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Unveiling Scholarly Insights: Quality Assurance in Open and Distance Education

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Résumé de l'article

Open and distance education (ODE) has continuously evolved, significantly influencing educational, daily, and professional spheres, thereby prompting interest in its sustainability and quality. This study explored global scientific perspectives on quality assurance in ODE using the science mapping method. Search terms centred on open education, distance education, and quality assurance; data was gathered from 4,224 scientific texts in the Web of Science Core Collection. Analyses were conducted using VOSviewer software. Co-authorship analyses explored scientific collaboration structures at the country level. Globally shared concepts of interest to the scientific community were addressed using co-occurrence analyses. A detailed examination of co-occurrence outputs led to classification related to general and emerging key concepts. Results depicted a widespread global interest in quality assurance in ODE, fostering connections based on new cultural similarities. The concept of quality assurance in ODE continues to be enriched and developed, gravitating towards focused learning and instruction, establishing strong ties with various components of regular education as well as human elements. However, the prevailing view of quality assurance has yet to encompass this diversity. Rather than consider the nature and current potential of ODE, it has maintained an externalized and technical perspective.

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Abstract

Open and distance education (ODE) has continuously evolved, significantly influencing educational, daily, and professional spheres, thereby prompting interest in its sustainability and quality. This study explored global scientific perspectives on quality assurance in ODE using the science mapping method. Search terms centred on open education, distance education, and quality assurance; data was gathered from 4,224 scientific texts in the Web of Science Core Collection. Analyses were conducted using VOSviewer software. Co-authorship analyses explored scientific collaboration structures at the country level. Globally shared concepts of interest to the scientific community were addressed using co-occurrence analyses. A detailed examination of co-occurrence outputs led to classification related to general and emerging key concepts. Results depicted a widespread global interest in quality assurance in ODE, fostering connections based on new cultural similarities. The concept of quality assurance in ODE continues to be enriched and developed, gravitating towards focused learning and instruction, establishing strong ties with various components of regular education as well as human elements. However, the prevailing view of quality assurance has yet to encompass this diversity. Rather than consider the nature and current potential of ODE, it has maintained an externalized and technical perspective.

Keywords: open and distance education, quality assurance, science mapping, scientific collaborations, scholarly perspectives

Unveiling Scholarly Insights: Quality Assurance in Open and Distance Education

Since the 2020s, open and distance education (ODE) has transcended its role as merely an alternative or enrichment; it now stands as a unique and accessible form of education, seamlessly integrated into educational systems. In practice, our perception of ODE still focuses on adapting face-to-face processes to digital materials or online learning environments. However, ODE, as a unique form, necessitates methods and approaches tailored to its inherent characteristics. The scenario is not vastly different regarding quality assurance. Traditional education processes, where relationships, roles, and responsibility structures have evolved over centuries, still encompasses mechanisms for monitoring and enhancing teaching processes. But when it comes to ODE, who, on a global scale, are the mature actors concerned enough about its quality? What concepts shape our scholarly understanding of ODE? Addressing these pivotal questions served as a promising starting point for establishing robust quality assurance mechanisms within ODE processes and, potentially, integrating quality assurance seamlessly into the design processes of these learning environments.

Quality Assurance in ODE

Quality assurance in education can be simply defined as the process of ensuring that the provided educational service fulfils objectives at an acceptable level. The actual quality of education, on the other hand, is a complex and multi-dimensional issue. It includes not only domain-specific learning outcomes but also information age skills (e.g., 21st-century skills), measurable cognitive competencies, as well as emotional and social competencies, along with various environmental, societal, and ethical sensitivities. In this context, the quality of education encompasses (a) the inputs of the educational service (e.g., students, instructors, environment, resources, materials); (b) the components of the instructional process, including teaching-learning activities, student engagement, and effectiveness; as well as (c) short- and long-term outcomes and impacts (Chapman & Adams, 2002; Mireku & Bervell, 2023; UNESCO, 2021). In the context of ODE, even though the goals and outcomes are similar to face-to-face instruction, distinctive components need to be emphasized. These include unique (a) environmental features, (b) materials and resources, (c) instructional methods and techniques, and (d) components such as learning facilitation competencies and student expectations.

While discussions on the quality of ODE can be traced back to the early 1990s, these early studies were primarily focused on how the quality of distance education, often preferred by a student profile with generally lower standards compared to face-to-face instruction, could be equivalent to traditional education in terms of learning environment, teaching method, instructional effectiveness, and participation (Kohl & Miller, 1994; McLendon & Cronk, 1995; Stella & Gnanam, 2004). In the 2000s, various education authorities and quality assurance agencies began to publish quality criteria. For example, in 2000, in order to ensure quality in Internet-based distance education processes, the Institute for Higher Education Policy of the USA (IHEP) outlined various criteria under the headings of (a) institutional support, (b) course development, (c) teaching/learning, (d) course structure, (e) student support, (f) faculty support, and (g) evaluation and assessment (IHEP, 2000). In 2002, the Quality Assurance Agency for Higher Education (QAA) in the United Kingdom, grouped the standards for distance higher education processes under the following six headings: (a) system design; (b) program design, approval, and review; (c) managing program

delivery; (d) student development and support; (e) student communication and representation; and (f) student assessment (Stella & Gnanam, 2004). It is evident that quality processes in ODE have been associated with components such as (a) complying with traditional education standards; (b) fulfilling the objectives of educational services; (c) meeting customer expectations; (d) ensuring continuous improvement, and (e) meeting national, regional, and international standards and requirements (Jung & Latchem, 2007, 2012; Stella & Gnanam, 2004).

Since the 2010s, online learning resources and opportunities have increased, and in parallel with increasing demand for lifelong learning across the globe, ODE has evolved from being an alternative to regular education to becoming a complementary and enriching component. This shift has turned the quality of ODE and, consequently, the assurance of quality, into a multidimensional issue involving stakeholders with different expectations, such as governments, universities, employers, employees, and graduates (Latchem, 2016). The pandemic period has clearly demonstrated the crucial role of distance education not only in higher education and lifelong learning processes but also at the basic education level, highlighting the importance of its quality and quality assurance. Today, for each level of education, ODE has become essential to enriching our learning experiences and helping us personalize learning processes according to our expectations and preferences. QAA has classified learning experiences for current and future learners based on the degree of enrichment with digital resources and opportunities as follows (QAA, 2020).

1. Passive digital engagement/experience: There are no or very limited opportunities for distance or online learning. The learning environment is designed according to the requirements of face-to-face learning. Students do not interact with digital learning opportunities or tools unless necessary.

2. Supportive digital engagement/experience: Online or distance learning activities are used to support face-to-face instruction, and, as an option, students can benefit from these activities to support their learning processes.

3. Augmented digital engagement/experience: The learning environment is designed to include digital learning opportunities and engagement situations. Students are required to participate in distance/online learning activities but can choose their level of engagement depending on the subject and type of activity.

4. Interactive digital engagement/experience: Distance or online learning components are integrated into the design processes as a fundamental means of interaction for students with the program and with each other. Students are obliged to actively engage in these activities, and they have limited options to choose their level of engagement. The program may include some face-to-face learning activities, but participation is not mandatory.

5. Immersive digital engagement/experience: Digital learning and teaching activities are the only way for students to interact with the program and with each other. All students must participate in distance or online learning-teaching activities, and there is no alternative.

This classification illustrates that the current learning experience can be enhanced across different levels through ODE processes. Depending on the nature of this enhancement, engagement, and interaction

become crucial components for ensuring the quality of learning and teaching activities. As highlighted by Schindler et al. (2015) and Zuhairi et al. (2020), this scenario encompasses various affective and sociocultural elements within ODE services and their associated quality assurance processes. Ossiannilsson et al. (2015) outlined the essential components for designing such a versatile and inclusive quality assurance system in ODE as follows:

- Multifaceted takes into account comprehensive measurements to adopt a holistic perspective.
- Dynamic refers to flexible enough to adapt to changes in technology and society.
- Mainstreamed means becoming a natural part of the daily work of employees throughout the institution.
- Representative as in aims to balance the perspectives and demands of all stakeholders in ODE processes (e.g., students, teachers, industry, government, society).
- Multifunctional to maintain a certain quality standard while also building a culture of quality within the institution and providing a roadmap for future improvements.

Today, quality assurance has become an integral and essential facet within the realm of ODE. Educational institutions, alongside numerous organizations at both national and international levels, have been actively formulating standards and models for quality assurance, encompassing diverse and multi-dimensional perspectives (Jung, 2023; Turkish Higher Education Quality Council, 2020; The Quality Assurance Authority of Mauritius, 2021; United Nations Educational, Scientific and Cultural Organization [UNESCO], 2020; Asia-Pacific Quality Network [APQN], 2021; European Commission, 2018). While this is the case in practice, the scientific community's response to this phenomenon has been intriguing. How has the ODE literature addressed quality assurance? What global collaborative structures have emerged? What concepts have constituted the discourse on quality assurance in ODE? How have these discussions evolved in recent years? Framed by these questions, this study aimed to examine the scientific approach to quality assurance in open and distance education.

Method

This study employed science mapping, also known as bibliographic mapping, as a key research approach. The focus was to uncover the nature of, orientations to, and relationships within the relevant disciplines through mathematical and statistical analyses of scientific texts. This approach alloweds for a detailed examination and visualization of relationships based on authors, institutions, countries, keywords, and citations, using bibliographic data from sources such as scientific databases (Bardakcı et al., 2019; Cobo et al., 2011; Morris & VanDer Veer Martens, 2008; Pritchard, 1969; Small, 1973).

The data was extracted from the Web of Science (WOS-Core Collection) database on October 9, 2023. The search focussed on the topic field, and encompassed title, abstract, and keyword information. An approach similar to snowball sampling was employed to determine search terms. Initially, a search was conducted

using the terms distance education, open education, and quality assurance; subsequently, the terms were expanded through both the related concepts suggested by the database and a review of relevant literature. In this process, it has been observed that the concept of ODE has been extensively studied in connection with terms such as distance learning, open learning, open education, and open university. Therefore, all these variations were reflected in the search terms. Additionally, it was noted that quality assurance has been examined in relation to many diverse concepts. Consequently, simply using the term quality on its own was thought to represent this diversity without limiting it. Thus, the formulated search string was as follows:

> – *"distance education"* and *quality* – or – *"open education"* and *quality* – or – *"open and distance education"* and *quality* – or – *"distance learning"* and *quality* – or – *"open and distance learning"* and *quality* – or – *"open universities"* and *quality* –

Data Collection

The search yielded access to 4,224 scholarly texts. Bibliographic data related to these texts were exported from the database using the full record and cited references content type and then recorded. Table 1 provides general information about the accessed texts, and Figure 1 illustrates the distribution of texts over time.

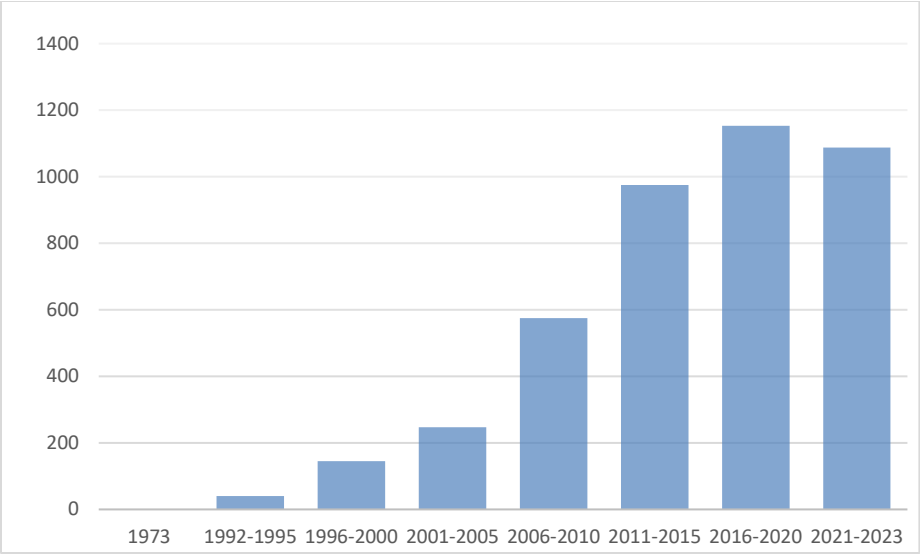
Table 1

Data Overview

Data classification	Details
Search period	1973 to 2023
Types of texts	article (2,685), proceedings paper (1,425), review article (112), book chapter (75), early access (45), editorial material (36), book review (11), data paper (3), meeting abstract (3), book, reprint, software review (7)
Main WOS categories	education-educational research (52.27%), education-scientific disciplines (9%), computer science-information systems (8.74%), computer science-interdisciplinary applications (7.73%), electrical-electronic engineering (6.1%), computer science-theory methods (4.6%), computer science-artificial intelligence (3.8%), telecommunications (3.2%), social sciences-interdisciplinary (2.8%), management (2.77%), health care sciences services (2.63%)

Figure 1

Number of Texts by Date



Data Analysis

Data was analyzed using the WOSviewer 1.6.18 software tool (van Eck & Waltman, 2022). WOSviewer is commonly used in science mapping studies to reveal relationship structures within bibliographic datasets. The analyses generate visual maps illustrating term weights, relationships, and temporal changes. Additionally, the tool can generate comprehensive outputs for each term on the maps, including occurrence frequency, average publication year, and total link strength (Bardakcı et al., 2019). In this study, insights were drawn from both the maps and output.

Co-authorship analysis, drawing insights from author information within the texts included in the dataset, provided a comprehensive examination of scientific collaborations at the individual, institutional, or country levels. This analytical approach unveiled both the publication influence related to the subject under investigation and the collaborative relationships embedded within the dataset. On the other hand, co-occurrence analysis, using keywords within the texts included in the dataset, systematically revealed (a) patterns of concepts, (b) the most frequently used terms within these patterns, (c) relationships of coexistence among them, and (d) temporal changes (Callon et al., 1983; van Eck & Waltman, 2022). In this study, co-authorship analyses were employed to derive insights about the countries where authors' institutions were located, whereas co-occurrence analyses examined author keywords within the texts.

In both co-authorship and co-occurrence analyses, the full counting method was employed. Each term in the analysis process (i.e., each author country, and keyword) was considered equal and assigned a value of 1. The values were not normalized by parameters such as the number of authors (van Eck & Waltman, 2022). Thus, the maps were generated based on the frequency of occurrence of each term across different texts, without being influenced by parameters such as the number of authors in the respective texts.

In bibliographic mapping studies, a highly critical stage involves establishing selection criteria, or cut-off points, for generating maps. If the cut-off point is not accurately determined, the resulting maps can become extremely complex, and unintelligible, with terms overlapping and, in some cases, significant terms getting lost. Understanding and interpreting the generated maps can be challenging. In this study, the focus at this stage was on two fundamental criteria: ensuring clarity and preserving as much detail as possible. Various cut-off points were tested to access the most comprehensive and intelligible maps. The cut-off points and the selected term numbers for the concepts to be included in the maps are provided in Table 2.

Table 2

Analyses and Characteristics

Analysis	Counting method	Unit of analysis	Results	Cut-off points for the map	Selected terms for the map
Co-authorship	Full counting	Country	142	Minimum number of documents for a country = 1	142
Co- occurrence	Full counting	Author keyword	8,758	Minimum number of occurrences of a keyword = 10	175

All countries with authors identified were incorporated into the co-authorship map. For the co-occurrence map, only keywords present in at least 10 different texts were considered. Notably, upon evaluating the relationship weights of these terms within the co-occurrence map, it was found that they contributed to roughly 55% of the total weight, signifying a substantial level of representation.

This study had a notable limitation related to the selection of the data source, since it was conducted on scientific texts searched in the WOS. Obviously, in the field of quality assurance in ODE, texts can be found in different databases. However, working with multiple databases in this kind of study can complicate data management and create issues such as including the same text multiple times. To avoid this problem, researchers chose to work with a single database. By selecting the WOS database, the aim was to include more qualitative, reliable, and high-impact texts in the review. With access to over 4,000 scientific texts, the selection had high representational power. A similar limitation was related to the search terms chosen. The researchers made choices with similar considerations to accessing scientific texts closest to the main research focus of the study.

Results

Before presenting the co-authorship and co-occurrence maps, providing brief information about their structures helps clarify the results. In such maps, there are two main components: nodes and relationships.

A node represents a term on the map, while a relationship indicates the link between two nodes. Each node is characterized by two main parameters—occurrence indicates how frequently a term appears in different texts, and link strength expresses the intensity of connections with different terms. Consequently, nodes form clusters based on their co-existence frequencies, with each cluster represented in different colours on the map. Proximity to the centre of a cluster implies stronger connections within that cluster, while distance suggests connections with nodes from other clusters. The temporal spreads of the nodes can be tracked through the Overlay Visualization feature provided by VOSviewer, as well as through detailed outputs generated alongside the maps, which include information on the average publication year.

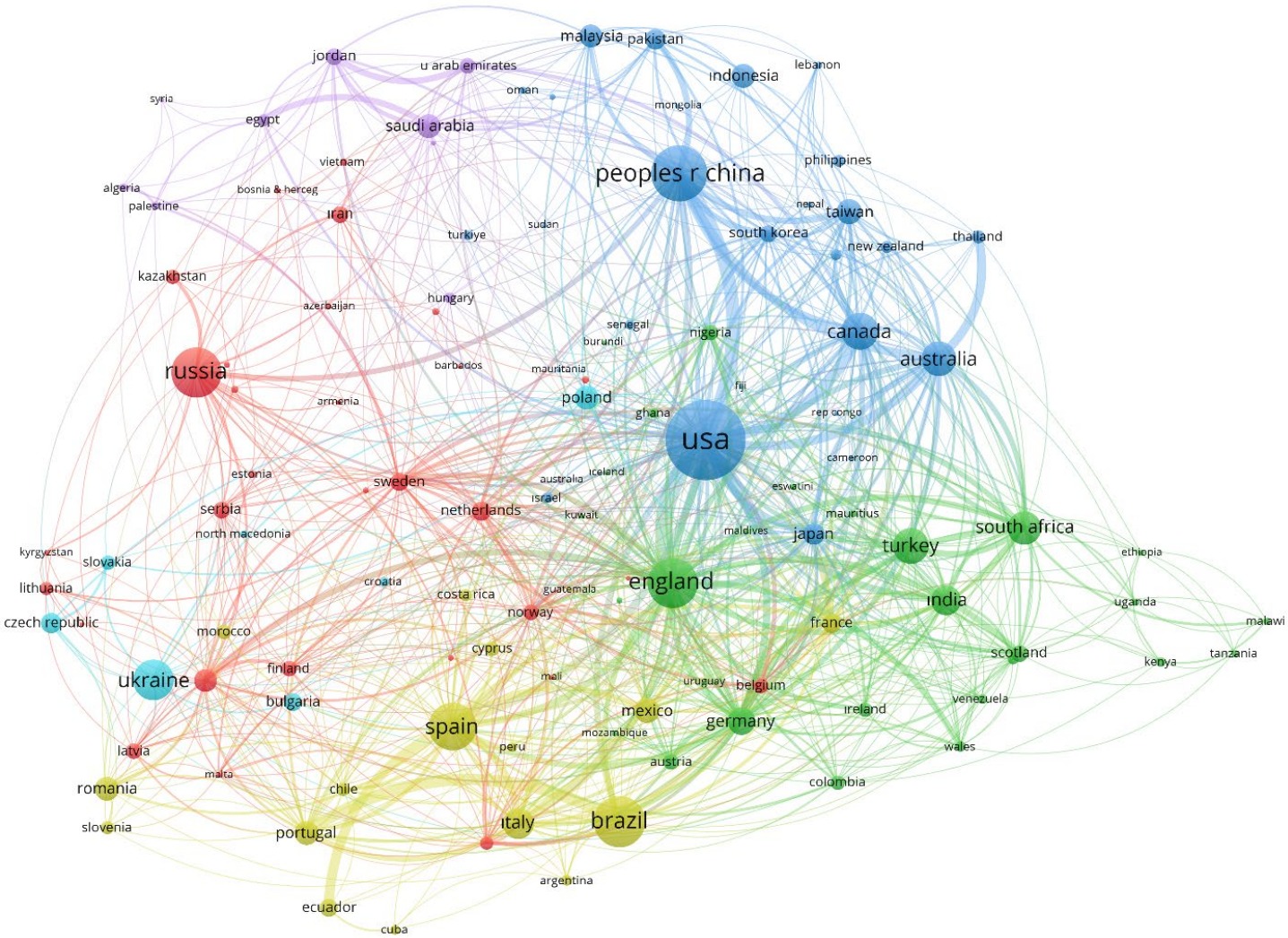
Collaboration Structures

Upon a comprehensive examination of co-authorship patterns, it became evident that contributions to the field of quality assurance in ODE have originated from various regions worldwide. North America, Asia, and Europe emerged as prominent contributors, with Oceania, the Middle East, and South America following suit. The contribution from African countries, however, was relatively modest. Figure 2 illustrates the co-authorship map.

When examining the co-authorship map on a country basis, a more global landscape is observed rather than a regional concentration. The top 10 countries with the highest publications were the United States (USA), China, Brazil, Russia, the United Kingdom (UK), Spain, Ukraine, Canada, Turkey, and Australia. The strongest collaborations occurred between (a) the USA and the UK, (b) the USA and China, (c) Brazil and Portugal, (d) Spain and Ecuador, and (e) among Australia with the USA, China, and Thailand. Analysing the temporal spread of co-authorship relationships revealed a well-established research history for the USA, the UK, Canada, China, Japan, and Australia. However, since 2021, there has been evidence of expansion into Central Europe, and the Middle East, followed by the Arab countries, South America, and Africa. This expansion may have been influenced, in part, by the global experience during the pandemic.

Figure 2

Co-Authorship Map



Examining the map revealed six clusters, also described as co-occurrence patterns. The most significant of these patterns was led by the USA and China. Besides Canada, Oceania extended to countries such as Lebanon and Pakistan. The second largest pattern centred around the UK, Turkey, and South Africa, with collaborations extending from Europe to Africa and South America. The third pattern, mainly centred around Spain and Brazil, encompassed countries where Spanish and Portuguese are predominantly spoken, while also including countries like Italy, France, Romania, and Cyprus. Predominantly centred around Russia, the fourth pattern included Turkic Republics, Baltic countries, as well as Sweden, the Netherlands, and Iran. The fifth pattern, centred around Ukraine, encompassed European countries such as Bulgaria, the Czech Republic, and Poland. The sixth pattern, centred around Saudi Arabia, included countries from the Arab region such as Jordan, the United Arab Emirates, and Egypt. In addition to strength in terms of

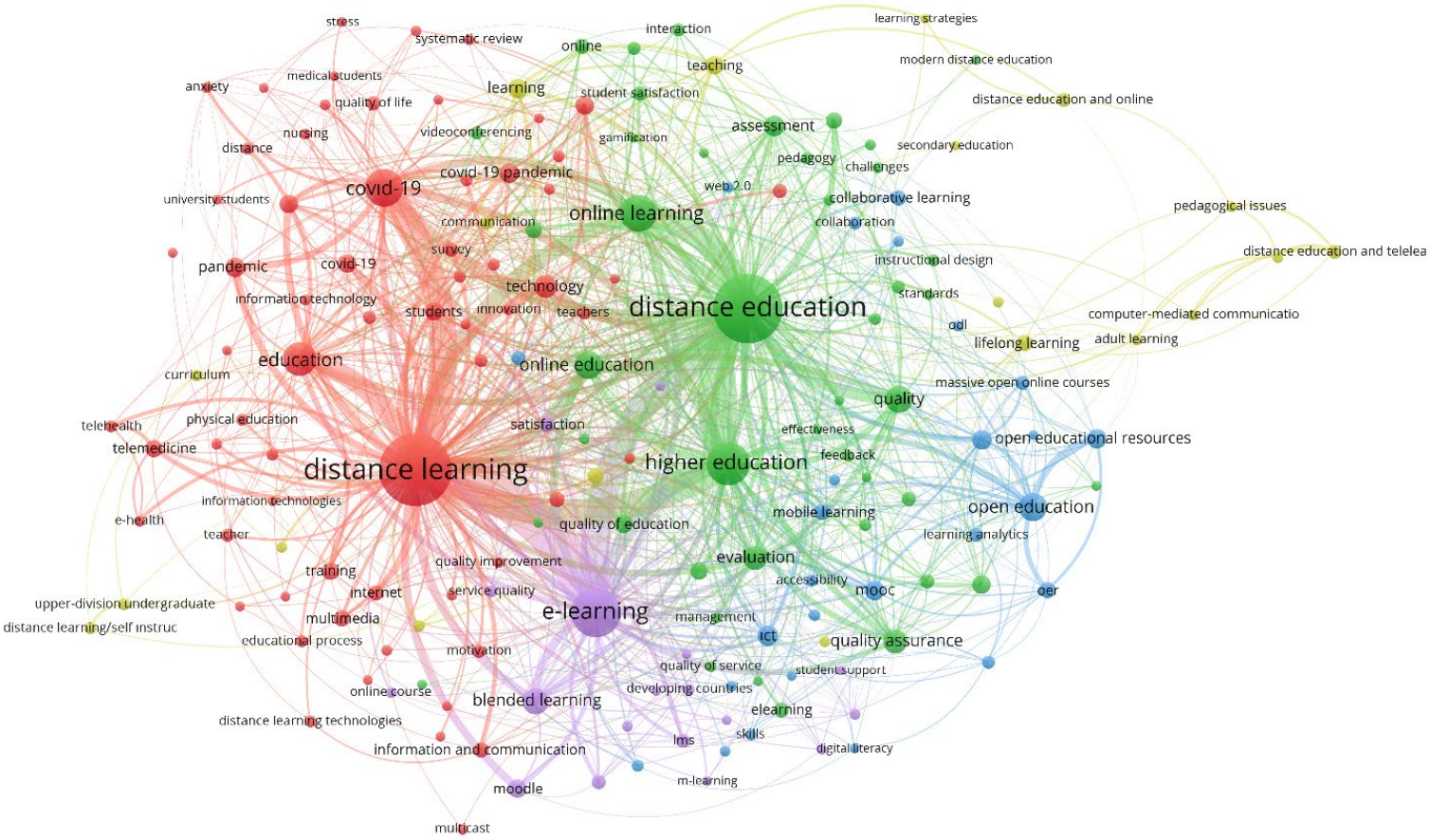
the number of publications, the robust connections observed among Arab countries or Spanish-speaking nations indicated the presence of regional or cultural approaches to quality assurance in ODE, further highlighting the diverse nature of collaborative efforts in this field.

Co-Occurrence Relationships

After a comprehensive examination of the co-occurrence map, it was evident that quality assurance in ODE was predominantly discussed within the field of instruction. This map is presented in Figure 3.

Figure 3

Co-Occurrence Map



The 20 keywords that appeared most often in the co-occurrence map are presented in Table 3, ordered by occurrences.

Table 3

Top 20 Keywords

distance learning	blended learning
distance education	quality assurance
e-learning	evaluation
higher education	technology
COVID-19	assessment
online learning	information and communication technologies (ICT)
education	learning
online education	pandemic
open education	open educational resources
quality	massive open online courses (MOOC)

Examining Table 3 indicates that the primary focus among the top 20 keywords was on learning, teaching, and education, followed by concepts related to quality assurance and technology. The map depicted five distinct clusters, each highlighting strong relationships between human elements and technology, alongside pedagogical components. The first cluster addressed the correlations among distance learning, education, and the COVID-19 pandemic within the context of students, technology, and the learning environment. The second cluster predominantly covered pedagogical concepts such as interaction, assessment, evaluation, and effectiveness within the realms of distance education, higher education, and online learning. Quality and quality assurance concepts were also integrated within this cluster. The third cluster delved into the technological and pedagogical dimensions of e-learning. Although the fourth cluster primarily focused on technical aspects surrounding open education, it also significantly encompassed collaboration. The fifth cluster, with its central focus on learning, teaching, and education, addressed various educational levels, lifelong learning, as well as curriculum and instructional strategies.

Upon comprehensive examination of the map, it was observed that concepts related to learning were featured more prominently than those related to education. This suggests that the relationship between ODE and quality assurance has been explored in a much broader sense—encompassing open, distance, online, and digital learning processes rather than solely focusing on structured/organized education activities. The map revealed that the strongest relationships have been established between (a) distance learning and e-learning, followed by (b) distance education and higher education, (c) distance education and e-learning, and (d) distance learning and COVID-19.

Table 4 provides a thematic classification of key concepts pertinent to the relationship between ODE and quality assurance. This classification suggested that recent diversifications in the scientific perspective toward this field might herald a comprehensive transformation. Accordingly, in terms of learning-related concepts, there has been a noticeable shift toward understanding how learning takes place within these

environments, transcending the sole focus on open, distance, and online learning contexts. Furthermore, there has been an integration of additional elements associated with different disciplines or educational tiers within the concepts related to education. Moreover, some components were observed on an educational system basis. As a result, the relationship between ODE and the education system has undergone a nuanced and fortified evolution across both micro and macro scales.

Likewise, within the realm of quality assurance concepts, there has been a discernible deepening of understanding how to ensure quality. The innovation perspective inherent in the nature of ODE has evolved towards sustainability and flexibility focused on environmental adaptation along with renewal. Concurrently, within instructional concepts, there has been an expansion in methodological approaches. Our perception of instruction, considering environmental variables, effectiveness criteria, stakeholders, and so on, has transitioned towards a comprehensive view of instructional design that encompasses implementation, its constituents, and associated challenges. Regarding technological concepts, the focus has extended beyond digital applications towards the digital transformation of learning environments, with a pivotal role assigned to artificial intelligence. Within methodology concepts, there has been a broadening scope directed at comprehending learning behaviour and experiences. Moreover, there has been a noticeable shift from an open access viewpoint to an open science perspective.

Table 4

Themes and Key Concepts

Theme	Concepts	
	General (appeared in at least 10 texts with a total link strength of 10 or above)	Emerging (average publication year June 2018 to the present, appeared in at least five texts with a total link strength of 10 or above)
Learning	adult learning, blended learning, collaborative learning, distance learning, e-learning, flexible learning, learning, lifelong learning, m-learning, mobile learning, telelearning, online distance learning, online learning, open and distance learning, open distance learning, open learning, virtual learning, Web-based learning.	active learning, connectivism, digital learning, distance learning/self-instruction, face-to-face learning, hands-on learning, hybrid learning, informal learning, interactive learning, project-based learning, self-education, self-regulated learning, social learning, student-centered learning, technology-enhanced learning.
Education	adult education, continuing education, distance education, engineering education, higher education, modern distance education, nursing education, online education, open education, open university, physical education, secondary education, teacher education, tele-education, telehealth, telemedicine, university education.	dental education, digital education, education system, educational institutions, hybrid education, long distance education, medical education, virtual education, vocational education.
Quality, quality assurance, sustainability	accreditation, capacity building, challenges, digital divide, educational quality, innovation, quality assurance, quality education, quality improvement, quality management, quality of education, quality, standards.	critical success factors, digital transformation, digitalization of education, educational innovation, flexibility, informatization of education, leadership qualities, learning quality, monitoring, quality criteria, service quality, standardization, sustainability.
Pandemic	—	COVID-19, pandemic, COVID-19 pandemic, emergency remote teaching, remote learning, remote education, SARS-CoV-2.
Instruction	assessment, collaboration, communication, course design, curriculum development, curriculum, digital literacy, effectiveness, evaluation, feedback, improving classroom	academic performance, accessibility, anxiety, attitude, community of inquiry, decision making, depression, digital competence, distance teaching, dropout, gamification, health professionals, instructional design, laboratory instruction, learning strategies,

	teaching, interaction, learning design, learning outcomes, motivation, pedagogical issues, professional development, skills, student satisfaction, student support, teacher training, teachers, teaching, teaching/learning strategies.	online teaching, perception, primary school teachers, professional training, self-efficacy, stress, student experience, student success, students (general, undergraduate, college, university, medical, nursing), engagement, teaching methods, tele-mentoring, textbooks, transactional distance, vocational training, well-being.
Technology	cloud computing, computer-mediated communication, discussion forums, distance learning system, educational technology, ICT, Internet, learning analytics, learning management system (LMS), MOOCS, MOODLE, multicast, multimedia, online courses, open educational resources (OER), social media, technology, videoconferencing, virtual classroom, virtual learning environment, virtual reality, Web 2.0.	architectures for educational technology system, artificial intelligence, augmented reality, computational modeling, deep learning, digital educational environment, digital technologies, digitalization, fuzzy AHP, learning technologies, machine learning, mobile applications, sentiment analysis, usability, virtual mobility, WebRTC.
Methodology	survey, case study, open access, qualitative research.	systematic review, technology acceptance model, big data, data models, multidisciplinary, text mining, open science.

Discussion

This study revealed the expanding global scope of scientific research into quality assurance in ODE. Two primary characteristics were prominently evident: de-centralization and ecological convergences. While countries long engaged in ODE and quality assurance appeared dominant in the co-authorship map, numerous new and influential actors have emerged, indicating a comprehensive, multilateral, and likely multicultural transformation. Among these new actors, novel and robust relationship structures were observed, suggesting the development of collaborative structures based on similar needs, expectations, or cultural norms. An essential issue in quality assurance practices, whether in program accreditation processes or institutional quality assurance systems and their external evaluation processes, is the reliance on a set of criteria and standards derived from the experiences of advanced countries. This inclination to adopt international standardized approaches (isomorphism) poses the risk of inadequately addressing local needs and problems (Bardakcı et al., 2023; Klassen & Sá, 2019; Ryan, 2015; Witte et al., 2008; Zapp et al., 2021). Within the ODE field of practice, another significant risk factor has come into play. Despite the presence of more concrete and shared assumptions, as well as acknowledging dimensions such as the infrastructures of open and distance learning systems, there has been a lack of common definitions and standards for instructional design, material development, assessment, and evaluation. Additionally, there has been an absence of shared definitions and standards for instructional method concepts such as student centeredness, engagement, and interaction (Jung, 2023; Marciniak, 2018). On the other hand, in a field as globally accessible as ODE, there is a need for a certain alignment among educational providers regarding quality assurance, as suggested by Jung (2023), necessitating a delicate balancing act. The characteristics of expanding collaborative structures in the scientific community indicated a direction that could potentially address these contemporary issues in quality assurance practice. However, this direction is not yet sufficiently robust. There is a need to further strengthen this trend, particularly enriching existing collaborative relationships based on cultural diversity.

Transforming ODE

Another significant result of the study was to reveal the expansion and enrichment of quality assurance in ODE. When this expansion was evaluated comprehensively, two fundamental dimensions became evident. The first one was the multifaceted transformation of ODE within the scientific community, with emphasis on the quality of learning experiences, thereby prioritizing a method-oriented focus over infrastructure and tools. Efforts have been made to establish connections not only within the education system as a whole, but also with schools and levels; human elements have been given greater importance. Thus, the perception of ODE as an alternative or artificial learning environment is being dismantled; instead, ODE is evolving to become a natural component of the educational system with its own purposes and opportunities. On the other hand, the way in which this evolution has taken place leads us once again to the traditional media or methods debate (Clark, 1994; Kozma, 1994). ODE's mission to approach the quality of face-to-face education, traditionally concerned with technological and technical components, was changed with Kozma's (1994) proposition to seek learning and teaching methods suitable for the fundamental nature of ODE. As the reliance on technology has become normalized for all education communities, the focus in ODE shifts toward methods, as proposed by Clark (1994).

Quality Assurance in ODE

The second dimension revealed in this study dealt with quality assurance in ODE. To evaluate the transformation in this dimension, the framework presented by Ossiannilsson et al. (2015) was valuable for discussing our results.

Multifaceted

Although typically observed as a philosophy, when examined methodologically, research paradigms, methods, and tools are not sufficient to achieve a comprehensive view of quality assurance in ODE. From this perspective, data collection processes can be enriched using more diverse perspectives, as well as by incorporating qualitative methods such as case studies and phenomenology that encompass these multiple views.

Dynamic

Beyond mere technological innovation, there has been an emphasis on sustainability and flexibility in integrating with the overall education system. However, within this dynamism, there has been insufficient discussion about the expectations of new generations and the presence of influential stakeholders such as society in general and the business world. The existing perspective on quality assurance has not adequately encompassed the current and near-future agenda and challenges of ODE, including aspects such as (a) micro-credentials; (b) massive open online courses (MOOCs); (c) integrating competencies acquired in these contexts into regular programs; and (d) the provider roles of universities and other educational institutions in such educational services, university alliances, joint programs, and new forms of virtual mobility (Raes, Detienne, et al., 2020; Raes, Vanneste, et al., 2020; Ubachs & Henderikx, 2023).

Mainstreamed

There has been a trend towards ODE becoming a significant stakeholder in the process of digitizing education. The networks of relationships have been expanding to encompass educational systems,

institutions, educational levels, and individuals. However, local elements such as needs, expectations, sensitivities, and concerns have not been adequately addressed.

Representative

The stakeholder set has been enriched with a diversity among teachers and students, as well as with a limited number of other professionals. However, this expansion has not accurately reflected the service spectrum of ODE today. While ODE currently serves as a component of regular educational activities, it also plays a significant role as a source for lifelong learning and micro-credential acquisition. Quality assurance processes should be capable of representing this wide variety for both internal and external stakeholders. In this regard, the representation of internal stakeholders, such as leaders, support services, and departments, as well as external stakeholders, including businesses, professional groups, graduates, society, and public institutions, should have a more robust presence (Ubachs & Henderikx, 2023).

Multifunctional

Although encounters with sustainability codes have been noted, the quality assurance approach has not yet fully embraced a multifunctional structure. The current understanding still focuses more on meeting specific standards without integrating with the institutional culture. Despite encountering valuable endemic variables such as learning quality, these aspects are currently far from being robust. Methods such as benchmarking, peer interaction, and peer learning, which could improve quality assurance processes based on their own needs and to disseminate the quality assurance culture, are not being adequately used (Ubachs & Henderikx, 2023).

Conclusion

Despite the richness and multidimensionality within the context of ODE, it is observed that quality assurance processes still maintain a strong technical focus on meeting specific standards. At this juncture, a fundamental issue arises from the common perception of quality assurance as an external monitoring and improvement layer outside the instructional design process. Educational institutions often strive to meet various externally imposed criteria, standards, and indicators within the quality assurance layer. However, this framework, shaped by the experiences of other cultures and institutions, may not hold significant meaning for internal stakeholders and is therefore not consciously understood. Contrary to this, quality assurance should be an integral part of both micro-level (i.e., course and program) and macro-level (i.e., overall structure of ODE system) instructional design processes. The philosophy of ensuring the quality of the education service should be reflected in the instructional design processes. This philosophy should transform all stages of developing and distributing learning and teaching activities to be more participatory, transparent, understandable for the target audience, and flexible in a sustainable manner. Van Valkenburg et al. (2020) used the term maturity to define such a transformation towards evidence-based continuous improvement decisions in instructional design, strategies, practices, and relevant institutional conditions. As expressed by Ubachs and Henderikx (2023), decision-making processes that are consciously applied and evidence-based have the potential to elevate the respective educational institution to the level of a learning organization that has internalized a culture of quality.

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