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Mapping global citizenship: A Bibliometric analysis of the field of education for sustainable development

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Since the approval of the Sustainable Development Goals, global citizenship education (GCE) is increasingly capturing the attention of researchers worldwide. In this context, the aim of this manuscript is to review the existing literature on GCE (up to 2021) in journals indexed in the Web of Science. Particularly, it seeks to: (1) document the volume and growth trajectory of knowledge production, (2) identify countries, journals, authors, and key publications (both of the sample analyzed and of the references cited), (3) perform a science mapping of the knowledge base on GCE, and (4) discover the thematic foci of empirical works. For this purpose, a bibliometric analysis of the selected articles ($n=350$) and a content analysis of the sample's empirical papers ($n=210$) was carried out. The main findings evidence that: the number of articles on the subject has increased notably since 2016; there is a concentration of knowledge production in countries of the Global North, driven mainly by the United States; geographical proximity, and even common language, seem not to be the main factors influencing international scientific collaborations; and, GCE is linked in the empirical articles in the sample mainly to the concept of internationalization of education. The conclusion is that, although the production of knowledge on GCE has recently increased considerably, it continues to lag behind other areas of the educational field.

KEYWORDS

global citizenship education, sustainable development goals, bibliometric review, content analysis, science mapping

1. Introduction

The existing literature includes studies that review past research on GCE. For example, through systematic reviews, studies have focused on GCE within teacher education (Yemini et al., 2019; Estellés and Fischman, 2021), on GCE programs (Ahmed and Mohammed, 2022), and on the impact of GCE (O'Flaherty and Liddy, 2018) were analyzed. One study analyzes only empirical work in the area (Goren and Yemini, 2017), and another performs a meta-analysis of its typologies (Pashby et al., 2020). Recently, it was analyzed the effect of flipped classrooms in the higher education system. It was found that the quality of teaching is improving through this method, which is in the context of the global citizenship line SDG 4.7 (Udvari and Vizi, 2023). Although several works review previous literature, few bibliometric works have made GCE as a central focus, so we seek to contribute to an area that is still little explored. This study provides

an overview of the field and answers some key questions, such as when, where, and who is publishing in the area (Pedraja-Rejas et al., 2021). In addition, bibliometrics has the potential to strengthen the field of study by showing trends and possible gaps in the existing knowledge (Pedraja-Rejas et al., 2022b), which could help researchers to define future objectives of their studies.

The concept of Global citizenship (GC) is focused on constructing a community-based, ecologically balanced, and culturally sensitive society, which demands a moral obligation and responsiveness beyond individual and their self-interests (Bosio and Torres, 2019). Global citizenship education (GCE) results from the integration of all global educational trends and GC perspectives (Estellés and Fischman, 2021) and further seeks to “prepare students to take part in the ‘global competition’ for future education and employment destinations, participate in ‘global problem solving’ and, broadly, be better equipped to face the challenges globally connected contemporary societies must engage with” (Yemini et al., 2018, p. 423).

The GCE has occupied a high level of priority in educational policies around the world since the early 1990s (Al’Abri et al., 2022). The inclusion of content associated with it is often described as a response to several factors, including the increasing multicultural nature of societies—modern—globalized workforce and immigration—the relevance of the civic engagement and the social efficacy, as well as the work of international development organizations (Goren and Yemini, 2017; O’Flaherty and Liddy, 2018). For instance, regarding globalized immigration and its implications for Global Citizenship Education has been pointed out that there are some tensions when migrant students are incorporated into schools and communities due to some national discourse (García-Sánchez, 2013; Davies et al., 2018).

Since the approval of the Sustainable Development Goals (SDGs) by the United Nations (UN) in 2015, GCE is increasingly capturing the attention of researchers and practitioners in the field of education from all parts of the world (Chiba et al., 2021). Additionally, other international organizations, agencies, and local governments are supporting the incorporation of GC into education systems through various projects and initiatives (Palaz, 2021; Ahmed and Mohammed, 2022). Therefore, it is not unreasonable to think that academic research on the subject has increased, and that is why this paper aims to examine the existing literature on GCE (up to 2021) in journals indexed in the Web of Science (WoS). A total of 350 articles will be analyzed from two perspectives, one bibliometric and the other through content analysis. The analysis will provide valuable information on the field, such as identifying productive and influential units (authors, countries, journals, and others), evolution over time, intellectual structure, and thematic trends.

This work seeks to refine what was done by Palaz (2021), who examined articles published on GC and education in a wide range of WoS collection journals, irrespective of the language and WoS’ index. Here, we aim to evaluate the trends of articles published in impact journals (excluding those of regional importance) as well as to evaluate the topics addressed in greater depth through content analysis. Then, we have only included the main WoS Collection journals because it provides the leading scientific production. The details of the selection are given in the methodology.

The structure of this article is organized as follows: In Section 2, the study’s methodology is described. In Section 3, the scientific production is analyzed, and the results are presented. Finally, the findings are discussed, and conclusions are drawn.

2. Methodology

This article examines the literature on GCE in journals indexed in the WoS. Specifically, the paper seeks to: (1) document the volume and growth trajectory of knowledge production, (2) identify countries, journals, authors, and key publications (both in the sample analyzed as well as the references cited), (3) perform a science mapping of the knowledge base on GCE, and (4) discover the thematic foci of the empirical papers in the sample in order to find emerging trends and ideas in the field of study.

For this purpose, a bibliometric analysis is carried out first. Bibliometrics is based on statistical techniques that review and analyze the patterns, development, and overall intellectual structure of the scientific literature (Dreesbach-Bundy and Scheck, 2017). The approach can generate a comprehensive analysis of knowledge in a field (Vatananan-Thesenvitz et al., 2019) and provides the opportunity to establish degrees of interaction between units of analysis, summarize large data sets, and identify popular topics (Grossecck et al., 2019).

The WoS was used as the database for this review. It has the oldest and most comprehensive record citation indexes and allows the examination of a sufficient amount of high-quality literature (Ellegaard and Wallin, 2015). Additionally, this bibliographic database is widely accepted by the academic community, being used for various purposes, including bibliometric analyzes (Pranckutė, 2021).

The search was carried out using the concepts of “education” and “global citizenship.” Next, the documents were filtered according to the following criteria:

- *Type of document (article)*. Publications such as book chapters, editorial material, and book reviews, among others, were excluded.
- *Year*. 2022 was excluded from the analysis because it is an unfinished year.
- *Web of Science Index*. Emerging Sources Citation Index (ESCI) was excluded because it is a recent collection without impact factor (JIF) and groups journals of rather regional importance (Pranckutė, 2021). ESCI has been criticized for not “leveling up” with the other collections regarding journal selectivity (Ho, 2019).

Figure 1 details the workflow for data collection. The result was 350 articles, constituting the sample on which we work. On September 1, 2022, the complete record of these articles was extracted in txt format (plain text file) to be subsequently analyzed in the Bibliometrix (R Studio) and VOSviewer programs.

Bibliometrix (Aria and Cuccurullo, 2017) was used primarily to obtain descriptive statistics, while VOSviewer (Van Eck and Waltman, 2010) allowed the construction of co-authorship and author co-citations (ACA) maps, which is also can be calling as *bibliographic coupling*. Co-authorship analysis, in this case, allows us to show joint publication relationships between countries. In contrast, ACA—a particular form of co-citation analysis—helps to identify whether two authors are correlated by assessing the frequency with which they are cited together in subsequent works (He and Hui, 2002). Co-authorship and co-citations constitute science mapping techniques (Donthu et al., 2021).

The fourth proposed goal was addressed by reviewing the 350 articles to identify empirical papers. A detailed review of the articles

was then carried out through content analysis to recognize the different topics covered and to clearly indicate the areas that require further research (Kazemi et al., 2019). The thematic categories in this study were obtained inductively, that is, through review of the papers themselves (Luo et al., 2018).

3. Results

The results, ordered according to the research questions, are presented below.

3.1. Volume and growth trajectory of knowledge production

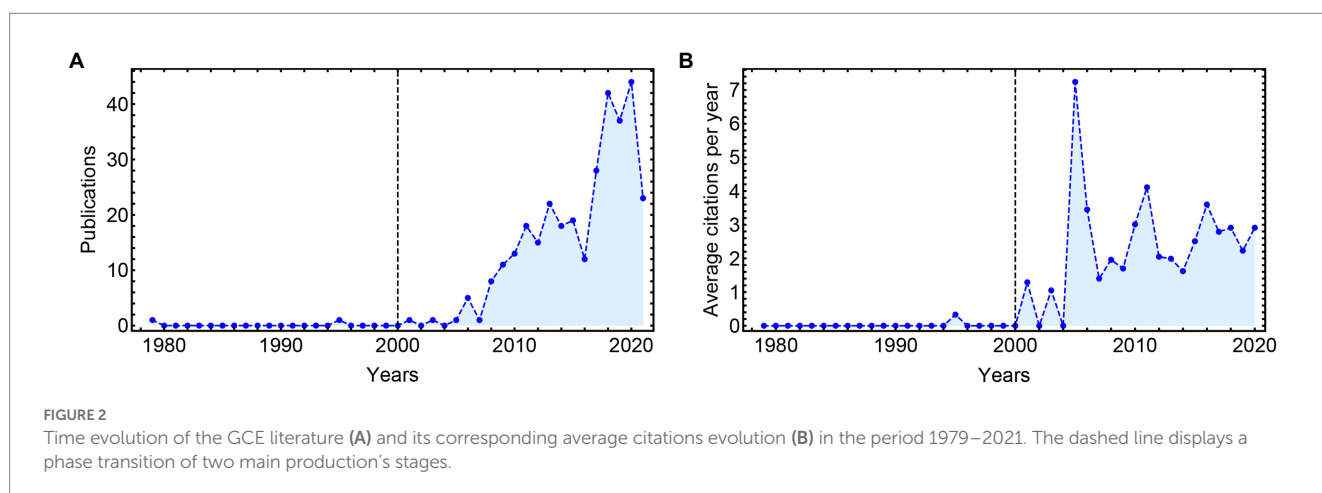
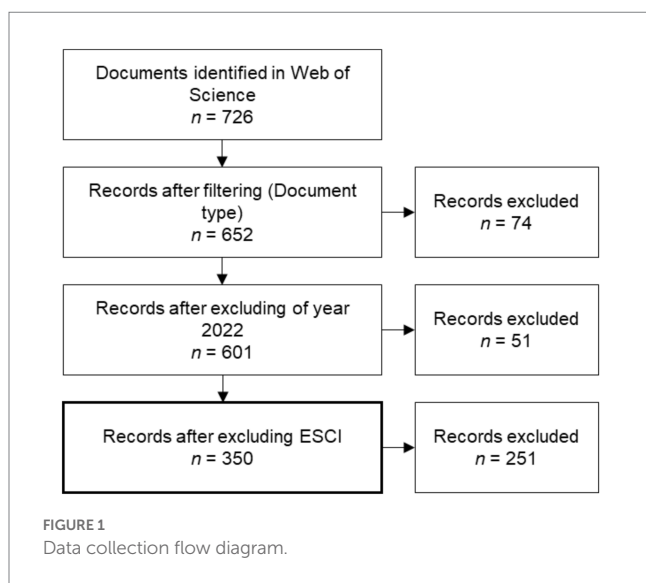
The analysis was based on a total of 350 articles related to GCE. The results show that the first record on the subject was in 1979 (Allahwerdi, 1979), indicating more than 40 years of relevant research production. Figure 2 shows the time evolution of the GCE literature (a) and its corresponding average citations evolution (b) in the period

1979–2021. From panel (a), it is possible to separate the growth trajectory into two main periods.

The first stage comprises the period 1979–2000 and has been identified as an initial stage, where scientific contributions were rather marginal (0.6% of the total production analyzed, 2 articles). At this stage, no prominent keywords are identified, since none of them has a minimum of two mentions.

After this period, the second stage of production appears, in which a substantial increment in knowledge production and average number of citations can be observed. In fact, the number of articles evolves with a power law of the fourth order until 2020, showing that this topic has gained an interest in the scientific community. In 2021 there is a delay in the number of published articles with respect to the previous 4 years, but a delay in the database information could be the reason. One can also notice that two of the most quoted articles are found during the second stage (Davies et al., 2005; Davies, 2006), which reflect on the notion of *global citizenship* according to its meaning and frameworks for action. Besides, we can observe that an intermediate substage that covers 2007–2015 accumulates 35.71% of the knowledge production (125 articles). Here the keywords *cosmopolitanism* and *pedagogy* stand out (each with three mentions). *Cosmopolitanism* is a prescription that the moral position of all people should be treated equally. Different scholars adhere to this argument in education and insist that educational institutions should prepare students for an increasingly interconnected and interdependent world (Rizvi and Choo, 2020). It is equally remarkable that three of the five most cited articles are from this period (Baillie Smith and Laurie, 2011; Oxley and Morris, 2013; Huckle and Wals, 2015). These cover different aspects such as international volunteering, the UN resolution that called for a “Decade of Education for Sustainable Development” (DESD), and the ambiguity of conceptions of “global citizenship,” respectively.

Furthermore, one can see that the number of articles since 2016 has showed accelerated growth due to the power law behavior, in which the 61.43% of the production is performed with 215 publications. Within the highlighted keywords of this period are *cosmopolitanism* (frequency = 14 times), *globalization* (frequency = 13 times), *higher education* (frequency = 11 times), *curriculum* (frequency = 9 times), *internationalization* (frequency = 9 times), and *migration* (frequency = 8 times). These concepts reflect the academic community’s broadening of research on GCE. The research began to



embrace contingent issues of the time, such as migration—especially relevant due to the migration crisis in different parts of the world, which has brought great challenges to education systems—and internationalization, which seeks to integrate international, intercultural, and global dimensions into education—especially at the post-secondary level—and to respond to an increasingly globalized world. Although this period is the most productive out of the three, its articles have yet to reach levels of influence that would propel them to the ranking of the most quoted publications in the sample.

Finally, let us comment that the average citation per year follows the same type of transition in the stages, as one can observe in panel (b) of Figure 2.

3.2. Countries, journals, authors and key publications

Regarding countries, the WoS indicates that 49 contributed to the papers analyzed in this study. It is necessary to indicate that when we speak of country, we are referring to the nation where the author (or co-author) works, which may differ from the country of birth or citizenship. Table 1 shows the most productive nations in the sample. In this table, it can be seen that there is a noticeable geographical imbalance, since three countries—the United States (USA), England, and Australia—concentrate 63.14% of the knowledge production. Although Sweden does not contribute significantly to the total corpus of articles, it has had a significant impact on academia if the average number of references per article is taken into account.

TABLE 1 Most productive countries (minimum five documents).

Rank	Country/Region	Count	Total citations	Average citations
1	United States	107	1,839	17.19
2	England	72	1,686	23.42
3	Australia	42	509	12.12
4	Canada	27	515	19.07
5	China	27	337	12.48
6	South Korea	22	272	12.36
7	Israel	12	172	14.33
8	Denmark	10	82	8.20
9	Netherlands	9	191	21.22
10	Singapore	9	76	8.44
11	Spain	9	46	5.11
12	Scotland	8	93	11.63
13	New Zealand	7	93	13.29
14	South Africa	7	117	16.71
15	Italy	6	22	3.67
16	Japan	6	67	11.17
17	Finland	5	25	5.00
18	Germany	5	36	7.20
19	Norway	5	29	5.80
20	Sweden	5	158	31.60

Globally, European nations have the highest representation in the sample articles (136), followed by North American (132), Asian (83), Oceanic (48), and African (10). Eurasian countries (Russia, Turkey and Cyprus) and the rest of the nations of the Americas are represented in eight publications, respectively. It is important to highlight the significant role played by North America in the generation of knowledge on GCE. Although only two of its nations participate (the United States and Canada), it has only a minimal difference with Europe, in which 21 countries contribute. Furthermore, if we compare the participation of nations from the Global North and the Global South, we find that the former is represented in 90.29% of the publications. In comparison, the latter barely reaches 16.29%. That indicates that developed countries publish the most on the subject.

We can observe an imbalance in productivity between the Global North and the Global South. In fact, the first WOS article published in the Global South was in 2007, which is a long delay in starting point of both countries' set since the seminal ideas were published in the 80's. After several years, the gap between Global North and the Global South has been reduced, but the difference will continue on time. The networks among countries could reduce it.

The 350 articles were published in 158 different journals. These numbers are positive, as they indicate that they are not only published in journals specialized in the field of education but also in sources with other thematic foci—such as sociology, environment, sustainability, anthropology, and others—which can enrich the discussion by linking different perspectives.

Table 2 shows the most relevant journals. Here, it can be seen that *Compare* and *Journal of Studies in International Education* are the most productive, with 17 publications each. On the one hand, concerning the influence of the journals, measured by the number of citations, the *Journal of Studies in International Education*, *Environmental Education Research*, and the *British Journal of Educational Studies* are the most outstanding (TC > 300 citations), meanwhile, if the average number of citations per article is considered, *Educational Review* (43.00) and *Environmental Education Research* (40.63) emerge above the others. Based on the above productivity and influence, the authors suggest that *Compare*, the *Journal of Studies in International Education*, *Environmental Education Research*, the *British Journal of Educational Studies*, and *Educational Review* are core journals on GCE topics.

The listed journals contribute 144 articles, representing 41.14% of the total. Considering the WoS quartile to measure the impact factor of the journals, 10 out of the 18 listed have Q1 or Q2 in some WoS category, suggesting that a sizable percentage of the research in this field meets high-quality standards.

According to the data extraction date, the articles accumulated 5,263 citations in total. Table 3 shows the most influential scholars. The pattern of relatively low citation counts as a reflection of GCE's youthful vintage. Despite this, the analysis highlights the influential contributions of M. A. Tarrant (University of Georgia), M. B. Smith (Northumbria University), and L. Davies (University of Birmingham), who have more than 160 citations each. If scholarly productivity is considered a measure of contribution to the literature, then M. Yemini (Tel Aviv University) should also be named as a key author. Evaluating the latest affiliations indicated by the authors in their papers, the UK (4) and the United States (3) have the highest number of influential academics among their ranks.

TABLE 2 The most productive journals that include GCE-related publications, indexed in the WoS (minimum five documents).

Rank	Journal	Count	Total citations	WoS categories	Quartile 2021
1	<i>Compare: A Journal of Comparative and International Education</i>	17	235	EER	Q3
2	<i>Journal of Studies in International Education</i>	17	555	EER	Q2
3	<i>Asia Pacific Journal of Education</i>	11	32	EER	Q4
4	<i>Journal of Curriculum Studies</i>	10	236	EER	Q3
5	<i>British Journal of Educational Studies</i>	9	308	EER	Q3
6	<i>British Journal of Sociology of Education</i>	8	68	EER; SOCIOLOG	Q3; Q3
7	<i>Discourse: Studies in the Cultural Politics of Education</i>	8	74	EER	Q3
8	<i>Environmental Education Research</i>	8	325	ENV; EER	Q2; Q1
9	<i>Higher Education Research & Development</i>	8	172	EER	Q2
10	<i>Asia Pacific Education Review</i>	6	33	EER	Q3
11	<i>Educational Review</i>	6	258	EER	Q1
12	<i>Sustainability (Switzerland)</i>	6	31	ENV; ENVSC; GSST	Q2; Q2; Q3
13	<i>Anthropology & Education Quarterly</i>	5	19	EER; ANTR	Q4; Q2
14	<i>Higher Education</i>	5	56	EER	Q1
15	<i>Journal of Geography in Higher Education</i>	5	23	EER; GEO	Q4; Q3
16	<i>Language and Intercultural Communication</i>	5	69	LING	Q2
17	<i>Teaching and Teacher Education</i>	5	108	EER	Q1
18	<i>Teaching in Higher Education</i>	5	27	EER	Q2

EER, Education & Educational Research; SOCIOLOG, Sociology; ENV, Environmental Studies; ENVSC, Environmental Sciences; GSST, Green & Sustainable Science & Technology; ANTR, Anthropology; GEO, Geography; LING, Linguistics.

TABLE 3 Rank order of the 10 most cited authors.

Rank	Author*	Country	Count	Total citations	Average citations
1	Tarrant M. A.	United States	6	189	31.50
2	Smith M. B.	England	3	170	56.67
3	Davies L.	England	1	169	169.00
4	Yemini M.	Israel	10	158	15.80
5	Laurie N.	Scotland	2	155	77.50
6	Bajaj M.	United States	2	151	75.50
7	Huckle J.	England	2	135	67.50
8	Choi K.	South Korea	2	132	66.00
9	Kim S. W.	South Korea	2	132	66.00
10	Krajcik J.	United States	2	132	66.00

*666 authors in total.

TABLE 4 The top ranked papers by citation.

Rank	Author/s	Journal	Year	Total citations	TC/Year
1	Davies	<i>Educational Review</i>	2006	169	9.94
2	Huckle and Wals	<i>Environmental Education Research</i>	2015	131	16.38
3	Oxley and Morris	<i>British Journal of Educational Studies</i>	2013	129	12.90
4	Baillie Smith and Laurie	<i>Transactions of the Institute of British Geographers</i>	2011	129	10.75
5	Davies et al.	<i>British Journal of Educational Studies</i>	2005	123	6.83
6	Bajaj	<i>Human Rights Quarterly</i>	2011	109	9.08
7	Morais and Ogden	<i>Journal of Studies in International Education</i>	2011	105	8.75
8	Pedersen	<i>International Journal of Intercultural Relations</i>	2010	94	7.23
9	Osler	<i>Journal of Curriculum Studies</i>	2011	91	7.58
10	Levitt	<i>Ethnic and Racial Studies</i>	2008	84	5.60

Table 4 identifies the highly cited papers as reported by the WoS. Broadly speaking, the number of citations of the listed papers can be classified as “low” when compared to reported trends in research focused on education for sustainable development (ESD) (Grosbeck et al., 2019; Hallinger and Chatpinyakoo, 2019). Considering that ESD and GCE belong to the same goal (4.7 of SDG4), it reinforces the idea that GCE is still an emerging field in the specialized literature. Moreover, it is found that two of the 10 most influential papers were published in the *British Journal of Educational Studies* and that England (6) and the United States (4) have the highest number of significantly associated articles.

The topics covered by the papers presented in Table 4 are diverse; for example, some focus on the definition of the meaning and scope of GCE (Davies et al., 2005; Davies, 2006; Oxley and Morris, 2013), the review of models organized around it (Bajaj, 2011) and the creation and validation of scales to help measure it (Morais and Ogden, 2011). In contrast, others cover more specific aspects linked to GCE, such as international volunteering (Baillie Smith and Laurie, 2011), study abroad (Pedersen, 2010), curriculum design and pedagogy in learning for citizenship (Osler, 2011), religion in transnational civic and political embodiment debates

TABLE 5 The top 10 most co-cited publications.

Rank	Author/s	Journal/Editorial	Year	Co-Citations
1	Andreotti	<i>Policy & Practice</i>	2006	43
2	Oxley and Morris	<i>British Journal of Educational Studies</i>	2013	40
3	Davies	<i>Educational Review</i>	2006	39
4	Goren and Yemini	<i>International Journal of Educational Research</i>	2017	30
5	Shultz	<i>Alberta Journal of Educational Research</i>	2007	25
6	Dill	<i>Routledge</i>	2013	24
7	Veugelers	<i>Globalization, Societies and Education</i>	2011	23
8	Banks	<i>Educational Researcher</i>	2008	23
9	DeWith	<i>SFU Educational Review</i>	2014	23
10	Appiah	<i>W. W. Norton & Company</i>	2006	20

(Levitt, 2008), and resolutions by international bodies (Huckle and Wals, 2015).

When constructing Table 5, a co-citation analysis was performed in VOSviewer. The software detected 15,197 references used in the 350 articles. Particularly remarkable are the papers by Oxley and Morris (2013) and Davies (2006), as they are among the most frequently referenced and co-cited in the sample (see Tables 4, 5), thus suggesting the considerable influence these authors have had on the literature.

Meanwhile, Andreotti’s article (2006) holds first place in the ranking. Here, the author explores how critical education can effectively support students in understanding global issues. The other publications focus on teachers by addressing their perspectives on global citizenship (Veugelers, 2011; Dill, 2013) and effective methods for their professional development in line with the new requirements of education (DeWith, 2014). They also reflect on the conceptions and intentions of global citizenship (Shultz, 2007; Banks, 2008), analyze the patterns of scientific production on GCE (Goren and Yemini, 2017), and reflect from different disciplines on the ideology of cosmopolitanism (Appiah, 2006).

3.3. Science mapping of the GCE knowledge base

Science mapping involves assessing the relationships between different components of the analyzed material (Donthu et al., 2021). Considering that modern scientific research is mainly collaborative (Grosbeck et al., 2019), the authors of this paper set out to evaluate the

co-authorship of countries to identify the possible existence of interactions between international scientific communities. An analysis of the co-citations of authors was also proposed, as is common practice in science mapping (Vatananan-Thesenvitz et al., 2019), since it helps to identify the intellectual structure of a research field.

The maps' interpretation relies on having the node as the unit of analysis—in this case, the co-cited countries and authors. The node size indicates the impact produced by the unit (for countries, the impact is measured by the number of contributions, while for co-citations, it is measured by influence). The lines show the links between the nodes, while the thickness of the lines and the distance of the nodes indicate the strength of the interaction.

The country co-authorship network is showed in Figure 3. The diversity of colors on the map shows the different research directions (Liao et al., 2018). England (*Total Link Strength*=34) and the United States (*TLS*=33) are the most collaborative countries in the sample. They are followed further behind by Australia (*TLS*=20), China (*TLS*=14), and Canada (*TLS*=13). The United States's strongest collaborations are with South Korea (*Link Strength*=7) and New Zealand (*LS*=4), while England's are with Australia (*LS*=5), Israel (*LS*=4), China (*LS*=4), and Sweden (*LS*=4). The levels of collaboration between the United States and England are also outstanding (*LS*=4).

Among the 10,473 co-cited authors, 56 reached a threshold of a minimum of 20 co-citations (see Figure 4). The map shows four clusters (identified by different colors), which represent “schools of thought” or broadly similar research interests (González-Valiente et al., 2021).

The yellow cluster includes international organizations that have aimed to raise awareness of the importance of GCE, such as UNESCO (106 co-citations) and the United Nations (21). It also groups authors whose lines of research focus on citizenship and global justice for educational development. The most influential authors in this group include Vanessa Andreotti (84), Karen Pashby (62), and Lynette Shultz (44). The blue cluster represents the school of thought focused on education in international contexts. Some of the key authors in this group are Lynn Davies (67), Audrey Osler (62), Fazal Rizvi (51), and Ian Davies (39). Additionally, this cluster brings together a philosophical and more ethical perspective on education, whose leading exponents are Kwame Anthony Appiah (36) and Daisaku Ikeda (36).

The green cluster focuses mainly on addressing global citizenship and comparative education, with leading scholars such as Heela Goren (66) and Miri Yemini (51), as well as intercultural and social education,

whose leading exponents are James A. Banks (76), John P. Myers (42) and Wiel Veugeliers (38). Finally, the red group, accumulating the most significant number of authors, shows, not surprisingly, a wider variety of topics. For example, as is the case with the yellow group, it includes organizations that seek to promote GCE and carry out GCE-related projects, such as the Ministries of Education (42), OXFAM (37), and the OECD (23). Also included are classic authors of educational theories, such as Henry A. Giroux (34) and Paulo Freire (33), and authors who link philosophy and education, such as John Dewey (39) and Martha C. Nussbaum (40). Similarly, the perspective that addresses the international dimension of higher education and education for global citizenship and sustainable development stands out, with exponents such as Jane Knight (30) and Douglas Bourn (45), to name a few.

3.4. Topical foci

Sixty percent of the articles in the sample correspond to empirical work. The main research topics are detailed in Table 6.

As seen in Table 6, the category “Student mobility” is the one with the most significant number of articles. Hence, let us analyze this topic in more detail. Table 7 shows 10 articles that addressed student mobility and its corresponding relationship to global citizenship.

4. Discussion

These findings indicate that, although scientific production on the subject began almost at the beginning of the 1980s, it was in 2016 when knowledge generation increased significantly. The explanation for this can be found as early as the beginning of this century. GCE in the educational agenda has garnered increasing attention (Pashby et al., 2020), whose consolidation came in 2015 when the United Nations established it in its educational agenda for 2030 as an important goal to be achieved (Edwards et al., 2020), providing a normative framework and strategies for its implementation (Palaz, 2021).

There was also a notable concentration of knowledge production in countries of the Global North, driven mainly by the United States. Meanwhile, the nations of the Global South only accounted for 16.29% of the articles in the sample. Such a discrepancy can be problematic (Hallinger and Chatpinyakoo, 2019) as each country has a different level of development and cultural background and this can cause

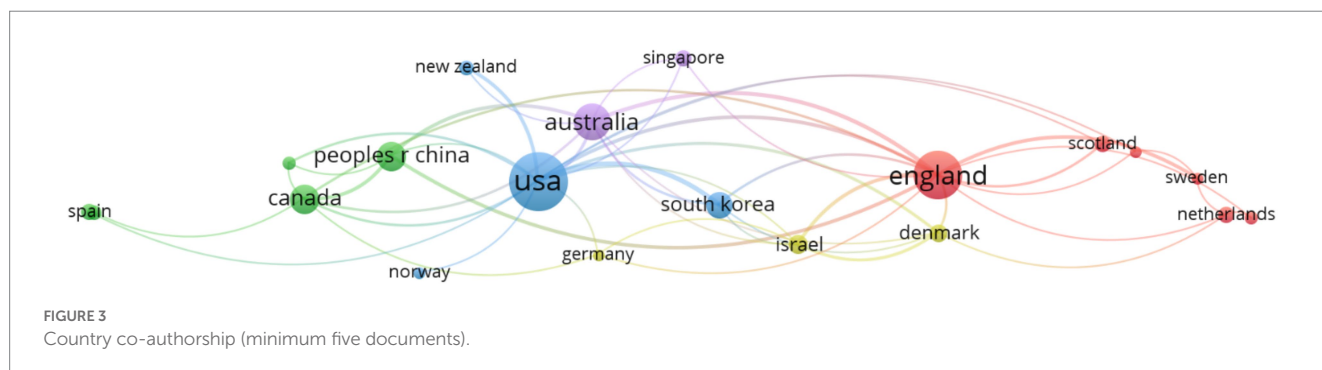


TABLE 7 Studies in the “Student mobility” category.

Author(s), year	Purpose	Main conclusions
Reuter and Moak (2022)	Assess the impact of a short-term study abroad programme on students’ perceptions of their role as global citizens.	Immersive short-term study abroad experiences that include extensive community engagement have the potential to change students’ perception of the world and the way they see their role in it.
Byker and Putman (2019)	Examine the effects of preservice teachers engaging in a study abroad program to South Africa.	It was found that the study abroad experience was a catalyst for enhancing preservice teachers’ global competencies, intercultural awareness, and cultural responsiveness as the participants widened their perspectives of what it means to be a critically cosmopolitan educator and citizen.
Cheng and Yang (2019)	Examine the experiences of overseas education on Chinese students studying in American high schools, and the mechanisms through which potential growth takes place.	International sojourning experiences have the potential to foster students’ GC, as they can help them develop global competencies (knowledge, understanding and skills) and global consciousness (values and attitudes).
Klein and Wikan (2019)	Analyze a three-month teaching internship program in Namibia offered to Norwegian student teachers.	The findings revealed that many student teachers expressed more tolerance and openness toward otherness after the programme than before. However, ethnocentric and neocolonial attitudes toward certain aspects of Namibian society, traditions, and educational practices were found.
Mason and Thier (2018)	Evaluate the impact of a short-course study abroad program on students’ global citizenship orientation.	Students engaging in, reflecting upon, and conceptualizing global citizenship while studying NGOs in Thailand and Cambodia. Therefore, it is concluded that short courses can assist students in igniting a learning process toward global citizenship.
Larsen and Searle (2017)	Demonstrate how an international experience within a teacher education program shaped student teachers as global citizens.	Participants became culturally aware global citizens (e.g., deeper understanding of and appreciation for different perspectives, linguistic and cultural diversity). It highlights the fact that transformations that occur through international practicum placements are sustained over time and have the potential to inform teaching practice in positive and progressive ways.
Allan and Charles (2015)	To explore how students in two UK schools used travel to position themselves as successful, mobile, global citizen subjects.	Travel could provide young people with opportunities in which to engage in ethical relations with global others and to encounter assumptions about living which dramatically differ from their own. The authors caution that school travel requires greater attention from researchers, not only for the learning potential but also because of the possibilities which it might offer for the production of global citizen subjectivity.
Hatipoglu et al. (2014)	Present a real case used in tourism education to equip students with global citizenship and to improve their skills and knowledge in developing sustainable tourism in a global setting.	The results indicated a change in the dimensions of intercultural communication, global knowledge and political voice of the students, as well as in their conceptions of sustainable tourism development. The authors conclude that the design of educational programs should be contextual, as this can help achieve effectiveness by integrating tourism development with sustainability concepts.
Lough and McBride (2014)	Examine whether international volunteers from the Global North change their perceptions of global citizenship following a service placement in the Global South.	Findings suggest that global citizens may maintain an active civic identity rooted in overlapping locations. In addition, heightened notions of global citizenship appear to have a significant effect on returned volunteers’ interest in international affairs and active engagement across national borders.
Tarrant et al. (2014)	To explore the effect of an educational travel program focusing on sustainable development and offered in one of two destinations, Australia or New Zealand, in nurturing global citizenship.	Educational travel can nurture global citizenship, a range of behaviors that promote environmentalism, civic engagement, and social justice. It is considered essential to ensure that the academic structure and delivery mechanisms of these programs remain true to the principles of experiential education (a triad of subject matter, practice and context).

differences in how they understand and address these new challenges (Grosbeck et al., 2019). This imbalance in scientific production has already been documented in previous work (Yemini et al., 2019; Palaz, 2021). Some reasons for this may be that knowledge production in education is influenced by theories produced in industrialized countries of the Global North (Guzmán-Valenzuela et al., 2020). Likewise, perhaps developed countries have more universities and research institutions that require a constant publication policy in the field of SDGs (Grosbeck et al., 2019). Another explanation may be the

one given by Palaz (2021), who points out that English as a publication language may be one of the factors that make these countries pioneers in scientific research—a view that is strengthened if it is considered that over the years, the WoS has proven to be biased toward sources that publish in that language (Pranckutė, 2021).

Regarding the most productive journals, *Compare* and *Journal of Studies in International Education* were found to lead the category. Both journals specialize in education and enjoy medium-high impact levels (Q3 and Q2, respectively). Jing et al. (2021) had already detected

in a previous study that, in *Compare*, two of the most addressed topics were citizenship education and the internationalization of education, which is closely linked to the first concept. On the other hand, the second journal has been highlighted for its contribution to the dissemination and consolidation of internationalization as a field of research. It is even considered an indicator to identify general developments and trends in the area (Bedenlier et al., 2018). However, when evaluating the levels of influence, the authors proposed to equally name the following journals as core journals in the field: *Environmental Education Research*, the *British Journal of Educational Studies*, and *Educational Review*. All of these specialize in education and enjoy high levels of impact.

The co-authorship analysis showed that, generally speaking, geographic proximity and even common language are not the main factors influencing international scientific collaborations. Interestingly, one would expect geographically and culturally closer countries to form more robust collaborative networks. For its part, the network of co-citations of authors demonstrated the multidimensionality of research on GCE (Palaz, 2021) since the clusters formed in the network are composed of authors who address the topic from various perspectives (advocacy, awareness, contextualization, reflection, among others).

The content analysis of the empirical articles showed a variety of topics addressed around GCE, out of which the most prominent were student mobility, initiatives to promote GC and sustainability, understandings, practices and perceptions around GC and related concepts, and international and intercultural education through virtuality and curriculum. Themes that could be considered emerging in the field were also identified, such as those centered on refugees and expatriates, political activism, the formation of future global leaders, and religious attitudes, among others.

The results show that GC is linked in the empirical articles of the sample mainly to the concept of internationalization of education, which corresponds to an institutional process focused fundamentally on international students (incoming and outgoing) and on the teaching and learning challenges that the growing diversity of the student population poses to educational institutions (Sá and Serpa, 2020). The connection of the two variables may be related to internationalization being considered an integral, holistic process, which has a strong social dimension that requires connecting the institutional to the global and transnational contexts of education (Bedenlier et al., 2018).

Although the proposed study here delivers an overview of the research field, the results presented should be taken with caution, as the scope of the work poses some limitations. For example, the production of indexed journals from one database room (WoS) was studied, and others that may include a broader range of articles, such as Scopus (Vatananan-Thesenvitz et al., 2019) or Google Scholar (Martín-Martín et al., 2018), were not considered. Also, by not considering ESCI, the underrepresentation of countries from the Global South may have been exacerbated, as this collection is known to group a more significant number of regional and non-English language documents (Pranckutė, 2021). Restricting the analysis to only articles may have also left out some papers that would have helped to gain a better understanding of the field of study. Finally, the thematic categorization performed was based on the authors' judgments and, therefore, had a significant subjective component and does not make it an entirely replicable process (Pedraja-Rejas et al.,

2022a). Future research could address some of the limitations presented here, thus helping to deepen the understanding of this field of research.

5. Conclusion

This paper examined the existing literature on GCE in journals indexed in the WoS until 2021. Among other trends, the main findings shown here allow a deeper understanding of the GCE domain by identifying key research, the intellectual structure, existing relationships, and the consolidated and emerging topics of the field.

Knowledge production around GCE has increased considerably in recent times, yet in numerical terms, it still lags behind other areas of the educational domain (e.g., Cullen, 2017; Song et al., 2019; Hernández-Torrano and Ibrayeva, 2020; Shen and Ho, 2020; Wang and Lv, 2021). Therefore, the academic community is invited to continue research on the subject—to formulate, evaluate and discern new theories that allow the consolidation of the field. A special call is made to researchers in the societies of the Global South to lead studies in their realities (political, economic, and cultural), as this can help to understand and promote the values, principles, and actions of GCE in their educational systems so that they are aligned with the new demands of the global educational agendas.

Data availability statement

Publicly available datasets were analyzed in this study.

Author contributions

All authors contributed equally to the research design and wrote the manuscript.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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