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«مقاله پژوهشی»

برترین تحقیقات آموزشی در خاورمیانه: روندها و بینش‌های پسا کرونا

امیر کریمی

چکیده

این مطالعه با هدف بررسی توسعه، بهره‌وری پژوهشی، الگوهای استناد، شبکه‌های همکاری و مضامین اصلی پژوهشی در تحقیقات آموزشی در خاورمیانه طی سال‌های ۲۰۱۹-۲۰۲۴ انجام شده است. تجزیه و تحلیل کتاب‌سنجی و علم‌سنجی با استفاده از داده‌های بازیابی شده از پایگاه داده Scopus انجام شد. استراتژی جستجو از کلمات کلیدی مرتبط با آموزش استفاده کرد و شامل انتشاراتی بود که به مسائل آموزشی در زمینه‌های اجتماعی-فرهنگی کشورهای خاورمیانه می‌پرداختند. جستجوی اولیه ۸۱۹۷ نشریه را شناسایی کرد که از بین آنها ۴۹۶ مقاله پراستناد برای تجزیه و تحلیل دقیق انتخاب شدند. تجزیه و تحلیل‌های کتاب‌سنجی برای بررسی روند انتشار، الگوهای استناد، مشارکت نویسندگان و مؤسسات، شبکه‌های همکاری و مضامین برجسته تحقیقاتی استفاده شد. یافته‌ها نشان دهنده کاهش قابل توجه در خروجی تحقیقات آموزشی در طول دوره مطالعه است، از اوج ۱۲۷ نشریه در سال ۲۰۲۰ به ۱۰ نشریه در سال ۲۰۲۴. این کاهش نگرانی‌هایی را در مورد پایداری تحقیقات و سرمایه‌گذاری آموزشی در منطقه ایجاد می‌کند. دانشگاه ملک سعود و دانشگاه قطر از برجسته‌ترین مشارکت‌کنندگان نهادی بودند. تجزیه و تحلیل انتشارات پراستناد همچنین اهمیت فزاینده ادغام فناوری، واکنش‌های آموزشی به رویدادهای جهانی و همکاری بین محققان و مؤسسات را برجسته می‌کند. انتشارات چند کشوری، پتانسیل همکاری منطقه‌ای و بین‌المللی را برای تسهیل اشتراک‌گذاری دانش و نوآوری در پرداختن به چالش‌های آموزشی نشان می‌دهد. در مجموع، یافته‌ها نشان می‌دهد که سیاست‌گذاران، دانشگاه‌ها و ذینفعان پژوهشی باید حمایت از تحقیقات را تقویت کنند، اولویت‌های تحقیقات آموزشی را مجدداً ارزیابی کنند و همکاری‌های بین رشته‌ای و بین ملی را برای احیای تحقیقات آموزشی در خاورمیانه و افزایش سهم منطقه در تولید دانش جهانی ترویج دهند.

واژه‌های کلیدی

تحقیقات آموزشی، خاورمیانه، نقشه علمی، تحلیل روندهای پژوهشی، تحلیل استنادی.

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ORIGINAL ARTICLE

Top Educational Research in the Middle East: Post-COVID Trends and Insights

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ABSTRACT

This study aims to examine the trends and patterns of educational research in the Middle East between 2019 and 2024, with a particular focus on Iran, Iraq, Syria, and several Gulf countries. Using the Scopus database, a bibliometric approach was employed, identifying 8,197 publications and selecting 496 highly cited articles for in-depth analysis. Key aspects of the methodology included keyword-based searches, citation analysis, and the examination of author and institutional collaborations to capture the region's socio-cultural context. Findings reveal a concerning decline in research output, from a peak of 127 articles in 2020 to an anticipated 10 articles in 2024, signaling challenges in educational investment and development. Prominent contributors include King Saud University and Qatar University, while multi-country collaborations highlight potential for knowledge sharing and innovation. The study underscores the importance of technological integration and cross-institutional cooperation, suggesting that stakeholders should revisit research priorities and enhance support for educational initiatives to strengthen the research culture and advance educational development in the Middle East.

KEYWORDS

Educational Research, Middle East, scientific map, Research Trends Analysis, Citation Analysis.



Introduction

The COVID-19 pandemic has fundamentally transformed the education landscape, highlighting the critical importance of adaptability and innovation in teaching and learning (Briller, 2024; Nowell et al., 2024). While schools initially transitioned to online platforms to maintain continuity during lockdowns, this shift has had lasting implications, making the post-pandemic period a scientifically important context for study. Educators and institutions were compelled to integrate digital tools and resources, leading to a significant surge in technology use in classrooms and enabling personalized learning that allows students to engage with content at their own pace (Anning, 2025; Handoyo, 2024; AlMalki & Durugbo, 2023; Chaiban & Oweini, 2024). These changes are not merely temporary adaptations; they have reshaped instructional practices, accessibility, and equity in education, with implications for student outcomes, institutional strategies, and policy development. Examining these developments several years later is essential to understand the effectiveness, sustainability, and inclusivity of digital and hybrid learning innovations, to guide evidence-based educational planning, and to inform future pedagogical and technological strategies in the Middle East and beyond.

Moreover, the pandemic has underscored the necessity for educational innovation to address the evolving needs of students and educators alike (Karimi, Rahmati, & Fathi, 2024; Karimi, Rahmati, & Meidani, 2024). As traditional teaching methods were challenged, a concerted effort was made to develop creative solutions that foster engagement and collaboration in virtual environments (Haleem et al., 2022; Mohammed et al., 2024). This point includes incorporating interactive tools, gamification,

and project-based learning, which have proven effective in maintaining student interest and motivation (Ashokkumar et al., 2025; Cantoni et al., 2024). The lessons learned during this period have prompted educators to rethink pedagogical approaches, emphasizing the importance of social-emotional learning and mental health support, ultimately leading to a more holistic and resilient educational framework for the future.

The COVID-19 pandemic has catalyzed significant innovations in education across the Middle East, primarily driven by the urgent need for remote learning solutions. Educational institutions rapidly adopted digital platforms to facilitate online learning, leading to a surge in the use of educational technology (Ibrahim et al., 2020; Lee et al., 2021). For instance, many schools and universities implemented virtual classrooms and interactive learning tools, enabling educators to engage students effectively despite physical distancing measures (Taha, 2021; Windarwati et al., 2020). This shift ensured continuity in education during lockdowns and highlighted the importance of digital literacy among students and teachers, prompting a reevaluation of curricula to incorporate technology as a fundamental component of learning.

In addition to the immediate transition to online education, the pandemic has spurred long-term changes in educational practices in the region. Governments and educational authorities have begun investing in infrastructure to support blended learning models that combine traditional face-to-face instruction with online resources (Carr et al., 2022). Initiatives such as zero-fee internet educational resources and free online learning platforms have emerged to increase accessibility and equity in education (Guangul et al., 2020; Naser et al., 2021). Furthermore, the emphasis on social-emotional learning and mental health support has gained

traction, recognizing the importance of holistic education in fostering students' resilience. These innovations address the challenges posed by the pandemic and pave the way for a more adaptable and inclusive educational landscape in the Middle East.

The COVID-19 pandemic has significantly impacted educational systems worldwide, with Middle Eastern countries facing unique challenges and opportunities in adapting to new learning environments. This analysis explores the effects of the pandemic on education in the Middle East, focusing on strategies to overcome obstacles to distance learning, disparities in access to technology, and the long-term implications for educational policy and practice in the region.

1. What challenges did Middle Eastern countries encounter in their educational systems due to the COVID-19 pandemic?

2. How did the transition to online and distance learning vary across Middle Eastern countries, and what factors influenced these differences?

3. What strategies were implemented by educational institutions in the Middle East to enhance virtual learning and address the needs of students during the pandemic?

4. How has the pandemic affected educational equity in the Middle East, particularly concerning access to technology and resources for marginalized communities?

The COVID-19 pandemic has significantly impacted global health systems, economies, and social structures, with the Middle East no exception. A cross-sectional study by Naser et al. (2021) in the *International Journal of Environmental Research and Public Health* aimed to assess knowledge and practices regarding COVID-19 among the Middle Eastern population. This study is pivotal as it provides insights into public understanding and

behavioral responses during the pandemic, which are crucial for effective public health interventions.

The study by Naser et al. (2021) highlights that educational level plays a critical role in shaping individuals' knowledge about COVID-19 transmission and prevention. The findings indicate that higher educational attainment is associated with greater awareness of COVID-19 transmission routes and preventive measures. This article aligns with other literature that emphasizes the importance of educational interventions in enhancing public knowledge during health crises (Fawcett, 2021; Al-Qerem & Jarab, 2021).

In addition to knowledge, the study also examined the practices individuals adopted in response to the pandemic. The results revealed varied adherence to recommended health practices, such as mask-wearing and social distancing, influenced by factors including socio-economic status and access to information. This practice variability underscores the need for targeted public health campaigns considering demographic differences (Karamouzian & Madani, 2020).

The pandemic has posed unique challenges to education systems in the Middle East, as highlighted by Guangul et al. (2020) and Mohmmmed et al. (2020). The shift to remote learning has affected the dissemination of health information, potentially affecting the public's knowledge and practices regarding COVID-19. The literature suggests that effective communication strategies are essential to ensure accurate information reaches diverse populations, particularly in times of crisis (Khatatbeh et al., 2024).

The psychological impact of the pandemic has also been a significant concern, with studies indicating increased levels of mental distress

among populations in the Middle East (Naser et al., 2021). The interplay between mental health and public health practices is critical, as fear and anxiety can influence individuals' willingness to engage in preventive behaviors. Addressing mental health alongside physical health is vital for comprehensive pandemic response strategies (Al-Qerem & Jarab, 2021).

The cross-sectional study by Naser et al. (2021) provides valuable insights into the knowledge and practices of the Middle Eastern population during the COVID-19 outbreak. It highlights the importance of education, effective communication, and mental health considerations in shaping public health responses. Future research should continue to explore these dimensions to enhance preparedness for potential future health crises and improve overall public health outcomes in the region. Collectively, these studies illustrate that effective public health strategies in the Middle East require a multi-dimensional approach that integrates education, communication, and mental health support, ensuring equitable access to information and resources across diverse populations. Future research should continue to investigate these interrelated factors to enhance regional preparedness for health crises, optimize public health outcomes, and inform the development of interventions tailored to the socio-cultural and demographic diversity of Middle Eastern societies.

Methodology

In this study, a quantitative research design was adopted, using a bibliometric approach to analyze trends in educational research across the Middle East systematically. The research identification method involved a structured search of the Scopus database using keywords such as “educat*,” “teach*,” and “learn*” to capture diverse aspects of education-related studies. The research population included all publications

indexed in the social sciences sector between 2019 and 2024 for countries including Iran, Iraq, Syria, Saudi Arabia, the United Arab Emirates, Qatar, Kuwait, Oman, Bahrain, Yemen, Lebanon, Jordan, and Palestine. From this population, a sample of 496 highly cited articles was selected from an initial pool of 8,197 publications, ensuring that the analysis focused on the most impactful works. Validity was ensured by clearly defining inclusion and exclusion criteria and refining keyword searches iteratively, while reliability was reinforced through cross-checking publication metadata, citations, and author affiliations to guarantee consistency and reproducibility. Quantitative measures, including publication counts, citation analysis, authorship patterns, and institutional collaborations, were used to provide a comprehensive overview of research trends and the post-COVID educational landscape in the region.

In this research, it is important to note that the analysis did not include data from the territories under the Israeli occupying regime. Consequently, findings and trends presented here reflect educational research outputs solely from the recognized Middle Eastern countries included in the study, and do not account for the contributions, challenges, or educational dynamics occurring within those occupied areas.

Bibliometrix is a comprehensive R package for conducting bibliometric analyses and science-mapping workflows (Yazdi et al., 2024). It provides researchers with tools to quantify scientific production, assess the quality of research outputs, and visualize relationships within the literature. The package supports various bibliographic data sources, enabling users to import and convert data efficiently (Aldosemani et al., 2024). Its user-friendly interface, Bibliometrix, facilitates detailed descriptive analyses, co-authorship networks, citation patterns, and other metrics for

understanding research trends and collaborations in a given field (Aldosemani et al., 2024).

To ensure a systematic investigation of educational research in the Middle East, each research question was explicitly linked to specific bibliometric analyses and corresponding outputs. For RQ1, which examines overall trends in research output from 2019 to 2024, annual publication counts and growth rates were calculated to quantify the trajectory of scholarly activity, with results presented in Fig 1 (Annual scientific production) and summarized in Table 1 (Basic Information). RQ2, addressing the most active institutions and countries, was analyzed by identifying author affiliations, counting publications per institution, and examining international co-authorship, with findings illustrated in Table 2 (Most active affiliations), Fig 2 (Affiliations over time), Fig 3 (Corresponding Authors' countries), and Fig 5 (Countries cooperation). To answer RQ3, which investigates the most

productive and influential authors, authorship metrics including publication counts, fractional contributions, h-index, and citation totals were analyzed, with detailed results shown in Table 3 (Most productive authors). RQ4, focused on identifying research themes and hotspots, was addressed through keyword co-occurrence and thematic mapping, coupled with citation analysis of highly cited articles, with outputs presented in Table 4 (Most cited articles). Finally, RQ5, examining the role of collaboration in shaping research, was investigated by analyzing co-authorship patterns and international collaboration rates, with results visualized in Fig 5 (Countries cooperation) and reinforced by collaboration metrics reported in Table 1. This structured mapping of research questions to analytical procedures and outputs ensures methodological transparency, providing a clear and logical framework for interpreting the study's findings (Karimi et al., 2026; Shen et al., 2025; Yuan et al., 2026; Zhao et al., 2026).

Findings

Table 1. Basic Information

Description	Results
Timespan	2019:2024
Sources (Journals, Books, etc.)	219
Documents	496
Annual Growth Rate %	-38.21
Document Average Age	3.28
Average citations per doc	53.75
References	1
Keywords Plus (ID)	1356
Author's Keywords (DE)	1633
Authors	1755
Authors of single-authored docs	59
Single-authored docs	65
Co-Authors per Doc	3.98
International co-authorships %	50.81

The dataset analyzed in this study spans 2019 to 2024 and comprises 496 documents published

across 219 journals and books, reflecting a broad spectrum of academic contributions to

educational research in the Middle East. Despite this substantial output, the field has experienced a notable decline in research activity, with an annual growth rate of -38.21%, suggesting a potential reduction in scholarly interest or institutional investment in education-related studies over the examined period. The documents are relatively recent, with an average age of 3.28 years, and exhibit a strong academic impact, as evidenced by an average of 53.75 citations per document, indicating that the research is well-recognized and frequently referenced within the scholarly community. The dataset is thematically rich, encompassing 1,356 “Keywords Plus” and 1,633 author-provided

keywords, demonstrating a wide coverage of topics and a diverse conceptual landscape. Authorship patterns reveal substantial collaboration: 1,755 authors contributed to the literature, of whom 59 produced single-authored documents, and an average of 3.98 co-authors per publication, underscoring a high level of collective research effort. Furthermore, international collaboration is a prominent feature, with 50.81% of publications involving cross-country partnerships, reflecting a globally interconnected research community and suggesting that educational challenges in the region are being addressed through multinational scholarly engagement.

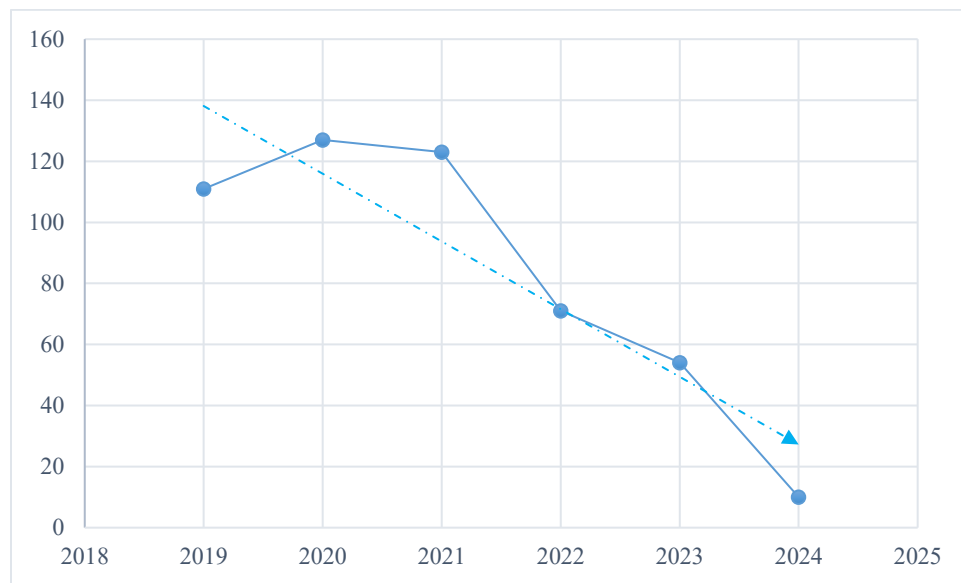


Fig 1. Annual scientific production

The annual production of educational research articles in the Middle East has exhibited a marked and concerning decline from 2019 to 2024, revealing potential structural and systemic issues within the region’s academic ecosystem. Publications began at a moderate level in 2019, with 111 articles, and reached a peak of 127 in 2020, likely reflecting an initial surge in scholarly attention to the unprecedented challenges posed by the COVID-19 pandemic and the urgent need to explore digital learning

solutions. A slight decrease to 123 articles in 2021 suggests some stabilization; however, the subsequent years demonstrate a pronounced downward trajectory, with only 71 articles in 2022, 54 in 2023, and a projected 10 articles in 2024, which is particularly striking given that 2024 is not yet complete and thus the final numbers may fluctuate. This persistent decline raises critical questions regarding the region’s research priorities, funding allocation, and institutional support for educational scholarship,

suggesting that the initial momentum observed during the early pandemic years has not been sustained. It may also reflect broader challenges in research infrastructure, including limited access to funding, reduced international collaboration, or shifting policy emphases away from educational innovation toward other sectors. Moreover, the decline could indicate the saturation of certain research topics, a potential lag in integrating new technologies or methodologies, or the impact of socio-political instability in some countries within the region,

which could constrain both research productivity and dissemination. While the early spike in publications highlights the responsiveness of the Middle Eastern educational research community to emergent global challenges, the sustained reduction in output underscores the urgent need for strategic interventions, including targeted funding, collaborative initiatives, and capacity-building measures, to ensure the continued growth and relevance of scholarly contributions in education and to prevent the region from falling behind in the global academic discourse.

Table 2. Most active Affiliations

Affiliation	Articles
King Saud University - Saudi Arabia, Asia	26
Qatar University - Qatar, Asia	26
Tehran University of Medical Sciences - Iran, Asia	21
United Arab Emirates University - United Arab Emirates, Asia	21
King Abdulaziz University - Saudi Arabia, Asia	18
Iran University of Medical Sciences - Iran, Asia	16
University of Sharjah - United Arab Emirates, Asia	16
Imam Abdulrahman Bin Faisal University - Saudi Arabia, Asia	14
Kermanshah University of Medical Sciences - Iran, Asia	14
The British University in Dubai - United Arab Emirates, Asia	14

The dataset underscores the substantial academic contributions of leading universities across the Middle East, revealing both the concentration of research output in certain institutions and the broader diversity of scholarly activity in the region. King Saud University and Qatar University emerge as the most prolific contributors, each producing 26 articles, reflecting their institutional capacity and strategic emphasis on education research and signaling their central role in shaping regional scholarly discourse. Closely following are Tehran University of Medical Sciences and United Arab Emirates University, each with 21 publications, demonstrating their sustained commitment to advancing knowledge in both

general and specialized fields, including medical and higher education research. Other institutions, such as King Abdulaziz University (18 articles) and Iran University of Medical Sciences (16 articles), further indicate that productive research environments exist across multiple countries. In contrast, universities such as the University of Sharjah, Imam Abdulrahman Bin Faisal University, Kermanshah University of Medical Sciences, and The British University in Dubai, each contributing 14 articles, highlight the more distributed yet still significant scholarly engagement beyond the leading centers. These figures point to a regional research landscape characterized by both a concentration of high-

output institutions and a broader network of moderately productive universities, suggesting that while some institutions act as hubs for knowledge creation and innovation, collaborative efforts and institutional support remain uneven across the Middle East. The data also suggests a strong culture of academic collaboration and networking, which is crucial for addressing transnational educational

challenges and integrating global research standards. However, reliance on a relatively small number of high-output universities may indicate vulnerabilities in regional research sustainability, particularly if institutional priorities or funding mechanisms shift, underscoring the need for strategic policies to cultivate broader participation and capacity-building across the wider academic ecosystem.

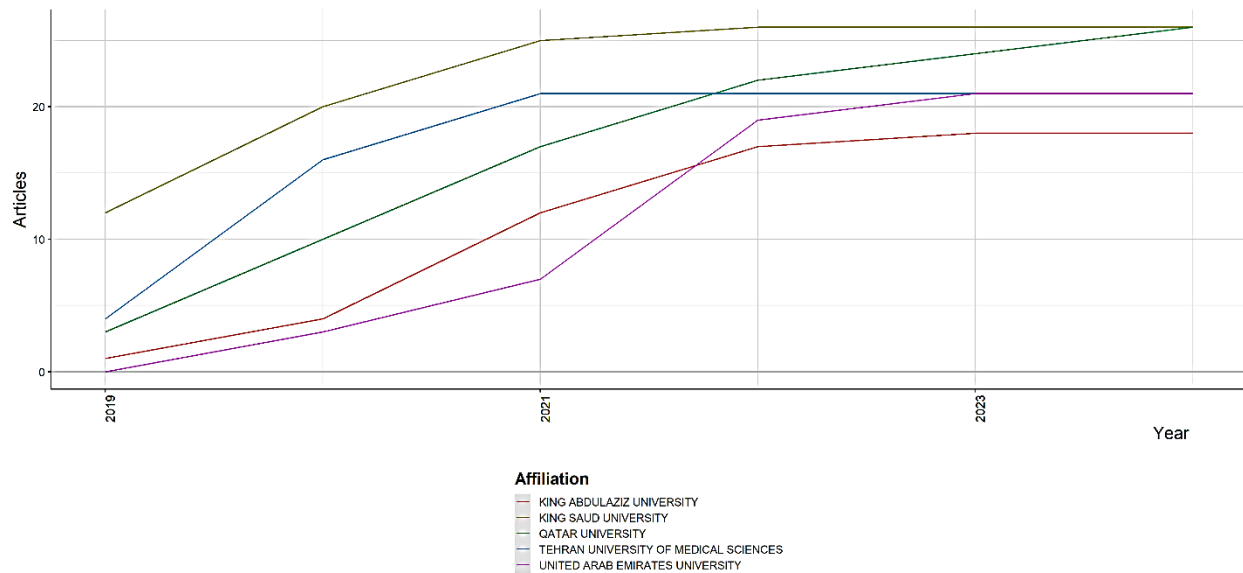


Fig 2. Affiliations over time

Figure 2 highlights the central role of United Arab Emirates University (UAEU) and Tehran University of Medical Sciences (TUMS) in advancing educational research in Asia, illustrating how institutional focus and context shape scholarly contributions. UAEU demonstrates a strong commitment to higher education and research within a uniquely diverse student population exceeding 200 nationalities, creating a rich environment for studies that address varied pedagogical needs and multicultural learning dynamics. This institutional diversity not only fosters innovative educational practices but also positions UAEU as a hub for international collaboration,

reflecting a strategic emphasis on global engagement and research excellence. In contrast, TUMS specializes in medical education and health-related research, with particular attention to public health initiatives such as mental health literacy and the professional training of school nurses, highlighting an applied approach to addressing societal challenges through education. The prominence of TUMS in Iran and the broader Asian context underscores its leadership in integrating research with practical healthcare education, contributing both to regional capacity-building and the dissemination of evidence-based educational practices.

Table 3. Most productive authors

Authors	Articles	Articles Fractionalized	Affiliation	Metrics
Wardat Y	10	3.01	United Arab Emirates University, Al Ain, United Arab Emirates	43 Documents 20 h-index 795 Citations
Du X	8	2.18	Aalborg University, Aalborg, Denmark	150 Documents 24 h-index 2255 Citations
Noroozi O	8	2.43	Wageningen University & Research, Wageningen, Netherlands	88 Documents 32 h-index 3465 Citations
Wilkins S	7	4.08	University of Bath, Bath, United Kingdom	84 Documents 27 h-index 2548 Citations
Derakhshan A	6	2.46	Golestan University, Gorgan, Iran	133 Documents 34 h-index 4721 Citations

Table 3 presents a detailed bibliometric analysis of the most productive authors contributing to educational research in the Middle East, illustrating both individual scholarly productivity and influence within the global academic community. Wardat Y of United Arab Emirates University leads in publication count with 10 articles and maintains an h-index of 43, reflecting a strong and consistent impact within the field. Du X from Aalborg University, despite contributing slightly fewer publications (8 articles), demonstrates an exceptional h-index of 150 and 2,255 citations, indicating a high degree of influence and recognition in the wider research community, particularly in areas intersecting with international education and technology.

Similarly, Noroozi O of Wageningen University & Research, with eight publications and an h-index of 88, underscores the significance of cross-national scholarship in shaping educational discourse, highlighting the reach and visibility of research conducted outside the immediate Middle Eastern context. Wilkins S from the University of Bath, while producing seven publications, exhibits the highest fractionalized contribution per article (4.08), reflecting intensive collaborative engagement, alongside an h-index of 84, demonstrating both productivity and scholarly prominence. Derakhshan A of Golestan University, with six articles and an h-index of 34, further exemplifies substantial regional academic contributions, particularly within Iran.

Table 4. Most cited articles

Paper	Source	Total Citations	TC per Year	Normalized TC
(Hair et al., 2022)	<i>"Research Methods in Applied Linguistics"</i>	462	154.00	8.34
(Almanthari et al., 2020)	<i>"Eurasia Journal of Mathematics, Science and Technology Education, open access."</i>	359	71.80	6.19
(Aldowah et al., 2019)	<i>"Telematics and Informatics"</i>	357	59.50	6.90
(Kurdi et al., 2020)	<i>"International Journal of Artificial Intelligence in Education"</i>	304	60.80	5.24
(Tlili et al., 2022)	<i>"Smart Learning Environments"</i>	304	101.33	5.49
(Alyahyan & Düştegör, 2020)	<i>"International Journal of Educational Technology in Higher Education"</i>	303	60.60	5.22
(Kuhail et al., 2023)	<i>"Education and Information Technologies"</i>	282	141.00	4.37
(Almahasees et al., 2021)	<i>"Frontiers in Education"</i>	277	69.25	5.83
(Qadir, 2023)	<i>"IEEE Global Engineering Education Conference (EDUCON)"</i>	265	132.50	4.11
(Shoaib Farooq et al., 2019)	<i>"Asia Pacific Education Review"</i>	243	40.50	4.70

Table 1 presents a comprehensive overview of the most cited articles in education and technology, highlighting their total citations, citations per year, and normalized total citations (TC). The article by Hair et al. (2022), titled "Research Methods in Applied Linguistics," stands out with a remarkable total of 462 citations, averaging 154 citations per year, which indicates its significant impact and relevance in the field. This part is further emphasized by its normalized TC of 8.34, suggesting that it is frequently cited and maintains a consistent citation rate over time. Following closely is the work of Almanthari et al. (2020) in the "Eurasia Journal of Mathematics, Science and Technology

Education," which has garnered 359 citations and an average of 71.80 per year, reflecting its importance in educational research, particularly in STEM fields. Aldowah et al. (2019) and Kurdi et al. (2020) also demonstrate strong citation metrics with 357 and 304 total citations, respectively, indicating a robust interest in their contributions to telematics and artificial intelligence in education. Notably, Tlili et al. (2022) and Alyahyan & Düştegör (2020) both have 304 citations, but Tlili et al. achieve a higher TC per year (101.33) than Alyahyan & Düştegör (60.60), suggesting a more recent surge of interest in Tlili et al. 's work on intelligent learning environments. While the remaining articles have lower total citations,

they still reflect significant contributions to educational technology, with Kuhail et al. (2023) and Almahasees et al. (2021) showing strong yearly citation rates of 141.00 and 69.25, respectively. Overall, this table highlights the most influential works in the field and provides insights into the evolving trends and areas of focus within educational research, particularly as they relate to technology and innovative teaching methodologies.

The ten most cited articles span a diverse range of education topics, primarily focusing on the integration of technology and the impact of recent global events, such as the COVID-19 pandemic. Aldowah et al. (2019) comprehensively review educational data mining and learning analytics, emphasizing their significance in modern higher education. Almahasees et al. (2021) explore perceptions of online learning during the pandemic, highlighting the experiences of both faculty and students. Almanthari et al. (2020) examine barriers to e-learning implementation faced by secondary school mathematics teachers in

Indonesia, while Alyahyan and Düşteğör (2020) focus on predicting academic success through literature review and best practices. Hair et al. (2022) offer guidelines for using Partial Least Squares Structural Equation Modeling in educational research. Kuhail et al. (2023) systematically reviewed educational chatbots and assessed their interactions with learners. Kurdi et al. (2020) present a systematic review of automatic question generation for educational purposes, contributing to the discourse on AI in education. Qadir (2023) discusses the implications of generative AI, specifically ChatGPT, in engineering education. Farooq et al. (2019) provide a systematic literature review on service learning in higher education, while Tlili et al. (2022) analyze the potential benefits and drawbacks of the metaverse in schooling through a combined content and bibliometric analysis. Collectively, these articles underscore the evolving landscape of educational practices and the increasing role of technology in enhancing learning experiences.

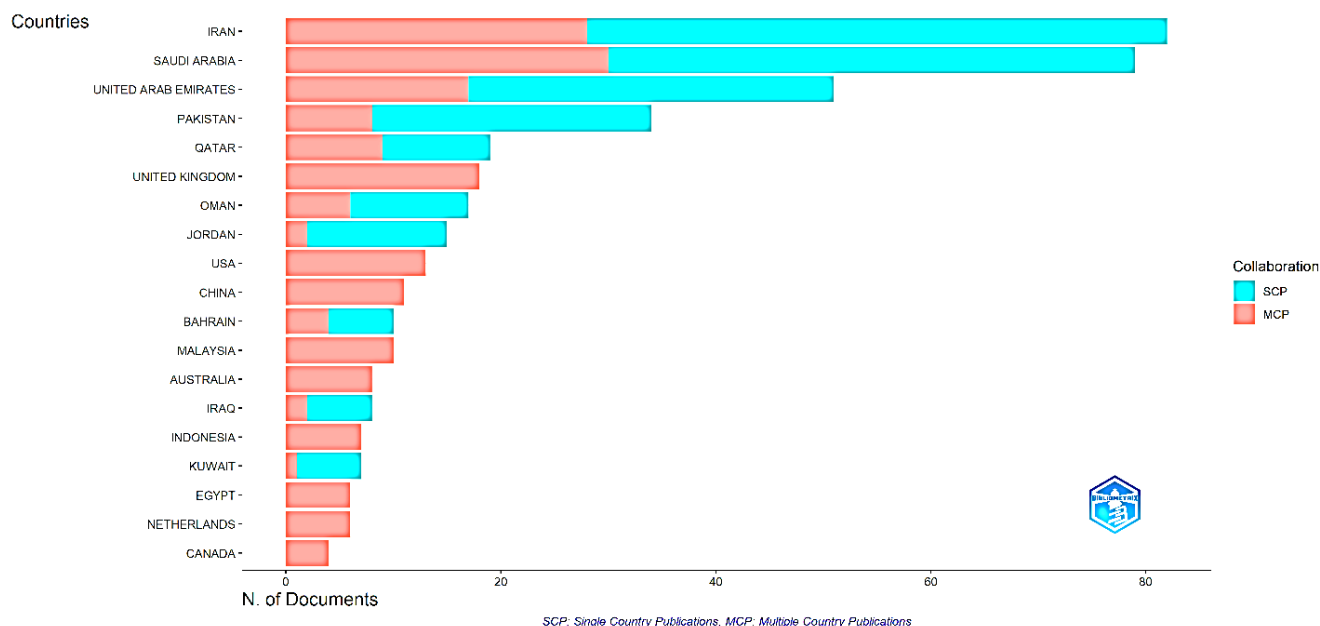


Figure 1 illustrates the geographic distribution of corresponding authors contributing to educational research in the Middle East, revealing both regional leadership and patterns of international collaboration. Iran emerges as the most prolific contributor, with 82 articles, including 54 single-country publications (SCP) and 28 multi-country publications (MCP), for a frequency of 0.165, reflecting a substantial national research capacity. Saudi Arabia follows closely with 79 publications (49 SCP, 30 MCP) and a frequency of 0.159, indicating a similarly strong output and engagement in the regional scholarly discourse. The United Arab Emirates, Pakistan, and Qatar also show notable contributions, with frequencies of 0.103, 0.069, and 0.038, respectively, demonstrating that research

activity is distributed across multiple Middle Eastern nations, though concentrated in a few high-output centers. Interestingly, countries outside the region, such as the United Kingdom, exhibit a strong focus on collaborative research, with all 18 publications being multi-country partnerships, emphasizing strategic engagement with Middle Eastern institutions and the value of international networks in knowledge production. The USA and China follow a comparable pattern, primarily producing single-country publications, reflecting different approaches to research collaboration. Other countries, including Malaysia, Australia, and Iraq, contribute modestly, while nations like Turkey, Austria, and Germany show minimal participation, suggesting varying degrees of integration into the regional research ecosystem.

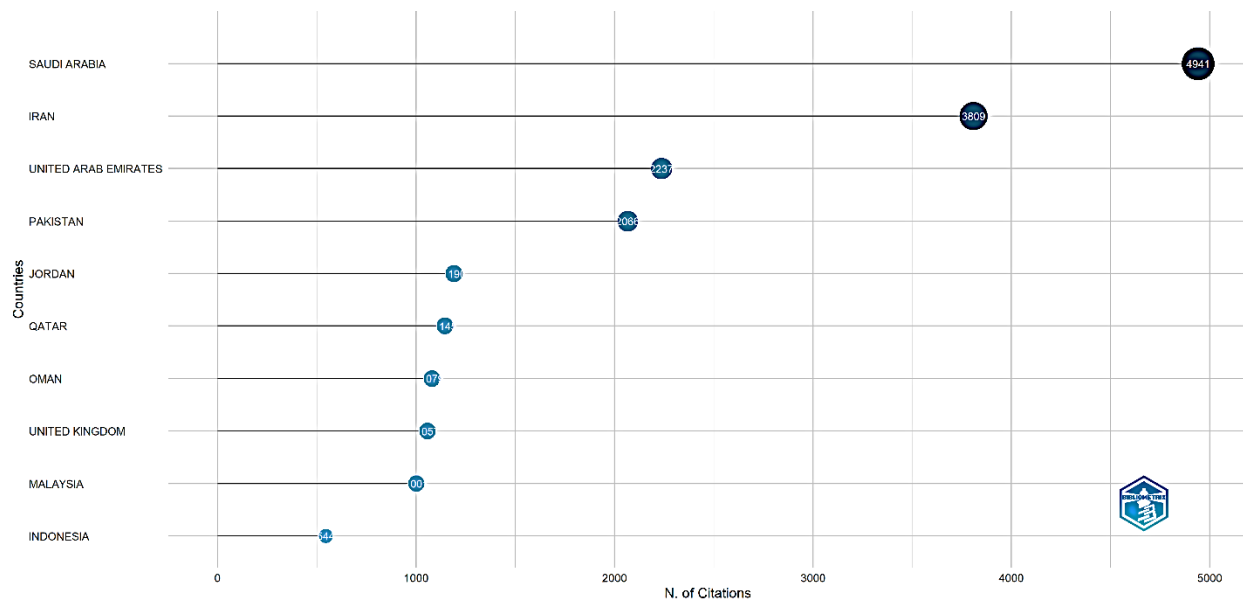


Fig 4. Most cited countries

The comparative citation analysis across countries highlights notable disparities in both research output and scholarly impact within educational research in the Middle East and associated regions. Saudi Arabia leads in total citations, accumulating 4,941 references with an

average of 62.50 citations per article, reflecting not only substantial research productivity but also significant influence in the field. Iran, while producing a comparable volume of work, has a slightly lower average of 46.50 citations per article across 3,809 publications, suggesting that

a higher volume of publications does not necessarily translate into proportionally higher scholarly impact. The United Arab Emirates and Pakistan demonstrate moderate citation performance, averaging 43.90 and 60.80 citations per article, respectively, indicating that research from these countries is both visible and increasingly relevant within the global academic community. Interestingly, Jordan achieves the highest average citations per article at 79.30,

despite a lower total citation count of 1,190, highlighting the presence of highly influential publications despite smaller output. Malaysia further exemplifies this pattern of impactful scholarship, attaining the highest average citations per article at 100.10 from 1,001 total citations, suggesting a strategic focus on producing high-quality, widely recognized research.

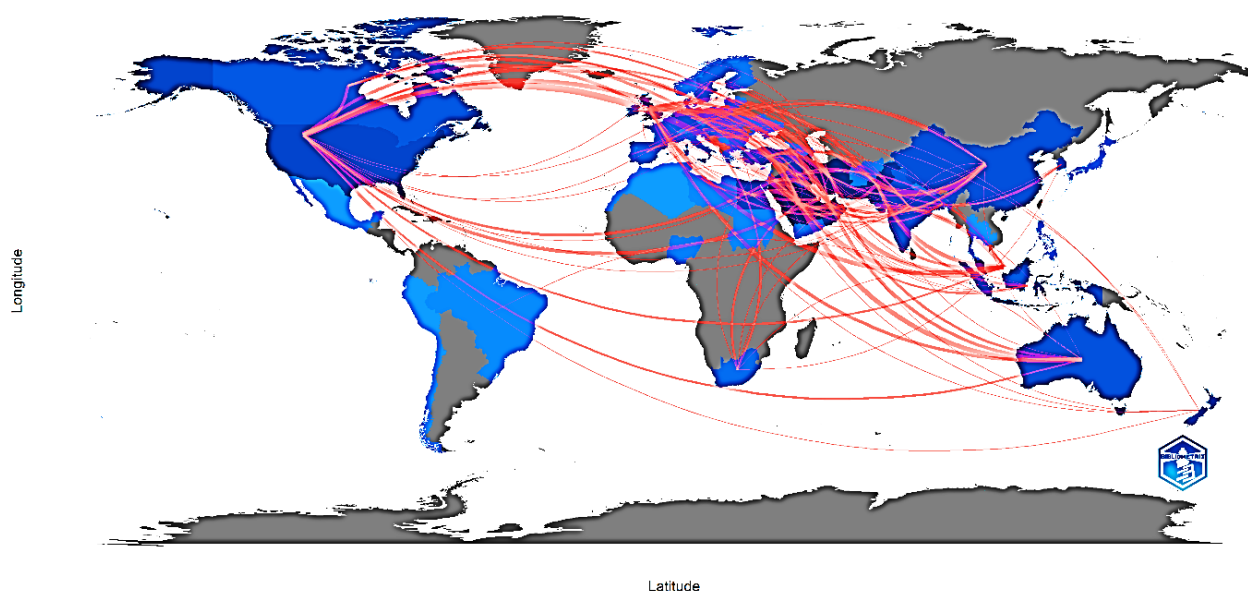


Fig 5. Countries cooperation

The scholarly network of Middle Eastern authors reveals a complex and dynamic system of cross-border collaboration that significantly enhances both the production and dissemination of educational research. This network is characterized by extensive engagement with authors from diverse countries, facilitated by digital communication platforms, virtual conferences, and international collaborations, thereby expanding the reach and impact of research outputs. Empirical patterns within this network suggest that historical, cultural, and socio-economic factors, such as proximity to ancient trade routes, influence the formation of

research clusters and thematic priorities, thereby shaping scholarly discourse across the region. Moreover, the strategic use of social media, digital repositories, and collaborative platforms allows researchers to engage with global audiences, increasing citation visibility and fostering knowledge exchange beyond regional boundaries. Such collaborations not only enhance the intellectual rigor of individual studies but also contribute to a more interconnected research ecosystem, enabling multi-country publications that address complex educational challenges, integrate innovative technologies, and respond to pressing socio-

political and economic issues in the Middle East. Critically, this collaborative culture demonstrates the potential for regional research networks to overcome local resource limitations, leverage international expertise, and produce highly impactful scholarship, reinforcing the value of cross-national partnerships in shaping both regional and global educational research agendas.

Discussion and Conclusion

The comprehensive analysis of educational research output in the Middle East over the period 2019 to 2024 reveals a complex, and, in many respects, concerning trajectory, characterized by a marked decline in the number of published articles despite the region's ongoing engagement with contemporary educational challenges and innovations. In response to Research Question 1 (RQ1), which investigates temporal trends in publication volume and scholarly productivity, the data indicate that educational research output reached a peak in 2020 with 127 articles but subsequently experienced a sustained decrease, with 123 articles in 2021, 71 in 2022, 54 in 2023, and a projected 10 articles in 2024. This sharp reduction in output raises critical concerns regarding research prioritization, funding allocation, and the broader scholarly ecosystem in the region, suggesting that the initial surge in publications—potentially linked to the immediate impacts of the COVID-19 pandemic—was not sustained over time, thereby highlighting vulnerabilities in the continuity of academic engagement and investment.

Addressing Research Question 2 (RQ2), which focuses on institutional contributions and the distribution of scholarly productivity, the analysis identifies King Saud University and Qatar University as leading institutions, each contributing 26 articles, followed closely by

Tehran University of Medical Sciences and United Arab Emirates University, each producing 21 articles. These findings underscore that, while certain institutions maintain robust research outputs, the overall declining trend reflects structural or systemic challenges within the regional higher education and research infrastructure. In addition, the examination of author-level contributions in response to Research Question 3 (RQ3) demonstrates the significance of both prolific individuals and collaborative networks, with authors such as Wardat Y, Du X, and Noroozi O exhibiting substantial citation impact, h-index metrics, and fractionalized publication contributions. The high level of international co-authorship (50.81% of publications) and average of nearly four co-authors per paper further emphasizes the role of cross-institutional and cross-national collaboration in sustaining research visibility and impact. Such patterns suggest that collaborative structures may partially mitigate declining publication rates by amplifying the reach and influence of fewer articles.

In response to Research Question 4 (RQ4), concerning the thematic foci and research priorities, the analysis of the most cited articles and keywords reveals a pronounced emphasis on technology integration, e-learning methodologies, Open Educational Resources, artificial intelligence applications, and emerging innovations such as the metaverse. These findings not only reflect the region's engagement with global technological trends but also indicate a research community responsive to the exigencies of contemporary educational challenges, including the dramatic disruptions caused by the COVID-19 pandemic. The pandemic's effects on education in the Middle East—such as sudden transitions to online learning, disparities in digital access, and differential institutional preparedness—have

both shaped research priorities and highlighted persistent inequities in educational access, particularly among marginalized communities. The analysis demonstrates that countries with more established digital infrastructure and prior experience in online education adapted more effectively, whereas others faced significant implementation challenges, reinforcing the importance of contextually sensitive, evidence-based approaches to educational innovation.

Critically, the convergence of these findings points to a dual narrative. On one hand, the presence of highly cited research, robust international collaboration, and institutions with sustained output indicates pockets of excellence and resilience within the region's educational research ecosystem. On the other hand, the overarching decline in publication volume, coupled with uneven access to technological resources and systemic inequities exacerbated by global crises, highlights a pressing need for strategic intervention. Stakeholders are thus called to reassess research priorities, enhance funding mechanisms, and foster a research culture that emphasizes interdisciplinary collaboration, equitable participation, and the integration of technological innovations. By doing so, Middle Eastern educational research can not only stabilize and potentially reverse declining publication trends but also contribute more effectively to global knowledge production, ensuring that scholarly efforts align with both regional needs and international standards of academic excellence.

Ultimately, this study demonstrates that addressing RQ1-RQ4 in an integrated manner provides critical insights into the dynamics of research productivity, institutional leadership, collaborative networks, and thematic innovation. It reveals that while the COVID-19 pandemic catalyzed an initial surge in

educational research, the subsequent decline underscores the fragility of research momentum and the necessity of deliberate, coordinated policies to sustain scholarly growth. By leveraging existing strengths—such as international collaborations, high-impact authors, and technologically oriented research—and simultaneously addressing systemic weaknesses, Middle Eastern educational research can navigate current challenges, promote inclusivity and innovation, and maintain a meaningful presence within the global academic landscape.

Based on the objectives of assessing educational research and knowledge dissemination in the Middle East during the COVID-19 pandemic, several practical recommendations emerge to strengthen both public health outcomes and the educational landscape. First, governments and educational institutions should invest in targeted digital literacy and e-learning programs to ensure equitable access to reliable information, particularly for marginalized communities that may lack technological infrastructure. Second, collaborative platforms should be expanded to facilitate knowledge sharing among universities, researchers, and policymakers across the region, leveraging both local expertise and international partnerships to address gaps in educational and health-related research. Third, teacher training and professional development programs must prioritize adaptive instructional strategies that integrate emerging technologies, such as online learning platforms, AI tools, and interactive educational resources, to maintain learning continuity during disruptions. Fourth, public health campaigns should incorporate insights from educational research to enhance comprehension and adherence to preventive

behaviors, while simultaneously addressing mental health concerns through integrated support services. Finally, funding agencies and institutional leadership should adopt data-driven evaluation metrics, such as citation impact, co-authorship networks, and thematic research hotspots, to guide investment in high-impact studies, ensuring that research outputs contribute to both regional development and global knowledge production. These measures collectively foster a resilient, technologically capable, and socially inclusive educational ecosystem that can respond effectively to future crises.

References

- Abidi, O., Dzenopoljac, V., & Aleksandra, D. (2021). Discussing the Role of Entrepreneurial Universities in COVID-19 Era in the Middle East. *Management: Journal of Sustainable Business and Management Solutions in Emerging Economies*, 26(2), 55–66.
- Aldosemani, T., Mirshekari, N., Karimi, A., Laghaei, A., Fathi, K., & Dosimany, L. I. (2024). A Scientometric Review of E-School 1993-2023: Exploration of Current and Future Dynamics in Digital Education. *International Journal of Virtual and Personal Learning Environments (IJVPLE)*, 14(1), 1–24. <https://doi.org/10.4018/IJVPLE.362787>
- Al-Qerem, W. A., & Jarab, A. S. (2021). COVID-19 Vaccination Acceptance and Its Associated Factors Among a Middle Eastern Population. *Frontiers in Public Health*, 9, 632914. <https://doi.org/10.3389/FPUBH.2021.632914/BIBTEX>
- Aldowah, H., Al-Samarraie, H., & Fauzy, W. M. (2019). Educational data mining and learning analytics for 21st century higher education: A review and synthesis. *Telematics and Informatics*, 37, 13–49. <https://doi.org/10.1016/J.TELE.2019.01.007>
- Almahasees, Z., Mohsen, K., & Amin, M. O. (2021). Faculty's and Students' Perceptions of Online Learning During COVID-19. *Frontiers in Education*, 6, 638470. <https://doi.org/10.3389/FEDUC.2021.638470/BIBTEX>
- AlMalki, H. A., & Durugbo, C. M. (2023). Evaluating critical institutional factors of Industry 4.0 for education reform. *Technological Forecasting and Social Change*, 188. <https://doi.org/10.1016/j.techfore.2023.122327>
- Almanthari, A., Maulina, S., mathematics, S. B.-E. (2020). Secondary School Mathematics Teachers' Views on E-Learning Implementation Barriers during the COVID-19 Pandemic: The Case of Indonesia. *ERICA Almanthari, S Maulina, S BruceEurasia Journal of Mathematics, Science and Technology Education*, 2020•ERIC, 2020(7), 1860. <https://doi.org/10.29333/ejmste/8240>
- Alyahyan, E., & Düşteğör, D. (2020). Predicting academic success in higher education: literature review and best practices. *International Journal of Educational Technology in Higher Education*, 17(1), 1–21. <https://doi.org/10.1186/S41239-020-0177-7/TABLES/15>
- Anning, A. S. (2025). Professional learning facilitators' contribution to sustainable STEM teacher learning in regional contexts. *International Journal of Educational Research Open*, 8. <https://doi.org/10.1016/j.ijedro.2024.100406>
- Ashokkumar, T., Russel Raj, T., Rajadurai, A., Abishini, A. H., & Anchani, A. H. (2025). Analyzing the impact of the new educational policy 2020: A comprehensive review of India's educational reforms. *Evaluation and Program Planning*, 108. <https://doi.org/10.1016/j.evalprogplan.2024.102515>
- Briller, V. (2024). Beyond the classroom: My journey through education a tale of two educational worlds. *International Journal of Educational Development*, 111. <https://doi.org/10.1016/j.ijedudev.2024.103166>
- Cantoni, F., Ricciardi, A., Bisogni, P. G., & Zsifkovits, H. (2024). The unravelled role of soft skills in the logistics and supply chain

- management field. *Journal of Innovation and Knowledge*, 9(4).
<https://doi.org/10.1016/j.jik.2024.100615>
- Carr, O. G., Jilani-Hyler, N., & Murray, G. R. (2022). Identifying factors related to school closures due to COVID-19 in the Middle East and North Africa region. *International Journal of Educational Development*, 90.
<https://doi.org/10.1016/j.ijedudev.2022.102560>
- Chaiban, T., & Oweini, A. (2024). Assessing post-Covid-19 Lebanese teachers' attitudes towards ICT and their level of integration in the classroom in relation to their years of experience. *Heliyon*, 10(18).
<https://doi.org/10.1016/j.heliyon.2024.e38266>
- Fawcett, L. (2021). The Middle East and COVID-19: time for collective action. *Globalization and Health*, 17(1), 1–9.
<https://doi.org/10.1186/S12992-021-00786-1/METRICS>
- Guangul, F. M., Suhail, A. H., Khalit, M. I., & Khidhir, B. A. (2020). Challenges of remote assessment in higher education in the context of COVID-19: a case study of Middle East College. *Educational Assessment, Evaluation and Accountability*, 32(4), 519–535.
<https://doi.org/10.1007/S11092-020-09340-W/FIGURES/8>
- Hair, J., Linguistics, A. A.-R. M. in A., & 2022, U. (2022). Partial Least Squares Structural Equation Modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics*, 1(3).
<https://doi.org/10.1016/j.rmal.2022.100027>
- Haleem, A., Javaid, M., Qadri, M. A., & Suman, R. (2022). Understanding the role of digital technologies in education: A review. *Sustainable Operations and Computers*, 3, 275–285.
<https://doi.org/10.1016/j.susoc.2022.05.004>
- Handoyo, S. (2024). Evolving paradigms in accounting education: A bibliometric study on the impact of information technology. *International Journal of Management Education*, 22(3).
<https://doi.org/10.1016/j.ijme.2024.100998>
- Ibrahim, H., Kamour, A. M., Harhara, T., Gaba, W. H., & Nair, S. C. (2020). Covid-19 pandemic research opportunity: Is the Middle East & North Africa (MENA) missing out? *Contemporary Clinical Trials*, 96.
<https://doi.org/10.1016/j.cct.2020.106106>
- Karamouzian, M., & Madani, N. (2020). COVID-19 response in the Middle East and north Africa: challenges and paths forward. *The Lancet Global Health*, 8(7), e886–e887.
[https://doi.org/10.1016/S2214-109X\(20\)30233-3](https://doi.org/10.1016/S2214-109X(20)30233-3)
- Karimi, A., Asadnia, A., Agassy Sihombing, R., Safriana, S., & Amjad, A. I. (2026). From Traditional to Digital: A 39-Year Scientometric Study of Online History Education. *Iranian Distance Education Journal*, 7(2).
<https://doi.org/10.30473/idej.2025.74028.1229>
- Karimi, A., Rahmati, R., & Fathi, K. (2024). Development of a Strategic Plan for the Educational System of Farhangian University Based on the SWOT Model. *Quarterly of Iranian Distance Education Journal*, 6(2), 1–14.
<https://doi.org/10.30473/IDEJ.2024.70673.1183>
- Karimi, A., Rahmati, R., & Meidani, M. (2024). Iranian Distance Education (IDEJ): Context analysis. *Quarterly of Iranian Distance Education Journal*, 6(1), 44–57.
<https://doi.org/10.30473/IDEJ.2024.69315.1175>
- Khatatbeh, H., Amer, F., Ali, A. M., ALBashtawy, M., Kurnianto, A., Abu-Abbas, M., Al Omari, O., Al-Awamleh, R. A., Al-Dwaikat, T., & Hammoud, S. (2024). Challenges of distance learning encountering nursing students after the COVID-19 pandemic: a study from the Middle East. *BMC Nursing*, 23(1), 1–13.
<https://doi.org/10.1186/S12912-024-02236-W/TABLES/4>
- Kuhail, M. A., Alturki, N., Alramlawi, S., & Alhejori, K. (2023). Interacting with educational chatbots: A systematic review. *Education and Information Technologies*, 28(1), 973–1018.
<https://doi.org/10.1007/S10639-022-11177-3/TABLES/14>
- Kurdi, G., Leo, J., Parsia, B., ... U. S.-I. J. of, &

- 2020, U. (2020). A systematic review of automatic question generation for educational purposes. *International Journal of Artificial Intelligence in Education*, 30(1), 121–204. <https://doi.org/10.1007/s40593-019-00186-y>
- Lee, B., Ibrahim, S. A., & Zhang, T. (2021). Mobile apps leveraged in the COVID-19 pandemic in east and South-East Asia: Review and content analysis. *JMIR MHealth and UHealth*, 9(11). <https://doi.org/10.2196/32093>
- Mohammed, S. Y., Aljanabi, M., & Gadekallu, T. R. (2024). Navigating the Nexus: A systematic review of the symbiotic relationship between the metaverse and gaming. *International Journal of Cognitive Computing in Engineering*, 5, 88–103. <https://doi.org/10.1016/j.ijcce.2024.02.001>
- Mohammed, A. O., Khidhir, B. A., Nazeer, A., & Vijayan, V. J. (2020). Emergency remote teaching during Coronavirus pandemic: the current trend and future directive at Middle East College Oman. *Innovative Infrastructure Solutions*, 5(3), 1–11. <https://doi.org/10.1007/S41062-020-00326-7/FIGURES/5>
- N. Khreisat, M. (2022). English Language Learning Strategies during COVID-19 in the Middle East: A Systematic Review. *SSRN Electronic Journal*. <https://doi.org/10.2139/SSRN.4085168>
- Naser, A. Y., Dahmash, E. Z., Alsairafi, Z. K., Alwafi, H., Alyami, H., Jalal, Z., Al Rajeh, A. M., Paudyal, V., Alhartani, Y. J., Turkistani, F. M., & Hassanin, F. F. (2021). Knowledge and Practices during the COVID-19 Outbreak in the Middle East: A Cross-Sectional Study. *International Journal of Environmental Research and Public Health* 2021, Vol. 18, Page 4699, 18(9), 4699. <https://doi.org/10.3390/IJERPH18094699>
- Nasrudin, D., Rochman, C., Kuntadi, D., & Jamaluddin, D. (2021). Research Trends of Quality Assurance in Islamic Education. *Journal of Quality Assurance in Islamic Education (JQAIE)*, 1(1), 22–32. <https://doi.org/10.47945/jqaie.v1i1.391>
- Nowell, L., Dolan, S., Johnston, S., Jacobsen, M., Lorenzetti, D., & Paolucci, E. O. (2024). Exploring Student Perspectives and Experiences of Online Opportunities for Virtual Care Skills Development: Sequential Explanatory Mixed Methods Study. *JMIR Nursing*, 7(1). <https://doi.org/10.2196/53777>
- Qadir, J. (2023). Engineering Education in the Era of ChatGPT: Promise and Pitfalls of Generative AI for Education. *IEEE Global Engineering Education Conference, EDUCON, 2023-May*. <https://doi.org/10.1109/EDUCON54358.2023.10125121>
- Shen, X., Li, J., Li, M., & Karimi, A. (2025). A 29-Year (1994–2023) Bibliometrics Analysis of Usage of the Gamification in History Education. *European Journal of Education*, 60(4), e70256. <https://doi.org/10.1111/EJED.70256>
- Shoaib Farooq, M., Salam, M., Nurfatimah Awang Iskandar, D., & Hanani Abang Ibrahim, D. (2019). Service learning in higher education: A systematic literature review. *Asia Pacific Education Review*, 20(4), 573–593. <https://doi.org/10.1007/s12564-019-09580-6>
- Taha, A. R. (2021). How the Middle East is facing COVID-19. *COVID-19 Pandemic: Lessons from the Frontline*, 189–204. <https://doi.org/10.1016/B978-0-323-82860-4.00008-2>
- Tlili, A., Huang, R., Shehata, B., Liu, D., Zhao, J., Hosny, A., Metwally, S., Wang, H., Denden, M., Bozkurt, A., Lee, L.-H., Beyoglu, D., Altinay, F., Sharma, R. C., Altinay, Z., Li, Z., Liu, J., Ahmad, F., Hu, Y., ... Burgos, D. (2022). Is metaverse in education a blessing or a curse: a combined content and bibliometric analysis. *Smart Learning Environments*, 9(1). <https://doi.org/10.1186/s40561-022-00205-x>
- Windarwati, H. D., Oktaviana, W., Mukarromah, I., Ati, N. A. L., Rizzal, A. F., & Sulaksono, A. D. (2020). In the Middle of the COVID-19 outbreak: Early practical guidelines for psychosocial aspects of COVID-19 in East Java, Indonesia. *Psychiatry Research*, 293. <https://doi.org/10.1016/j.psychres.2020.113395>
- Yazdi, A., Karimi, A., & Mystakidis, S. (2024). Gamification in Online Education: A Visual Bibliometric Network Analysis. *Information*

- 2024, *Vol. 15, Page 81, 15(2)*, 81.
<https://doi.org/10.3390/INFO15020081>
- Yuan, R., Zhu, P., & Karimi, A. (2026). Harnessing Artificial Intelligence for History Education: A New Chapter in Pedagogical Innovation. *European Journal of Education*, 61(1), e70394. <https://doi.org/10.1111/EJED.70394>
- Zhao, S., Qupi, L., & Karimi, A. (2026). Conceptual entropy and technological acceleration: diagnosing structural gaps in robotics in game-based learning (1988–2025). *Entertainment Computing*, 57, 101128. <https://doi.org/10.1016/J.ENTCOM.2026.101128>