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Mapping the Interdisciplinary Landscape of Free Education Economics: A Bibliometric Analysis from 2015-2025

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Abstract. Research on the economics of free education is extensive but highly fragmented, making it difficult for scholars and policymakers to discern the field's intellectual structure. This study addresses this gap by providing the first comprehensive, quantitative overview of the research landscape. The objective was to identify foundational works, map primary research themes, and understand the relationships between different areas of study. Using bibliometric analysis of peer-reviewed articles from the Scopus database (2015–2025), the study employed co-citation analysis to map the field's intellectual foundations and co-word analysis to identify its thematic structure. The results revealed eight distinct co-citation clusters, indicating that the field is an interdisciplinary domain drawing from econometrics, psychology, sociology, and political science, built upon foundational theories such as human capital. The co-word analysis identified three major thematic clusters focused on the socio-economic context, the human-centric evidence base, and public welfare outcomes. This study presents a comprehensive and objective framework for understanding the economics of free education, demonstrating that a holistic approach necessitates integrating multiple disciplinary perspectives beyond simple financial analysis to develop more effective and equitable educational policies.

Keywords: Bibliometric analysis; Economics; Free education; Human capital; Social policy; Students.

1.0 Introduction

Free education is the backbone of economic and social policy discussions worldwide. It is not "free" financially, but rather a public good, with taxpayers partly financing the cost, rather than individual students through tuition. The economic argument for this model is based on the notion of education as a public good with significant positive externalities. This suggests that the effects of an educated population—e.g., a more productive workforce, increased innovation, lower unemployment, increased civic engagement—do not merely accrue to the individual, but benefit society (DeAngelis, 2018). Education would likely be under-consumed if left to the private market, because individuals may not account for these broader social benefits when deciding how much to invest in their education. Synthesizing the vast body of research reveals a strong current of studies that link publicly funded education to positive macroeconomic outcomes. For instance, a study of the policies of nations with tuition-free higher education, particularly in Scandinavia, demonstrates an association between generous public spending on education and firm economic productivity, innovation, and high living standards (Iacono, 2018). More generally, studies have shown that free tuition increases college attendance by somewhat lowering costs, especially for low-income families, which are the most price-responsive (Minor, 2003; Hemelt & Marcotte, 2011; Deming, 2019). Taken as a whole, this canon of work points to the potential that free education acts as a vehicle for economic growth and

equity promotion.

On the other hand, a significant portion of the literature presents a more cautious or critical perspective. These studies highlight the complex trade-offs involved in implementing free education policies. For example, Ferreyra et al. (2024) found that although enrollments are likely to increase, graduation rates may not, which implies that students are not as serious when enrolled for free. This led to believing that paying tuition fees provides some incentives for students. On the other hand, in the paper by Diris and Ooghe (2018), they question the cost-effectiveness and equity of such subsidies, claiming that free education typically favors middle- and upper-class students who are likely to seek higher education anyway and thus constitutes a regressive use of public monies. This collection of studies emphasizes that the economic impact of free education is not universally positive and depends heavily on program design, funding mechanisms, and institutional quality.

Despite extensive research on all aspects of the free education policy, there is still much to learn about the discipline's general conceptual orientation and evolution. Most literature currently in print consists of isolated case studies, specific econometric studies, or narrative reviews that focus on findings or geographic regions. The available studies lack a comprehensive, quantitative map of the complete research ecosystem. It is difficult to summarize these fundamental theories, new problems, and the relationships between different research groups in the economics of free education in statistical form. This fragmentation makes it difficult for researchers and decision-makers to grasp the key intellectual foundations and undiscovered areas, as well as how these can be systematically refined.

This view is premised on human capital theory, which defines education as an investment in the skills and knowledge of a population (Becker, 1964). A government that invests in education is, in essence, investing in the country's human capital, with the hope of achieving a return on investment through long-term economic growth and enhanced global competitiveness. Bouchrika (2025) argues that by removing the financial barrier of tuition, countries can unlock the potential of all citizens, regardless of their socioeconomic background, thereby reducing income inequality and promoting social mobility. However, this approach is not without its economic challenges. Lafortune and Herrera (2022) note that the immense fiscal strain on public budgets from free education could divert funds from other essential services. There are also concerns about potential overcrowding in institutions, which could lead to a decline in educational quality and a dilution of resources.

Therefore, this paper aims to address this gap by conducting a bibliometric analysis of the literature on the economics of free education. Specifically, this study utilized co-citation analysis to identify the field's most influential and foundational works, and keyword co-occurrence analysis to map the primary research themes and their relationships. This approach is necessary because one needs to understand the totality of evidence underpinning essential programs such as free education, in a world where decisions to support them are continually questioned. This research can aid in guiding future academic research to the most critical questions that concern it, assist policymakers in making better decisions, and, as a result, create a more organized and comprehensive view of the economic forces driving one of society's most important investments by offering a clear and objective map of the intellectual structure of free education.

2.0 Methodology

The paper systematically utilized a bibliometric analysis to summarize and map the academic literature on free education. This quantitative technique effectively explores academic literature, allowing researchers to trace citation patterns and the intellectual links between studies (Imaduddin & Eilks, 2024). The method was chosen because of its capacity to objectively recognize important patterns, landmark studies, and future trends, as well as gain considerable insights into how research ultimately evolved in interest. The data for this study were extracted from the Scopus database, a comprehensive repository of peer-reviewed academic literature. The search was conducted on March 28, 2025, using the precise search term "economics of free education." This initial search yielded a total of 11,830 documents. To refine the dataset and ensure its relevance and quality, the following inclusion criteria were applied: (a) the analysis was limited to documents published between 2015 and 2025, (b) only peer-reviewed journal articles were included. This focus ensures that the selected literature meets rigorous editorial and academic standards. Books, conference proceedings, and book chapters were explicitly excluded, (c) the articles were filtered to include only those categorized under Economics, Social Science, and Education, and (d) the study was further limited to open-access articles to reflect publicly available research. The final dataset for analysis

consisted of article metadata, including titles, authors, abstracts, keywords, and complete citation information.

The analysis was performed using two primary bibliometric techniques: co-citation analysis and co-occurrence analysis. The VOSviewer software was utilized to process the data and generate visualization maps of the research networks. The intellectual structure of the field was mapped using co-citation analysis. This is a potent indicator of intellectual relatedness between two academic works, measuring how frequently they appear in citations across other publications. This also identifies basic studies and significant theoretical bases that lead free education research through the co-citation network. Co-occurrence analysis was employed to explore how the thematic structure unfolded. Tracking how often keywords co-occur in the literature enables identifying areas of critical mass in scholarship, current topics of interest, and the field's evolution over time. This is an in-depth quantitative analysis of the intellectual and thematic terrain of free education research, utilizing two complementary approaches.

On the other hand, it is essential to acknowledge the limitations of this methodology. First, the study's reliance on the Scopus database means that findings may not capture research indexed in other databases. Second, there is a potential for language bias, as the database predominantly indexes English-language publications. Finally, excluding books and conference proceedings may omit foundational theoretical works or emerging research trends in grey literature.

3.0 Results and Discussion

3.1 Co-Citation Analysis

Table 1 presents the top 10 most highly co-cited documents and their total link strength, based on the co-citation analysis. From the 70,567 cited references derived from the database, 66 meet the minimum threshold of 16 cited references. The threshold was tested several times until robust, evenly distributed clusters were formed, and until the best visualization was achieved. The threshold must be appropriate, neither too high nor too low, which can result in oversimplified or overly complicated visualization. The highest co-cited publications are Ajzen, I. (1991) with 131 citations, Arellano, M. and Bond, S. (1991) with 59 citations, Arellano, M. and Bover, O. (1995) with 45 citations, followed by Acemoglu, D., Egorov, G., and Sonin, K. (2015), and Robinson, J.A. and Acemoglu, D. (2012) with 41 citations respectively. Meanwhile, the Total Link Strength indicates the total strength of the links between an article and other articles in the sample analyzed.

Table 1. *Top 10 documents with the Highest Co-Citation and Total Link Strength*

Documents	Citation	Total link strength
Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes, 50*(2), 179-211.	131	60
Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The review of economic studies, 58*(2), 277-297.	59	53
Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of econometrics, 68*(1), 29-51.	41	47
Acemoglu, D., Egorov, G., & Sonin, K. (2015). Political economy in a changing world. *Journal of political economy, 123*(5), 1038-1086.	39	46
Robinson, J. A., & Acemoglu, D. (2012). *Why nations fail: The origins of power, prosperity and poverty* (pp. 45-47). London: Profile.	41	30
Angrist, J. D., & Pischke, J. S. (2009). *Mostly harmless econometrics: An empiricist's companion*. Princeton: University Press.	50	26
Ajzen, I. (1980). *Understanding Attitudes and Predicting Social Behavior*. Englewood Cliffs.	33	26
Acemoglu, D., Johnson, S., & Robinson, J. A. (2005). Institutions as a fundamental cause of long-run growth. *Handbook of economic growth, 1*, 385-472.	23	25
Acemoglu, D., Johnson, S., & Robinson, J. A. (2002). Reversal of fortune: Geography and institutions in the making of the modern world income distribution. *The Quarterly journal of economics, 117*(4), 1231-1294.	19	25
Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British journal of social psychology, 40*(4), 471-499.	16	24

Figure 1 shows the network structure in the co-citation analysis. Based on the network visualization, co-citation analysis produces eight distinct clusters. Each cluster is labeled and characterized based on representative publications, as interpreted by the researcher, according to their inductive understanding of the three clusters.

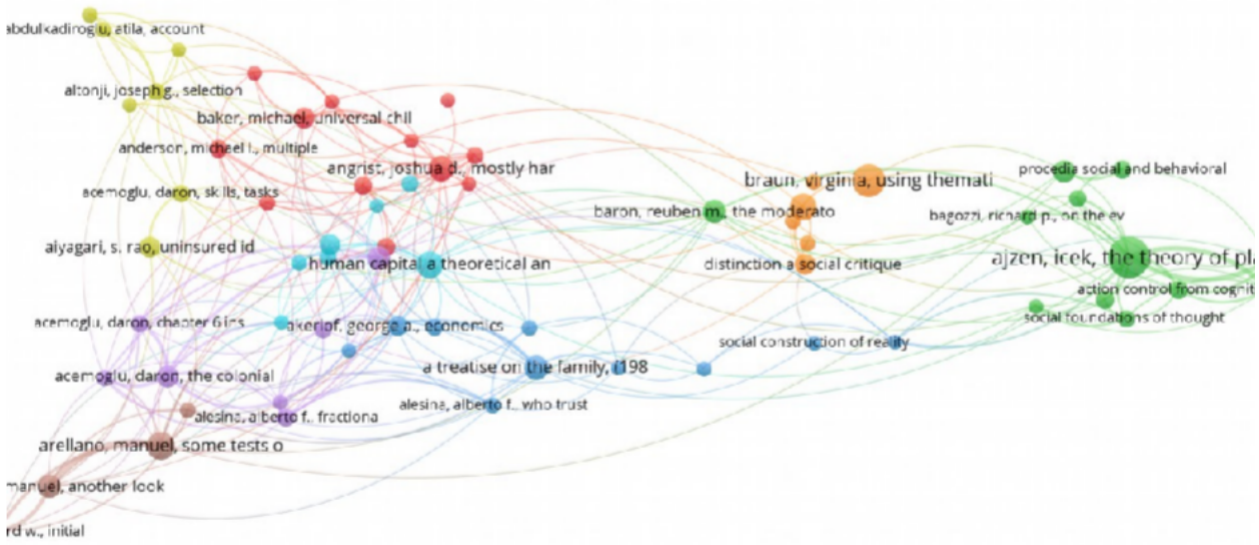

Figure 1. *Co-citation analysis of big data analytics of the Economics of Free Education*

Cluster 1 (Red): The Econometric Foundation for Causal Inference

The fundamental tools for demonstrating cause and effect are provided in this cluster, which forms the basis of any quantitative assessment of free education policy. It is challenging to determine whether an outcome, such as higher lifetime earnings or graduation rates, is a direct effect of a policy or only somewhat correlated with it in the context of free education research. Later works in this cluster, such as those by Angrist and Pischke (2009), paved the way for relying on quasi-experimental methods to estimate the effect of tuition elimination. One example of research that falls within this cluster is an analysis comparing student outcomes in a state that recently introduced free college with those in a neighboring state that did not, using a difference-in-differences strategy. Alternatively, studies may rely on instrumental variables to learn whether later performance is caused by actual access to an education program or students' innate ambition.

Cluster 2 (Green): The Psychology of Educational Choice and Motivation

The green cluster shifts the focus from policy assessment on the macro level to the psychological factors that determine student choice on the micro level. To understand non-financial aspects of the educational decision, this stream of research primarily draws on theories such as Bandura's (1977) work on self-efficacy and Ajzen's Theory of Planned Behavior (1991). For example, studies in this area explore whether the absence of confidence (self-efficacy) among low-income students or the lack of a "college-going" culture in their social networks (social norms) is a barrier to their success, despite attending school with tuition covered. Essential questions related to students' engagement are also addressed in this cluster, such as whether academic effort and motivation differ when an individual lacks a direct pecuniary interest in their education. By employing such psychological concepts, this cluster provides an essential understanding of the human dimension and why providing free education alone may not be sufficient to motivate all students to achieve similar outcomes.

Cluster 3 (Blue): The Social and Political Fabric of Educational Policy

This cluster views free education as a profoundly social and political gesture, not merely an economic one. The publications range from the causes and processes of establishing public systems of free education to the implications, and they are explicitly concerned with notions such as social trust and political economy. From this perspective, a society's values and support for social mobility indicate its level of support for funding public education. In an ideal world, academics in this field would study the political trade-offs that produce the specific features of a free education program, for example, whether there are income caps and whether specific academic fields have been favored. Such choices are often not merely rational in terms of economy but also based on political ideas. This cluster also focuses on the impact of free education on social stability. Alesina and La Ferrara (2002) find that a universally accessible system helps generate greater shared citizenship and trust. The actual practice and outcome of free education are primarily influenced by the meta-frameworks of a nation's social contract and

political context, and this cluster of arenas presents a critical perspective on this correlation.

Cluster 4 (Yellow): Market Design, Human Capital, and School Choice

The pragmatic elements of the "market" for education, and the overall aim of producing human capital, fall squarely within the yellow cluster. This literature, which includes the influential research into school choice by Abdulkadiroğlu and Sönmez (2003) and into the economics of skills by Acemoglu and Autor (2011), regards free education as a crucial public investment in the nation's workforce, emphasizing that quality and productivity are paramount. This cluster explores the distribution of educational resources, including university admissions policies and charter school lotteries. The primary object is to keep "free" from overcrowded, underfunded schools and a lousy education. This stream of research contributes to an applied understanding of how to build a fee-free education system that maximizes the returns on investment in human capital through accountability, selection, and matching the program with labor market demands.

Cluster 5 (Violet): The Deep Institutional Roots of Educational Systems

This influential cluster adopts a broad, historical perspective, portraying a nation's commitment to public education as the culmination of its long-term state-building efforts. As Acemoglu, Johnson, and Robinson (2002) demonstrate, the political and economic institutions that are either "inclusive" or "extractive" shape a country's future. In this view, a society that invests in all its people to foster a culture of innovation and widespread prosperity is committed to providing free and open education for all. By contrast, the social organization that limits education often reflects institutionally extractive structures designed fundamentally to exclude the many. The scholars within this cluster would conduct comparative historical studies to determine why some countries, like Scandinavia, developed robust public education systems early, while others did not. They would argue that the success of a free education policy depended on a broader ecology of enabling institutions, including the rule of law, low corruption, a functioning democracy, and not just financial resources. That is why this cluster compellingly argues that a nation's entire institutional and historical trajectory is embedded in its educational policy.

Cluster 6 (Light Blue): Foundational Microeconomic Principles of Education

The free education global economic dispute takes its theoretical roots from this cluster. It is grounded in the basic microeconomic theory required of any economics studies. Its central tenet is Gary Becker's (1975) human capital theory. It suggests that attending school is an investment in future income and productivity, rather than simply a matter of consumption. This one concept provides the primary economic justification for public funding of education. This is reinforced by George Akerlof's (1978) asymmetric information, or "market for lemons" literature, which explains why there is demand for government intervention. They supply the vocabulary and logic to think about education as an investment, calculate the returns, and embrace the idea that government should be deeply involved in its provision.

Cluster 7 (Orange): A Sociological and Qualitative Critique of Free Education

With its interrogation of the assumptions of purely economic models and focus on students' lived experiences within educational systems, this cluster injects an essential sociological critique. This research stream explores whether free education levels the playing field, adopting a qualitative approach as advocated by Braun and Clarke (2006), as well as critical theories of prominent sociologists such as Bourdieu (1984). This is where Bourdieu's concept of "reproduction" comes into play, suggesting that even in the absence of tuition, the educational system can effectively favor students from the wealthiest families who possess the relevant "cultural capital"—the unspoken social and linguistic skills that matter in higher education. To observe these subtle dynamics firsthand, the researchers in this group would conduct ethnographic studies in colleges and other settings. This view is essential to understanding the research because it moves away from enrollment numbers and examines the complex social justice, equity, and cultural matters.

Cluster 8 (Brown): The Frontier of Dynamic Econometric Modeling

The brown cluster is the most advanced quantitative "frontier" in education research because cutting-edge methodological approaches are leveraged to study how the impacts of free education evolve. A reference point for this cluster is the dynamic panel data model of Arellano and Bond (1991) and Blundell and Bond (1998). These methods are crucial for examining the long-term, dynamic effects of educational policies. To explore how access to free preschool shapes students' enrollment in university, lifetime wages, health, and even their children's

achievement, a researcher might, for example, track a couple of decades of students. This cluster intends to generate exact, long-term data that can inform "cradle-to-grave" policy thinking and produce the fullest picture of how spending on education improves the lives of future generations.

Table 2 summarizes the co-citation analysis by presenting its clusters, cluster labels, number of articles, and representative publications.

Table 2. *Co-citation clusters on big data analytics of the Economics of Free Education*

Cluster	Cluster label	Number of articles	Representative Publications
1 (red)	The Econometric Foundation for Causal Inference	10	Angrist & Pischke (2009), Baker, Gruber, & Milligan (2008), and Anderson (2008).
2 (Green)	The Psychology of Educational Choice and Motivation	11	Ajzen (1991), Bandura (1997), Armitage & Conner (2001).
3 (Blue)	The Social and Political Fabric of Educational Policy	10	Alesina & La Ferrara (2002), Weingast, Shepsle, & Johnsen (1981), & Cherry (2000).
4 (Yellow)	Market Design, Human Capital, and School Choice	7	Abdulkadiroğlu & Sönmez (2003), Acemoglu & Autor (2011), & Altonji, Elder, & Taber (2005).
5 (Violet)	The Deep Institutional Roots of Educational Systems	7	Acemoglu, Johnson, & Robinson (2002), Robinson & Acemoglu (2012), & Acemoglu, Johnson, & Robinson (2005).
6 (Light Blue)	Foundational Microeconomic Principles of Education	6	Becker, (1975), Akerlof, (1978), & Bettinger, Long, Oreopoulos, & Sanbonmatsu (2012).
7 (Orange)	A Sociological and Qualitative Critique of Free Education	6	Braun & Clarke (2006), Bourdieu (1984), & Richardson, (1986).
8 (Brown)	The Frontier of Dynamic Econometric Modeling	4	Arellano & Bond (1991), Blundell & Bond (1998), & Acemoglu, Egorov, & Sonin (2015).

3.2 Co-Word Analysis

Table 3 summarizes the top 15 co-occurring keywords, along with their number of occurrences and total link strength. The co-word analysis applies to the same database. From the 30952 keywords, 121 met the minimum of 60 occurrences, resulting in 3 clusters. The highest co-occurrence keywords are Human with 731, Sustainability with 472, Education with 462, Article with 425, Female with 419, China with 390, Male with 367, Adult with 329, United States with 239, Child with 159, Controlled Study with 153, Human Experiment with 137, Adolescent with 130, Major Clinical Study with 119, and Middle Aged with 103.

Table 3. *Top 15 keywords in the co-occurrence of keywords analysis*

Ranking	Keyword	Occurrences	Total link strength
1	Human	731	5093
2	Female	419	3699
3	Male	367	3376
4	Article	425	3197
5	Adult	329	2852
6	Education	462	1815
7	Controlled Study	153	1438
8	Adolescent	130	1346
9	Child	159	1301
10	Sustainability	472	1204
11	Major Clinical Study	119	1169
12	Middle Aged	103	1113
13	Human Experiment	137	1107
14	China	390	1067
15	United States	239	981

Figure 2 presents the network map of the co-word analysis. The map produces three clusters and is classified and labelled based on the author's inductive interpretation of the occurring words. All the clusters are shown to be closely related and partially integrated.

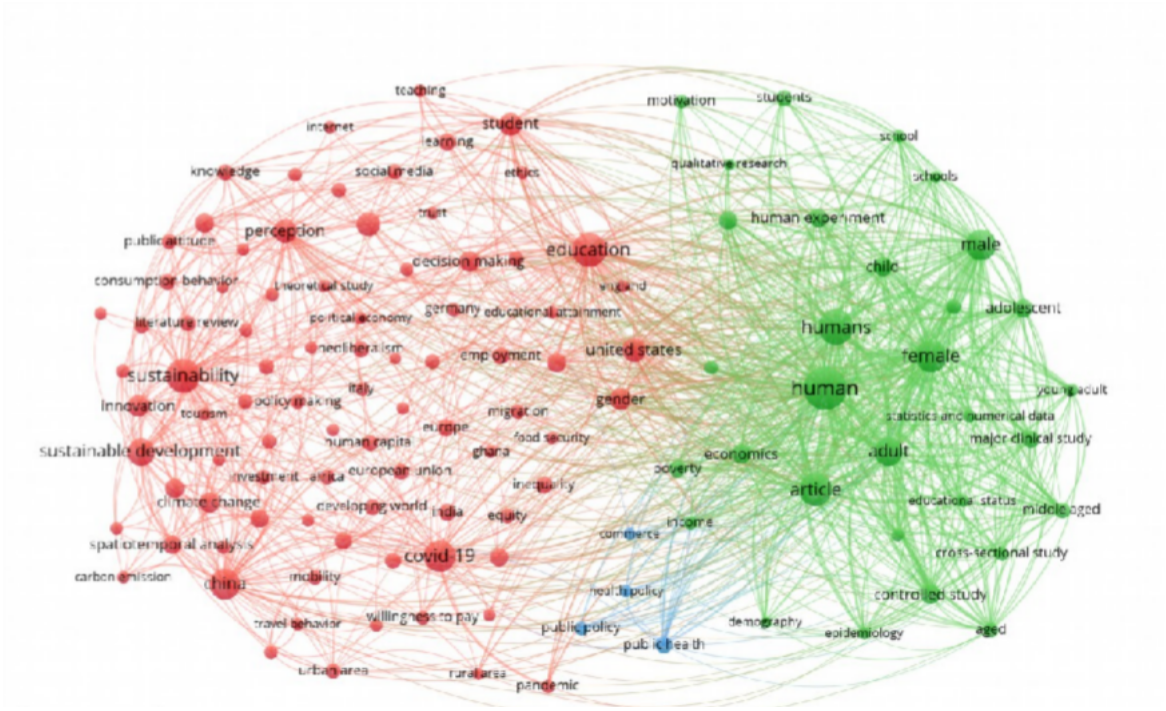

Figure 2. *Co-word analysis of big data analytics on the Economics of Free Education*

Cluster 1 (Red): The Socio-Economic and Policy Context

This cluster frames education as a key component of broader societal goals, linking it to policy-relevant terms such as sustainability, climate change, and human capital. The presence of terms like "political economy" and "neoliberalism" reflects the ongoing ideological debate over whether education is a public good or a private commodity. This theme aligns with evolving policy discussions about the role of education in achieving the global Sustainable Development Goals. Meanwhile, human capital expands significantly, as education is an investment that enhances creativity and productivity, rather than simply incurring costs. Using terms such as political economy and neoliberalism reflects ideological debate around public finance.

Furthermore, behavioral economics is represented by nodes such as perception, public attitude, and decision making, where a policy is only successful if it yields individual action and public approval. Emphasizing the role that exogenous shocks may play in overturning education systems and forcing a rethink of funding paradigms, amidst the backdrop of COVID-19, public support is further underpinned to ensure equitable access during times of crisis. It is, on the whole, holistic in its examination of the macroeconomic and political background, and it delves into the logic of free education, the ideological influences on its realization, and the general objectives of free education.

Cluster 2 (Green): The Human-Centric and Empirical Evidence Base

With its central node, humans and demographic terms like male, female, and child, this cluster highlights the empirical, evidence-based nature of the research. Keywords such as controlled study and cross-sectional study represent the scientific methods used to measure the impact of free education on various populations, providing the quantitative foundation for informed policy decisions. This cluster encompasses the microeconomic survey and project evaluation of the free education view. Economists use tools described in books to write on important subjects, including cross-sectional studies, controlled experiments, and the analysis of statistical and numerical data. This bundle is the scientific underpinning of the debate. It is a step forward beyond theories that describe free education and gives the quantitative base to easily check and see if it will be worth it in returning the investment of free education, for the impact of free education on social mobility, and for the expenditures of free education, over which social mobility and a demography, by the way, can be explained.

Cluster 3 (Blue): The Public Policy and Welfare Outcomes
This small but critical cluster directly links education policy to its ultimate goals: improving public welfare. Policy-relevant nodes, such as poverty, income, and public health, demonstrate that free education is a powerful tool for reducing inequality, breaking intergenerational poverty cycles, improving long-term health outcomes, and lowering public healthcare costs. This cluster provides the argument for government involvement in education. The economic case for free education is that it is a powerful public policy tool for increasing earnings and reducing poverty. In theory, it disrupts intergenerational cycles of poverty by eliminating the financial obstacles that keep people from lower-income families from learning the skills that qualify them for better jobs and higher pay. A less appreciated economic benefit is evident from the intimate link between public health and health policy. Higher education students are more likely to understand preventive measures, make healthier behavioral choices, and experience lower morbidity and mortality rates. This creates positive externalities because it raises the general productivity and reduces public health costs.

3.3 Theoretical Implications
The paper makes several significant theoretical contributions to the economics of free education. First, it provides a quantitative investigation of the richness and multidisciplinary of the field, as opposed to being a single sub-discipline of economics, by mapping the intellectual structure through co-citation. It demonstrates that integrating sociological and psychological frameworks into fundamental economic theories, such as personal human capital, is necessary for a deeper understanding. This means that researchers have to move beyond silo research to develop a more complex theoretical understanding that encompasses institutional, social, and behavioral dimensions at once. Second, the study reveals a theoretical clash between the macroeconomic and microeconomic perspectives. One set of clusters addresses political economics and the deep institutional causes of national systems; another focuses on voluntary motives and choice. This suggests that new theories are needed to explain how institutional designs at the macro level influence educational and economic outcomes at the micro level. Last but not least, the emergence of discrete methodological clusters reflects an evolution in the field's understanding of causality, moving from simple, quasi-experimental models to the increasingly complex, dynamic models we are familiar with today. This brings about the need for a theoretical frontier where educational processes are viewed through a longitudinal lens, as processes that continue to have diffused or spread economic effects over time, rather than just once.

3.4 Practical Implications
This bibliometric analysis can be helpful for policymakers, academic institutions, and funding agencies. The study offers policymakers a roadmap of the key evidence needed to design effective policies for free education. The study concludes that successful implementation requires the knowledge derived from econometrics, psychology, and institutional history, and that it is not a simple financial decision. This suggests that, by bringing home to target communities the potential nonfinancial barriers to take-up (e.g., low self-efficacy and lack of a "college-going" culture), programs need to include supports to mitigate these obstacles. The findings suggest that educational quality may become diluted with increased exposure to volume in the higher-education sector. The market design and school choice research lines suggest not having a free negative value of academic quality, as a mechanism to ensure that "free" does not alternatively imply "low quality," from the perspective of adequate resource management and accountability. Ultimately, the study brings new frontiers and knowledge gaps for researchers and funders. For the long-term, multigenerational birth-return perspective of free education, there is a need for more longitudinal measurement—in several countries—to complete the overall image regarding the return on investment, as is widely advocated and developed in dynamic econometric modeling work.

4.0 Conclusion
The study aimed to define the field of study for the economics of free education. By conducting a bibliometric analysis, one can examine how researchers engage with this phenomenon. The analysis reveals that the debate is not only a matter of money, but a multidimensional domain grounded in ideas from political science, psychology, sociology, and econometrics. The study was able to chart what the literature is fundamentally interested in today, from policy-making to the more direct impact on students' lives, and identified the essential theories everyone is using, such as human capital theory. This research addresses the gap in the introduction: the lack of a comprehensive, quantitative overview of the field. Before this study, the research was fragmented, making it hard to see the connections between different areas of study. Our analysis provides that missing structure. We have created an objective map of the intellectual foundations and thematic clusters by visualizing the co-citation and

co-word networks. This map illustrates the relationships between different research streams, the foundational works that connect them, and the areas where the most intense research activity is occurring, offering a unified view of a previously fragmented academic landscape.

Furthermore, the study shows that a complete approach is needed to understand the economics of free education. The equation of costs and benefits cannot be computed only in terms of money. Based on the findings, one should also consider the social aims of creating a fair and equal society, the historical and political reasons for national policies, and the psychological impact of free education on students. The best developed work on this subject flows precisely from the intersection of disciplines that, if free education policy can succeed, it has to build on a base as ecumenical as the student it purportedly wishes to serve.

The findings confirm that a holistic approach is essential. Understanding the economics of free education requires moving beyond simple cost-benefit calculations to consider the social goal of equity, the historical context of national policies, and the psychological factors affecting students. Future research should focus on bridging the identified clusters by combining rigorous quantitative methods with human-centered qualitative insights. Such integrated studies will provide a richer understanding of policy impacts and help design economically sound and effective programs promoting opportunity for all. Ultimately, this study's map of the current evidence base is vital for navigating complexity and building a more informed, forward-looking approach to education policy formulation.

5.0 Contribution of Authors

The sole author is responsible for all aspects of this work, including conceptualization, methodology, data analysis, and writing.

6.0 Funding

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7.0 Conflict of Interest

The author reported no potential conflict of interest.

8.0 Acknowledgment

None declared.

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