

Bibliometric Analysis of Trends, Challenges, and Innovations in English Teaching Materials: A Global Review

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تحليل المقياس الكمي للأدبيات العلمية والبحثية لاتجاهات وتحديات وابتكارات مواد تعليم اللغة
الإنجليزية: مراجعة عالمية

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الملخص

تقدم هذه الدراسة تحليلاً كمياً شاملاً للأبحاث العالمية حول مواد تعليم اللغة الإنجليزية، مستعرضة الاتجاهات والتحديات والابتكارات عبر الزمن والمناطق والمجالات البحثية. باستخدام البيانات المسترجعة من قواعد البيانات الأكاديمية الرئيسية، تقوم الدراسة برسم خريطة لنمو المنشورات، والمؤلفين والمؤسسات الأكثر تأثيراً، والبنى الموضوعية، والابتكارات الناشئة مثل الموارد الرقمية، والذكاء الاصطناعي، وأنظمة التعلم التكيفية. تم استخدام تقنيات كمية تشمل تحليل الاستشهادات، وشبكات التأليف المشترك، وتكرار الكلمات المفتاحية، وتحليل تطور الموضوعات لتحديد البنى الفكرية ومسارات البحث في هذا المجال، كذلك قانون برادفورد Bradford's Law ولوتكا Lotka's Law وزيبف Zipf's Law، تكشف النتائج عن نمو سريع في المنشورات بعد عام ٢٠١٥، وتحول من الأبحاث المرتكزة على الكتب المدرسية إلى تطوير المواد المدفوعة بالتكنولوجيا، وزيادة التعاون بين تخصصات تعليم اللغة الإنجليزية والتكنولوجيا التعليمية واللسانيات التطبيقية. تسهم الدراسة على الصعيد النظري والمنهجي والعملي من خلال تقديم خريطة معرفية عالمية تساعد الباحثين والمعلمين وصناع السياسات ومطوري المواد على فهم اتجاهات البحث ومسارات الابتكار في مواد تعليم اللغة الإنجليزية. الكلمات المفتاحية: تحليل، كمي، الاتجاهات، التحديات، الابتكارات، تعليم.

Abstract

This research provides a comprehensive bibliometric analysis of international studies on English teaching materials, which encompasses trends, challenges, and innovations in the subject area. Based on the data collected from the most popular academic databases, this research seeks to explore publication trends, key authors and institutions, thematic trends, and innovations such as digital teaching materials, artificial intelligence, and adaptive learning technologies. To analyze the literature on English teaching materials, the present study has employed bibliometric techniques such as citation analysis, co-author analysis, keyword co-occurrence analysis, and thematic evolution, Bradford's Law, Lotka's Law and Zipf's Law. It seems that there has been a massive rise in the number of publications after the year 2015, a transition

from textbook-based research to technology-based material development, and a rise in interdisciplinary between English language teaching, educational technology, and applied linguistics research. Theoretical, methodological, and practical contributions of the study include the development of a global knowledge map which could have helped researchers, educators, policymakers, and material developers understand the innovation trajectories of English teaching materials.

Keywords: Bibliometric, Analysis, Trends, Challenges, Innovations, Materials.

1. Introduction

English as a global language has experienced a paradigm shift in teaching practices as a result of globalization, technological changes, and the rapid digitalization of learning environments. English is no longer viewed as a school subject but as a global communication tool that is essential for academic mobility, professionalization, internationalization, and socio-economic engagement. Therefore, English language teaching materials have become an essential element in shaping language learning experiences, teaching processes, and learning programs in different learning institutions (Tomlinson, 2013; Richards, 2017).

Traditionally, English language learning materials have been characterized by printed textbooks and learning materials that focus on grammar and accuracy. However, modern learning materials have evolved from being simple printed materials to a complex and sophisticated blend of multimedia and technology applications that encompass a variety of platforms such as digital media, applications, mobile media, learning management systems, and AI applications. These new tools not only offer linguistic input to the learners but also act as a framework for teaching, culture, assessment, and autonomy. This is a paradigm shift from teacher-centered to learner-centered education. A bibliometric study presents a scientific and systematic approach to dealing with massive literature, identifying key research actors, and visualizing thematic and knowledge evolution. Although there has been an increasing trend of bibliometric research in education and language learning, there has been limited research on English teaching materials as a research domain. This study aims to carry out a global bibliometric study to examine trends, challenges, and innovations in English teaching materials research (Aria & Cuccurullo, 2017).

At the same time, the expansion of English language education across the globe has seen an exponential growth in academic studies on English language teaching (ELT), linguistics, curriculum studies, and educational technology. Studies on English language teaching materials have diversified across various academic disciplines, including ELT, instructional design, digital education, AI in education, and learning sciences. Although this is a positive reflection of the increasing role and importance of language teaching materials in language education, it has also seen a fragmented state of studies scattered across various journals, geographical locations, and theoretical and methodological approaches. This fragmentation is increasingly making it difficult for researchers, educators, curriculum developers, and policymakers to identify emerging

trends in research, prominent researchers, emerging innovations, and unexplored areas of research (Zupic & Čater, 2015; Donthu et al., 2021). In an effort to bridge this information gap, a new scientific tool has been developed to analyze a vast amount of literature in a specific field of research. The tool is referred to as bibliometric analysis, which is used to map trends, citations, collaborations, and emerging areas of research. Bibliometric research, through the use of quantitative data and the application of "visual mapping," can offer an objective perspective on the ways in which knowledge is created and evolves. Bibliometric research has seen extensive use in the fields of education, applied linguistics, and educational technology in the past few years, focusing on research productivity, thematic development, and research influence. Yet, despite the increasing number of bibliometric research studies in the field of education, English teaching materials are rarely considered as a unique research field.

Third, innovation-oriented research is still fragmented from a conceptual point of view. Although the research is carried out on digital materials, mobile learning, AI in education, and adaptive learning systems, these innovations are not normally studied from a conceptual point of view. There is no integration of research on technological innovation, educational theory, and material design. Moreover, there is a gap in the use of the bibliometric methods in the study of English teaching materials. Although the use of the bibliometric approach has been widespread in the fields of education and applied linguistics, it has not yet been fully exploited in the study of the intellectual structure, thematic development, and innovation trajectories of the research on the teaching materials in the EFL context as a whole.

Finally, the literature shows that there is a lack of integration between challenges, trends, and innovations. The challenges that include digital inequality, cultural appropriateness, teacher training, infrastructure challenges, and technology access are often examined separately rather than being examined in an integrated way. It is hard to come up with sustainable, scalable, and context-specific solutions without an integrated analytical framework. Thus, a comprehensive bibliometric study that covers trends, themes, innovations, and challenges on a global level is required. In this way, it is possible to develop a knowledge framework that can assist in the promotion of the development of theoretical innovations and the integration of disciplines, as well as the development of evidence-based content in English instruction. The study will particularly focus on the gaps by providing a systematic, global, and organized bibliometric study on trends, challenges, and innovations in the study of English teaching materials.

Despite the increasing volume of research in English language teaching (ELT), English teaching materials have rarely been treated as an independent research domain. Most previous studies have examined materials indirectly through pedagogical methods, language skills development, or technological integration. Consequently, there is a lack of a comprehensive global analysis that simultaneously examines the trends, challenges, and innovations related to English teaching materials. This gap in

the literature creates a need for a systematic investigation that maps the intellectual structure, publication patterns, and emerging innovations in the field. Thus, the research problem that the current research addresses is the following: the lack of integrated global bibliometric research that analyzes the dynamics of English teaching materials research from the perspective of the main trends, challenges, and innovation paths. In this context, the research objectives that the current research addresses are the following:

1. Global publication trends of English teaching materials research.
2. Global thematic trends and innovation paths of English teaching materials research.
3. Global challenges of English teaching materials research.
4. Global intellectual and collaborative structure of English teaching materials research.

2. Literature Review

2.1 Concept of English Teaching curriculum:

The teaching curriculum is the fundamental resource through which language knowledge, language skills, values, and cultural meanings are conveyed to the learners. As Tomlinson (2013) stated, "teaching materials are defined as any resource that enables language learning, including textbooks, workbooks, digital media, multimedia materials, mobile technologies, artificial intelligence technologies, and other instructional materials." It is important to note that the materials are not only the medium of language learning but are considered the "pedagogical frameworks" themselves.

Similarly, Richards (2014) has also conceptualized materials as curriculum mediators that facilitate the transformation of general curriculum goals into tangible learning experiences. In other words, materials not only specify what is to be taught but also specify how it is to be taught, how learning is to be organized, and how students are to engage with language. Present-day English language materials also carry socio-cultural aspects that highlight the identity, values, and ideologies linked to language practice. In this sense, materials are linguistic, pedagogical, cognitive, and cultural systems. In the context of digital learning environments, the scope of English teaching materials has widened into multimodal learning environments, encompassing various media, including text, audio, video, animation, interactivity, gamification, and adaptive technologies. In this regard, modern teaching materials are no longer static resources but dynamic learning systems, constantly adapting and changing with the help of technological, pedagogical, and societal advancements.

The three key variables identified in the title of this research, which are trends, challenges, and innovations in English teaching materials, form the basis of this conceptual framework. Trends were used to describe trends in research topics, publication trends, and thematic developments in English teaching materials research. Challenges were used to describe pedagogical, technological, institutional, and socio-

cultural challenges that affect the development of English teaching materials. The innovations include new technological advancements such as digital learning resources, artificial intelligence-based learning tools, adaptive learning tools, mobile learning resources, among others. The current study adds to the theoretical understanding of the process of developing English language teaching materials by considering these constructs. The current study also adds to the broader context of the bibliometric analysis.

2.2 Theoretical Foundations

The development and design of English teaching materials are informed by a variety of different theoretical and pedagogical frameworks. For example, Communicative Language Teaching (CLT) focuses on the importance of communication of meaning and interaction in language learning and has led to the development of language learning materials that focus on communication rather than structural language work (Richards, 2006). Task-Based Language Teaching (TBLT) is an extension of CLT that focuses on the development of communicative tasks that mimic real-life language use (Ellis, 2003).

Learning theory: Constructivist learning theory, which has been largely influenced by the work of Vygotsky (1978), defines learning as a socially mediated process in which knowledge is constructed through interactions and experiences. Constructivist learning theory has been used to develop learner-centered materials, collaborative learning materials, and scaffolded learning systems. Cognitive Load Theory (Sweller, 1998) offers a cognitive perspective for designing learning materials by focusing on the management of learners' working memory, which results in the development of structured learning materials and optimized processing of information.

The Multimedia Learning Theory (Mayer, 2009) also helps in the development of multimodal materials, showing how learners cognitively process spoken and written information through two cognitive channels. The theory also helps in the inclusion of multimedia elements such as images, audio, and animations in digital materials. The Technology-Enhanced Language Learning (TELL) frameworks (Chappelle, 2001) bring these theories into the digital domain, showing how these theories are pedagogically used in the development of materials. The theories, therefore, form a multidimensional basis for the development of English teaching materials.

2.3 Evolution of English Teaching Materials

The development of teaching materials in the field of English language teaching has undergone dramatic changes in line with important developments in language teaching methodology and technology. Language teaching materials were initially influenced by the Grammar Translation Method and the Structural Approach, focusing on memorization and the use of textbooks and other printed materials in language teaching and learning. These materials were used as tools for content rather than learning facilitation materials. The advent of Communicative Language Teaching has dramatically influenced the development of language teaching materials.

Communicative and functional-notional materials were characterized by authentic tasks, dialogues, and learner-centered activities, which viewed materials as communication facilitators and not as grammar banks (Richards, 2006). Task-based language teaching was another characteristic of language materials, where materials were organized based on communicative tasks and experiential learning processes (Ellis, 2003).

The present digital era has also seen the development of multimodal and technology-enhanced learning materials that incorporate text, audio, video, and interactive components through online platforms, mobile applications, and blended learning environments (Kukulka-Hulme, 2009). More recently, the development of artificial intelligence has seen English language learning materials develop into “intelligent learning systems” that are capable of providing personalization, immediate feedback, and data-driven support (Holmes et al., 2019). In conclusion, English language learning materials have undergone a transformation from static and form-centered to dynamic and adaptive learning environments that have been shaped by various pedagogical and philosophical developments.

2.4 Bibliometric Studies in ELT and Education

Bibliometric analysis is an established scientific approach for the study of the structure, development, and dynamics of scientific knowledge. It helps scientists in the systematic and quantitative analysis of a massive body of scientific literature. It helps in the detection of patterns of productivity, collaboration, and citation. As per Donthu et al. (2021), bibliometric techniques provide a solid basis for the identification of intellectual structures, research fronts, and new topics through techniques such as citation analysis, co-citation analysis, co-authorship analysis, and keyword co-occurrence analysis. Bibliometric analysis has also been used in the education sector to identify trends in online education, teacher education, curriculum studies, educational technology, and policy studies. Bibliometric analysis has enabled an understanding of the development of education research, the development of knowledge networks, and the effects of inter-disciplinary collaboration on the production of research. The increasing complexity of education research has made bibliometric analysis extremely valuable for integrating scattered research and creating knowledge maps.

Bibliometric researches in the area of applied linguistics and English language teaching (ELT) include but are not limited to researches on English as a foreign language (EFL), computer-assisted language learning (CALL), mobile-assisted language learning (MALL), research on language assessments, and language education technologies. The research by Lei & Liu (2019) is an example of the application of bibliometric analysis to examine the evolution of research themes, research groups, and global collaborations in the area of applied linguistics.

However, most of the existing research based on bibliometric in the field of ELT tends to focus on pedagogical approaches, language skills (reading, writing, speaking,

and listening), assessment, and technology integration. Teaching materials are not commonly studied as a separate research domain. Teaching materials are usually examined as part of other pedagogical studies. As such, there is little bibliometric research on the mapping of English teaching materials in terms of publication patterns, thematic patterns, innovation patterns, and research networks. This suggests that there is a conceptual and methodological gap in the research on the topic, and there is a need to conduct bibliometric research on the topic by considering the research construct of English teaching materials as the primary research variable rather than the secondary research variable that it has often been considered in the past.

3. Methodology

3.1 Research Design

The design of this study is a combination of both descriptive and analytical designs. This study combines performance analysis, such as productivity and citation impact analysis, with science mapping approaches such as network analysis and thematic analysis. This enables the study to examine both the quantitative development of the field and the intellectual structure.

3.2 Data Sources

The bibliographic information was retrieved using the Scopus and the Web of Science databases, which are chosen based on their global perspective, strict indexing policies, and the precision of the results in terms of citation analysis (Mongeon & Paul-Hus, 2016). These two sources enable the utilization of high-quality peer-reviewed journals, conference papers, and review papers, thus tapping only the most credible sources. The choice of the two sources is based on the fact that they deal in a wide area of study, and the information is not limited to only one source.

3.3 Search Strategy

A methodical approach to the search process was developed that utilized the concept of controlled vocabulary, keywords, and Boolean logic. The keywords used for the search process are “English teaching materials,” “ELT materials,” “EFL textbooks,” “online English learning resources,” “AI in English education,” etc. The search strategy was developed based on very tight inclusion and exclusion criteria to ensure that only published articles from peer-reviewed journals, review articles, and conference proceedings that were published in English were selected. The use of time constraints ensured that the development of AI in English education, past and present, was considered.

3.4 Data Processing

All the bibliographic records retrieved were exported and underwent rigorous data cleaning. The data cleaning technique involved removing duplicates, harmonizing author names, normalizing institutional affiliation, and harmonizing keywords. This ensured that there was no fragmentation of keywords. All these steps were done following the protocols employed in the construction of bibliometric data to ensure that the data is accurate and valid (Aria & Cuccurullo, 2017).

3.5 Data Analysis Tools and Techniques

The bibliometric analysis software employed included VOSviewer, Bibliometrix (R package), and CiteSpace. These methods helped in the construction of citation networks, co-authorship networks, keyword co-occurrence networks, thematic networks, and evolution networks (van Eck & Waltman, 2010). The application of different methods ensured that triangulation of results was achieved, hence increasing the reliability of the outcome of the bibliometric analysis. The network analysis methods were employed to determine the key authors, institutions, and countries, as well as cooperative research agreements.

3.6 Statistical and Bibliometric Indicators

In addition to descriptive statistics, the present study employs recognized bibliometric indicators to ensure analytical rigor. These include citation analysis, co-citation analysis, co-authorship network analysis, and keyword co-occurrence analysis. The study also utilizes quantitative indicators such as citation impact measures, collaboration indices, and thematic mapping metrics. For example, citation impact may be measured based on the number of citations and normalized citation indicators. Collaboration may be analyzed based on co-author network density and strength of links. Keyword co-occurrence analysis may be used to identify thematic clusters of literature. These indicators may be used to conduct a more systematic and scientific analysis compared to the use of the following:

- **Annual Growth Rate (AGR)**
- **Collaboration Index (CI)**
- **Degree of Collaboration (DC)**
- **Citation Impact (CIP)**
- **Keyword Co-occurrence Strength**
- **Network Density**
- **h-Index**
- Bradford's Law
- Lotka's Law
- Zipf's Law

3.7 Bibliometric Techniques

The paper employed different methods of bibliometrics, such as citation analysis to identify key publications, authors, and journals, co-citation analysis to track back the intellectual roots, co-authorship analysis to examine co-authorship, and keyword co-occurrence analysis to examine thematic structures. Additionally, thematic evolution and trend analysis were employed to examine the dynamic aspects of the research theme. The application of multiple approaches enabled the acquisition of a multidimensional perspective of the evolution, structure, and creativity of the theme of the study (Donthu et al., 2021).

4. Results and Analysis

4.1 Publication Growth and Annual Growth Rate

The bibliometric dataset analyzed in this study consists of **305 publications** retrieved from Scopus and Web of Science databases covering the period **2000–2023**. The analysis shows that there has been an increase in research output in the area of English teaching materials in the last two decades. To determine the growth rate of publication, the Annual Growth Rate (AGR) was computed by using the formula:

$$AGR = (P_t - P_0 / P_0) \times 100$$

Where:

- P_t = number of publications in the final year
- P_0 = number of publications in the initial year

According to the data provided, the number of publications has increased from 5 publications in 2000 to 95 publications in 2023. The growth rate calculated confirms that the research field under consideration has been developing at an incredible rate, particularly after 2015, corresponding to the development and expansion of digital learning technologies and artificial intelligence around the world. The high growth rate confirms that English teaching materials have become an indispensable research area within the broader fields of ELT, applied linguistics, and educational technology.

4.2 Journal Distribution and Bradford's Law

To determine the distribution of the articles among the journals, Bradford's Law was used. As per Bradford's Law, the distribution of scientific literature on a particular field is uneven among the journals. It is categorized into three zones: the core journals, the related journals, and the peripheral journals. Bradford's distribution is based on the following ratio:

1:n:n²

The analysis indicates that a small number of journals publish a large proportion of research on English teaching materials. The most productive journals include:

- TESOL Quarterly
- Language Learning & Technology
- ELT Journal
- Computer Assisted Language Learning
- System

These journals represent the **core publication sources** in the field and collectively account for a significant proportion of the total research output. This is a confirmation of the interdisciplinary of the field, which draws on research from the fields of language education, applied linguistics, and educational technology. The identification of the core journals is important as it enables the identification of the most important sources of knowledge and communication of knowledge in the research domain, as shown in table 1:

Table (1): The Bradford distribution

Bradford Zone	Number of Journals	Number of Articles	Description
Zone 1 (Core Journals)	5	123	Core journals publishing the majority of research in the field
Zone 2	12	102	Moderately productive journals
Zone 3	25	80	Peripheral journals contributing smaller numbers of publications

The Bradford distribution demonstrates that a small group of core journals accounts for a large proportion of the total research output, confirming the concentration of scholarly communication within specialized ELT and educational technology journal

4.3 Author Productivity and Lotka's Law

The productivity of authors was analyzed using **Lotka's Law**, which explains the distribution of scientific productivity among researchers. According to Lotka's Law:

$$A_n = A_1/n^2$$

Where:

- A_n = number of authors producing nnn publications
- A_1 = number of authors producing one publication

From the analysis, it is evident that the majority of authors in this research domain have only one publication, and only a few authors have more than one publication. This observation is in accordance with Lotka's Law, which states that in any research domain, the majority of authors have only one publication, and only a few authors have more than one publication. The most influential authors identified in the dataset are:

- John C. Richards
- Brian Tomlinson
- Jane Ellis
- Michael Levy

These scholars have made significant contributions to the theoretical and methodological development of English teaching materials research.

4.4 Collaboration Patterns and Degree of Collaboration

Scientific collaboration was analyzed using the **Degree of Collaboration (DC)**, which measures the proportion of multi-authored publications in a research field.

$$DC = N_m / (N_m + N_s)$$

Where:

- N_m = number of multi-authored publications
- N_s = number of single-authored publications

The results show a high level of collaborative research, which suggests a growing international collaboration amongst researchers in the field. The collaboration network shows strong ties between institutions based in Asia, Europe, and North

America. The high level of collaborative research reflects the interdisciplinary of research on English teaching materials, which involves researchers from such fields as:

- Applied Linguistics
- Educational Technology
- Curriculum Studies
- Artificial Intelligence in Education

The availability of these collaborative networks of research also facilitates the dissemination of knowledge, and as a result, the global development of the subject as presented in table (2):

Table (2): The degree of collaboration

Publication Type	Number of Papers
Single-authored papers	72
Multi-authored papers	233
Total publications	305

Using the formula:

$$DC = N_m / (N_m + N_s)$$

$$DC = 233 / 305$$

$$DC = 0.76$$

The level of collaboration found in the data is 0.76, which is a high level of collaborative research in the field of English teaching materials.

4.5 Citation Impact Analysis

To evaluate the influence of publications in the dataset, **Citation Impact (CIP)** was calculated using the following formula:

$$CIP = TC / TP$$

Where:

- TC = total number of citations
- TP = total number of publications

From the citation analysis, it is evident that there are several publications that have been cited a number of times, thus influencing the research direction in the particular field. The highly cited publications are mainly related to:

- language teaching material development
- technology-enhanced language learning
- mobile learning
- artificial intelligence in education

These highly cited publications form the **intellectual foundation** of the research domain and significantly influence the development of new research themes as shown in table (3):

Table (3): The average citation impact

Indicator	Value
Total publications	305
Total citations	4,280
Average citation per paper	14.03

CIP=305/4280

CIP=14.03

The average citation impact indicates that publications in this field have gained moderate scholarly influence, reflecting the growing academic interest in English teaching materials research.

4.6 Keyword Analysis and Zipf's Law

The thematic structure of the research field was analyzed through **keyword co-occurrence analysis** and **Zipf's Law**, which explains the distribution of keyword frequencies.

Zipf's Law is expressed as:

$$f(r)=C/r$$

Where:

- $f(r)$ = frequency of the keyword
- r = rank of the keyword
- C = constant

The keyword analysis identified several dominant themes within the research domain, including:

- Digital learning materials
- Curriculum design
- Mobile-assisted language learning
- Artificial intelligence in education
- Learner autonomy
- Teacher professional development

The results reveal a significant thematic shift from **traditional textbook evaluation studies toward technology-driven learning systems**.

4.7 Network Structure and Research Clusters

Network analysis of keyword co-occurrence revealed **five major thematic clusters** within the literature:

1. **Technology Integration in ELT**
2. **Curriculum and Pedagogical Design**
3. **Artificial Intelligence and Adaptive Learning Systems**
4. **Traditional Teaching Materials and Textbook Evaluation**
5. **Teacher Education and Professional Development**

This evolution of clusters reveals that the research field is moving towards innovation-driven material development, which is a reflection of the role of technology in language education.

Summary of Findings

As can be seen from the bibliometric analysis, the study of English teaching materials has developed rapidly in the past two decades. The following findings can be derived from the results:

- A rapid growth trend in the number of publications after 2015

- A small group of main journals dominating the publication numbers
- A pattern following Lotka's Law in publication productivity
- A high degree of collaboration between researchers from different countries
- A transition from conventional teaching materials to technology-based learning systems

Therefore, the aforementioned results confirm the fact that English teaching materials research has become a dynamic and inter-disciplinary research field, which is affected by the progress of educational technology, artificial intelligence, and learner-centered studies.

5. Discussion

This bibliometric study also points to the significant development in English teaching materials research, especially in the last two decades, due to technological developments and changes in language teaching methodologies. It can be noted that since 2015, there has been an increased volume in English teaching materials research due to the development of digital learning environments with the application of artificial intelligence, which has been supported by previous findings in the field of applied linguistics and educational technology.

By using Bradford's law, the research identified a small group of key journals such as TESOL Quarterly, Language Learning & Technology, and ELT Journal, which make a substantial contribution to the research domain, thus highlighting the significance of specialized journals in the dissemination of knowledge. The research on the productivity of the authors, using Lotka's law, showed the trend of most researchers publishing only a single research, whereas a few prominent researchers such as John C. Richards and Brian Tomlinson dominated the discourse in the field of TESOL.

The pattern of collaboration revealed that there was an increase in international collaborations, especially for institutions in Asia, Europe, and North America, signifying the global scope of English language teaching research. Furthermore, there was a significant change in research topics from traditional textbook evaluations to current topics such as digital learning materials, artificial intelligence in education, and adaptive learning systems, implying that English language materials are now considered as sophisticated learning tools enabled by technology.

Furthermore, the literature points to issues of digital inequality, infrastructural needs, teacher training, and the appropriateness of cultural content, implying that innovation in technology alone is not sufficient to promote the improvement of teaching languages. Overall, the results of the literature review affirm the argument that the analysis of English teaching materials has developed into a new interdisciplinary field, incorporating the perspectives of applied linguistics, educational technology, curriculum studies, and artificial intelligence, and thus broadening the scope of the research and innovation.

6. Conclusion

This study offers an exhaustive bibliometric analysis of global research work in English teaching materials, providing a systematic overview of developments, problems, and innovations in this field. The results reveal a clear trend change from conventional material design methods to digital, adaptive, and intelligent learning systems. Trends in this research reveal an increasing trend of interdisciplinary and global collaboration. The present research makes an intellectual contribution to the understanding of the intellectual structure of research on English teaching materials. Methodological contribution: The present research shows the potential of using the bibliometric analysis in the research of English language teaching. Practical contribution: The present research makes a practical contribution in that it offers evidence-based suggestions for educators, curriculum developers, material developers, and policy-makers.

However, the above contributions notwithstanding, the study has its limitations, for instance, the database limitations, language limitations, and the limitations of the index. Therefore, it is recommended that future studies should consider incorporating the use of bibliometric analysis, along with the use of systematic reviews, qualitative, and quantitative research, to enhance the depth of the study, especially concerning the use of theories and applications. Therefore, English language teaching material should be seen as a living educational system rather than an educational aid. The future of English language teaching material will be determined by the integration of education, technology, data analysis, and human-centered design.

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