

TEACHING ENGLISH DURING THE PANDEMIC: BIBLIOMETRIC ANALYSIS

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Abstract

The COVID-19 pandemic has led to massive publications indexed in various databases, which provide platforms for research communities, including teachers and researchers, to disseminate their experiences during the pandemic. This paper employed bibliometric analysis to investigate the keywords “teaching English in the pandemic” in the Scopus database to determine how the research is produced. This research used Vos Viewer to analyze the co-authorship and co-occurrences of the keywords from the bibliographic information downloaded from the Scopus database by limiting its search to 2020-2022 under the scope of social sciences and humanities. From the 444 documents eligible for the review, this paper indicates two main points: (1) the co-authorship of research publication has been equally distributed and produced through collaboration despite ample opportunities for joint research among organizations, and (2) the co-occurrences of the keywords show three major research trends during the COVID-19 pandemic: pedagogical best practices, pedagogical experience, and pedagogical strategies. This paper exemplifies how knowledge and publications are generated within a certain field, enabling the research community to foster collaboration and produce articles that incorporate pertinent keywords currently under discussion.

Keywords: bibliometric, COVID-19, review, Scopus

Introduction

The sars-cov-2 (COVID-19) outbreak has mobilized research on various disciplines, including life sciences and humanities (Green & Cladi, 2020; Riccaboni & Verginer, 2022; Yu et al., 2022). Despite the domination of publications on health and technology, research on society and humanities is of the same importance since the disruption in educational, religious, and cultural activities has driven personal, social, and political attitudes (Pickersgill & Smith, 2021). Academic discourse produced in the publishing industry also plays an important role in constructing, legitimizing, criticizing, and transmitting knowledge (Hassen, 2015). Therefore, discussing the topic of education or teaching during the pandemic is equally important as finding the best vaccine or designing public policy to prevent a country from crisis due to the pandemic.

The COVID-19 pandemic has urged teachers and learners to switch to online instruction with limited resources and preparation (Tao & Gao, 2022). Both teachers and students face several challenges, including anxiety, pessimism, academic burnout, fear, and a lack of support (Mali, 2023; Sveinsdóttir et al., 2021). Numerous research endeavors have been undertaken to employ various methodologies such as interviews, surveys, and action research, among others, to identify the most effective way to facilitate the smooth operation of online and distance learning. Online teaching policies also vary among countries due to factors such as learner characteristics, course content, design, performance expectancy, social influence, and technical skills of both teachers and students (Abdelwahed et al., 2022; Andriani, 2022; Perera & Abeysekera, 2022; Pham et al., 2021).

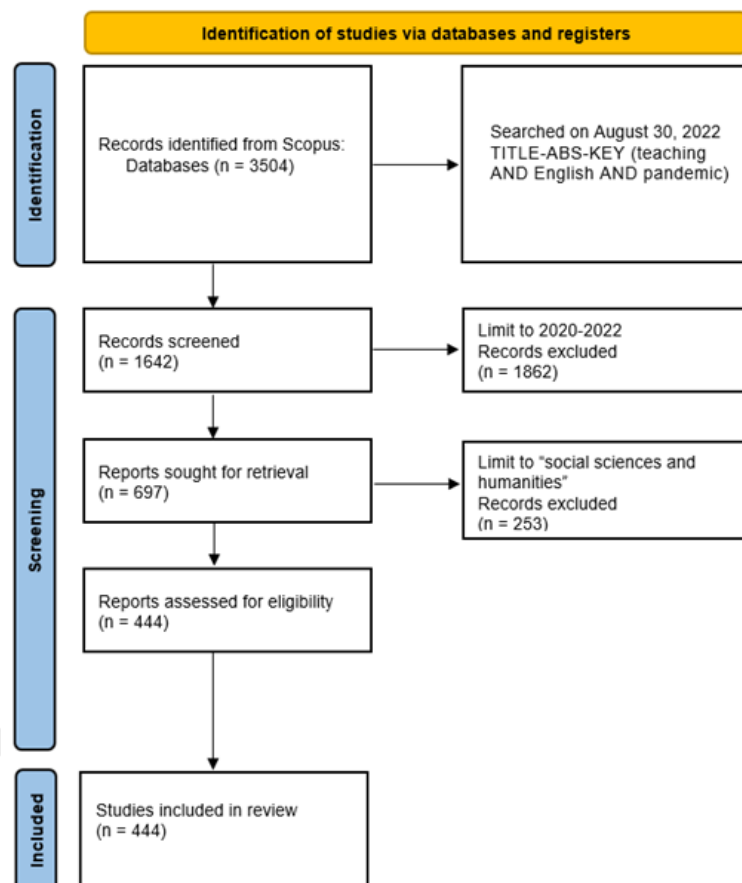
The challenges faced by learners and teachers in adapting to the pandemic have prompted scholarly discourse among researchers, assisted by research journals that offer valuable and accessible information and knowledge (Childe, 2006). In addition to academic journals produced by universities, research publishing companies like Springer provide a platform for a research community to enhance the publication process, foster innovation in scientific communication, stimulate growth, promote open research, and offer value beyond the mere act of publishing (Inchcoombe, 2017). The publications also accelerate the research community to extract helpful knowledge about research topics, authors, and organizations (Fornacciari et al., 2017). Therefore, scholarly journal publications offer a significant opportunity for researchers to foster research collaboration and engage in discussions regarding the most effective practices in teaching and learning, particularly in the context of the pandemic.

Publishers also provide a platform for authors to disseminate their research and bibliographic databases for knowledge management. Studies on research publications provide resources for creating not only a competitive advantage but also systematic coordination of research communities (Kaba & Ramaiah, 2020). Collaborations can be made by learning the research topics and organizations provided by the bibliographic information. Regarding education, research publications have provided models for teachers to cope with the pandemic. The pandemic has affected more than 94% of the world's population, and it also allowed us to introduce digital learning (Pokhrel & Chhetri, 2021). Teachers can learn how to improve their professional performances, select appropriate technologies, and develop learner-centered values (Kidd & Murray, 2022).

Although other publishers offer platforms for discussing teaching and learning experiences during the pandemic, the journal indexations provided by Web of Science (WOS) by Thomson Reuters and Scopus by Elsevier are widely recognized for their high-quality papers. WOS is divided into four major databases: Science Citation Index Expanded (SCIE), Social Science Citation Index (SSCI), Arts and Humanities Citation Index (AHCI), and Emerging Sources Citation Index (ESCI), while Scopus provides a broader database including 21,900 titles of journals from more than 5,000 international journals (Pérez-Escoda, 2017). This research analyzes the bibliometric information from the Scopus database, particularly the co-authorship and co-occurrences of the publications under the topic "teaching English in the pandemic". Therefore, this research aims to answer the following questions.

1. How is the co-authorship of “teaching English in the pandemic” research distributed in the Scopus database 2020-2022?
2. What research trends can be concluded from the co-occurrences of the keywords in the database?

Method



This study conducted a bibliometric analysis of publications in scholarly journals to investigate several publication features, including keywords, authors, countries, and organizations. This methodology elucidates the research contribution, and patterns of collaboration, and enhances comprehension of research trends (Mala et al., 2022). The current study commenced by employing bibliometric analysis techniques, repeating the research procedures utilized in prior studies. The initial phase involved identifying relevant data by inputting specific keywords into the “search” column. This was followed by subsequent screening stages, assessing eligibility, and determining inclusion criteria (Gao et al., 2022; Mishra et al., 2022; Viana-Lora & Nel-lo-Andreu, 2022). The PRISMA tool provides the procedure visualization as follows (Page et al., 2021).

The identification step began by searching the Scopus documents on August 30, 2022, by inserting these keywords: TITLE-ABS-KEY (teaching AND English AND pandemic). 3,504 documents were found, then the researcher limited its publication year from 2020 to 2022, (LIMIT-TO (PUBYEAR, 2022) OR LIMIT-TO (PUBYEAR, 2021) OR LIMIT-TO (PUBYEAR, 2020)) and

screened 1,642 documents. Furthermore, the researcher limited the publication to “social sciences and humanities” and included 697 articles. Of the screened documents, this paper focused on the “research articles” and found 444 articles eligible for analysis. The bibliographic information of those articles was downloaded in the form of .csv format, which later was uploaded to the VOS Viewer tool to identify the co-authorship and co-occurrences of the article bibliometric information (Mishra et al., 2022).

After compiling the bibliographic information downloaded in .csv format, the researcher created a map to determine the connection between co-authorship countries, organizations, authors, and keywords (Yunzhong et al., 2023). VOS Viewer provides the visualization of the map in three ways: network visualization, overlay visualization, and density visualization. The network visualization is connected by a link showing a connection or relation between two items. A link also shows the bibliographic coupling between publications, a co-authorship link between publication and researchers, and a co-occurrence link shows the relation between terms/ items/ objects of interest. Link is visualized from its strength: the number of cited references the two publications have in common, two researchers have co-authored, or in which two items occur together. However, Vos Viewer does not show the strength of the link, but the network, or a set of items together with the links between items. Items are also grouped into clusters even though clusters do not thoroughly cover all items in a map.

Findings and Discussion

The first question sought in this study was to map the co-authorship, including countries, organizations, and authors of the Scopus database 2020-2022 under the keywords “teaching English in the pandemic”. A total of 89 countries contributed to the production of papers included in Scopus. However, the researcher restricted five documents per country, resulting in 31 countries meeting this criterion. Table 1 presented below summarises the countries responsible for producing the documents, which have been categorized into 11 distinct clusters.

Table 1. Countries producing the documents in the Scopus database

Cluster	Countries	Documents	Citations
1	China, India, Indonesia, Malaysia, the Philippines, Saudi Arabia, Taiwan, Vietnam	182	345
2	Brazil, Germany, Iran, Poland, Romania, Spain	55	92
3	Australia, Italy, Oman	28	23
4	Russian Federation, United Arab Emirates, United Kingdom	46	260
5	Colombia, Thailand, the United States	65	138
6	Cyprus, Turkey	17	9
7	Canada, Hong Kong	20	70
8	Chile	5	72
9	Ecuador	7	2
10	Japan	5	2
11	South Korea	7	14
	Total	182	345

The table above reveals that countries from similar or different continents may fall under the same cluster. The cluster consists of a set of closely related nodes (van Eck & Waltman, 2014). The co-authorship network shows the collaboration between countries (Abdullah & Khan, 2021). The collaboration between the first cluster includes Asian countries, not necessarily the developing ones since China is included in the cluster even though all countries in the first cluster come from Asia. The second cluster also represents a collaboration from different continents: Brazil from South America, Iran from Asia, and other countries like Germany, Poland, and Romania from Europe. Some other countries are categorized into a cluster that does not collaborate with others, such as Chile, Ecuador, Japan, and South Korea. The table above unveils that research collaboration in academic publication results in most documents published in Scopus and inspires other researchers to cite the documents.

Other than investigating the countries producing the documents in the Scopus database, this paper also searched for the co-authorship between institutions. The collaboration reveals collective participation and contribution toward knowledge production (Abdullah & Khan, 2021; Yunzhong et al., 2023). Of the 444 documents reviewed, there were 802 organizations whose authors published documents in Scopus. When the researcher restricted its inquiry to a minimum of two documents by each organization, it found that 22 organizations were identified as meeting this criterion. Table 2 below summarizes the institutions that produced the documents in Scopus.

Table 2. Institutions producing the Documents in Scopus Database

Cluster	Institutions	Documents	Citations
1	Hong Kong Baptist University, University of Hong Kong, Pepperdine University Los Angeles, CA, US	7	17
2	McMaster University, Canada; Irish Children's Arthritis Network, Ireland	2	0
3	Changsun Senior High School of Nationalities; Beijing University of Posts and Telecommunications, China	4	1
4	de la Salle University, the Philippines	2	1
5	University of Santo Thomas, the Philippines	2	5
6	Universiti Kebangsaan Malaysia, Malaysia	2	20
7	Multimedia University, Malaysia	2	0
8	Majmaah University, Saudi Arabia	2	2
9	Monash University, Australia	2	0
10	Prince Sattam bin Abdul Aziz University, Saudi Arabia	2	9
11	Samara State Technical University, Russian Federation	2	1
12	Zhejiang Gongshang University, China	2	0
13	Thai-Nichi Institute of Technology, Thailand	2	2
14	Universidad Cesar Vallejo, Peru	2	1
15	Universidad Técnica Particular de Loja, Ecuador	2	0
16	Universidade Federal de Santa Catarina, Brazil	3	0
17	Universiti Pendidikan Sultan Idris, Malaysia	2	6
18	University of Technology and Applied Sciences-Ibra, Oman	2	0

Table 2 presented above illustrates the collaborative efforts undertaken by several universities in publishing papers to the Scopus database. However, out of the total of 18 clusters identified, it is noteworthy that only three clusters exhibit the presence of more than one institution. The first cluster comprises four institutions: Hong Kong Baptist University, the University of Hong Kong, and Pepperdine University Los Angeles. They published seven documents in the database and cited them 17 times. The second cluster comprises solely two institutions, namely McMaster University in Canada and the Irish Children's Arthritis Network in Ireland, both of which have published a total of two documents. Nevertheless, other scholars have not yet referenced or referred to the aforementioned papers. The final cluster consists of collaboration works between Changsun Senior High School of Nationalities and the Beijing University of Posts and Telecommunications in China. They published four documents and were cited once. The remaining clusters did not exhibit any instances of institutional collaboration, with Universiti Kebangsaan Malaysia being the organization whose documents had the highest number of citations.

In addition to examining countries and organizations, this study seeks to identify the authors with the most influence in publishing scholarly works on “teaching English in the pandemic” throughout the timeframe of 2020-2022, as documented in the Scopus database. The following list comprises the ten most prominent authors whose scholarly works have been published and subsequently cited.

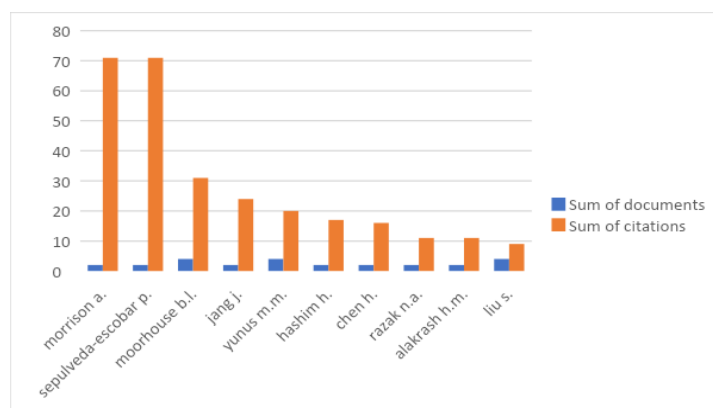


Chart 1. Top ten authors publishing documents in the Scopus database

The study authored by Morrison and Sepulveda-Escobar, affiliated with Universidad Autónoma de Chile, has garnered significant scholarly attention, cited over 70 times. The article was published in the *European Journal of Teacher Education* on August 5, 2020. They examined the challenges and opportunities of online teaching during the COVID-19 pandemic in Chile. Given that the paper was published in mid-2020, a time when numerous countries were also seeking optimal strategies to address the situation, the research findings indicate that the absence of direct interaction among learning participants and the abrupt transition to a different learning environment are the primary factors that significantly impact the participants' learning process (Morrison & Sepulveda-Escobar, 2022; Sepulveda-Escobar, 2020). One of the primary obstacles encountered in the online setting was the absence of restricted internet access, diminished interest, and

inadequate technology. The study suggests that there is a need for the advancement of information technology to facilitate the implementation of remote learning effectively (Morrison & Sepulveda-Escobar, 2022).

The author who exerted the greatest influence on the publication was Moorhouse, affiliated with Hong Kong Baptist University. The researcher's investigation centered on the professionalism and growth of teachers in the synchronous, asynchronous, and blended teaching styles during the pandemic. This was accomplished by engaging in primary and secondary school classes in Hong Kong. Besides teaching innovation that needs to develop in an online setting, teachers' motivation during the pandemic also requires serious attention from scholars. Teachers encountered difficulties in their instructional endeavors, leading to a decline in their self-assurance as they began questioning their pedagogical competence. Consequently, they experienced a sense of social detachment and harbored apprehension regarding their overall job contentment. (Moorhouse, 2021; Moorhouse & Kohnke, 2021; Moorhouse & Wong, 2022).

In addition to Sepulveda-Escobar and Moorhouse, a notable contributor to the publication's influence was Jang, affiliated with Ohio State University. Jang's research focused on investigating the transformation of teachers' identities in the context of online teaching in South Korea. In contrast to the situations observed in Chile and Hong Kong, Jang's research offers a distinct perspective by revealing that the COVID-19 pandemic has led to a notable shift in the behavior of Korean teachers, resulting in increased agency in the context of online teaching. The global pandemic has catalyzed Korean educators to actively seek out diverse teaching resources to engage in thoughtful and action-oriented pedagogical methods. Additionally, this practice serves as a means of constructive identity development, enhancing the creativity and collaboration of Korean language educators in their instructional approaches (Jang, 2022; Yi & Jang, 2020).

The authors Yunus and Hashim, affiliated with Universiti Kebangsaan Malaysia, have significantly contributed to the Scopus database through their combined research on the factors influencing the behavioral intention of TESL post-graduate students in the context of online learning (Yunus et al., 2021). In the Malaysian context, the research examined hundreds of post-graduate students using surveys and questionnaires. The analysis found that performance expectancy greatly influenced the students' behavioral intention in online learning. Yunus published another document on ESL teachers' challenges in implementing online learning in the Malaysian context (Lukas & Yunus, 2021). By conducting an in-depth interview with Malaysian primary school teachers, they identified some barriers during the pandemic, such as teacher readiness to adopt online learning, accessibility on mobile phones, internet connectivity, and classroom management (participation and assessment).

Chen conducted a different trajectory by comparing students' attitudes toward remote learning between students attending a Chinese and an Australian campus (Chen, 2022). Using an anonymous survey and open-ended questions from student feedback, the research found that students based in Australia exhibited a greater inclination towards remote learning because of the convenience of attendance and video recording. In contrast, students based in China preferred face-to-face classrooms because of the lack of an English-speaking learning environment and hesitancy in classroom engagement. Despite

the international or local student status, students in Australia showed better performance on quizzes, which probably was motivated by their English-speaking and learning environment. The findings of the analysis indicate that students tend to exhibit greater acceptance towards remote learning when conducted in a language and learning environment that is familiar to them. Conversely, when instruction is delivered in a second language using an unfamiliar teaching methodology, distant learning may be perceived as requiring additional effort to achieve success (Chen, 2022).

The study conducted by two additional academics affiliated with Universiti Kebangsaan Malaysia, namely Razak, and Alakrash, focused on analyzing educational practices and education systems in Malaysia within the context of the Malaysian lockdown (Alakrash & Razak, 2021). Through questionnaires, they examined students' achievement in language skills through digital literacies. The findings suggest that vocabulary is the most acquired language skill among others through digital literacies. A suggestion of integrating digital literacies in marginalized groups in Malaysia is highly recommended (Alakrash & Razak, 2021). In a similar topic, Alakrash & Razak examined the technology used during the COVID-19 lockdown in Malaysia. Using Zoom interviews with language teachers in Malaysia, they investigate teachers' experience in transforming traditional to online learning with technology. The results indicate that teachers in Malaysia employed innovative teaching practices in response to the implementation of lockdown measures. Nevertheless, there were evident obstacles to internet connectivity, infrastructure, technological literacy, and access to information and communication technology (ICT) devices.

Similar to Jang's research, Yuan and Liu, from the University of Macau, investigated EFL instructor identity changes and emotions during online teaching in China (Liu, 2021; Yuan & Liu, 2021). By conducting a case study of three EFL instructors during an online semester, they examined how the teachers understand their identity development and shift. The findings show that the teachers' identities were evolved and renegotiated into their practiced teachers based on their individual and contextual factors. Teachers' transition to an online context requires pedagogical and psychological support (Yuan & Liu, 2021). The other research Liu conducted was on language teachers' emotional experiences during the pandemic. The lack of studies on teachers' emotional well-being during the pandemic needed further research to provide a viable and instrumental approach to facilitate teachers' continuing development and emotional reflexivity and well-being (Liu, 2021).

To map the research trends during the pandemic, this paper examined the co-occurrences of keywords in the 444 documents reviewed. There were 2,033 keywords under the topic "teaching English in the pandemic" published in the Scopus database during 2020-2022. The researcher limited the search to five keywords of occurrences and found 75 keywords organized into four clusters, as shown in Table 3 below.

Table 3. Summary of Keyword Clusters in Scopus Database 2020-2022

Cluster	Keywords	Research trends
1	Computer-aided instruction, curricula, e-learning, education computing, educational institutions, engineering education, English language teaching, English languages, English learning, foreign language, language learning, language systems, motivation, online education, online course, online learning, online teaching and learning, personnel training, quality control, students, surveys, teachers' teaching, teaching and learning	pedagogical best practice
2	article, coronavirus, coronavirus disease 2019, education, education, distance, epidemiology, female, human, humans, language, learning, male, medical education, pandemic, pandemics, procedures, questionnaire, sars-cov-2, student, systematic review	pedagogical experience
3	COVID-19, distance education, EFL, ELT, English teaching, foreign language, teaching, higher education, ICT, online, online teaching, perception, professional development, synchronous online teaching, teacher education,	pedagogical strategies

The table above shows three major research trends in the publication: pedagogical best practice, pedagogical experience, and pedagogical strategies. The most popular keywords mentioned in the bibliographic information fall under the pedagogical best practices. Even though the keywords are categorized into different clusters, the following visualization unveils that those keywords co-occur in different clusters. The red link connecting keywords under the cluster “pedagogical best practices” co-occurs with the other clusters, both “pedagogical experience”, and “strategies”. As an illustration, the term “online learning” represented by the red node is connected to the term “pandemic” in the green node and “higher education” in the blue node. This implies that the three specified keywords tend to appear together within texts authored by individuals who employ them collectively. It may be concluded that there is a strong interconnection among the three clusters.

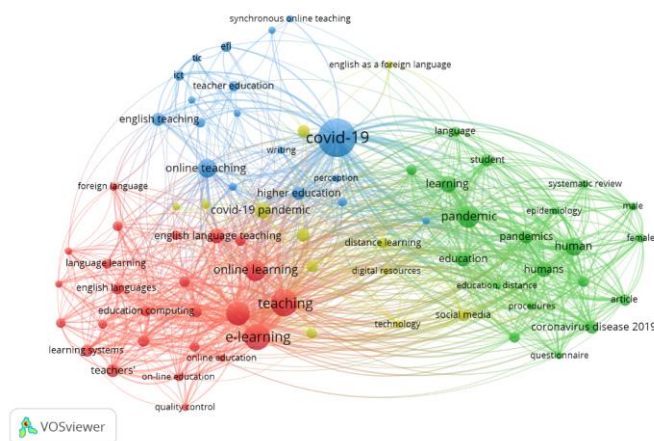


Chart 2. Visualization of keywords co-occurrences in Scopus database

Since the pandemic has urged teachers and students to transform to online learning, many researchers selected keywords that reflect best practices to help students reach their learning goals. However, teachers are also agents who struggle to find the best way to cope with the situations. Keywords like “computer-aided instruction”, “curricula”, “education institutions”, “personnel training”, and “quality control” are examples of research examining how education organizations, not limited to tertiary education, tried to select the best ways to transform traditional face-to-face learning into online/ distant one. Similarly, the keyword “questionnaire” in the green cluster is linked with other keywords in red and blue colors, as shown by the keywords “perception” and “education computing”. By observing the distance of keywords from the center node, we can see that the topics under the furthest keywords indicate a research gap that scholars can improve. The keyword “quality control”, for example, is found the furthest than the other keywords shown in the red links. Research under this keyword still needs further research to find the pedagogical best practices in the online learning environment.

Despite the investigation of the best strategies for online learning, teachers’ emotion during the pandemic is also a pivotal aspect to consider. In China’s context, Gu et al. (2022) examined how EFL Chinese teachers experienced both negative and positive emotions during the pandemic. Anxiety, stress, and anger were evident during online teaching, affected by the interaction between teachers’ goals and environment, including students’ performances and institutional infrastructures (Gu et al., 2022). In the higher education context in Iran, Zheng et al. (2022) discussed the interplay between emotion regulation, self-efficacy, and L2 grit (perseverance of effort and consistency of interest in teaching) among Iranian EFL university professors. Through an electronic survey, the study found that emotion regulation (ER) positively affects the participants’ attitudes and teaching engagement. Through the help of ER and self-efficacy, Iranian university professors improved their teaching practice in facing teaching complexities (Zheng et al., 2022).

Another research gap shown by the above visualization is about gender differences in experiencing online learning, shown by the green links. The keywords “male” and “female” occur in the farthest node from the center keyword. Farkhani et al. (2022) examined Iranian male and female teachers’ perceptions of classroom management and teaching self-efficacy. Through an online inventory questionnaire, the study found no gender difference in the perception of classroom management. Both male and female teachers were confident in preparing online and future face-to-face learning (Farkhani et al., 2022). Cancino and Towle (2022) took a similar approach with different participants. By investigating Chilean students during fully remote learning, the researchers found that gender did not affect the students’ perceptions in the online learning environment. Though the context underlying those studies was different, gender did not affect teachers’ and students’ pedagogical experience during the pandemic (Cancino & Towle, 2022).

In contrast to Farkhani et al.’s findings about teachers’ self-efficacy in the Iranian context, Emelogu et al. (2022) examined Nigerian ESL teachers in terms of awareness and proficiency of ICT in online learning during the pandemic. Through structured surveys and questionnaires, the researchers found some

important points: there was no significant difference between male and female teachers' awareness of ICT during online teaching, and male teachers are more proficient than female teachers in using technology (Emelogu et al., 2022). Those examples invite future scholars to discuss broader gender differences between teachers and students in experiencing online learning during and after the pandemic. The use of ICT in the post-pandemic era is another fruitful topic to develop.

The preceding discussion demonstrates the utility of Vos Viewer as a tool for delineating the distribution and generation of knowledge. The examination of co-authorship, as derived from bibliographic data, reveals the collaborative efforts of writers, organizations, and countries in generating research publications within the Scopus database. The Vos Viewer visualization tool facilitates the examination of the interrelationships among research collaborators. The presence of specific keywords within research publications indicates the inclusion of important concepts and ideas within the discussion section. The visualization shown in this study provides researchers with valuable tools for identifying research gaps through the examination of linkages and clusters.

Conclusion

The present study focuses on doing a bibliometric analysis of research articles that have been published in the Scopus database. To be specific, this article delved into how academicians investigate issues related to teaching English during the pandemic. The present study employed Vos Viewer as a tool to examine the patterns of keyword co-occurrences, author affiliations, and institutional affiliations that produce studies on teaching English during the pandemic. The analysis reveals that research on the COVID-19 pandemic in teaching English has been centered around three key areas: pedagogical best practices, experience, and strategies. Researchers are engaged in an investigation of how teachers, students, and educational institutions struggle and find the best strategies to transform traditional learning into a distant/ online one.

In line with the authors who have the highest impact on the publication, Morrison and Sepulveda-Escobar discussed the challenges and opportunities in online learning. Comparable problems and solutions are also evident in other countries, particularly the developing ones and those having English as their second or foreign language. Despite the challenges posed by infrastructure limitations, personal motivation, and emotion, the pandemic also catalyzed for teachers to proactively equip themselves with the skills necessary to inspire their students. In terms of knowledge production, developing countries like Malaysia and Chile significantly influence the landscape of academic publishing, as seen by the quantity of documents produced and the number of citations received. This paper contributes to the studies of research trends during the pandemic, so future research can be conducted in alternative contexts, such as the pedagogical strategies in the post-pandemic era.

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