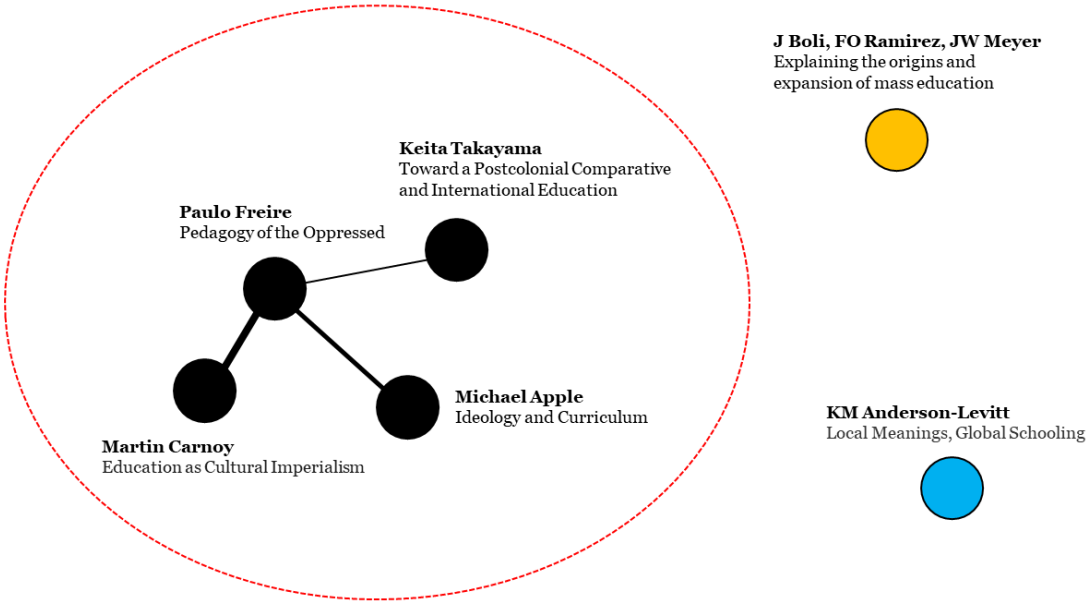
With the virtual structure modeled, the next step is creating a visual representation that allows for a more intuitive and accessible way to explore and interact with the data. This conversion is typically achieved through specialized computational tools, such as CiteSpace (Chen, 2004, 2006, 2017; Chen et al., 2010) and VOSviewer (van Eck & Waltman, 2010, 2014); for the purposes of this study, we will focus on VOSviewer.

VOSviewer is a freely available software tool (https://www.vosviewer.com) designed for constructing and visualizing bibliometric maps. The "VOS" in its name stands for "visualization of similarities," a technique for creating a low-dimensional visualization in which objects are positioned so that the distance between any pair reflects their similarity as accurately as possible (van Eck & Waltman, 2007). In other words, VOSviewer generates distance-based maps, where the proximity of two items indicates the strength of the relationship between them: a smaller distance generally indicates a stronger connection, making it easier to identify clusters of related items (van Eck & Waltman, 2010).

VOSviewer uses a clustering algorithm that organizes articles into clusters based on their "relationships," which, in turn, are determined by how frequently the articles are cited together. When two articles are often co-cited, it suggests a strong connection or similarity in their content, themes, or focus. The clustering process begins by having each article assigned to its own cluster. The algorithm then iteratively improves the clustering by evaluating the quality of the grouping using an objective function based on modularity. Modularity, in sum, measures the density of connections within clusters compared to the density between clusters, with higher modularity indicating that articles within the same cluster are tightly connected whereas connections between different clusters are sparse (van Eck & Waltman, 2010). Through the maximization of modularity, the algorithm adjusts cluster assignments to ensure that articles within the same cluster exhibit stronger relationships to one another than to those in other clusters. This is the very process that enables the identification of main themes and intellectual structures within the data.

To better understand how VOSviewer works, consider the following hypothetical scenario: suppose we have analyzed the citations made by CER papers between 1957 and 2022. Figure 4 illustrates a potential snippet of a document co-citation network derived from such an analysis. In this network, the circles—also referred to as *nodes* or *vertices*—represent the objects of analysis, namely scholarly contributions that have been cited by CER articles, which, importantly, may or may not be journal articles that appeared in CER itself. The lines connecting the nodes, referred to as *links* or *edges*, represent the relationships between the nodes; in this example, the relationship is co-citation, meaning that the connected works have been cited together by a third CER article. Using VOSviewer terminology, this network's type of analysis is "co-citation," and its unit of analysis is "cited reference."

Figure 4: *Snippet of hypothetical CER document co-citation network*



Now, let us focus on the scholarly contributions within the red boundary in Figure 4. We can see that our nodes include three books by Apple, Carnoy, and Freire, as well as one article by Takayama that appeared in CER. All of these works have been cited by CER articles, indicating that they are part of the intellectual foundation upon which CIE scholars published in CER have built their research. This is, in other words, the intellectual well they drink from. The links between these nodes signify that they have been co-cited, or cited together, by one or more CER articles.

It is important to note that not all nodes in a network are required to be linked to each other. This applies both to nodes outside the red boundary, such as Anderson-Levitt's *Local Meanings, Global Schooling*, and to nodes inside the boundary, like Takayama's CER article. In this hypothetical example, Takayama's work has been co-cited with Freire's *Pedagogy of the Oppressed* by two CER articles. Freire's book, in turn, has been co-cited four times with Michael Apple's *Ideology and Curriculum*, as indicated by the thicker link between these two works. The link between Freire's book and Carnoy's *Education as Cultural Imperialism* is thicker still,

indicating that these books have been co-cited eight times by CER articles. Theirs is the "strongest" link.

The red boundary in Figure 4 represents a cluster—a collection of scholarly contributions that have been algorithmically identified as being related in terms of subject matter, methodology, research findings, or any combination thereof. The four-work cluster in our example suggests the existence of a prominent focus among some CIE scholars on the critique of traditional educational practices and the role of education in perpetuating social inequalities.

Having examined the conceptual underpinnings of information visualization alongside the fundamental workings of tools like VOSviewer, I now turn to a brief discussion of the data collection and cleaning process, which is essential for ensuring the validity and reliability of the ensuing network analysis.

Data Collection and Cleaning

In September 2024, I conducted a comprehensive bibliographic retrieval using the Web of Science (WoS) Core Collection, maintained by Clarivate. The process was comprised of three steps. First, "Comparative Education Review" and "Comparative Education" were searched by "Publication Name" in the main WoS search screen. The search found over 6,200 results, including articles, book reviews, proceedings papers, and other document types, spanning the period of 1957 to 2024. The second step consisted of excluding all document types with the exception of articles. Such refinements produced the final version of the dataset: 2,802 articles spanning the period of 1957 to 2024. The third and last step of the dataset building process consisted of extracting the bibliographic records themselves. The option "Other File Formats" has been selected under "Export." Because WoS does not allow one to extract more than 500 records at a time, the full data set was retrieved in six batches. The option selected for "Record Content" was "Full Record and Cited References" and the option selected for File Format was "Tab-delimited (Win)."

To ensure the accuracy and consistency of the over 107,000 instances of citation within the 2,802 articles I used OpenRefine (OpenRefine, n.d.), an open-source tool for data cleaning, transformation, and exploration. Even minor inconsistencies in how works are indexed, variations in authors' names or differences in title formatting, for example, can lead VOSviewer to misinterpret them as distinct works ("Smith, J." and "Smith, John" would be considered two separate authors by the software). Identifying similar entries and standardizing them is therefore necessary to properly clean the data. Through over 200 editing operations, I modified approximately 3,000 instances of citation, improving consistency; however, given the sheer volume of data, achieving absolute consistency is practically impossible. I continued the cleaning process until I no longer encountered similar discrepancies in the dataset. However, some of the more computationally intensive algorithms in OpenRefine, which could detect additional inconsistencies, proved impractical as they ran for over 12 hours without completing.

With the dataset cleaned and ready, I now turn to analyzing the results of this study.

Chapter 4: Analysis

Assumptions and Biases

Clarity requires that I begin this analysis by stating the assumptions that have shaped its direction. My research is influenced by certain ideas—or to put it more candidly, biases—that shape both my understanding of the scholarly landscape in CIE and my belief that cartographic approaches, their inarguable limitations notwithstanding, can still provide valuable insights into the intellectual structure of our field.

These biases are not just academic abstractions; they have, tangibly, shaped my research choices from the earliest stages. One of my many key assumptions, for example, is that citations can indeed serve as reliable indicators of academic relevance. Here, I assume that when a work is cited, it reflects a connection or relationship between scholars, whether through support or further development of ideas. These connections, I believe, provide insight into how scholarly works are linked within the academic network, thus helping one to trace different streams of themes that tend to mark a field over time. I also acknowledge, however, that citations do not always reflect agreement; they might also indicate diametrically opposed critique or point to issues of method, which adds complexity to the task of interpreting these scholarly connections.

Furthermore, and perhaps more contentiously, my research rests on the belief that analyzing the output of two English-speaking academic journals rooted in Western traditions can yield meaningful insights into trends within a global field, even though rather persuasive counterarguments to this premise do exist. By focusing on CER and CE, both well-established and highly regarded publications within Western academic paradigms, I made an implicit assumption that these publications can, to a reasonably acceptable extent, serve as proxies for understanding the broader dynamics of CIE. Yet it must be reiterated that such an assumption, practical though it is for the purposes of this analysis, necessarily falls short of capturing the *full* spectrum of perspectives that exist across widely different cultural, linguistic, and socioeconomic contexts (see “Object of Analysis” above for a discussion of these limitations).

In conclusion, and in view of these and other instances of biases not explicitly mentioned here, while this study seeks to identify and interpret key thematic trends within the CIE field, it admittedly remains only a partial overview of the global CIE landscape. Nevertheless, I remain convinced that it has the potential to contribute, however modestly, to advancing our understanding of the field.

The Map

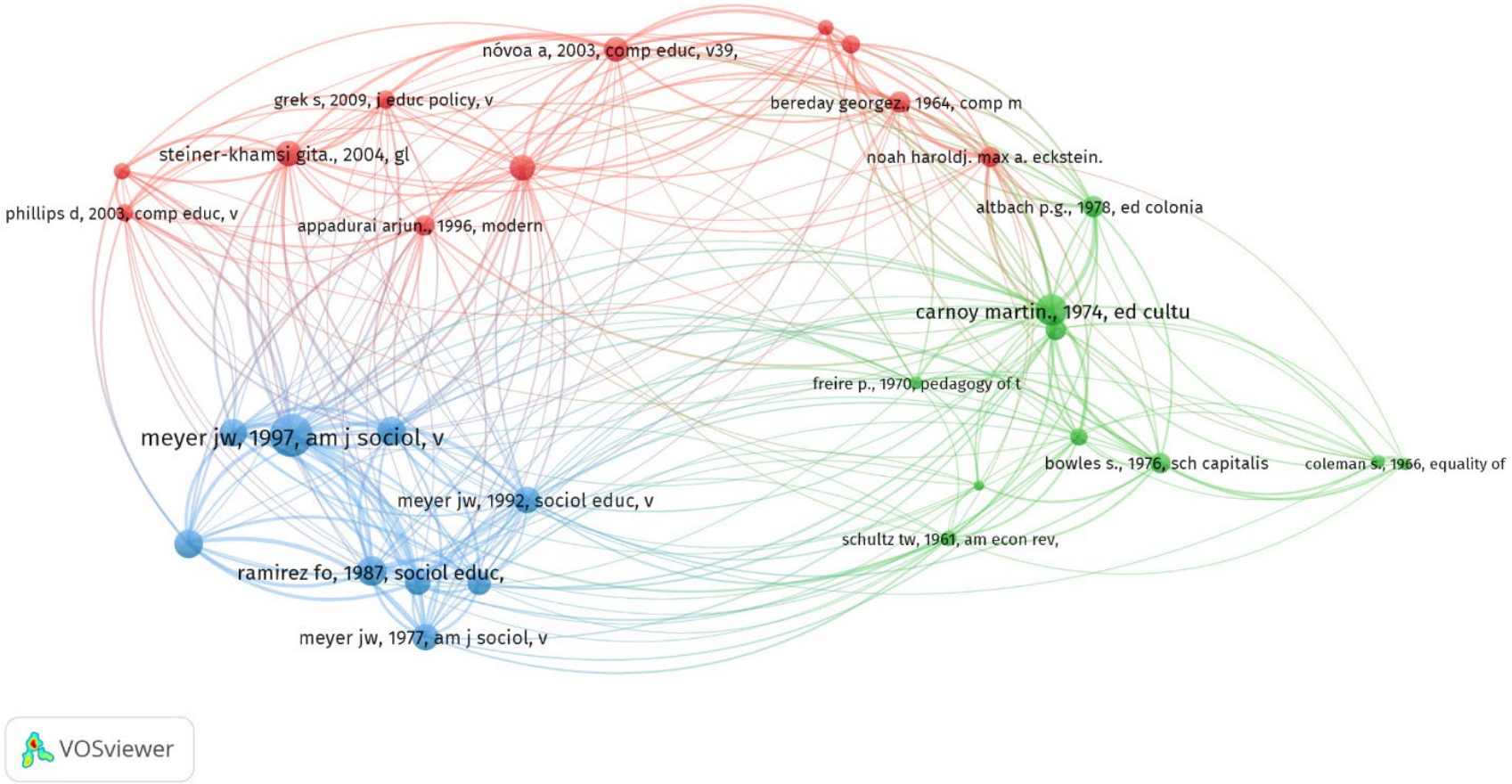
Bibliometric cartography is an extraordinarily powerful instrument that allows one to unveil and interpret patterns of intellectual influence and scholarly dialogue that, more often than not, are obscured by the sheer volume of academic output. Consider the scope of this project: even as a relatively conservative science mapping endeavor (due, in no small measure, to technical limitations imposed by data cleaning, as explained in detail in the Method chapter), it encompasses over 2,800 articles from CER and CE, generating more than 100,000 instances of citation.[9] Given the magnitude of the analytical undertaking, the web of relationships and connections among scholars and their scholarship is so vast and interconnected that untangling it often necessitates the use of visual tools such as bibliometric maps to effectively capture and convey the complex dynamics at play.

On the flip side, once parameters are established and maps are generated, the analysis becomes an exercise in hermeneutics, akin to so many other approaches; at its core, it simply involves reading maps and trying to make sense of them. With that said, it is important to bear in mind that any visualization of a map represents just one of many possible configurations, each of which is shaped by a set of (biased) choices made during data selection and parameter setting. Factors such as distinct citation thresholds and types of documents included, for example, can all lead to different representations of the same scholarly landscape.

[9] Not to be confused with the actual number of cited papers. Each citation represents a reference to a work, and any given work can be cited multiple times across different articles that appeared either in CER or CE. For this reason, while the total citation count reflects the number of references made, the count of *unique* cited papers, by definition, is smaller, representing only the distinct works cited.

Figure 5 below presents our map:

Figure 5: *VOSviewer full network visualization of works co-cited in CER and CE articles (1957–2023) with a minimum of 25 citations per work, nodes weighted by total link strength*



Our map features a document co-citation network. In this case, “document” (or “reference” as referred to by VOSviewer) is the chosen unit of analysis, as opposed to alternatives such as sources or authors. Similar to those found in Social Network Analysis, it consists of two key elements: nodes and links. Each node, represented by a dot on the map, symbolizes a cited document—be it a book, article, report, or other scholarly contribution—that meets the threshold for inclusion of at least 25 citations in either CER or CE and the consistency of its citation records as processed by VOSviewer.

Links, the lines connecting these nodes, represent co-citation relationships. This means that two works are cited together in the reference lists of other works and should not be confused with two authors citing each other. In other words, when two documents appear together in the reference lists of other works (specifically, in reference lists of articles published in CER or CE), a link forms between them. The strength of this link, visually represented by its thickness, indicates the frequency of these co-citations, essentially offering a measure of the perceived intellectual proximity between works. The size of each node matters; in our map, they are weighted by total link strength, meaning that the size of each node reflects the aggregate strength of all the links connected to that node.

Critically, the colored areas on the map represent clusters—groups of documents algorithmically determined (for more details, see the Method chapter) that, based on their co-citation patterns, are more closely related to each other than to documents in other clusters. These clusters, I believe, offer invaluable insights into the thematic and theoretical substructures of our field. Ultimately, it is the interpretation of these clusters and their underlying patterns that lies at the heart of this dissertation.

In this study, as seen in Figure 5 above, three distinct clusters have emerged, each corresponding to a different theme within CIE. Unlike programs such as CiteSpace, which feature automatic cluster labeling and summarization functions (for more information, see Chen, Ibekwe-SanJuan, & Hou, 2010), VOSviewer offers no such capabilities. This choice was

deliberate and reflects my intention to retain full hermeneutical control throughout the so-called "sense-making process," ensuring that the interpretation of the patterns within our visualized network remained at all times firmly grounded in my own understanding of the field.

Having successfully generated our bibliometric map, we can now shift our focus to the individual clusters; by examining them individually, we can learn more about the relationships between some of the seminal works that CIE scholars have consistently drawn upon over the decades.

Classic Debates in Comparative Education: Globalization, Policy Borrowing, and Methodologies

Our first cluster, depicted in the close-up in Figure 6, encompasses a collection of works that engage with key debates central to CIE. A complete list of the works within this cluster is provided in Table 2.

Figure 6: *VOSviewer zoomed-in visualization of Cluster 1*

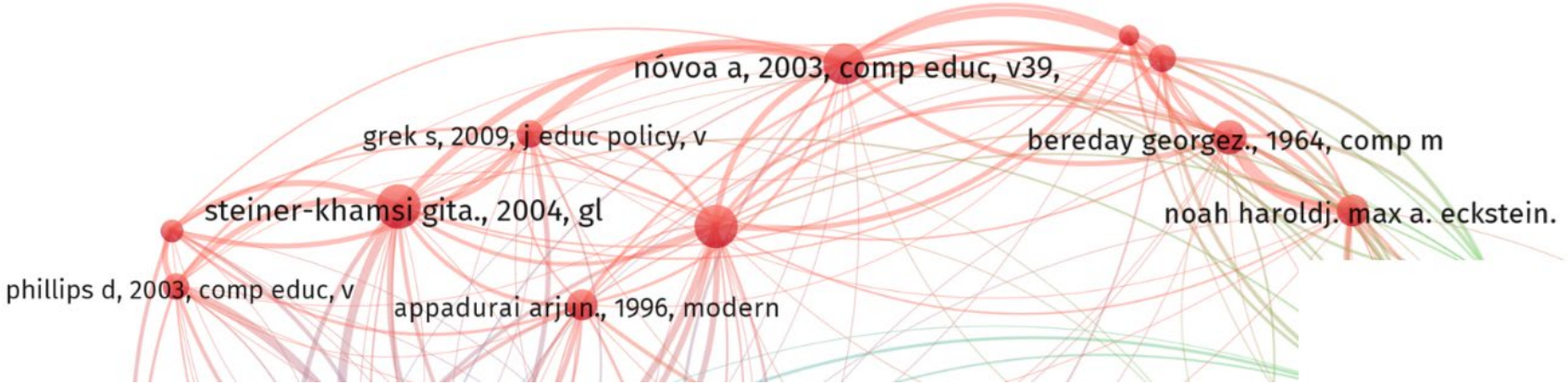


Table 2: *List of items in Cluster 1*

Authors	Year	Title	CIT	TLS
Steiner-Khamsi, G.	2004	*The global politics of educational borrowing and lending*.	30	73
Carney, S., Rappleye, J., & Silova, I.	2006	Between faith and science: World culture theory and comparative education.	29	71
Nóvoa, A., & Yariv-Mashal, T.	2003	Comparative research in education: A mode of governance or a historical journey?	39	68
Bereday, G. Z. F.	1964	*Comparative method in education*.	25	56
Noah, H. J., & Eckstein, M. A.	1969	*Toward a science of comparative education*.	31	53
Appadurai, A.	1996	*Modernity at large: Cultural dimensions of globalization*.	32	52
Cowen, R.	2000	Comparing futures or comparing pasts?	28	46
Grek, S.	2009	Governing by numbers: The PISA 'effect' in Europe.	32	46
Phillips, D., & Ochs, K.	2003	Processes of policy borrowing in education: Some explanatory and analytical devices.	27	43
Rizvi, F., & Lingard, B.	2009	*Globalizing education policy*.	25	38
Takayama, K., Sriprakash, A., & Connell, R.	2017	Toward a postcolonial comparative and international education.	36	35
			334	**581**

Note. CIT stands for citations; TLS stands for total link strength.

This cluster, which I titled "Classic Debates in Comparative Education: Globalization, Policy Borrowing, and Methodologies" (hereafter simply referred to as the "Classic Debates" cluster, for simplicity), is particularly well-suited to initiate our network analysis. At its core, comparative education is about the simple yet powerful idea of learning from other education systems, and few concepts embody this more clearly than those of globalization and policy borrowing.

I see three closely interrelated themes emerging organically from this cluster: the impact of globalization on education; the mechanisms of and critiques to policy borrowing and transfer; and the evolution of methodological approaches in CIE. Together, these themes reveal how global dynamics, policy exchanges, and methodological evolutions (and revolutions) converge to shape educational practices. In my interpretation, this cluster therefore epitomizes the very essence of CIE.

Despite these themes' centrality to the field, the cluster's bibliometrics also reveal an interesting if surprising degree of dispersion. With an aggregate total link strength of 581—ranking it second among the three clusters—this cluster might be expected to have a stronger internal cohesion. Yet only two of its works appear among the network's top ten total link strength scores (occupying the 9th and 10th positions). To better grasp this dispersion, we can turn to Figure 5 above, which provides a comprehensive view of the entire network. Here, the Classic Debates cluster is represented by red nodes and links. Examining their distribution in relation to other clusters, we observe that they are more widely spread, with noticeable gaps between key works—a pattern that the zoomed-in Figure 6 underscores even more sharply.

To be sure, not all works can be neatly categorized under the three themes outlined above—and nor should they be. Some may, for instance, fit more easily under "the impact of globalization" or "policy transfer," though others address both themes to a similar degree. Bearing this in mind, I have opted for a more flexible hermeneutical approach, in order to avoid overly-rigid categorizations that could lead to obscuring complexity and deflect our focus.

Starting with Arjun Appadurai's *Modernity at Large: Cultural Dimensions of Globalization* (1996), we have a work that, to great effect, makes use of concepts such as "ethnoscapes," "mediascapes," and "deterritorialization" to analyze the fluid and shifting interplay of cultural flows and migration. These concepts hold particular significance because they push back against rigid models of cultural exchange, providing an alternative view of how globalization refashions cultural practices.

Appadurai focuses, particularly, on the roles of media and migration in reshaping modern subjectivities, and emphasizes how these forces, through their interconnectedness, transform personal and collective identities alike. Notably, his theory of "the work of the imagination" proposes that modern individuals and communities participate in global cultural processes, using media to imagine and reimagine identities across local and global contexts. Although *Modernity at Large* is not centered on education, Appadurai's framework carries

important implications for CIE inquiry, as it provides a means of examining how educational policies are not only transferred across borders but also reinterpreted and reshaped as they intersect with local cultural contexts.

Shifting our focus to the political economy of globalization, Rizvi and Lingard's *Globalizing Education Policy* (2009) examines how transnational governance structures reshape national and local educational processes, often driven by the influence of the neoliberal paradigm on education policy worldwide. This paradigm, as they argue, frequently leads to educational reforms—often promoted by international organizations like the OECD and the World Bank—that emphasize accountability, competition, and market-driven policies, while gradually undermining local needs and cultural values by prioritizing economic imperatives over educational equity.

In their critical examination of these global forces, Rizvi and Lingard notably suggest that much of the debate revolves around the tensions between the push for standardization and the desire to maintain the autonomy of local education systems, a predicament which in practice impose a major hurdle for education reform. Even though the authors acknowledge some degree of resistance to the neoliberal push, they concurrently note how these governance models have nonetheless become hegemonic, thus ultimately framing education as a tool for economic productivity rather than as a public good.

If Appadurai provides a cultural perspective on globalization and Rizvi and Lingard address its political economy, Sotiria Grek (2009) sheds light on a more interconnected world through the analysis of how governance in education is increasingly shaped by data. In "Governing by Numbers: The PISA 'Effect' in Europe", she examines how OECD's Programme for International Student Assessment (PISA) has become a central factor in education policy within Europe.

PISA, Grek demonstrates, standardizes data-driven assessments that align national education policies with global benchmarks, thereby gradually pressuring countries to adapt their

systems to international standards over local priorities—specifically, she studies how Finland, Germany, and the UK responded to PISA's influence by adopting reforms that align their education policies with global standards. Ultimately, Grek positions PISA as a key factor in the creation of a broader "European education space," where alignment with global standards, framed through measurable outcomes, increasingly challenges local educational priorities and values.

Having seen how the data reveals a consistent concern with various aspects of globalization and its far-reaching consequences for education, I now turn to a subject that seems to be frequently discussed in tandem with it: policy borrowing and transfer. In this context, Gita Steiner-Khamsi's (2004) edited volume, *The Global Politics of Educational Borrowing and Lending*, is a key point of reference, where contributors examine the political, economic, and social dimensions of policy borrowing, emphasizing that such transfers are rarely straightforward replications of successful models but are instead often strategically adapted to serve local needs and agendas.

Regarding the challenge of navigating the tensions between global trends and domestic agendas, the case studies explored in the volume demonstrate that borrowed policies are not only evaluated for their technical merit but are also strategically deployed to legitimize local reforms. Importantly, the volume further suggests that the integration of borrowed policies is complicated by the fact that these are not inherently technical, and often become contested sites of negotiation, where global norms and local priorities clash, yielding reforms shaped by both external pressures and internal power struggles.

In "Processes of Policy Borrowing in Education: Some Explanatory and Analytical Devices" (2003), David Phillips and Kimberly Ochs propose a four-stage framework to explain how educational policies are borrowed and adapted: cross-national attraction, decision, implementation, and internalization/indigenization. Indeed, they argue that borrowing is rarely a matter of simple replication but is instead a complex, context-dependent process—a view that

finds support in the analyses of Steiner-Khamsi's volume. Borrowing, the authors explain, is driven by impulses such as dissatisfaction with local education systems or external pressures like international assessments, often prompting policymakers to seek foreign solutions.

However, policies are not implemented wholesale; instead, they are significantly recontextualized during the implementation phase, reshaped to fit the borrowing country's specific political, cultural, and economic realities. Crucially, Phillips and Ochs emphasize that policies are "indigenized" to become part of the local educational framework, representing a precarious yet continuous balancing act between global influences and local priorities, and ultimately resulting in reforms that are often significantly far removed from their original form.

The data shows yet another important aspect of the CIE community's shared concern with globalization and policy borrowing: it goes beyond the increasingly easy access to, and adoption of, diverse educational practices across borders; it also encompasses reflecting on the very implications of these processes. This reflection is precisely where methodological considerations come into play.

I see the presence of works by Bereday, Noah & Eckstein, and Cowen within this cluster as an indication of a sustained engagement with the ways in which we try to make sense of the deeper implications of these exchanges. In the context of this analysis, even though some of these works stem from earlier periods, their significance, I believe, lies in their ability to spark further reflection (whether in agreement or critique), even more so than the specific methodologies they propose for systematically comparing educational systems.

Bereday's 1964 *Comparative Method in Education* remains a landmark text, establishing, as it did, a systematic framework for comparison. As discussed in the Literature Review, his "four steps" (description, interpretation, juxtaposition, and comparison) serve as a foundational model that has shaped much of the field's analytical practices, providing a mechanism to methodically dissect educational systems across national boundaries and serving as an essential point of reference for future inquiries.

Noah and Eckstein's *Toward a Science of Comparative Education* (1969), in the pursuit of what the authors deemed more rigorous and standardized comparisons, made the case for a more scientific and empirical orientation, promoting the use of quantitative methods, data collection, and hypothesis testing. They sought, in essence, to elevate the status of the field by advocating for a more systematic and data-driven approach, emphasizing the importance of cross-national comparisons grounded in verifiable evidence. This, the authors believed, would enable the field to identify universal principles and, ultimately, achieve a level of predictive power comparable to other social sciences.

Presenting a parallel yet contrasting perspective, Cowen's "Comparing Futures or Comparing Pasts?" (2000) later offered a reflective departure from these earlier methodologies, arguing that CIE, rather than focusing on policy borrowing or straightforward comparisons of systems, should critically examine the historical and contextual forces—often overlooked in the pursuit of generalized models—that shape educational change, emphasizing "moments of educational metamorphosis" over linear development. By challenging assumptions of transference and universality, inherent in many comparative approaches, Cowen's work brings into sharper focus the complexities inherent in understanding global education systems.

In closing, not every entry in the Classic Debates cluster aligns neatly with the primary themes of globalization, policy borrowing, and methodologies. Carney, Rappleye, and Silova (2006), Nóvoa and Yariv-Mashal (2003), and Takayama, Sriprakash, and Connell (2017), relevant though they are to the broader CIE discourse, do not engage *directly* with what I identified as the thematic core of this cluster.

For this reason, it bears mentioning that, when such works are categorized too rigidly, there is a risk of misrepresenting their unique contributions and creating artificial thematic coherence; furthermore, in this particular study, the relatively small dataset size likely amplifies this effect, since distinctions between themes tend to become less pronounced when working with limited data. For the purposes of this analysis, therefore, these works are better understood

as “associated works” that complement the cluster’s thematic core, offering additional perspectives without necessarily fitting within its central focus. The following cluster, as we will examine, illustrates this phenomenon even more clearly.

Education as an Instrument of Social Reproduction and Domination

The second cluster, shown in the close-up in Figure 7, comprises seminal works that, from different angles, critically examine how education systems can perpetuate social hierarchies and reinforce economic inequalities. A full list of the items within this cluster is provided in Table 3.

Figure 7: *VOSviewer zoomed-in visualization of Cluster 2*

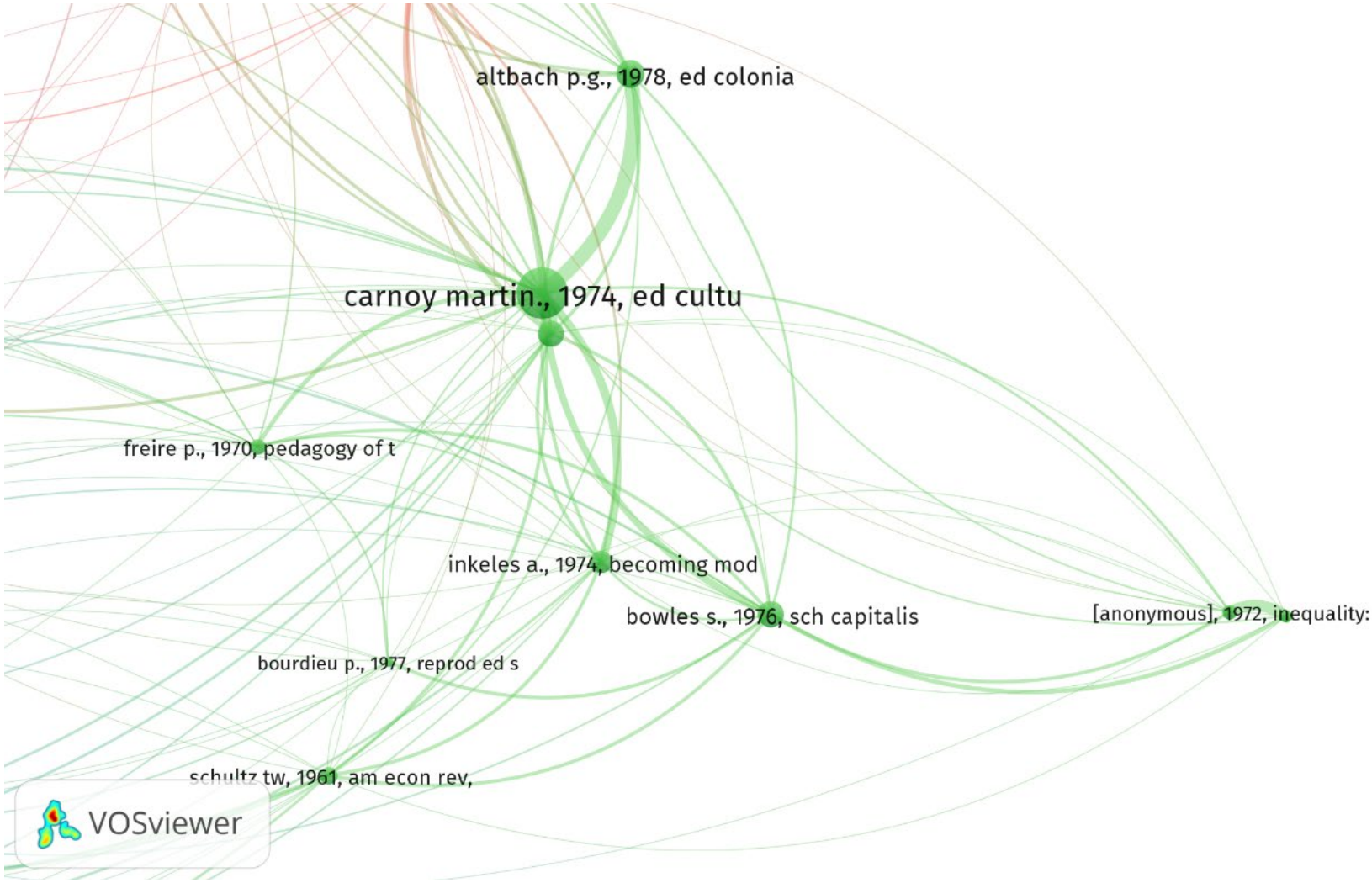


Table 3: *List of items in Cluster 2*

Authors	Year	Title	CIT	TLS
Carnoy, M.	1974	*Education as cultural imperialism.*	58	99
Altbach, P. G., & Kelly, G. P.	1978	*Education and colonialism.*	26	55
Archer, M. S.	1979	*Social origins of educational systems.*	26	51
Bowles, S., & Gintis, H.	1976	*Schooling in capitalist America: Educational reform and the contradictions of economic life.*	42	51
Inkeles, A., & Smith, D. H.	1974	*Becoming modern: Individual change in six developing countries.*	27	43
Schultz, T. W.	1961	Investment in human capital.	26	34
Freire, P.	1970	*Pedagogy of the oppressed*	78	30
Jencks, C. et al.	1972	*Inequality: A reassessment of the effect of family and schooling in America.*	30	28
Coleman, J. S. et al.	1966	*Equality of educational opportunity.*	44	25
Bourdieu, P., & Passeron, J.-C.	1977	*Reproduction in education, society and culture.*	34	19
			391	**435**

Note. CIT stands for citations; TLS stands for total link strength.

This cluster, which I titled "Education as an Instrument of Social Reproduction and Domination" (hereafter referred to as the "Reproduction" cluster), is a cohesive assembly of important works that investigate how education contributes to the maintenance of social inequalities and the power structures that create them. These works challenge the conventional perception of education as an inherently benevolent force, thoroughly explaining how educational systems often function to reinforce existing hierarchies, both within nations and on a global scale.

Somewhat unexpectedly, this cluster has the highest total number of citations (391), despite having the smallest aggregate total link strength among the three clusters (435). Just as noteworthy, four out of the five most cited works in the entire network belong to this cluster. This relative dispersion in link strength is understandable, given that, although its comprising parts share a common focus on reproduction, they approach it in rather different ways, reflecting diverse methodologies and theoretical perspectives. The high citation counts suggest that these works have had a significantly profound and wide-reaching impact on CIE,

influencing a broad spectrum of scholarship even beyond the immediate thematic confines of the cluster.

Unlike the Classic Debates cluster, whose contours are determined by the interplay of three main themes that are captured by the majority of the cluster's works, the Reproduction cluster distinguishes itself by featuring two rather distinct groups. On one side, we have what I call "thematic drivers"—works that directly and substantively address the theme of education as a means of social reproduction and domination, forming the core of this theoretical perspective. On the other side, we have works that, while incidentally touching on some elements that mark reproduction-related discussions, cannot be subsumed under the "Reproduction" classification.

These latter works, it appears, have been consistently cited alongside the thematic drivers due to the latter's collectively perceived importance, which, in practical terms, positions them as essential points of departure within the CIE community. Just like the works mentioned in the Classic Debate's discussion above, I refer to them here as "associated works." Although this section focuses on the thematic drivers, the associated works should not be disregarded, deemed noise, or considered inconsequential for the map. Quite the contrary, these works underscore the relevance of the theme in general and of each of its drivers in particular, to the extent that these drivers have become "obligatory" references even in works that do not explicitly revolve around the theme of reproduction.

This section, therefore, centers on five works that dissect how educational institutions, policies, and practices contribute—whether by design or not—to maintaining economic disparities, cultural dominance, and political control. Fundamentally, they challenge us to reconsider deep-seated assumptions about the very purpose of the educational enterprise, consequently prompting deeper reflection on how certain educational practices can perpetuate broader patterns of domination and inequality.

At the forefront of this cluster is Martin Carnoy's *Education as Cultural Imperialism* (1974), whose total link strength score of 99 stands as the second largest in the entire network

and by far the highest within the Reproduction cluster (the next highest being 55), underscoring its significant influence and centrality in the discourse on education and social reproduction. Carnoy critically examines the often-neglected influence of education as an instrument of cultural domination, disputing the purportedly impartial role of educational systems and examining how they serve to reinforce the cultural dominance of ruling classes and nations. The book methodically investigates the coordination of education with capitalist imperatives, wherein curricula and pedagogical approaches are designed to accommodate the requirements of a labor market structured to maintain the economic hegemony of elites.

Carnoy draws on dependency theory to explain how the educational systems of developing nations are molded by outside influences—particularly former colonial rulers and global institutions—which serve to sustain systemic dependence and erode cultural identity. His conclusion is unequivocal: in order to realize its liberating promise, education must liberate itself from the forces of cultural imperialism. Carnoy champions locally situated systems that uplift marginalized communities and mirror indigenous ways of thinking and learning. To this day, his work endures as an indispensable critique of education's implication in systemic inequity, exhorting the international community to reimagine education as an instrument for authentic equality and progress.

Philip Altbach and Gail Kelly's *Education and Colonialism* (1978) extends the discussion by examining the role of education in both colonial and post-colonial contexts. The symposium details how education became a vital mechanism for cultural domination and economic subjugation, as colonial schools—similarly to other hegemonic institutions—frequently marginalized indigenous languages, histories, and traditions, thus having them replaced with the languages, values, and technical training that were necessary to preserve colonial rule. This kind of alienation, the authors explain, didn't just fracture students' connections to their communities; it also ensured long-term dependence on colonial structures, further entrenching external control.

Central to *Education and Colonialism* is the dualism inherent in colonial schooling systems, which perpetuates inequality by creating distinct pathways for the colonized: if on the one hand colonizers educated themselves for leadership, on the other hand colonized populations were prepared for subordinate roles, reinforcing their position within social boundaries they simply cannot hope to overcome. To underscore the enduring consequences of the paradigm, the authors trace these dynamics into the post-colonial era, where education systems shaped by colonial legacies continue to enable industrialized nations to exert influence over newly independent states. For Altbach and Kelly, dismantling these structures requires the development of culturally relevant curricula and a genuine commitment to restoring indigenous knowledge.

Paulo Freire's groundbreaking *Pedagogy of the Oppressed* (1970) critically examines how traditional education systems help maintain oppression while championing a radical change in teaching practices. It is noteworthy that its very high number of citations—78, the highest in the entire network—was not accompanied by an equally high total link score (Freire's was 30; Carnoy's, as seen above, was 99). This pattern suggests that *Pedagogy of the Oppressed* serves as a foundational cornerstone informing a much broader spectrum of scholarship—indeed, it is the third most cited book in the social sciences—rather than being confined within tightly interconnected groups of texts.

Fundamentally, Freire sees education as a political act connected to the fight for freedom. He criticizes the so-called "banking" model, where teachers transmit knowledge to passive students, limiting critical thought and thus reinforcing power structures. Alternatively, he advances a "problem-posing" approach, whereby teachers and students work together through dialogue to build knowledge and develop critical consciousness. At the heart of his pedagogy is the idea that liberation comes through praxis—a combination of reflection and action—which enables people to identify and change oppressive realities. Freire's work emphasizes action and goal orientation; for him, transforming education into a process based on

dialogue and participation is key to dismantling systems of control and enabling collective empowerment. His focus on dialogue, critical inquiry, and praxis continues to shape efforts to decolonize education and promote social justice globally, solidifying its status as a classic that has shaped the conversation on education and social change for over fifty years.

Extending the Reproduction cluster's exploration of the role of education in maintaining social inequalities, Samuel Bowles and Herbert Gintis's *Schooling in Capitalist America* (1976) focuses, specifically, on how the American educational system is able to perpetuate existing class structures. Whereas Freire emphasizes transformative pedagogy to combat oppression, Bowles and Gintis probe the structural mechanisms that challenge the notion of schooling as a meritocratic pathway to social mobility. Their so-called "correspondence principle" proposes that social relations within the school mirror, rather precisely, those of the capitalist workplace. Educational institutions, the argument goes, instill values such as obedience, competition, and acceptance of hierarchy, effectively conditioning students for predetermined roles in the labor market. Ultimately, curriculum and organizational patterns align with capitalist production needs, producing a skilled workforce that, dutifully, sustains the economic status quo.

Concluding that education thus functions as a mechanism of social control under the guise of equal opportunity, Bowles and Gintis's work echoes Carnoy's critique of education's alignment with capitalist imperatives. By demonstrating how schooling reinforces economic disparities, *Schooling in Capitalist America* urges a fundamental reevaluation of educational aims, advocating for a system that challenges oppressive social relations rather than perpetuating them.

Finally, in *Reproduction in Education, Society and Culture* (1977), sociologists Pierre Bourdieu and Jean-Claude Passeron undertake a dense and conceptually challenging examination of the hidden ways educational systems contribute to the perpetuation of social inequalities. Similarly to many of the previously analyzed works, they make the fundamental case that schools are not neutral institutions. Here, however, the authors contribute the

compelling notion of what they refer to as instruments of "symbolic violence"—the subtle and often unnoticed imposition of the dominant social class's cultural values and norms onto all students, presented as if they were objective and legitimate. Schools, through the authority vested in teachers and the education system, engage in what Bourdieu and Passeron call "pedagogic action"—the process of transmitting specific cultural knowledge, dispositions, and behaviors that favor the interests of the ruling class.

This cultural agenda is presented as universal and meritocratic rather than arbitrary and rooted in power relations. Consequently, students from less privileged backgrounds come to accept and internalize the criteria by which they are judged, even though these standards disadvantage them. The authors also borrow the Aristotelian notion of "habitus," framing it as system of ingrained dispositions shaped by an individual's social environment that enables dominant cultural values to persist beyond the educational setting—thus explaining how social inequalities remain entrenched across generations.

Just as the Classic Debates cluster included "associated works" that complemented its main themes without aligning perfectly with any single conceptual thread, the Reproduction cluster also features texts that, while consistently cited alongside its core drivers, do not fit neatly into its theoretical framework. One instructive example is James Coleman et al.'s *Equality of Educational Opportunity* (1966), commonly known as the "Coleman Report."

Commissioned in the wake of *Brown v. Board of Education*, the Coleman Report revealed that family background and peer composition mattered more than school resources in explaining educational outcomes. Although these findings implicitly support the cluster's core insight that educational systems often mirror broader social inequalities, Coleman's approach does not ascribe these inequities to purposeful domination or cultural imposition. Instead, it provides an empirical, descriptive account that offers a more muted, less ideologically charged perspective on the persistence of inequality. By including works like the Coleman Report, this cluster's citation patterns reaffirm the wide-ranging influence of its thematic drivers,

underscoring that the complex interplay between education and social structures resonates even in research not directly predicated on theories of reproduction and domination.

From Neo-Institutionalism to World Culture Theory: Collaborative Scholarship in Theoretical Development

Our third and last cluster, depicted in the close-up in Figure 8, encompasses a collection of works that investigate how global forces shape and influence educational systems. A complete list of the works within this cluster is provided in Table 4.

Figure 8: *VOSviewer zoomed-in visualization of Cluster 3*

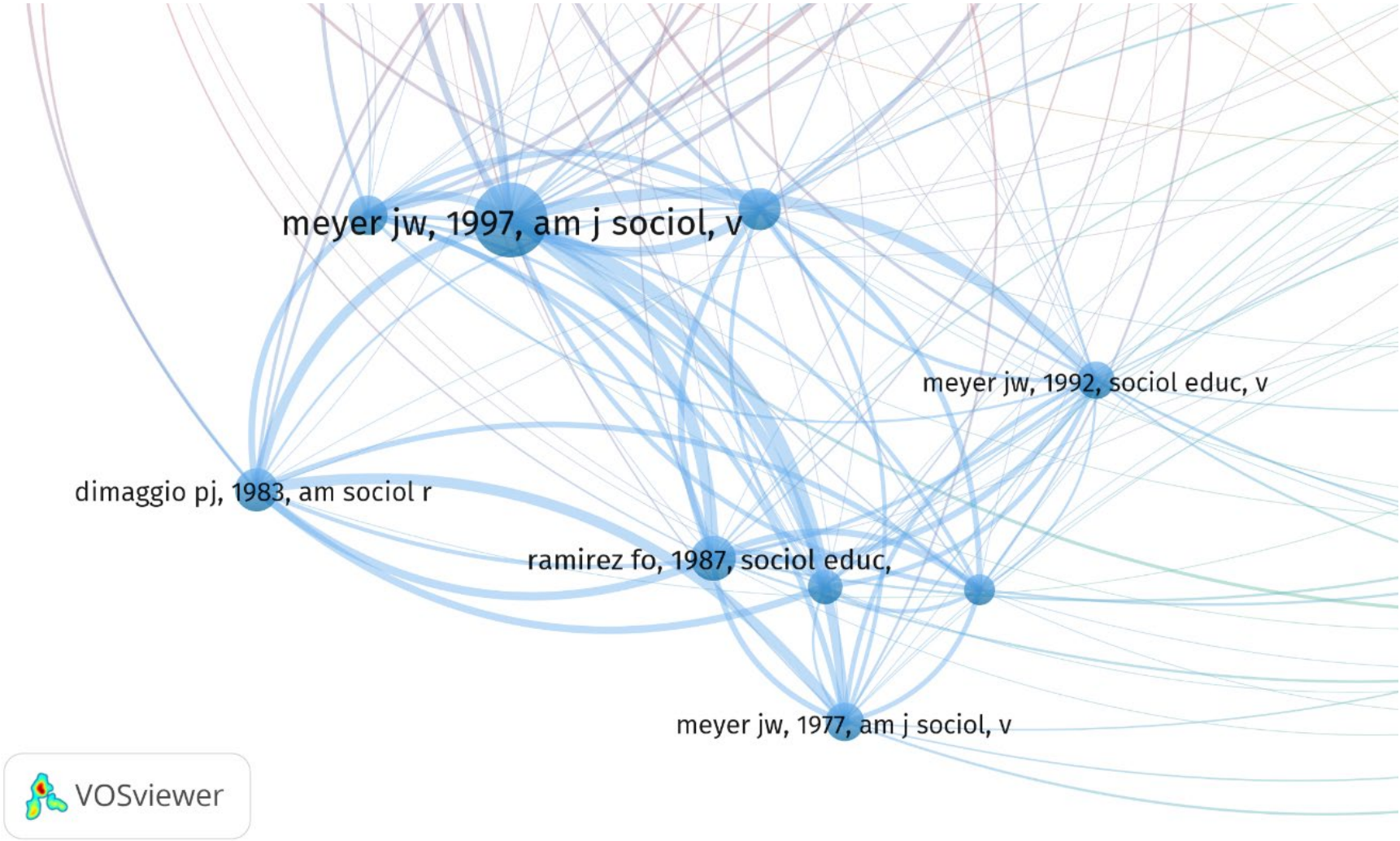


Table 4: *List of items in Cluster 3*

Authors	Year	Title	CIT	TLS
Meyer, J. W., Boli, J., Thomas, G. M., & Ramirez, F. O.	1997	World society and the nation-state.	63	150
Ramirez, F. O., & Boli, J.	1987	The political construction of mass schooling: European origins and worldwide institutionalization.	33	90
DiMaggio, P. J., & Powell, W. W.	1983	The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields.	28	86
Baker, D. P., & LeTendre, G. K.	2005	*National differences, global similarities: World culture and the future of schooling*.	31	85
Anderson-Levitt, K. M.	2003	*Local meanings, global schooling: Anthropology and world culture theory*.	36	80
Meyer, J. W., & Rowan, B.	1977	Institutionalized organizations: Formal structure as myth and ceremony.	30	77
Meyer, J. W., Ramirez, F. O., & Soysal, Y. N.	1992	World expansion of mass education, 1870-1980.	27	75
Schofer, E., & Meyer, J. W.	2005	The worldwide expansion of higher education in the twentieth century.	26	70
Boli, J., Ramirez, F. O., & Meyer, J. W.	1985	Explaining the origins and expansion of mass education.	26	63
			300	**776**

Note. CIT stands for citations; TLS stands for total link strength.

This cluster, which I titled "From Neo-Institutionalism to World Culture Theory: Collaborative Scholarship and Theoretical Evolution" (hereafter simply referred to as the "World Culture Theory" cluster) brings together a strikingly cohesive lineup of works that, together, document, reflect on, and indeed drive the development of neo-institutionalist ideas and their eventual expansion into world culture theory.

Authored predominantly by John Meyer, Francisco Ramirez, and their collaborators, these works examine the various mechanisms through which both nation-states and organizations adopt similar educational structures in response to what I refer to loosely here as global cultural "norms." The World Culture Theory cluster, in summary, investigates concepts such as institutional isomorphism and legitimacy, as well as the diffusion of world models, offering insights into how educational policies and systems come to converge under shared rationales and values, creating a theoretical foundation that remains central to CIE inquiry.

A closer look at this cluster's bibliometric properties reveals a fascinating dynamic. With an aggregate total link strength of 776, it decisively outpaces the Classic Debates cluster's 581 and the Reproduction cluster's 435, suggesting a high degree of interconnectedness among its constituent works. This tight-knit quality is visually evident in the close proximity of its nodes in the full map depiction (Figure 5), where the blue nodes representing the World Culture Theory cluster form a dense, closely clustered constellation that underscores the synergy among these interconnected works. Intriguingly, and somewhat paradoxically, this cluster has the smallest total number of citations at 300 (compared to 334 for the Classic Debates cluster and 391 for the Reproduction cluster); this apparent paradox invites further reflection on the multilayered nature of the relationships within and between these clusters.

One (partial) explanation for this tight-knit structure may lie in the distinctive collaborative patterns that define the cluster. While the first two clusters seem to have coalesced around shared themes across a varied group of scholars, the closeness here appears to result from repeated collaborations among a small circle of authors, whose works often cite one another. This pattern yields a tightly woven citation network that, by its very nature, may not extend as broadly into the larger CIE community. Notably, seven out of the nine highest total link strength scores found by VOSviewer belong to this cluster (represented by the cluster's nodes' size in the maps), emphasizing its centrality and interconnectedness within the network—Meyer et al. (1997), which carries the network's highest total link score of 150, stands out as a particularly influential work, at least within the confines of this particular network.

"Institutionalized Organizations: Formal Structure as Myth and Ceremony" (1977), by Meyer and Rowan, is one of the earliest works in this cluster, its lasting bibliometric impact being a testament to its significance. At heart, it argues that many formal organizational structures are not the product of demands for operational efficiency, as might traditionally be assumed, but result, instead, from adherence to so-called "myths" that lend legitimacy to them. These "myths," the authors explain, are widely accepted beliefs about what makes an

organization seem rational and efficient; as such, they often drive organizations to prioritize the appearance of legitimacy over practical functionality.

To achieve this, organizations frequently engage in a process Meyer and Rowan term "decoupling." In other words, organizations pursue isomorphism—conformity with societal expectations—in their formal structures but at the same time allow for flexibility and even deviation from those very expectations in their actual practices. This process, the argument goes, consists of the deliberate creation of gaps between the formal structures and procedures of an organization and the actual work activities that occur within it. This decoupling ultimately allows them to project an image of legitimacy and rationality (thus securing support and resources) while adapting to internal and external pressures for efficiency.

"The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields" (1983), by DiMaggio and Powell, advances Meyer and Rowan's concepts by examining their implications within broader organizational fields, most notably by providing a detailed examination of the process through which organizations within a given field come to resemble one another—a process the authors term "institutional isomorphism." Here, the authors propose that as time elapses and organizational fields mature, they go through increasing homogenization, with organizations adopting similar structures and practices, sometimes at the expense of operational efficiency.

Importantly, the authors identify three distinct types of isomorphism that contribute to this outcome: coercive isomorphism, stemming from legal and social pressures; mimetic isomorphism, in which organizations, when faced with unclear situations or problems with unknown solutions, copy the practices of other organizations that seem to be successful; and normative isomorphism, which arises from the influence of professional standards and networks.

Expanding upon neo-institutionalist ideas, this isomorphism-based framework highlights how external influences, often stemming from the state and the professions, shape

organizational conformity—reinforcing Meyer and Rowan's earlier observations on the role of formal structures as legitimating symbols. The work thus sets the stage for world culture theory's application to global educational systems, where, the authors suggest, similar forces can be seen at play, encouraging isomorphic tendencies across national borders.

Boli, Ramirez, and Meyer's "Explaining the Origins and Expansion of Mass Education" (1985) builds upon these foundational ideas and challenge prevailing theories that link the rise of mass education to processes like social differentiation, industrialization, or the interests of dominant groups. They propose, instead, that mass education is in fact a product of the rationalization of society and the modern emphasis on the individual as a central social actor.

The authors maintain that mass education is rooted in the drive to shape individuals who are integrated into larger units—the "rationalized" society and state—through universalistic and standardized schooling. In doing so, they note that this educational expansion reflects efforts to socialize individuals to fit a rational, progress-oriented model of society.

In "The Political Construction of Mass Schooling: European Origins and Worldwide Institutionalization" (1987), Ramirez and Boli proceed to a historical analysis of the development and global spread of mass schooling, a phenomenon they frame as a legitimizing strategy that emerged not only in response to industrial or social demands within individual countries, but also, and especially, as a response to competitive pressures within the European interstate system.

Fundamentally, the authors argue that the political, cultural, and economic developments in Europe collectively fostered a model of a legitimate national society wherein mass schooling became an essential component for promoting social cohesion, individual loyalty, and civic participation. Mass schooling, integrated into state functions, provided nations with a powerful way to claim, as Ramirez and Boli argue, both modernity and legitimacy in an increasingly interconnected world.

In “World Expansion of Mass Education, 1870-1980” (1992), Meyer, Ramirez, and Soysal provide an empirically rich analysis that deepens the theoretical foundations of world culture theory within the context of educational expansion. Drawing on enrollment data from over 120 countries across a century, the authors challenge functionalist theories that, traditionally, had linked the phenomenon of mass education to internal factors such as industrialization or political demands. In their view, global expansion of mass education stems less from traditional modernization factors and more from nations’ commitment to a world cultural model of the nation-state, an approach that stresses how school systems bolster legitimacy and align governments with internationally recognized ideals—even when other modernization markers remain absent.

This pursuit of legitimacy gained momentum from international agencies such as UNESCO, which, especially in the post-World War II period, promoted mass education as a signature measure of progress and national advancement. Indeed, the empirical findings of Meyer, Ramirez, and Soysal affirm earlier theoretical discussions, clearly illustrating the concrete influence that world cultural models exert on the development of national education systems.

In their article “World Society and the Nation-State” (1997), Meyer, Boli, Thomas, and Ramirez analyze the nation-state not as a self-determined entity but rather as a global institution shaped by worldwide cultural and associational processes. The nation-state, they maintain, is constructed according to globally recognized norms and rationalized models—thus leading to isomorphism among states despite vast differences in resources and socio-cultural traditions. Much in line with the language and constructs that defined the previously mentioned works, the collaborators explain that this conformity to world-cultural models often results in a disjunction between the formal structures and procedures of the state and the actual practices within it. Building on this foundation, the authors identify a range of processes through which world-societal forces guide nation-states, beginning with the formation of collective identity and

purpose, the reinforcement of their position as principal actors on the global stage, and the acknowledgment of subnational entities (including individuals and organized interests).

They further illustrate how these global frameworks encourage the creation of sophisticated policies and institutional designs, often extending beyond immediate domestic needs—thereby emphasizing the pervasive influence of worldwide norms on the daily functions of the state. Thus, this work synthesizes and extends previous insights, culminating in a comprehensive articulation of world culture theory's implications for understanding global institutional structures.

Chapter 5: Concluding Thoughts

Bibliometric methods, in the end, are very adept at revealing relationships and patterns of scholarly engagement, charting the frequencies of citations and the interconnections between authors and works; nevertheless, they are ill-suited to provide any sort of measure of importance or a definitive map of a field's intellectual landscape. The nuances of scholarly influence, the shifts in scholarly thinking, whether they are gradual or appear as sudden paradigm shifts, and the contextual factors that shape academic discourse are all aspects that, more often than not (if not always) elude quantitative assessments—and I had to remind myself of this at every step of the way. It is important, therefore, to re-emphasize that the focus of this dissertation's co-citation analysis has been on the connections between scholarly contributions—as unveiled through their co-citation relationships—rather than on overall citation counts, perceived importance, or influence.

And what connections did this study reveal? Throughout the analysis presented in Chapter 4, I tried to make sense of the three clusters identified by VOSviewer. Having dissected each cluster, I concluded that they are not merely aggregations of frequently co-cited works but genuine representations of thematic concentrations that have significantly influenced CIE scholarship based on co-citation patterns. For this reason, I am confident in establishing that VOSviewer successfully achieved a primary objective of this study: identifying and visualizing thematic clusters found within CIE discourse.

The first cluster, the "Classic Debates," includes works that engage with foundational questions in the field, exploring policy transfer and borrowing, the evolution of comparative methodologies, and, more recently, the impact of globalization on education systems. As stated before, the prominence of this cluster is readily understandable, considering that these essential inquiries have driven the very creation and development of CIE as a discipline. Scholars and practitioners have long been compelled to compare educational systems across diverse contexts, seeking to understand not only differences and similarities but also the underlying social,

political, and economic forces shaping them. This cluster, therefore, highlights the perennial concerns shared by both educators and policymakers as they grapple with the ever-evolving landscape of educational reform in an increasingly interconnected world.

The second cluster, which I dubbed "Reproduction," includes texts that, from different angles, analyze how education systems (whether deliberately or not) contribute to the perpetuation of social inequalities and the reinforcement of power structures, offering varied yet complementary insights. These are works that address a rather familiar question in the field: how do aspects such as curricula, teaching practices, and institutional policies intersect with broader social hierarchies? The cluster's so-called "thematic drivers" push back against the conventional notion of education as a neutral or inherently positive force. Instead, these works present detailed examinations of how educational practices perpetuate (or exacerbate) social stratification. By examining these dynamics critically, the "Reproduction" texts expose the ethical tensions at the heart of education and advocate for redefining approaches to persistent inequalities.

The third cluster, "World Culture Theory," is, from a bibliometric perspective, perhaps the most fascinating one—not only because it presents a strikingly cohesive body of work exploring how global cultural norms influence educational convergence through institutional isomorphism and the diffusion of world models but also because of the remarkable level of collaboration among its key contributors.

Scholars like Meyer, Ramirez, and their colleagues frequently publish together, which, to a certain degree, may have contributed to the generation of a particularly dense cluster in the network. One should, however, be cautious about overstating either the significance or the implications of this interconnectedness. While these collaborations may have increased (perhaps even decisively) the authors' visibility within this particular rendition of CIE, it does not necessarily follow that this translates into broader influence across the entire field. Further qualitative analysis would be needed to substantiate the extent to which these collaborations

ultimately shape broader scholarly impact. It was also not without concern that I realized that, despite the theoretical advancements such collaborations can foster, deepening and layering discourse, they can inadvertently overshadow other perspectives and themes that merit attention.

The prominence of this cluster ultimately suggests that collaborative networks can tangibly affect the visibility of certain theoretical perspectives within VOSviewer's depiction of the field—depending on the breadth and depth of the dataset in question—potentially at the expense of equally important but less interconnected scholarship. That is not to say, to be sure, that the prominence of this cluster is solely attributable to collaborative networks; the inherent significance and relevance of World Culture Theory within CIE is undeniable and a key element in its prominence, and just as understandable as the central themes and research questions that mark the other clusters. Nonetheless, it must be acknowledged that the frequent co-authorship within this research group did contribute, in part, to this cluster's emergence and corresponding visibility.

When I first approached VOSviewer's outputs, I did so with a relatively straightforward expectation, i.e. to identify influential works that shared certain thematic intersections. However, as my analysis progressed, and I found myself moving from one cluster to the next, I came to grasp a rather critical notion; this notion, I soon realized, would fundamentally alter how I interpreted the generated network. To put it succinctly, the bibliometric methods I was employing do not simply reveal a set of influential works with thematic overlaps. Instead, and perhaps more interestingly, they actively construct networks of works whose themes, arguments, and goals have, for a variety of reasons and to varying degrees, been consistently examined together by the CIE community over long periods. This realization, which might strike some as a trivial point or a mere semantic technicality, was actually instrumental in how I adjusted my application of the bibliometric lens. Here is why.

The cartographic depiction of data, powerful though it is in terms of revealing hidden connections, makes it very easy for one to follow the initial impulse to view the nodes within a given cluster merely as a collection of influential texts with shared themes. This may prompt the investigator to think, "these are important, and I need to investigate what exactly makes each of these works unique." This perspective, I've learned, leads to an incomplete and inaccurate picture of the field. A more efficient use of VOSviewer's outputs is to shift the focus from individual works to the clusters themselves. Rather than fixating on the particulars and minutiae of their constituent parts, one should try to attend to the broader conversations and debates that these clusters represent (or not, as the program is not fail-safe, after all). When approaching a cluster as such, one's thinking may follow a completely different line: "why have these works been bundled together in the first place?" and "what is it showing, what is it not showing, and why?" This shift in perspective—from individual nodes to clusters as a whole—proved crucial in refining my interpretation of VOSviewer's output.

As to "what is showing," the inclusion of our 30 works in the network is not intended to suggest any hierarchy or to make normative assessments about their significance relative to other (absent) works with a similar focus that CER and CE articles draw on. In fact, those works may have even more citations overall, which underscores that our analysis is based on co-citation patterns rather than citation counts alone; others may simply not be consistently co-cited with these works. The key point here is that these works—all works in the network—have been identified through a specific bibliometric method, which processed a particular dataset to reveal patterns of scholarly engagement under certain parameters. Their shared focus on critical themes in policy borrowing, social inequality, or educational convergence is what unites them thematically, and the considerable attention they have received from CIE scholars in the form of citations—whatever their underlying purpose may be—further supports their inclusion. In short, these works are here by virtue of thematic intersections and co-citation patterns alone.

Just as importantly, the absence of certain prominent, celebrated works in our map, certainly apparent and perhaps even baffling to the trained CIE eye, highlights some significant aspects of scholarly communication. To illustrate, out of the 30 most cited articles that have appeared in CER and CE up to 2023, only four are captured by our co-citation network. This includes works like Nóvoa and Yariv-Mashal's (2003) "Comparative Research in Education: A Mode of Governance or a Historical Journey?" and Phillips and Ochs's (2003) "Processes of Policy Borrowing in Education: Some Explanatory and Analytical Devices."

However, notable and highly influential articles such as Ball's (1998) "Big Policies, Small World: An Introduction to International Perspectives in Education Policy"— the most cited article with over 600 citations—and Apple's (2001) "Comparing Neo-liberal Projects and Inequality in Education" are absent from our network. These omissions suggest that, even though the network manages to capture central dialogues, it may overlook seminal works that operate outside predominant thematic conversations.

These absent works might (and most likely do) provide foundational theories or methodologies that are widely acknowledged but are not directly engaged with ongoing scholarly exchanges. Another possibility is that they center on niche topics (and CIE, thankfully, is inclusive enough to have its fair share of them) or, as is often the case in fields as complex as CIE, make use of interdisciplinary approaches that do not fit that neatly within the established clusters. Document co-citation networks such as ours emphasize interconnected dialogues but, unfortunately, may not account for certain inarguably significant contributions that, impactful though they are, do not participate in the core exchanges shaping the field's discourse—according, once again, to the parameters established by the researcher.

These parameters, it should be noted, are closely related to the thorny subject of dataset creation. And here I find myself compelled to revisit the tangible, technical obstacles that prevented me from aiming for a dataset with a broader scope. The decision to focus on CER and CE—both English-speaking academic journals deeply rooted in Western traditions—was made

only after careful consideration and, it must be said, with full awareness of its practical implications. Although, theoretically, including additional journals from a more diverse set of linguistic and cultural backgrounds might have provided a more comprehensive picture of the field, the task of data cleaning, given the context of required processing power (for more information, see the discussion under Method) and indexation variety, poses significant challenges. Indeed, differences in editorial practices, citation styles, and the inevitable inconsistencies in metadata standards across journals all complicate the process of aggregating and standardizing the data necessary for a proper bibliometric analysis. These technical difficulties, therefore, place very real limits on the feasibility of expanding the dataset. As I see it, doing so risks introducing inconsistencies that could either skew the results or render the resulting networks hopelessly unmanageable.

Turning to the software itself, it is worth noting that VOSviewer performed precisely as expected, offering a user-friendly interface and a robust suite of functionalities that facilitated experimentation and interpretation alike. One aspect I particularly appreciated was the free access to these tools, along with the ability to utilize publicly available data from Web of Science. This highlights the accessibility of bibliometric methods for researchers at all levels, which is especially encouraging for those just starting their careers. I am genuinely enthusiastic about this approach for those in the early stages of their CIE training, who may feel overwhelmed by the wealth of information in the field, as well as the expected focus on predominantly education-based works—it is always important to keep in mind that CIE is inherently multidisciplinary, and many a researcher comes from fields such as social sciences, psychology, economics, and even law, as is my case.

I see the present work as iterative and incremental in nature. Aside from my generalized (and admittedly naïve) desire to know everything about my "new field," the two main sources of inspiration for this dissertation were Paulston's years-long devotion to social cartography and Wolhuter's (2008) analysis of CER articles. The use of VOSviewer to process Web of Science

data and generate maps is, in a way, a modest attempt to learn from these past experiences, build on them, and expand them. This is where I turn to reflect on how to situate my work within the larger context of CIE landscape mapping efforts.

Koehl (1977), Rust et al. (1999), Cook et al. (2004), Wolhuter (2008), and Foster et al. (2012) have all provided inarguably insightful mappings of the field (for further information, see Chapter 2, "Works Based on Bibliometric Techniques"); yet their approaches have inherent limitations, which this dissertation has sought to address in its own way. First, it is worth noting that, historically, CIE studies relying on content and citation analyses tend to be limited by the subjective nature of coding and interpretation. In these studies, researchers actively participate in categorizing and interpreting data, which unavoidably introduces a layer of subjectivity that may affect the results of the analysis.

Although this study cannot, and does not claim to have solved this issue, the use of VOSviewer—with its algorithmic clustering and visualization capabilities—has sought to mitigate this by automating part of the process, thus reducing the potential for researcher bias. At the same time, algorithms alone cannot fully capture the conceptual and contextual subtleties inherent in bibliometric data. The deliberate choice of a program without automatic cluster labeling and summarization functions reflects an effort to balance computational precision with the interpretive depth that comes from human judgment. This approach ensures that while researcher bias is mitigated through automation, the nuanced understanding of the data remains grounded in critical, context-sensitive analysis, guided by human insight.

In addition, prior citation analyses within CIE have frequently been constrained by temporal limitations. This has, in multiple cases, hindered a complete understanding of the discipline's long-term development; Foster et al.'s 2012 research, for example, concentrated on a five-year timeframe, from 2004 through 2008. This study, by contrast, encompasses a 65-year duration to chart a more complete historical trajectory of the field.

Lastly, this study makes a notable contribution by offering a visual representation of the field's intellectual landscape. Such mapping techniques provide an intuitive means of identifying complex patterns and relationships that might be less apparent in standard textual analyses or tables. In a multidisciplinary field like CIE, these visualizations can help scholars and practitioners quickly pinpoint major themes, clusters, and connections. Yet, despite these advantages, this kind of visual representation remains relatively scarce. Paulston's social cartography stands as one of the few prominent examples in the literature. By introducing these bibliometric maps, the present study aims to address this gap, providing an accessible tool that broadens understanding, encourages further engagement, and ultimately sparks continued mapping efforts within CIE.

And how might future research extend these findings? A key issue is that citation patterns change over time; newer works often lack visibility in co-citation networks because they haven't had sufficient time to accrue citations and, as a result, older publications inherently hold an advantage in analyses such as this. While it is possible to mitigate this issue through more advanced methods—albeit at the cost of added complexity—one particularly promising alternative is the integration of bibliographic coupling alongside co-citation analysis. As detailed in the Method chapter, bibliographic coupling links documents by shared references, and thus can capture thematic connections even among newer works still in the process of accruing citations. By combining these approaches, future studies could more effectively illuminate emerging scholarship, offering a broader understanding of the field's ongoing intellectual developments.

Similarly, combining qualitative approaches with bibliometric methods can deepen our understanding of the networks we uncover by adding context and detail to the patterns seen in quantitative data. Techniques like expert surveys and interviews with scholars can offer valuable insights for interpreting specific clusters, showing how researchers interact with each other's work. This might involve designing questions that can be compared with the map's findings or

having experts and scholars analyze the results themselves. By merging these perspectives, future studies can provide a more comprehensive and nuanced view of CIE, linking measurable trends with the underlying dynamics of academic dialogues.

Yet another promising direction for future mappings lies in utilizing a time-sliced approach, i.e. having the dataset divided into multiple separate periods (such as 20-year spans) that allow for a more detailed understanding of CIE's evolution, especially in terms of major historical reorientations. In fact, I will be adopting this approach in my own upcoming research and expect it will produce a different series of snapshots of the field's development, one that captures the increased attention given to themes such as race and gender, which may have been eclipsed in maps based on the full history of the selected journals. Through a comparison of these smaller temporal snapshots, analysts should be able to identify new trends, shifts in thematic focus, as well as the trajectories of specific works: those that have persistently influenced the field, acting as intellectual touchstones across multiple eras, as well as those that have sparked new directions within particular time frames.

Even though any single methodological approach has inherent limitations—and I tried, to the best of my ability, to have these limitations acknowledged throughout the chapters—I believe that this study has shown that bibliometric analysis, when applied judiciously and interpreted carefully, can enrich our understanding of the intellectual structure of CIE. Through the development of a co-citation map and the identification of thematic clusters, I have tried to highlight certain patterns of scholarly engagement—some of which might otherwise remain obscured—and thus foster further engagement with issues, ideas, and arguments that have captured the attention of the CIE community over the past six and a half decades. This map, therefore, offers a broad overview of CIE scholarship; limited though it is, it does provide a starting point for future work, one that I hope will encourage other CIE scholars to explore this approach, recognizing that, on balance, its benefits make it a worthwhile tool.

As CIE grapples with the challenges of a rapidly changing world, confronting new political pressures, policy dilemmas, technological revolutions, methodological innovations, and theoretical questions, I am convinced that it is imperative we remain open to experimenting with diverse analytical tools that can help us expand our knowledge of the field's landscape. More than simply mapping the terrain of CIE—my expressed goal at the outset of this study—I conclude this dissertation with the belief that we should deepen our collective ways of exploring the educational phenomena that shape our world, ensuring that our scholarship remains responsive, relevant, and attuned to the complex realities we seek to understand. I see alternatives as our goal and experimenting as our craft. Borrowing, if I may, Psacharopoulos' call: Comparative educators of the world experiment—you have everything to gain!

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