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TRENDS AND THEMES INTERACTIVE TEACHING AND LEARNING IN ARABIC: A BIBLIOMETRIC ANALYSIS

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Abstract:

Interactive Teaching and Learning in Arabic prepare future teachers and students for the challenges of modern education. Hence, this study has undertaken a bibliometric analysis focusing on Interactive Teaching and Learning in Arabic to comprehend its research patterns, trends, source titles, authors, institutions, and research themes. The data employed in this study were collected from two databases, Scopus and Web of Science (WoS). The collected data were analyzed via ScientoPy and VOSviewer. This study revealed significant growth in Interactive Teaching and Learning in Arabic research from 1990 until 2025. With respect to the source title analysis, this study revealed that "Education and Information Technologies", "Ijaz Arabi Journal of Arabic Learning", "International Journal of Learning", Teaching and Educational Research" and "Journal of Information Technology Education: Research" emerged as the most prominent in Interactive Teaching and Learning in Arabic. The co-occurrence network of author keywords depicted the Higher education, e-learning, online learning, COVID-19 and Education, which were frequently used by previous authors. Another intriguing finding revealed that the most cited articles cover Interactive Teaching and Learning in Arabic, structured literature reviews, and cross-sectional analysis. The findings reported that Interactive Teaching and Learning in Arabic adapts to 21st-century issues and that future educators must be prepared. The study

also discovered that sustainability and the curriculum could be complementary research areas that benefit academics, educators, and policymakers.

Introduction

Interactive Teaching and Learning in Arabic are vital in equipping future educators, professionals, and talented students with the knowledge and skills necessary to navigate the complexities of the modern education landscape. Notably, the professional educators and talented students are undergoing significant transformations driven by rapid technological advancements, increasing globalization, and evolving regulatory requirements (Cheok & Lee, 2022) (Van Damme, 2001). Consequently, the first necessary action to deal with Interactive Teaching and Learning in Arabic research is to analyze its trends, key influences, and seminal publications. Consequently, bibliometric analysis helps researchers and educators spot areas where new ideas and discoveries are needed (Abdullah et al., 2023).

Accordingly, this study harnesses the potential of bibliometric techniques to explore the development of Interactive Teaching and Learning in Arabic research and uncover trends, patterns, and gaps in the literature (Donthu et al., 2021). Specifically, using publication numbers, analyzing sources of citations and finding how keywords co-occur helps uncover the development and trends in a research area (Abdullah, 2022) (Zupic & Čater, 2015). As a result, this study makes use of bibliometric techniques to analyze the development of research in Interactive Teaching and Learning in Arabic and identify trends, patterns and possible gaps.

The way Arabic is taught has been transformed recently by Artificial Intelligence (AI), new needs in the profession and new expectations from different stakeholders (Yusuf, 2023). Furthermore, using data analytics and AI in technology has meant that Arabic graduates now need different abilities (Erlina et al., 2022). Therefore, it is important to fully comprehend what is happening in Arabic research and what affects teaching and learning.

This study is intended to carry out a thorough bibliometric review of studies on Interactive Teaching and Learning in Arabic. As a result, this work points out the leading research areas which help guide future studies of Interactive Teaching and Learning in Arabic. Therefore, being aware of the changes in research interests and tools will allow researchers to realize what remains unexplored (Abdullah & Sofyan, 2023a).

In addition, the study reveals which authors have left a strong mark on the field of Interactive Teaching and Learning in Arabic research. The authors have identified leaders in this field by studying citations and who works with whom (Abdullah, 2022) (Merigó et al., 2020). All in all, the analysis shows useful information about the structure of Arabic and teaching research and the collaborators behind its progress.

The study ends by singling out important works that influenced the progress of Interactive Teaching and Learning in Arabic research. The study shows what papers have most affected the research done in this discipline (Linnenluecke et al., 2020). This analysis further supports

research in Interactive Teaching and Learning in Arabic by providing a background on its earlier studies and key theories so that researchers can contribute to and add to the existing knowledge. Table 1 presents the research questions guiding this study and the motivation behind each question.

Table 1: Research Questions and Motivations

No.	RQ	Research question	Motivations
1.	RQ1	What are the patterns and trends in the growth of Interactive Teaching and Learning in Arabic publications over the last decade?	To gain a better understanding of the current state and historical development of research in Interactive Teaching and Learning in Arabic
2.	RQ2	Which journals, databases, and research areas have significantly contributed to Interactive Teaching and Learning in Arabic?	To identify the leading publication outlets and academic disciplines advancing teaching and learning
3.	RQ3	Who are the most influential authors, and what are the most cited works in Interactive Teaching and Learning in Arabic research?	To recognize the scholars and key contributions that have shaped the intellectual foundation of Interactive Teaching and Learning in Arabic research
4.	RQ4	What are the most productive institutions in conducting teaching and learning?	To highlight institutions at the forefront of Interactive Teaching and Learning in Arabic research and evaluate their academic output and impact
5.	RQ5	What are the key research themes, and what future directions are emerging in Interactive Teaching and Learning in Arabic pedagogy?	To provide an overview of dominant topics in the field and identify underexplored areas for further academic investigation

By conducting a comprehensive bibliometric analysis, this article aims to offer valuable insights into the academic landscape of Interactive Teaching and Learning in Arabic research. Hence, understanding these trends will enable scholars and practitioners to identify emerging areas of interest and potential avenues for further exploration. Consequently, this study will provide policymakers with a clearer picture of how Interactive Teaching and Learning in Arabic can be effectively utilized to enhance Interactive Teaching and Learning in Arabic well-being. As a result, the findings will be useful in creating new research, encouraging experts from different areas to collaborate and improve methods for teaching and learning Arabic.

Materials And Methods

Bibliometrics Analysis

Bibliometric analysis means closely reviewing academic publications using precise numbers. Assessing scientific research's expansion can be achieved by examining metrics from publications, reactions to citations and which keywords frequently co-occurrence patterns (Abdullah & Sofyan, 2023b) (Donthu et al., 2021) In most cases, bibliometric investigations focus on analyzing publication numbers, counting citations, and reviewing connections among certain academic outputs. Following this, the data are investigated using statistics and network tools to gain a useful understanding (Zupic & Čater, 2015). These days, a wide range of academic disciplines, such as business and management studies, have started using bibliometric approaches. Its reason is that it uncovers the structure, how the field has grown and its key themes (Merigó et al., 2020) (Linnenluecke et al., 2020).

Dataset Retrieval and Analysis

The data used in this investigation was collected from Scopus and Web of Science (WoS). Because these databases have extensive content about many academic subjects, they are commonly used by researchers for bibliometric purposes (Hafiar et al., 2024); (Abdullah, 2022) (Pranckutė, 2021). The search query incorporated keywords related to Interactive Teaching and Learning in Arabic, including terms such ("interactive" OR "engagement" OR "participatory" OR "collaborative") AND ("teaching" OR "instruction" OR "education" OR "pedagogy") AND ("learning" OR "education" OR "knowledge" OR "understanding") AND ("Arabic" OR "Arab" OR "Arabic language" OR "Arab culture") AND ("technology" OR "digital" OR "online" OR "e-learning") AND ("methodology" OR "approach" OR "strategy" OR "technique"). The analysis of suitable research papers was accomplished by searching the dataset, covering the title, abstract, and keyword sections, on June 3, 2025. The initial dataset included 276 articles; of them, 225 were found on Scopus and 51 on WoS. The datasets were further processed with ScientoPy and VOSviewer, which are both popular programs in bibliometric research (Abdullah & Sofyan, 2023a) (Moral-Muñoz et al., 2020) (Ruiz-Rosero et al., 2019).

Table 2: Dataset Search

Database	Search String	No	Date
SCOPUS	("interactive" OR "engagement" OR "participatory" OR "collaborative") AND ("teaching" OR "instruction" OR "education" OR "pedagogy") AND ("learning" OR "education" OR "knowledge" OR "understanding") AND ("Arabic" OR "Arab" OR "Arabic language" OR "Arab culture") AND ("technology" OR "digital" OR "online" OR "e-learning") AND ("methodology" OR "approach" OR "strategy" OR "technique")	225	June 3 2025
WoS	("interactive" OR "engagement" OR "participatory" OR "collaborative") AND ("teaching" OR "instruction" OR "education" OR "pedagogy") AND ("learning" OR	51	

"education" OR "knowledge" OR "understanding") AND ("Arabic" OR "Arab" OR "Arabic language" OR "Arab culture") AND ("technology" OR "digital" OR "online" OR "e-learning") AND ("methodology" OR "approach" OR "strategy" OR "technique")	
Total	276

Combining And Cleaning Duplicates

Bibliometric investigations often find duplicate content as a result of errors in how records are added to indexes, differences in how writers' names are listed and mistakes in publication details. Finding and eliminating duplicates helps make the analysis accurate, dependable and accurate (Donthu et al., 2021); (Linnenluecke et al., 2020) The research team relied on ScientoPy to bring together the data sets from Scopus and WoS and to systematically remove all duplicates. Overlaps in the dataset were found by comparing article titles, author names, publication years, and Digital Object Identifier (DOI) (Moral-Muñoz et al., 2020). The elimination of repeated records gives the study a clearer and more representative look at the research field in Interactive Teaching and Learning in Arabic.

General Overview Of The Preprocessed Bibliographic Datasets

The first search in Scopus and WoS found 276 publications, and 81.52% (225) were from Scopus, while 18.47% (51) came from WoS. We excluded 36 articles (13.00%) because they did not meet the scholarship article criteria to highlight relevant works. In this research, we looked at articles, reviews, proceedings, and conference papers for more analysis. Subsequent to excluding irrelevant documents, the dataset consisted of 240 publications. Of these, 189 (78.80%) were from Scopus, and 51 (21.20%) were from WoS. The procedure for removing duplicates detected 12 duplicate papers, for 12.50% of the papers included in both databases. Due to duplication, Scopus eliminated 30 papers (15.90%), while no deletion of papers from WoS.

After eliminating duplicate entries, the final dataset comprised 210 papers, with 51 (24.30%) sourced from WoS and 159 (75.70%) from Scopus. Figure 1 illustrates the research process flow, from the initial database search to the final dataset, highlighting the critical steps in data preprocessing and duplicate removal.
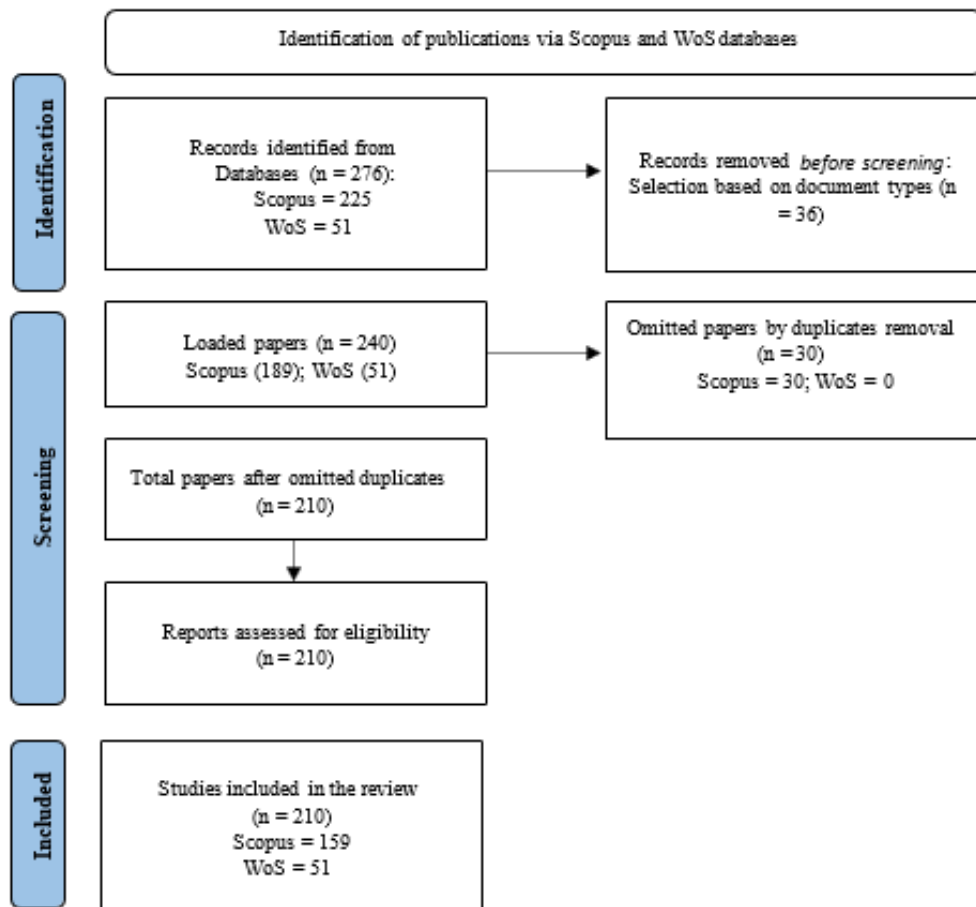
Figure 1: Flow Diagram of Database and Register Research

Results

Publication Growth Trends

Figure 2 illustrates the outcomes of publishing progress, categorized into seven distinct time intervals: 1990 to 1995, 1996 to 2000, 2001 to 2005, 2006 to 2010, 2011 to 2015, 2016 to 2020, and 2021 to 2025. Figure 2 indicates a lack of publications in the WoS rather than the Scopus databases from 1990 to 2025. Additionally, there were no publications in the WoS from 1990 until 2008. From 1990 to 2003, there was an inconsistent rise in the number of published works. From 2004 to 2025, there was a substantial increase in publishing, with the number of works almost tripling compared with the preceding year, reaching its highest point in 2024 for both databases.
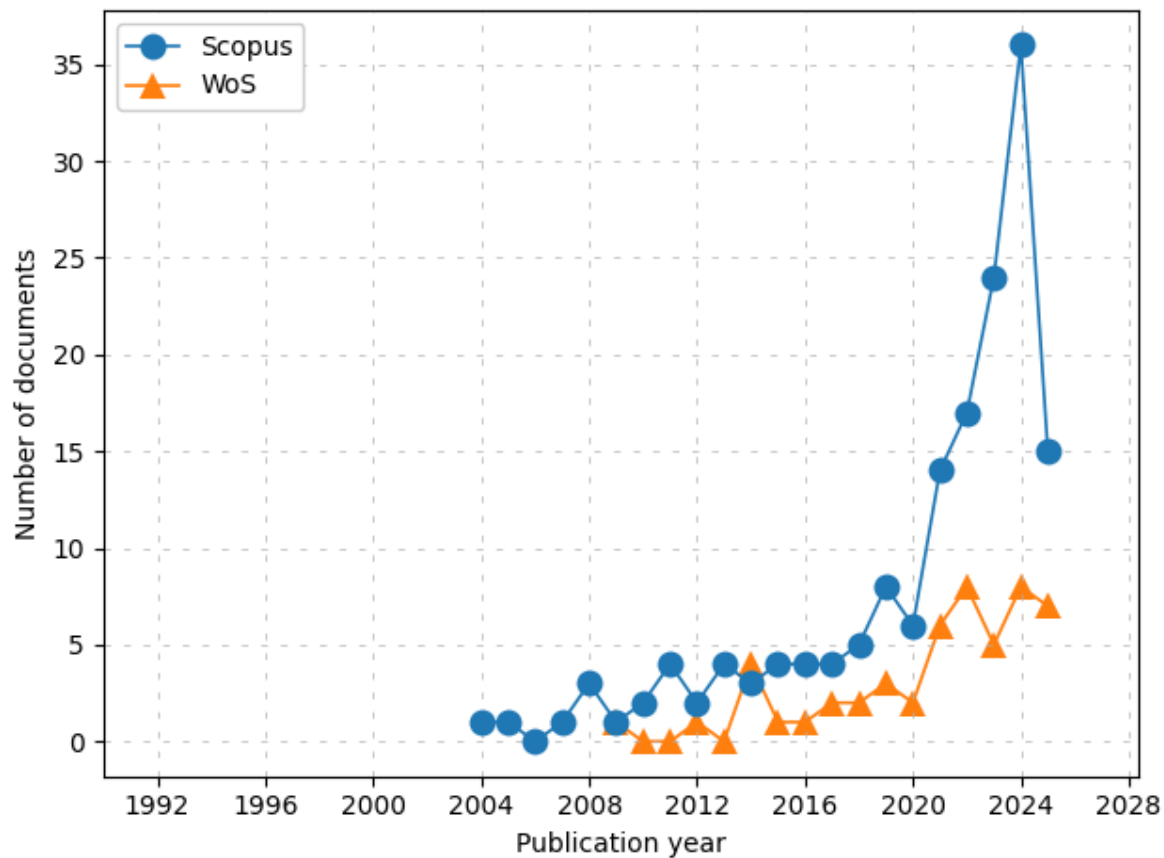
Figure 2: Publication Growth Trends

Source: Scopus and WoS databases

Prominent Scientific Publication and Fields of Research

Figure 3 depicts the primary scientific publications released studies on Interactive Teaching and Learning in Arabic. In particular, "Education and Information Technologies", "Ijaz Arabi Journal Of Arabic Learning", "International Journal of Learning", Teaching and Educational Research" and "Journal of Information Technology Education: Research" received the highest ranking, with 4 publications, whereas "Foreign Language Annals" and "Proceedings of the European Conference on e-Learning, ECEL" received the second ranking, with three publications. All magazines prioritize Interactive Teaching and Learning in Arabic research and are well-regarded in the field. With respect to document ranking from 2024 to 2025, the journals "Education and Information Technologies", "Ijaz Arabi Journal Of Arabic Learning" and "International Journal of Learning, Teaching and Educational Research" had the highest proportion of articles published in the preceding two years, accounting for the entire amount. Recent Arabic research has demonstrated a notable emphasis on Interactive Teaching and Learning in Arabic. In Interactive Teaching and Learning in Arabic, the graph indicates a strong preference for pursuing Interactive Teaching and Learning in Arabic, language studies, and Arabic research. In other words, the significant percentage of recent publications in these specific fields demonstrates this phenomenon.
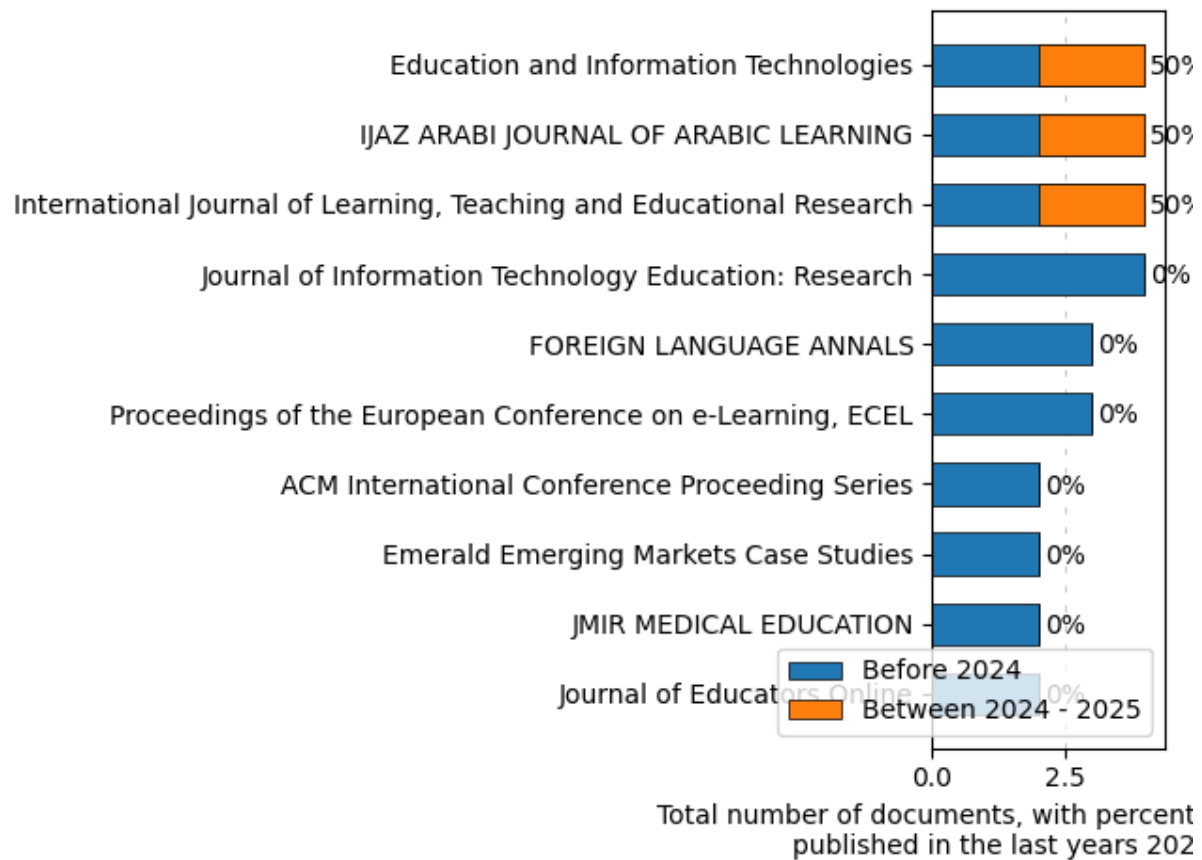
Figure 3: The Top Ten Scientific Journals

Source: Scopus and WoS databases

Highly Cited Publications

Table 2 compiles the ten most frequently referenced works in Interactive Teaching and Learning in Arabic. The citation count quantifies the level of impact or influence that a publication has on the scientific community (Wang et al., 2019). According to (Wang et al., 2019), there is a strong correlation between a publication's effect, citation frequency, and citation count. (Barak et al., 2016) publication, "Motivation to learn in massive open online courses: Examining aspects of language and social engagement," has received the most citations on the list, with a total of 287 citations. Meanwhile, (Eltahir et al., 2021) authored the article "The impact of game-based learning (GBL) on students' motivation, engagement and academic performance on an Arabic language grammar course in higher education." It has been cited 73 times. At the same time, (Baroudi & Shaya, 2022) produced the article "Exploring predictors of teachers' self-efficacy for online teaching in the Arab world amid COVID-19," with the number of citations 46.

Table 2: List Of Top Ten Highly Cited Publications

No	Authors	Year	Title	Cited by	Document Type
1	Barak M., Watted A., Haick H. (Barak et al., 2016)	2016	Motivation to learn in massive open online courses: Examining aspects of language and social engagement	287	Article
2	Eltahir, M.E., Alsalhi, N.R., Al-Qatawneh, S., AlQudah, H.A., Jaradat, M. (Eltahir et al., 2021)	2021	The impact of game-based learning (GBL) on students' motivation, engagement and academic performance on an Arabic language grammar course in higher education	73	Article
3	Baroudi S., Shaya N. (Baroudi & Shaya, 2022)	2022	Exploring predictors of teachers' self-efficacy for online teaching in the Arab world amid COVID-19	46	Article
4	Jaboob M., Hazaimeh M., Al-Ansi A.M. (Jaboob et al., 2024)	2025	Integration of Generative AI Techniques and Applications in Student Behavior and Cognitive Achievement in Arab Higher Education	39	Article
5	Shana Z. (Shana, 2009)	2009	Learning with technology: Using discussion forums to augment a traditional-style class	36	Article
6	ElSayary A. (ElSayary, 2023)	2023	The impact of a professional upskilling training programme on developing teachers' digital competence	36	Article
7	Shohieb S.M. (Shohieb, 2019)	2019	A gamified e-learning framework for teaching mathematics to arab deaf students: Supporting an acting arabic sign language avatar	16	Article
8	Sahrir M.S., Alias N.A., Ismail Z., Osman N. (Sahrir et al., 2012)	2012	Employing design and development research (DDR) approaches in the design and development of online arabic vocabulary learning games prototype	16	Article
9	Rosmani A.F., Wahab N.A. (Rosmani & Wahab, 2011)	2011	I-IQRA': Designing and constructing a persuasive multimedia application to learn Arabic characters	12	Conference paper

| 10 | Rabie-Ahmed, A., Mohamed, A. (Rabie-Ahmed & Mohamed, 2022) | 2022 | Collaborative and individual vocabulary learning in the Arabic classroom: The role of engagement and task demands | 8 | Article |

Source: Scopus and WoS databases

Productive Institutions

Institutional research papers are scholarly publications created by academic or research institutions to highlight their outstanding productivity in terms of the quantity and quality of their research endeavors. Figure 4 presents the top ten institutions that have published the most Interactive Teaching and Learning in Arabic research. With two publications, United Arab Emirates University has the top-ranking position due to large number of citations of 75. Al Ain University, Amer University Emirates, Higher Coll Technology, and King Saud University follow closely, with two publications. Conversely, Mohammed Bin Rashid University Med & Hlth Sciences, located in the United Arab Emirates, University Granada, University Sharjah, University South Wales with two publications, and UIN Sunan Ampel Surabaya has one publication.
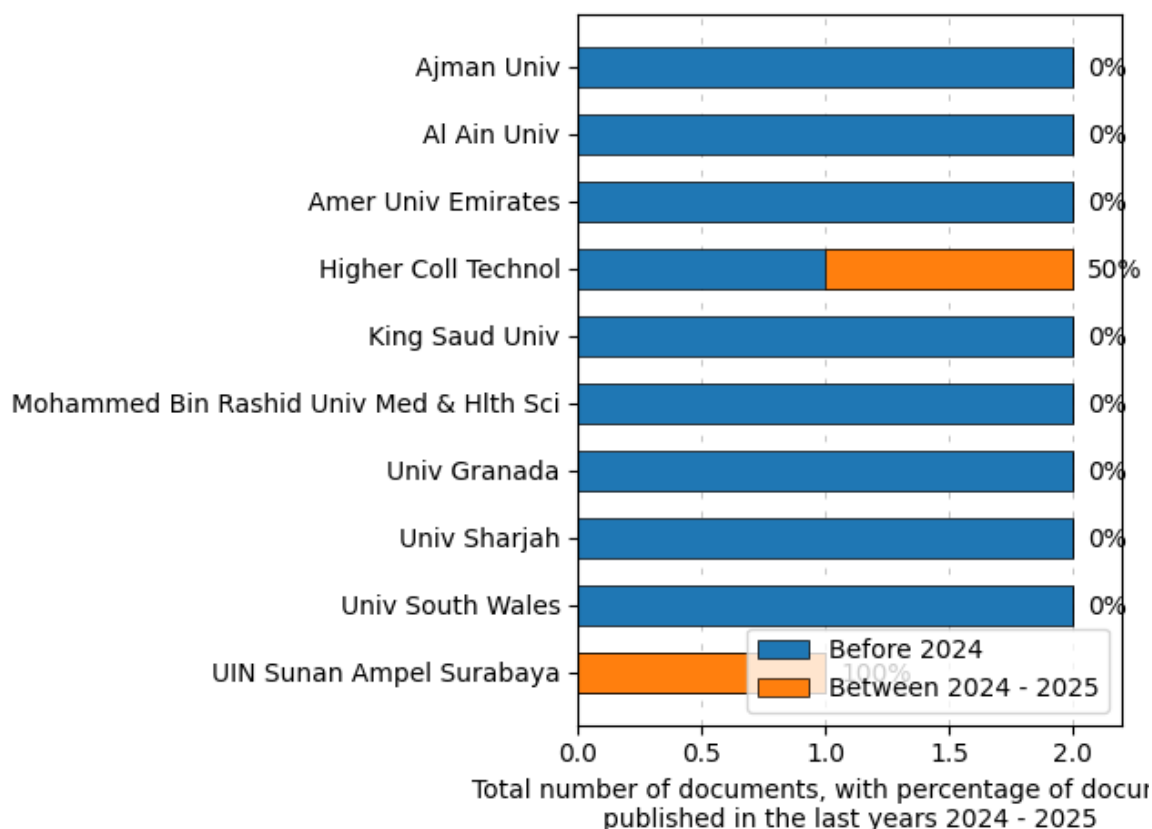

Figure 4: The Top Ten Productive Institutions
Source: Scopus and WoS databases

Major Themes and Research Gaps

The investigation's salient subjects originated from the keywords of ten authors in previous studies. Figure 5 presents the author keywords, their corresponding totals, and the percentage of papers generated in the preceding two years (2024 and 2025) for each term. Accordingly, the top five author keywords in terms of frequency are "Higher education" with 25 occurrences, "e-learning" with 20 occurrences, "online learning" with fifteen occurrences, "COVID-19" with twelve occurrences, and "Education" with twelve occurrences. The keywords specifically focus on Interactive Teaching and Learning in Arabic in the research. Other notable keywords used by writers are "collaborative learning," "United Arab Emirates," "Artificial Intelligence," "blended learning," and "student engagement." Simultaneously, a significant percentage of recent papers, namely, those over the past two years, focused on "United Arab Emirates," which highlights this phenomenon's significant impact on Interactive Teaching and Learning in Arabic research. In the past two years, the term "Higher education" has garnered significant attention, appearing in 44% of published papers.
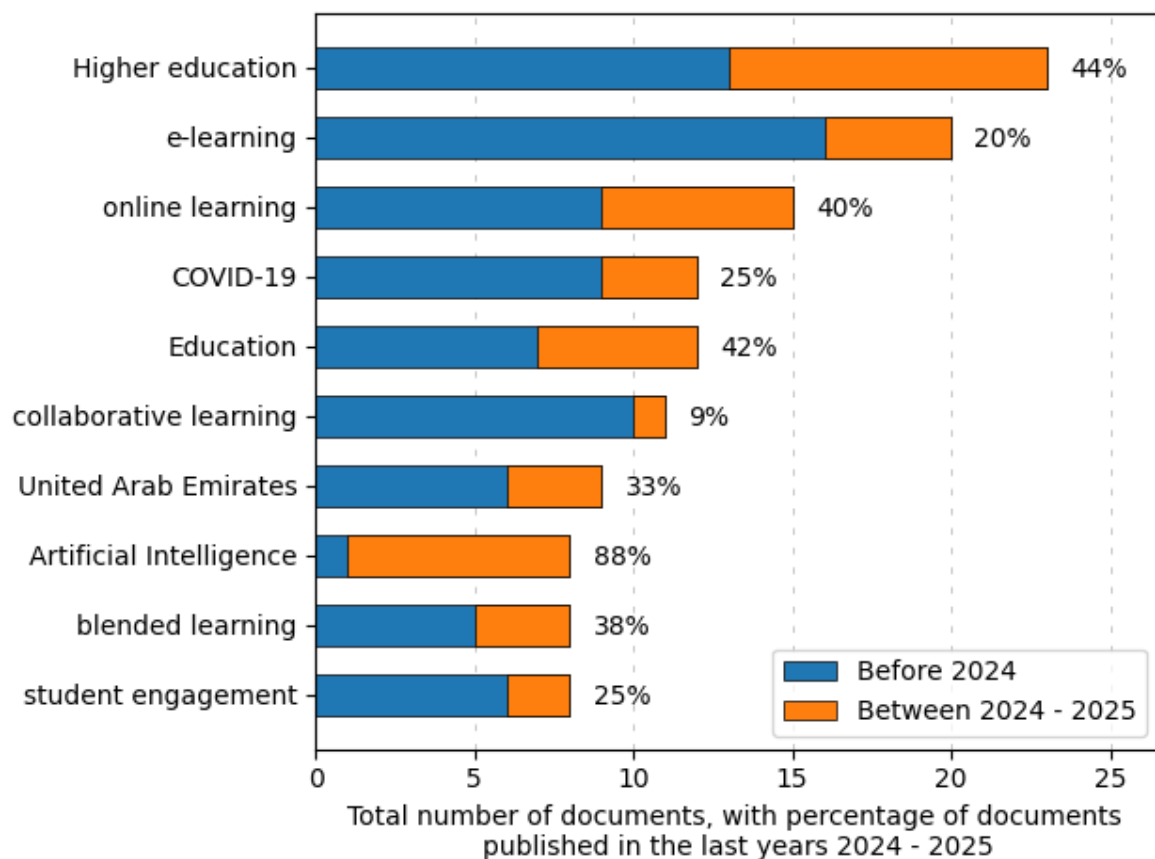

Figure 5: The Top Ten Authors' Keywords

Source: Scopus And Wos Database

Collaboration Pattern

Figure 6 is a visualization map illustrating author keywords that appear at least five times. There is a total of 44 keywords on the map. The size of the node directly correlates with the frequency of the keyword. We arrange the keywords in descending order based on their frequency. Notably, "United Arab Emirates", "e-learning" and "students" is the most frequently occurring keyword, indicating a high degree of association with other terms in the dataset. The co-occurrence of terms refers to their correlation or simultaneous occurrence within the dataset. This study's co-occurrence map provides significant insights into the bibliographic dataset's most frequent and essential Arabic-related terms. Furthermore, these keywords can significantly influence future research and exploration.
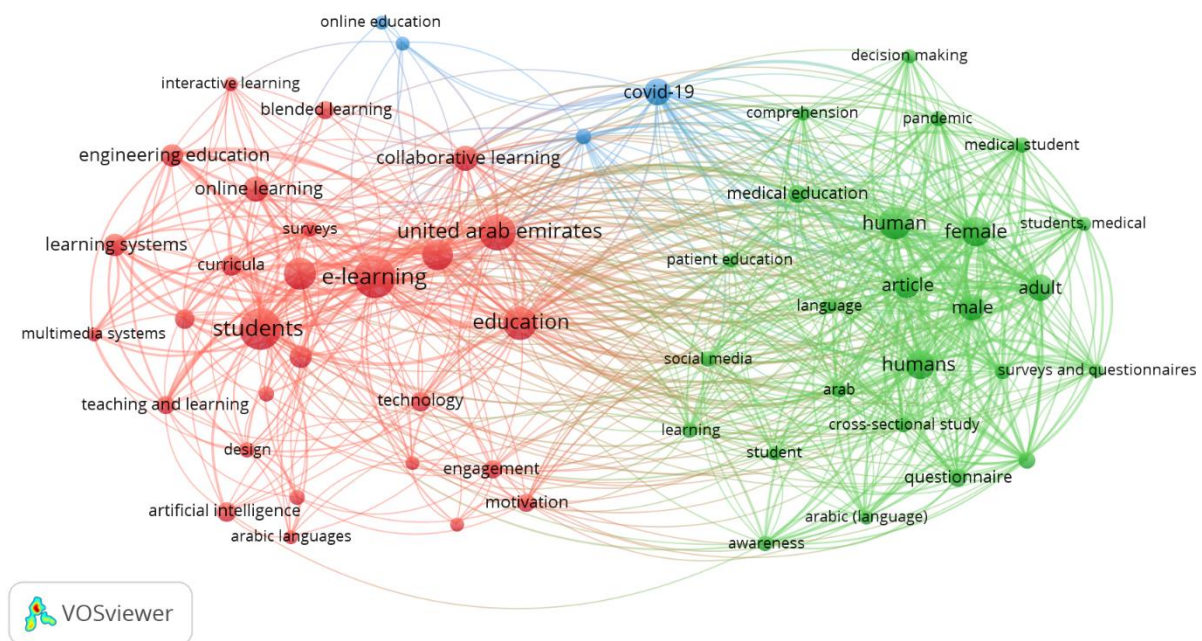

Figure 6: A Keyword Co-Occurrence Map

Source: Scopus and WoS databases and VOSviewer

Discussion

An examination of the bibliometric data on Interactive Teaching and Learning in Arabic research reveals a substantial increase in publications over the previous 30 years, particularly in the last 20 years. Data from Scopus and WoS indicate a consistent increase in research production, which began in 1990 (Figure 2). Moreover, multiple sources contribute to growth, such as the increasing significance of Interactive Teaching and Learning in Arabic in response to changing professional requirements, technological advancements, and regulatory changes (Kholison et al., 2023).

Over time, significant changes have occurred in research emphasis and approaches. As such, researchers have expanded the scope of Interactive Teaching and Learning in Arabic by investigating other aspects, such as integrating technology, cultivating soft skills, and including sustainability and ethics in the Arabic curriculum (Salam et al., 2022). These changes demonstrate the field's adaptability to the evolving demands of the Arabic profession and the

recognition of the significance of equipping future teachers and students with the skills necessary to address the challenges of the 21st century.

After analyzing the top ten scientific publications contributing to Interactive Teaching and Learning in Arabic research (as displayed in Figure 3), it becomes evident that specialist journals hold a significant position. Education and Information Technologies, Ijaz Arabi Journal Of Arabic Learning, International Journal of Learning, Teaching and Educational Research and Journal of Information Technology Education: Research are the primary publication outlet, with Foreign Language Annals and Proceedings of the European Conference on e-Learning, ECEL being the second most prominent. These publications specifically emphasize Interactive Teaching and Learning in Arabic and are well-regarded within the discipline. Furthermore, they are crucial in sharing research findings and promoting knowledge advancement. The inclusion of other prominent publications, such as "ACM International Conference Proceeding Series," "Emerald Emerging Markets Case Studies," "JMIR Medical Education and "Journal of Educators Online," highlights the increasing significance and attention given to research on Interactive Teaching and Learning in Arabic within the broader fields of Arabic education. The allocation of research among these specialized publications demonstrates the advancement of the discipline and the acknowledgment of Interactive Teaching and Learning in Arabic as a separate and well-defined area of research.

Figure 4 examines the top ten institutions significantly contributing to Interactive Teaching and Learning in Arabic research. This analysis emphasizes the notable contributions of universities from the United Arab Emirates, Saudi Arabia, Spain, United Kingdom and Indonesia. We identified United Arab Emirates University as the top institution in the United Arab Emirates, closely followed by Al Ain University, Amer University Emirates, Higher Coll Technology, and King Saud University in Saudi Arabia. These institutions are committed to promoting Interactive Teaching and Learning in Arabic research through regular research production and partnerships with top institutions. Several aspects, including their specialized knowledge in Interactive Teaching and Learning in Arabic, robust research infrastructure, and partnerships with industry stakeholders, contribute to the significance of these schools. Notably, the inclusion of institutions from many nations highlights the global scope of research in Interactive Teaching and Learning in Arabic and emphasizes the importance of international collaboration in improving knowledge in this domain.

Figure 5 highlights a significant cluster of keywords related to "Higher education," "e-learning," "online learning," "COVID-19," and "Education." This cluster highlights the significance of Interactive Teaching and Learning in Arabic and the focus on cultivating research skills in the university. At the same time, significant study themes in Interactive Teaching and Learning in Arabic include the integration of skills, assessment, culture, and student participation skills.

The most extensive network of related keywords includes Interactive Teaching and Learning in Arabic skills and universities. This group emphasizes the central study area in several facets of Interactive Teaching and Learning in Arabic. The report also identifies unexplored potential research areas, including sustainability, soft skills, and the curriculum. Hence, the ramifications of these problems for Interactive Teaching and Learning in Arabic necessitate additional examination to guarantee the relevance and efficacy of Arabic courses in a continually evolving teaching and learning environment.

The ten papers in Table 2 have the greatest impact and influence on research in Interactive Teaching and Learning in Arabic. "Motivation to learn in massive open online courses: Examining aspects of language and social engagement," by (Barak et al., 2016) (Al-Thwaib et al., 2020) is recognized by other scholars for greatly influencing Interactive Teaching and Learning in Arabic research. Other papers that have been well-received deal with organized literature reviews, cross-sectional analysis, organizational reform, and a framework for teaching Arabic. Having been cited many times, these articles contain up-to-date information on their subjects and have helped shape Interactive Teaching and Learning in Arabic research when they follow.

The information from these publications has shaped future research and given reasons for their continued importance in the field. The guidelines point out the value of working from existing research to promote progress in Interactive Teaching and Learning in Arabic. Additionally, the findings from this study have valuable implications for teachers, instructors and policymakers. Also, studying the highlighted themes and weak points guides researchers to discover more about urgent subjects and bring in new ideas and tools when they teach and learn Arabic. As a result, valuable cooperation and sharing of ideas between experts in Interactive Teaching and Learning in Arabic are emphasized by the significance of top publications and important organizations.

In addition, future research depends on the most commonly used publications, which share important insights into the main topics and difficulties in teaching and learning Arabic. Hence, key works form a base for researchers to develop better knowledge and adapt to ongoing changes in Arabic education. The research results can be applied by educators and researchers to modify teaching practices and course materials so Arabic is always up-to-date and fits modern learners.

Conclusion

The bibliometric study pointed out that there has been more recent interest in Interactive Teaching and Learning in Arabic, represented by the pattern of increasing publications. Researchers found key research fields, influential scientific journals, important publications, and institutions that play a major role in advancing Interactive Teaching and Learning in Arabic knowledge. Nevertheless, how many times research is published does not always tell us about its importance or effectiveness. As a result, it becomes necessary to carefully assess and examine the details and outcomes of research articles in all areas of study.

The continuous analysis of research on Interactive Teaching and Learning in Arabic has enhanced our view and procedures in this area. Special methods for studying literature were applied to see what subjects, authors and publications are mainly involved in Interactive Teaching and Learning in Arabic. It also examines the influence and outcomes of research here. The research highlights the need for further study of this topic. Growth in the field is expected in the near future.

It has pointed out key scientific articles and important research subjects in Interactive Teaching and Learning in Arabic. Therefore, every scholar and professional can benefit from being able to access this material because it helps them monitor advancements and identify where more investigation is required. In addition, the study has developed a detailed list of well-cited papers that have greatly influenced progress in Interactive Teaching and Learning in Arabic.

The study compares the research results produced by these institutes which helps highlight those leading the way in this area. With this information, politicians, funders and academics can figure out how to use resources most effectively to make a strong impact.

A bibliometric analysis of Interactive Teaching and Learning in Arabic has given us useful knowledge of research patterns, big scientific journals, notable research topics, popularly cited papers and the studies produced by institutions. As a result, the findings may guide future research, support better policymaking and provide practical ways to help improve how Arabic is taught and learned.

One important limitation is that Scopus and WoS are used as sources, which may miss some of the literature on Interactive Teaching and Learning in Arabic. Therefore, more research in this field could use additional databases and document analysis tools, for example, SciMAT, BibExcel and CiteSpace, to provide a broader view of the research landscape.

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