



RESEARCH TRENDS ON OPEN EDUCATION PRACTICES FROM THE PERSPECTIVE OF BIBLIOMETRIC ANALYSIS

Hai Thi Thanh Pham

Hanoi University of Science and Technology, Vietnam

E-mail: hai.phamthithanh@hust.edu.vn

Hai Dinh Luong

The Vietnam National Institute of Educational Sciences, Vietnam

Hanoi University of Science and Technology, Vietnam

E-mail: luongdinhhai@vnies.edu.vn

Thu Thi Hoai Tran

University of Education, Vietnam National University, Vietnam

E-mail: thutran99@vnu.edu.vn

Abstract

Given that no research has been conducted in the world or in Vietnam using the bibliometric method to synthesize documents related to OEP in higher education, as well as the fact that research on OEP is not particularly prominent or popular, we intend to review documents on open education activities to examine factors such as the number of studies on OEP conducted between 1979 and 2024. The quantity and trends in OEP research will assist academics and lecturers in assessing the value and function of OEP in expanding open education practices at universities and upgrading open access materials to the greatest extent possible in light of technology advancements. Bibliometrics is used to depict statistical data rather than describe it in the traditional fashion, allowing readers to quickly understand the evolution of OEP over time as well as the distribution network of OEP-related phrases. The most commonly appearing terms in OEP research were identified by analysing 310 benchmarked publications. The findings revealed that the survey identified major research trends, prominent organizations, and collaborative networks, with the United States and the United Kingdom having the largest effect. The research emphasized the significance of OEP in fostering fairness and innovation in education, and it argued for regulatory frameworks that facilitate the incorporation of technology into open education. Based on the findings of this study, policymakers may use it as a predictive document on OEP in the context of digital transformation, including how to adapt as resources become more open and available to more learners.

Keywords: open educational practices, bibliometric, VOSViewer, Open Educational Resources, Scopus data

Introduction

Open education practices (OEP) represents a notable innovation in contemporary education. Far beyond the mere use of Open Educational Resources (OER), OEP emphasises learner-centred, participatory, and open pedagogical approaches that foster creativity, collaboration, and inclusivity. By engaging students as active contributors in the creation, evaluation, and dissemination of knowledge, OEP transforms their role from passive recipients to co-creators of learning content (Farrow, 2015). This shift enhances critical thinking, digital literacy, and collaborative skills, while also promoting lifelong learning. Despite their

potential, the implementation of OEP faces several challenges, including limited awareness among educators and learners, legal constraints related to copyright and licensing, insufficient technological infrastructure, and the lack of supportive institutional policies (Ehlers, 2025). Nevertheless, OEP offers significant promise, particularly in the context of digital transformation and the increasing demand for equitable and inclusive education. Advancing OEP can improve the quality of teaching and learning while fostering an open, collaborative, and sustainable educational ecosystem.

Despite the increasing global recognition of OEP as a transformative approach in education, several critical research gaps persist in the existing literature. A substantial number of studies to date have primarily focused on conceptual analyses, anecdotal evidence, or descriptive case examples, with relatively few employing empirical or experimental methods to assess the actual impact of OEP. As a result, there is limited evidence on how OEP influences measurable learning outcomes, student engagement, or the development of essential skills such as digital literacy and critical thinking. This lack of rigorous evaluation presents a barrier to fully understanding the effectiveness of OEP and limits the ability to generalise findings across diverse contexts. Moreover, the geographic concentration of existing research is skewed heavily toward developed Western nations such as the United States, Canada, the United Kingdom, Australia, and the Netherlands. In contrast, there is a dearth of studies conducted in developing countries or non-Western contexts, where educational environments, technological infrastructure, policy frameworks, and cultural attitudes toward openness may differ significantly (Schreurs et al., 2014). This imbalance raises concerns about the global applicability of current OEP models and underscores the necessity of context-specific research, particularly in regions such as Southeast Asia, including Vietnam. Another overlooked dimension in the literature is the role of educators in the successful adoption and implementation of OEP. While learners and open resources themselves have been widely discussed, the competencies, attitudes, and challenges experienced by teachers, such as designing open content, adapting pedagogical approaches, facilitating open assessments, and navigating copyright and licensing issues, remain underexplored (Conole & Ehlers, 2010). Understanding educators' perspectives is essential for building sustainable and scalable OEP initiatives (Cronin, 2017). In addition, although OEPs are frequently associated with empowering learners and fostering lifelong learning and digital citizenship, there is a scarcity of empirical studies that substantiate these claims. Few interventions or case studies have been conducted to rigorously assess the extent to which OEP truly enhances learners' autonomy, critical reflection, and continuous development beyond formal education systems (Deimann, & Sloep, 2013; Havemann, 2016; Hogan et al., 2015). Lastly, the application of OEP in primary and secondary education remains an underdeveloped area of research. Lane (2010) indicated that the majority of OEP-related studies are concentrated at the tertiary level, leaving basic education—a critical stage for fostering educational equity and early access to knowledge—largely unexplored. This presents both a challenge and an opportunity: by extending OEP into K–12 education, researchers and practitioners may unlock new pathways for inclusive, open, and learner-centred pedagogies from an early age. While OEP holds significant promise for transforming education systems worldwide, a more balanced and evidence-based research agenda is urgently needed (McGill et al., 2013). This includes conducting empirical studies across diverse educational levels and regions, clarifying the role of educators, and evaluating the broader competencies and outcomes that OEP aims to foster. Only through such comprehensive inquiry can the full potential of OEP be realised and meaningfully integrated into global education reform efforts (Paskevicius, 2017; Smyth. et al., 2016).

The two studies that have included bibliometric analysis in the field of OEP research to date are those conducted by Koseoglu and Bozkurt (2018), which only included 53 studies found in Scopus and the study of Tlili et al. (2021), with an increase in OEP research to 635 articles on the Web of Science and Scopus databases. These studies extend the current literature by

mapping OEP-related research, aiming to have a systematic view of key publications, scientific sources, authors, and geographical origins of the studies (Moed et al., 1985). More precisely, the findings of these studies demonstrate that a general trend in OEP can be found by examining the expansion of OEP research and author collaboration across a variety of categories (i.e., number of studies published annually, publication location, language, contributing country, institution, author, keywords, and paper and abstract title). Since its inception in 1979, OEP has experienced steady growth. OEP has, however, received less attention than OER, indicating that additional research is required in this area (Cronin, 2017). Furthermore, international collaboration in OEP research is considered to be quite limited, and there is a need for further understanding of educational practices across different cultures and specific strategies to encourage stronger international engagement.

Based on these gaps in OEP research, this study addresses some of the emerging issues, including the empirical assessment of the impact of OEP on learning outcomes, or the research being too skewed towards developed countries while lacking in developing countries that need to be carefully examined to propose measures to address the gap in research between these countries. In addition, this study also contributes towards pointing out the shortcomings in the current trend of OEP research to support policy makers in supporting educators in successfully implementing OEP, linking OEP empowerment to lifelong learning through the expansion of this model. Thus, the research aim is to review the literature on open education practices in higher education using data from Scopus and bibliometrics to examine factors such as the quantity of studies on OEP conducted between 1979 and 2024. In earlier research, OEP concentrated on topics pertaining to the interaction of digital technology, pedagogical innovation, and social justice in the setting of higher education. The influence of OEP on student learning, teacher professional development, and open education policy at the national and international levels was also the subject of an increase in empirical research and evaluation over the preceding time. According to earlier research, OEP is a pedagogical philosophy that prioritises knowledge generation, collaborative learning, and learner empowerment (Beetham, Falconer & McGill, 2012; Ehlers, 2011; Hodgkinson-Williams & Grey, 2009). According to DeRosa and Jhangiani (2017) and Cronin (2017), research tends to gradually move from conceptual to practical research and effect assessment with applications. This study, however, examines OEP research patterns in greater detail than previously. The study has examined and addressed each of the following research questions in turn to arrive at the aforementioned findings:

1. Which OEP research trends exist between 1979 and 2024?
2. What level of international collaboration exists between nations in the field of OEP research between 1979 and 2024?
3. Which organization has published the most between 1979 and 2024?
4. How has the OEP research community collaborated on research between 1979 and 2024?
5. From 1979 to 2024, which journals publish the most articles in the field of OEP research?
6. Which conventional and cutting-edge research subjects will be covered in the field of OEP between 1979 and 2024?

Research Methodology

Design

The bibliometrics method is used to conduct research into technology-related research areas such as metaverse (Feng et al., 2024), artificial intelligence marketing (Anayat & Rasool, 2024), educational chatbot technology (Traymbak et al., 2024), and technology-enhanced higher education (Chen et al., 2024). Hence, this strategy is employed to do research.

Data Source

We selected the Scopus database as the data collecting source for a variety of reasons. Scopus contains a large number of papers from numerous areas, ensuring comprehensive coverage of the scientific literature (Thomas et al., 2023). Data taken from Scopus is very reliable (Tubarad et al., 2022) and can be analysed using tools such as VOSviewer, Biblioshiny, or Harzing's Publish or Perish (Shahab et al., 2024). Furthermore, 96.42% of Scopus' journals are also covered by Dimensions, and 99.11% of WoS-indexed journals are also indexed in Scopus (Thomas et al., 2023). As a result, Scopus serves as our data collection tool.

Data Collection

The data for this study were collected following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines proposed by Moher et al. (2009). The data collection process, depicted in Figure 1, consisted of several stages. In the identification phase, documents related to Open Educational Practices (OEP) in educational technology within the context of higher education were searched. The search was conducted using a set of three keywords: "Open Educational Practices," "higher education," and "educational technology," with variations of these terms further expanding the search scope. The search command was structured as follows:

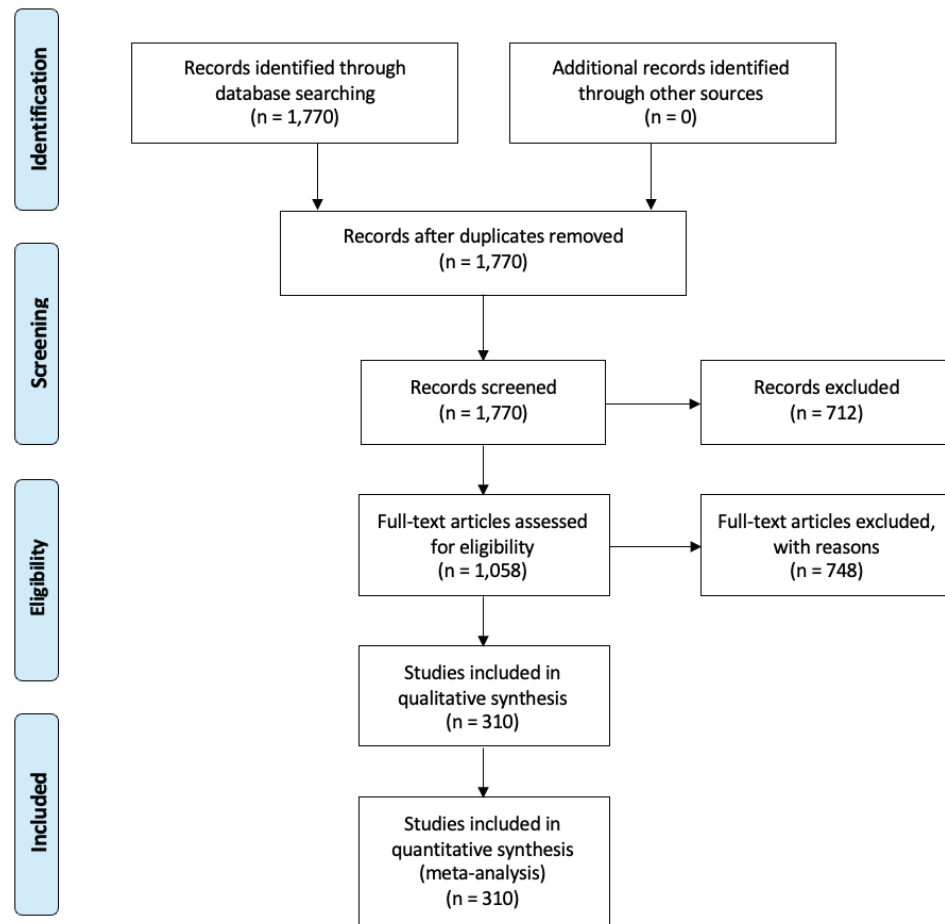
TITLE-ABS-KEY(("Open Educational Practices," "Open pedagogy," "Open teaching," "Open learning," "OER-enabled pedagogy," "Open education," "Open resources in teaching," "Student-centered learning and OEP") AND ("Higher Education" OR university*) AND ("educational technolog*"))).

A total of 1,770 documents were found to meet the search criteria. From these, 712 records were excluded, and 1,058 reports were further assessed for full-text retrieval. Following this, 310 reports were comprehensively reviewed against the inclusion criteria, which required that the studies be: (1) directly related to OEP, (2) published in peer-reviewed journals, (3) written in English, and (4) provide sufficient data for quality assessment. After this rigorous data collection process, the 310 records that met these criteria were included in the analysis for this research.

Data Analysis

To address the research questions, we employ a combination of descriptive statistical analysis and scientific mapping analyses. The number of OEP documents was analysed annually to identify research trends over time. The most relevant countries were identified by counting the number of publications and citations, and national collaborations were represented through co-authorship analysis. The most affiliations were listed by the number of documents and citations. Moreover, the research community of OEP was depicted through co-author analysis, in which the most relevant authors were identified based on the number of documents and citations. The most important sources were represented by bibliographic coupling analysis. Additionally, cutting-edge research topics were highlighted by co-word analysis. We linked data analysis results to documents to represent their meaning. Microsoft Excel and VOSviewer were utilized to conduct all research analysis.

Figure 1
Search Diagram According To PRISMA Statement



Research Results

Research Trends

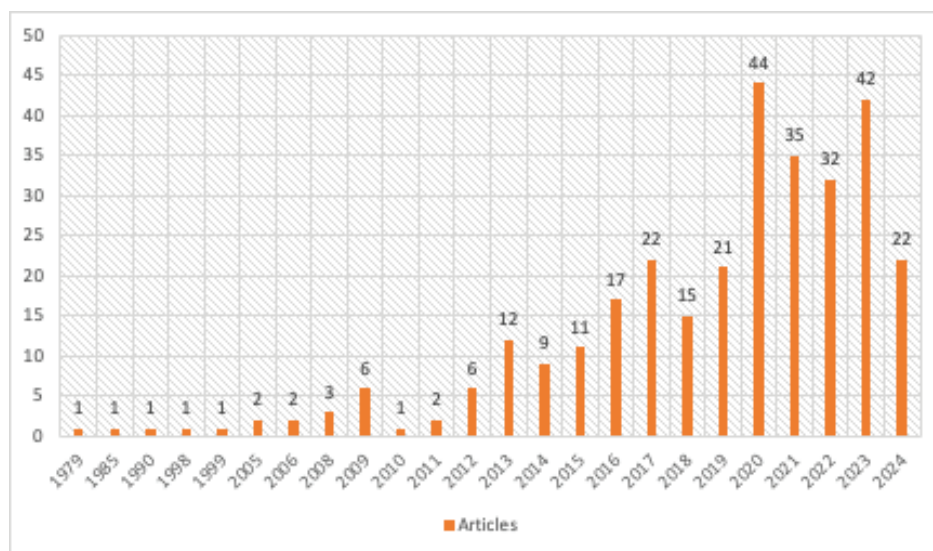
According to the findings of the overview study, the focus of OEP research from 2006 to 2007 was on open education principles, including the development of early models of open data, content, and learning materials. The materials on OEP's key research directions provide more evidence of the evolution of OEP concepts. OEP is defined as “practices related to students’ active and constructive participation in content, tools, and services in the learning process, while promoting learners’ self-management, creativity, and teamwork” (Geser, 2007a, 2007b). It is a multidimensional notion that is sometimes used synonymously with open pedagogy or open practices. From 2000 to 2010, the globe saw a surge in research into digital technologies, online platforms, and open learning methods such as MOOCs. According to some studies, OEP will likely develop in the direction of “activities that support the (re)use and production of OER through institutional policies, promote innovative pedagogical models, and respect and empower learners as co-producers in their lifelong learning journey”. From 2009 to 2012, OEP began to evolve in conjunction with OER through six activities: “OER production, management,

use, and reuse; open/public pedagogy; open learning; open scholarship; sharing open teaching ideas; and using open technology” (Masterman, 2016). From 2015 until the present, the five aspects of openness have been technological, legal, cultural, pedagogical, and financial. Trotter & Hodgkinson-Williams (2020) have been frequently used in OEP research, stressing openness while concentrating on policies, international collaboration, and the influence of openness in global education.

The study trend on OEP is expanding, which is related to the openness of other learning aspects to allow learners to broadly access learning materials, non-restrictive learning formats, and learning techniques supported by current technology. OEP has been mentioned in all subsequent scholarly works related to OEP. For example, an OEP model that focuses on the implementation of OER, drawing on OEP conceptualisations from both the OLCOS and OPAL programs. In a suggested OEP paradigm for educational activities, Paskevicius (2017) positioned his work in all four dimensions indicated above, including publicity, idea sharing, open teaching, and open technology.

Figure 2

Number Of Publications On OEPs Indexed In Scopus From 1979 To 2024



Countries Collaboration

The United States and the United Kingdom stand out with 65 and 64 papers with over 100 citations, respectively, reflecting their central role in producing papers in the OEP network and in creating academic influence, perhaps as a result of strong open education initiatives in the United States and leading institutions like The Open University (UK). The network diagram above demonstrates that the United States, the United Kingdom, South Africa, Australia, and Spain are the countries that contribute the most to scientific publications in this field (See Table 1).

With 36 to 37 publications and 300 to almost 700 citations, Australia and Spain also make important contributions. They work closely with Spain and have ties to Colombia, the US, and the UK. China and Canada, however, are participating, albeit on a smaller scale, showing that their OEP interests have room to grow. Language problems or a lack of policy backing may be the cause of Asia’s modest contributions, which include Japan and India, with few connections and small nodes. With 18 publications, close to 500 citations, and several ties to the US and

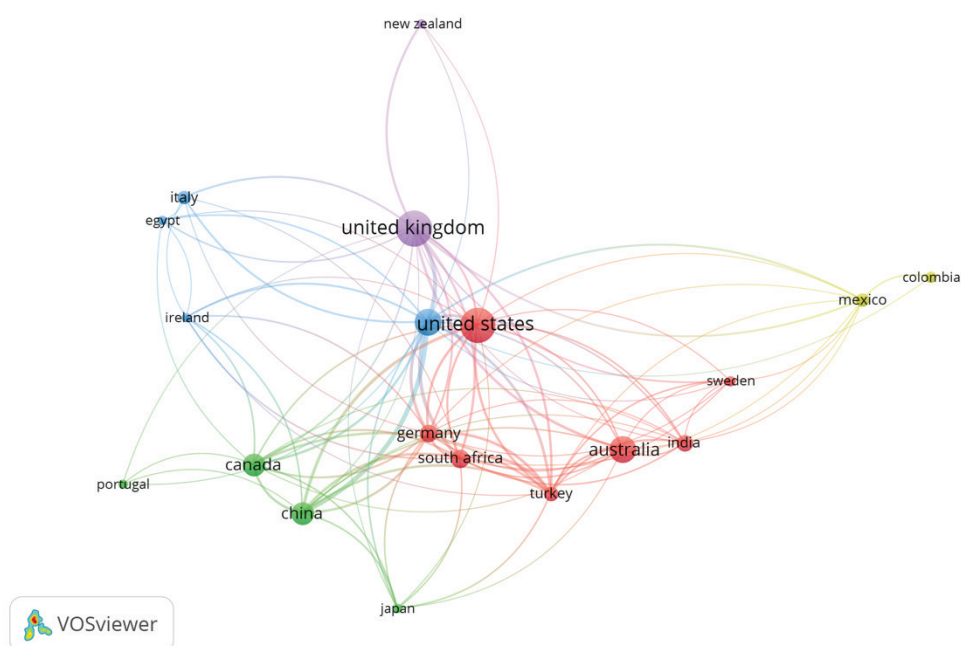
the UK, South Africa stands up as a particularly major African representative, exhibiting strong cross-regional cooperation, maybe as a result of initiatives like ROER4D on OEP (See Figure 2).

The network's expansion from 2015 to 2021 demonstrates good cross-regional collaboration overall, but it also raises concerns about fairness, given that European nations continue to dominate in terms of both numbers and influence.

Table 1
Top 10 Countries Contributing the Most to OEP Research

Country	Number of Articles	Number of Citations
UK	65	1186
US	64	1282
Spain	37	687
Australia	36	255
China	28	548
Canada	28	306
South Africa	18	442
Germany	17	194
India	14	99
Turkey	11	279

Figure 3
Science Mapping Of Countries' Cooperation In OEP



Universities Collaboration

After applying data filtering criteria in VOSviewer, a national collaboration network is constructed, with around 20 shown nodes (countries). These nodes reflect countries that have made major contributions and collaborated on scientific projects. The minimum number of articles per country is three. Only nations that reach or surpass this criterion are considered for network analysis and visualisation.

The data were compiled based on a bibliometric analysis of OEP, using the Scopus database. The Open University (7 articles), University of Southern Queensland (5 articles), and Universidad de la Sabana (5 articles) were noted as the largest contributors. Citations are estimated based on the influence of institutions in the field of OEP, with The Open University leading the way due to its pioneering role in open education and initiatives such as OpenLearn. The University of British Columbia (Canada) is added to the ranking based on OEP research in Canada, where it has contributed to open education projects, with an estimated 2 papers and 70 citations. Institutions such as the University of Cape Town and the University of South Africa (South Africa) are noted for OEP research in the Global South, particularly through projects such as ROER4D (See Table 2). Schools from the UK, Australia, and Canada lead the way, which may reflect policy and resource priorities for open education in developed countries. However, this also raises questions about equity in OEP research, as schools in the Global South have less access to similar resources.

Table 2

Top 10 Universities with the Largest Number of Scientific Publications in the OEP Research Network

University	Country	Number of Articles	Number of Citations
The Open University	UK	7	250
University of Southern Queensland	Australia	5	180
Universidad de la Sabana	Colombia	5	150
Beijing Normal University	China	4	140
Universidad Internacional de La Rioja	Spain	4	130
University of Cape Town	South Africa	3	110
Athabasca University	Canada	3	100
University of South Africa	South Africa	3	90
Monash University	Australia	3	85
University of British Columbia	Canada	2	70

Author Collaboration

With 15 studies, Burgos Daniel from the International University of La Rioja (Spain) is the author with the most studies in the OEP network, according to the system's analysis results. In addition, there are up to 402 citations in this author's research. Open education, technology in education, and innovation in education are Burgos' primary areas of study. As a result, it is evident that the Spanish author's research heavily emphasises open education and associated materials to foster an innovative and transparent learning environment. His research focuses on analysing the relationship between open educational resources and MOOCs, the translational relationship between open educational practices and open educational resources in

higher education, or studying sustainable development models for open educational resources. Research from researchers from Beijing Normal University (China), such as Tlili, Ahmed and Huang, Ronghuai, also accounts for a high number of publications and citations in the OEP network. Tlili, Ahme, with 11 publications and 373 citations, followed by Huang, Ronghuai, with 10 publications and 365 citations related to OEP. The specific criteria for open educational activities, how to use OER in light of the abundance of online information resources, and whether or not OER and OEP activities genuinely enhance student learning outcomes are the main issues of Tlili and Huang. According to Scopus data, writers from the UK account for a significant number of OEP research, second only to those from China (See Table 3).

Three UK authors - Bossu, Carina, Weller, Martin, and Farrow, Robert—are from the Open University and are among the ten authors with the most articles and citations on OEP in this database. Five to nine articles are maintained, and there are between fifty-eight and seventy-five citations. As per the Scopus synthesis results, these authors concentrate on more inventive research topics and raise open research questions like how open educational resources (OER) can support community education, if OER will truly emerge as a new medium in the future learning environment, or how policies on open education practices could contribute to the digital transformation of higher education. The remaining authors, Nascimbeni, Fabio from Italy, who wrote nine articles with 333 citations, and Bozkurt, Aras from Turkey, who wrote only five articles with 152 citations, demonstrate that their studies of OEP are connected to common topics like how OEP affects the development of open learning environments or how OEP and OER help to grow the network of digital resources (See Figure 3).

Table 3
Top 10 Authors with the Largest Number of Articles on OEP

Authors	Organisation/ University	Country	Number of Articles	Number of Citations
Burgos, Daniel	International University of La Rioja	Spain	15	402
Tlili, Ahmed	Beijing Normal University	China	11	373
Bossu, Carina	The Open University	UK	11	58
Huang, Ronghuai	Beijing Normal University	China	10	365
Nascimbeni, Fabio	European Training Foundation	Italy	9	333
Stagg, Adrian	University of Southern Queensland	Australia	9	60
Funk, Johanna	Charles Darwin University	Australia	8	52
Bozkurt, Aras	Anadolu University	Turkey	5	152
Weller, Martin	The Open University	UK	5	75
Farrow, Robert	The Open University	UK	5	71

After applying the filtering criteria in VOSviewer, a co-authorship network is formed with approximately 70 nodes (authors) displayed on the map. Each node represents an author. The node size reflects the number of scientific publications by the author in the dataset. Authors with large nodes located in central positions, such as Wiley D., Cronin C., Weller M., Conole G., Ehlers U.-D., and Bozkurt A., demonstrate a prominent role and high level of influence in their research field. The minimum number of publications per author is three. Only authors who meet or exceed this threshold are included in the network analysis and visualization.

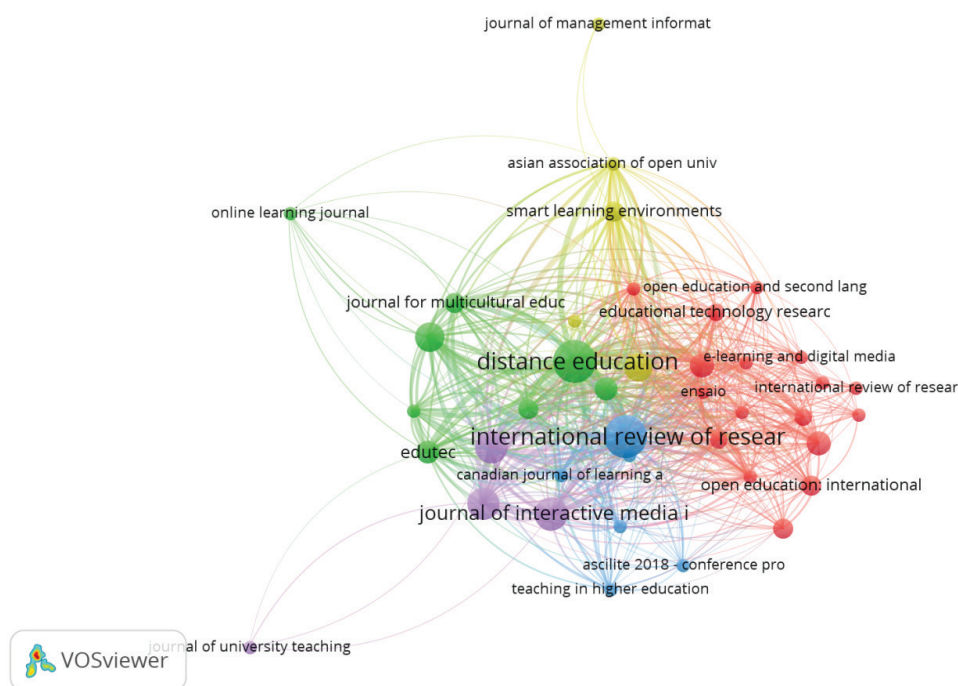
According to the analysis results from the Scopus database, in the period 2017 - 2018, Stagg Adrian collaborated with Bossu Carina in 04 studies on “The potential role of Open Education Practice policies in transforming Australia’s higher education”, “Open education policies and practices in Australian Higher Education”, “Engaging in open education activities: Mapping the Australian higher education landscape” and “The need for Open Education Practice policies to transform Australian higher education”. These studies all focus on analysing the effectiveness of implementing OEP policies in higher education in Australia. Meanwhile, in the period of 2019 - 2020, Johanna Funk collaborated with Stagg Adrian in 02 studies on OEP with key contents such as open education practices in the early stages of implementing new education policies in Australia or evaluations of open learning and distance learning research. Also in this period, Ferrow Robert collaborated strongly with Nerantzi, Chrissi with Bozkurt, and Aras in research on OEP, contemplating the impact of artificial intelligence (AI) and ChatGPT on education, including OEP. Burgos Daniel’s collaborative research with Tlili Ahmed and Huang Ronghua from 2021 to present is most prominent, with their research emphasising the role of OEP in promoting creativity, collaboration, and social learning. For example, the work with Tlili Ahmed focuses on the use of AI in education, while the papers with Huang Ronghua emphasise the impact of OEP on student learning outcomes (See Figure 4).

The Most Relevant Journals

The chart above shows that the five journals with the most research on OEP are Distance Education, International Review of Research in Open and Distributed Learning (IRRODL), Journal of Interactive Media in Education, Sustainability (Switzerland), and Journal of E-Learning and Knowledge Society. Distance Education and IRRODL have the same number of articles (18), but IRRODL has significantly more academic influence, with 590 citations - the most of any journal mentioned - compared to Distance Education's 416. Following is the Journal of Interactive Media in Education, which has 11 articles and 204 citations, indicating a rather high level of attention and references despite the modest number of publications. The journal Sustainability (Switzerland) - although not specialised in education - still contributed 10 articles and reached 212 citations, showing interest in OEP from a sustainable development perspective. Finally, the Journal of E-Learning and Knowledge Society also has 10 articles but has only received 43 citations, indicating a modest level of academic impact. Overall, the journals with a lot of research on OEP are not only diverse in their fields but also have a clear difference in their level of academic impact, the most prominent of which is IRRODL with its central role in the OEP scholarly publishing ecosystem (See Figure 5).

Figure 5

Science Mapping Of Journals That Publish the Most Articles Related To OEP



After applying the filtering criteria in VOSviewer, a network of publication sources is formed with approximately 30 nodes (journals/conference proceedings) displayed on the map. Each node represents a publication source (journal or conference proceedings). The node size is proportional to the number of OEP articles published on that source. Sources with large nodes and central locations, such as Distance Education, International Review of Research in Open and Distributed Learning, Journal of Interactive Media in Education, and Open Education: The Journal of Open, Distance and e-Learning, demonstrate a central role and high level of influence

in the field. The minimum number of articles per publication source is three articles. Only publications that meet or exceed this threshold are included in the analysis and visualization.

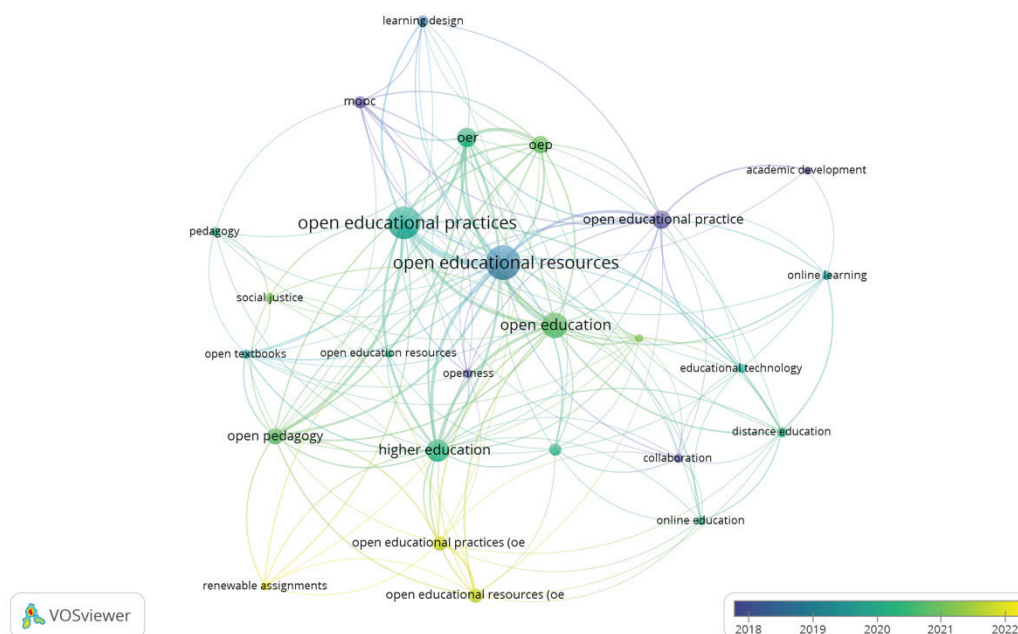
Based on the number of articles and citations in journals, it is clear that OEP is a topic of great interest in the academic community, particularly in journals specialising in online education, open education, and teaching innovation. Journals such as the International Review of Research in Open and Distributed Learning (IRRODL) and Distance Education not only publish a lot of research on OEP, but they also have a high influence, as seen by the high number of citations. This demonstrates that OEP is regarded as a research direction with high academic value, practical applicability, and interest from the international academic community. Furthermore, the publication of works on OEP in interdisciplinary journals such as Sustainability (Switzerland) demonstrates the tendency of incorporating OEP into broader topics such as sustainable development and innovation. However, other publications with a relatively significant number of papers but low citations, such as the Journal of E-Learning and Knowledge Society, demonstrate that, while OEP is widely studied, the amount of influence remains divided and uneven across journals. In general, OEP is gradually establishing itself in the domains of higher education, open education, and educational technology, with rising potential for growth and spread.

Keyword Co-Occurrence

The results of the keyword co-occurrence analysis show a number of prominent and highly connected topics in the research network. The topic groups of OER, OEP, and OP are the main topic groups of this network. Based on the keywords in the chart below, we can clearly see that “OEP” has a close relationship with the keywords “Open Educational Resources”, “Open Pedagogy”, and “Open Education”. This relationship has long been pointed out by many studies. The foundation of OP is OER. OP revolves around free resources, tools, and practices, without legal, financial, or technical barriers and can be completely used and shared in the digital environment. MOOCs emerged as the most popular keyword in 2018 and were closely associated with OEP. MOOCs offer a platform for OEP, enabling millions of individuals worldwide to access learning resources and courses from top universities and professionals without being restricted by copyright or cost. At the same time, MOOCs and OEP both foster an environment where students may engage with one another to learn, which improves the educational process. Between 2019 and 2021, the terms “online learning,” “distance education,” and “educational technology” emerged, broadening this study network. Research on OEP has started to shift toward more open forms and methods of learning with the successful assistance of new technologies or methodologies, as a result of the significant development of information technology in education during this time. OEP frequently uses cutting-edge teaching strategies along with new technologies. These techniques can be used to enhance the quality and interactivity of the learning process in remote learning and online learning (See Figure 6).

OEP has maintained a strong presence in this research network since 2022, but a new research trend has emerged in the OEP network with the introduction of the term “Renewable Assignments.” Future students can build upon and learn from the renewable assignments. Open educational resources are continually updated with new assignments. As an alternative to conventional single-use assignments that students discard once they are assessed, renewable assignments are being considered. The benefit of renewable assignments is that, after a student completes them, they can be released for review and further development by other students or the larger academic community. The open pedagogical approach of learning heavily relies on these kinds of assignments.

Figure 6
Science Mapping Of OEP Keywords Over Time



After applying the filtering criteria in VOSviewer, a keyword network is formed with approximately 30 nodes (keywords) displayed on the map. Each node represents a keyword. The node size reflects the frequency of keyword occurrence in the dataset. Central keywords such as open educational resources, open educational practices, open education, and higher education are large and centrally located, indicating their core conceptual role in the OEP field. The minimum number of occurrences for each keyword is X times. This threshold is set at three occurrences. Only keywords that meet or exceed this threshold are included in the analysis and visualization. To put it briefly, to increase the options for students to access and learn more, OEP frequently expands and is linked to numerous terms like OER, OP, MOOCs, or RA. It is anticipated that more and more studies follow this trend in order to examine the connections between these elements in the present open learning environment.

Discussion

The world started paying more attention to formal study on OEP in 2000, when David Wiley published a number of papers on open pedagogy, open educational resources, open education, or openness in learning. Wiley had a significant role in the development of OER's tenets and the extension of the idea to OEP, highlighting the value of sharing and utilising open learning resources to enhance and produce more potent teaching strategies (Wiley et al., 2018). Consequently, subsequent research examined OEP's potential to enhance accessibility, innovate instruction, and improve educational quality. However, when considering learning outcomes, empirical evidence remains nuanced. A recent meta-analysis synthesizing 25 empirical studies involving 119,840 learners reported a positive but statistically non-significant overall effect of OEP on academic achievement (Tlili et al., 2023). For example, OEP may be more effective in subjects that require a lot of hands-on material (such as natural sciences) and in areas with

better technological infrastructure (Tlili et al., 2019). Research from industrialised nations like Canada and the UK (UKOER project) demonstrates that OEP lowers the cost of education, particularly textbooks, which increases access for children from low-income families. Students have been able to save hundreds of dollars a year by adopting open textbooks, for instance, and feel more included when they contribute to the editing of course materials (Bossu et al., 2016; Mills et al., 2023). According to Cronin and MacLaren's (2018) study, which consolidated theoretical frameworks on OEP, OEP encompasses more than just OER; it also involves social learning, digital skill development, and questioning the conventional role of instructors. OEP is a complicated, unique, and context-dependent approach, they underlined. Research on OEP worldwide demonstrates that, although this topic holds considerable promise, it also confronts numerous obstacles. Along with addressing social justice concerns, OEP fosters innovation in teaching and learning and expands access to education (Bozkurt., 2023). However, a mix of infrastructure, policy, and cultural shifts within the education sector is required for OEP to be completely successful. Another study analysed the impact of OER on the information behaviour of university faculty. The results showed that OER helps faculty to have more diverse information needs, from content to type of information, and encourages them to share materials with colleagues and students. However, the use of OER is still limited by copyright and digital literacy barriers (Do et al., 2022; Tlili et al., 2019). OEP research demonstrates that, while this field holds considerable promise, it also confronts numerous obstacles. In addition to facilitating more educational access, OEP fosters creativity in instruction and learning and aids in resolving social justice concerns. However, a mix of infrastructure, policy, and cultural shifts within the education community is required for OEP to be most successful.

The exploration of open educational practices through a bibliometric perspective not only illuminates the current landscape of research but also unveils critical dynamics influencing the adoption and effectiveness of these practices in educational settings. As the analysis indicates, OEP has witnessed a significant surge in scholarly attention, reflecting a collective recognition of its potential to democratize access to knowledge and enhance learning outcomes for diverse populations. The bibliometric findings reveal key trends, such as an increasing number of publications, collaborative efforts among researchers across various disciplines, and the emergence of influential journals dedicated to open education. Notably, the analysis highlights prominent themes, including the integration of technology, the shift towards learner-centred approaches, and the importance of policy frameworks in promoting OEP. By mapping the connections between research outputs, citations, and collaborative networks, this study lays the groundwork for understanding how OEP can be most effectively implemented and evaluated. Furthermore, this bibliometric overview serves as a call to action for researchers, educators, and policymakers alike. There is a pressing need for continued investigation into the challenges and opportunities presented by OEP, particularly in adapting to the rapidly evolving educational landscape post-pandemic. By prioritising interdisciplinary collaboration and embracing innovative methodologies, the academic community can further contribute to the sustainable development of open educational practices. Ultimately, as OEP continues to evolve, leveraging bibliometric insights will be crucial in shaping future research agendas, guiding practice, and advocating for policies that support an inclusive, open educational ecosystem. The cumulative knowledge derived from this analysis not only fosters a deeper understanding of OEP but also empowers stakeholders to work towards a more equitable future for education globally.

The value of this research lies in its practical value, including contributing to helping organizations, universities or policy makers to come up with measures to improve accessibility and expand the learner base to a more diverse and rich audience, promote the sharing of learning resources and expand international cooperation, thereby developing research and innovation. From the analysis of the development trends and international cooperation in the publication

of international publications related to OEP, researchers have truly understood that new trends in OEP such as focusing on sharing learning resources, innovating teaching methods have proven that the application of OEP can lead to opportunities for collaborative practice through the capabilities of technological software, and at the same time OEP can support innovative pedagogy as an extension of teaching and learning activities. Open also refers to a learning environment where learners set their own goals instead of being limited by goals within a fixed learning environment. Here, we are talking about “state” universities, following the rut of a traditional educational institution and are hesitant to innovate in applying flexible teaching and learning forms for learners. In addition, OEP has shown potential for addressing social justice issues by providing greater access, modification, and allowing learners to actively decide what content they consider to be valuable and worth turning into their own. In addition, research on open learning activities has created a favourable environment for interdisciplinary and cross-disciplinary research and attracted the participation of academic communities and organisations. If the scope of research is limited to one organisation, research problems cannot be completely resolved, leading to the abandonment of projects. The authors’ collaboration on OEP research has laid a solid foundation for sustainable collaboration in pedagogy and educational science. In terms of policy-making, policymakers can use trends to identify priority areas that are in line with technological and social development trends. For example, the current trend of open educational practices requires policies that more widely apply technology in teaching, allowing teachers and learners to access many international resources by providing open or low-cost accounts to increase students’ access to reputable academic sources such as Springer, Francis & Taylor or more. From the study of universities with a large number of authors publishing on OEP, it can be seen that there is a need for policies to encourage new research focusing on new technologies such as AI and big data to develop personalised education models that are suitable for the educational needs of society. The common characteristics of these schools are research orientation, having open libraries with tens of thousands of publications and allowing access if there is an account with the school’s identification code. Therefore, the policy of building open universities and investing in building open document networks is extremely necessary. Finally, from the main research topics discovered through this research, policymakers can rely on them to orient research activities and practical applications, focusing on advanced technology areas, open policies, and innovative methods to optimize the benefits of open education.

Conclusions

This study undertakes an examination of more than 310 Scopus-indexed publications related to OEP, employing visual mapping techniques to synthesise findings and identify key research trends, international collaborative networks, leading institutions, influential journals, and emerging thematic directions.

In terms of research contribution, the United States, the United Kingdom, Australia, Spain, and South Africa are the most active nations in publishing OEP-related work, with the United States and the United Kingdom demonstrating the greatest academic impact, largely owing to established open education initiatives and leading institutions such as The Open University. In addition, Burgos Daniel holds a central position in the OEP research network, having produced 15 publications with 402 citations, predominantly in the fields of open education, OER, and educational innovation. Prominent collaborative networks—such as those formed by Burgos, Tlili, and Huang, as well as Stagg and Bossu—have made substantial contributions to the analysis, implementation, and evaluation of OEP in global higher education systems. Besides, OEP research is concentrated in journals including IRRODL and Distance Education, both of which exhibit high publication volume and significant citation influence, particularly IRRODL. Finally, keyword co-occurrence analysis demonstrates that OEP, OER, and open pedagogy

continue to serve as core conceptual themes, complemented by related developments in MOOCs, educational technologies, and online learning between 2018 and 2021. These research outcomes hold practical significance for educational institutions and policymakers, offering evidence-based guidance, strengthening resource sharing, fostering international research collaboration, and supporting innovation in pedagogical practice. The findings also emphasise the necessity of policy frameworks that facilitate the integration of advanced technologies into open education. Ultimately, the study highlights the strategic importance of open education in advancing equitable and sustainable educational ecosystems worldwide.

Declaration of Interest

The authors declare no competing interests.

References

- Anayat, S., & Rasool, G. (2024). Artificial intelligence marketing (AIM): Connecting the dots using bibliometrics. *Journal of Marketing Theory and Practice*, 32(1), 114–135. <https://doi.org/10.1080/10696679.2022.2103435>
- Beetham, H., Falconer, I., McGill, L., & Littlejohn, A. (2012). *Open practices: Briefing paper*. JISC.
- Bossu, C., Ward, L., Wills, S., Alexander, S., Sadler, D., Kandlbinder, P., Brown, N., Chelliah, J., Klapdor, K., & Uys, P. (2016). A national strategy to promote open educational practices in higher education in Australia. *ASCILITE Publications*, 70–75.
- Bozkurt, A. (2023). Generative AI, synthetic contents, open educational resources (OER), and open educational practices (OEP): A new front in the openness landscape. *Open Praxis*, 15(3), 178–184. <https://doi.org/10.55982/openpraxis.15.3.5>
- Chen, X., Zou, D., Xie, H., & Wang, F. L. (2024). Technology-enhanced higher education: Text mining and bibliometrics. *Heliyon*, 10(4), Article e25776. <https://doi.org/10.1016/j.heliyon.2024.e25776>
- Conole, G., & Ehlers, U.-D. (2010). *Open educational practices: Unleashing the power of OER*. UNESCO Workshop on OER in Namibia, Windhoek.
- Cronin, C. (2017). Openness and praxis: Exploring the use of open educational practices in higher education. *The International Review of Research in Open and Distributed Learning*, 18(5), 1–21. <https://doi.org/10.19173/irrodl.v18i5.3096>
- Cronin, C., & MacLaren, I. (2018). Conceptualising OEP: A review of theoretical and empirical literature in open educational practices. *Open Praxis*, 10(2), 18(5), 1–21. <https://doi.org/10.19173/irrodl.v18i5.3096>
- Deimann, M., & Sloep, P. (2013). How does open education work? In A. Meiszner & L. Squires (Eds.), *Openness and education* (Vol. 1, pp. 1–23). Emerald Group Publishing.
- Do, T. H. L., Nguyen, L. V. A., & Nguyen, T. T. (2022). Research trends on the topic of internationalisation of training programs: A quantitative study. *Journal of Education*, 22(17), 1–7.
- Ehlers, U.-D. (2011). From open educational resources to open educational practices. *e-Learning Papers*, 23.
- Ehlers, U.-D. (2025). Extending the territory: From open educational resources to open educational practices. *Journal of Open, Flexible and Distance Learning*, 15(2), 1–10.
- Farrow, R. (2015). Open education and critical pedagogy. *Learning, Media and Technology*, 42(2), 130–146. <https://doi.org/10.1080/17439884.2015.1029949>
- Feng, X., Wang, X., & Su, Y. (2024). An analysis of the current status of metaverse research based on bibliometrics. *Library Hi Tech*, 42(1), 284–308.
- Havemann, L. (2016). Open educational resources. In M. A. Peters (Ed.), *Encyclopedia of educational philosophy and theory*. Springer Singapore.
- Hodgkinson-Williams, C., & Gray, E. (2009). Degrees of openness: The emergence of open educational resources at the University of Cape Town. *International Journal of Education and Development Using ICT*, 5(5), 101–116.
- Hogan, P., Carlson, B., & Kirk, C. (2015). Showcasing: Open educational practices' models using open educational resources. *Open Education Global Conference*, Banff, Canada.

- Koseoglu, S., & Bozkurt, A. (2018). An exploratory literature review on open educational practices. *Distance Education*, 39(4), 441–461.
- Lane, A. (2010). Widening participation in education through open educational resources. In T. Iiyoshi & M. S. V. Kumar (Eds.), *Opening up education: The collective advancement of education through open technology, open content, and open knowledge* (pp. 149–163). MIT Press.
- Masterman, E. (2016). Bringing open educational practice to a research-intensive university: Prospects and challenges. *The Electronic Journal of e-Learning*, 14(1), 31–43.
- McGill, L., Falconer, I., Dempster, J. A., Littlejohn, A., & Beetham, H. (2013). *Journeys to open educational practice: UKOER/SCORE review final report*.
- Mills, A., Bali, M., & Eaton, L. (2023). How do we respond to generative AI in education? Open educational practices give us a framework for an ongoing process. *Journal of Applied Learning & Teaching*, 6(1), 16–30.
- Moed, H. F., Burger, W. J. M., Frankfort, J. G., & Van Raan, A. F. J. (1985). The use of bibliometric data for the measurement of university research performance. *Research Policy*, 14(3), 131–149.
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *BMJ*, 339, Article b2535. <https://doi.org/10.1136/bmj.b2535>
- Paskevicius, M. (2017). Conceptualising open educational practices through the lens of constructive alignment. *Open Praxis*, 9(2), 125–140. <https://doi.org/10.5944/openpraxis.9.2.569>
- Schreurs, B., Van den Beemt, A., Prinsen, F., de Laat, M., Witthaus, G., & Conole, G. (2014). Investigating the social configuration of a community to understand how networked learning activities take place: The OERu case study. *Loughborough University Conference Contribution*.
- Shahab, S. A., Khan, S. J. M., & Nayan, S. (2024). Financial development and economic growth: A bibliometric analysis. *Journal of Business & Finance Librarianship*, 29(4), 243–273.
- Smyth, R., Bossu, C., & Stagg, A. (2016). Toward an open, empowered learning model of pedagogy in higher education. In S. Reushle, A. Antonio, & M. Keppell (Eds.), *Open learning and formal credentialing in higher education: Curriculum models and institutional policies* (pp. 205–222). IGI Global.
- Thomas, B., Joseph, J., & Jose, J. (2023). Explorative bibliometric study of medical image analysis: Unveiling trends and advancements. *Scientific Visualization*, 15(5), 35–49.
- Tlili, A., Huang, R., Chang, T.-W., Nascimbeni, F., & Burgos, D. (2019). Open educational resources and practices in China: A systematic literature review. *Sustainability*, 11(18), Article 4867. <https://doi.org/10.3390/su11184867>
- Tlili, A., Burgos, D., Huang, R., Mishra, S., Sharma, R. C., & Bozkurt, A. (2021). An analysis of peer-reviewed publications on open educational practices (OEP) from 2007 to 2020: A bibliometric mapping analysis. *Sustainability*, 13(19), Article 10798. <https://doi.org/10.3390/su131910798>
- Trotter, H., & Hodgkinson-Williams, C. (2020). Open educational resources and practices in the Global South: Degrees of social inclusion. In *The MIT Press eBooks* (pp. 317–356).
- Tubarad, C. P. T., Mohamad, M., & Mohammed, N. F. (2022). A decade of Maqasid Shariah research: A bibliometric analysis. *Management & Accounting Review*, 21(2), 211–238.
- Traymbak, S., Sharma, M., Anand, A., & Shukla, A. (2024). Chatbot technology in the education sector: A bibliometric analysis using VOSviewer. *International Journal of System Assurance Engineering and Management*, 1–12.
- Wiley, D., & Hilton, J. L. III. (2018). Defining OER-enabled pedagogy. *The International Review of Research in Open and Distributed Learning*, 19(4). <https://doi.org/10.19173/irrodl.v19i4.3272>

Received: July 09, 2025

Revised: December 20, 2025

Accepted: February 12, 2026

Cite as: Pham, T. T. H., Luong, D. H., & Tran, T. H. T. (2026). Research trends on open education practices from the perspective of bibliometric analysis. *Problems of Education in the 21st Century*, 84(1), 168–185. <https://doi.org/10.33225/pec/26.84.168>

Hai Thi Thanh Pham	PhD, Associate Professor, Hanoi University of Science and Technology (HUST), Hanoi, Vietnam. E-mail: hai.phamthithanh@hust.edu.vn ORCID: https://orcid.org/0000-0002-4406-5661
Dinh Hai Luong	MSc, The Vietnam National Institute of Educational Sciences, Vietnam; Hanoi University of Science and Technology, Vietnam. E-mail: luongdinhhai@vnies.edu.vn ORCID: https://orcid.org/0000-0003-0167-2645
Thu Thi Hoai Tran (Corresponding author)	University of Education, Vietnam National University, Hanoi, Vietnam. E-mail: thutran99@vnu.edu.vn