Exploring the Intellectual Structure of Islamic Education in Distance Learning with Bibliometric Analysis

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ABSTRACT

This study explores the intellectual structure of Islamic education within the context of distance learning through a comprehensive bibliometric analysis. By mapping key themes, influential authors, and research trends, this research provides a detailed overview of the scholarly discourse and identifies emerging patterns and challenges. The thematic clusters identified include strategic approaches to digital pedagogy, the integration of multimedia resources, and the adaptation of traditional Islamic educational institutions to modern technologies. The analysis highlights significant research trends towards digital transformation and modernization while emphasizing the need to balance these with traditional educational values. Additionally, the study identifies opportunities for future research in developing culturally appropriate digital content and overcoming barriers such as the digital divide. The network of author collaborations reveals a segmented landscape with potential for increased inter-group cooperation. Overall, this research offers valuable insights into the evolving field of Islamic education and distance learning, guiding future studies and practical applications.

Keywords: Bibliometric analysis, Digital pedagogy, Distance learning, Islamic education, VOSViewer

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1. INTRODUCTION

Islamic education, deeply rooted in the religious and cultural fabric of Muslim societies, has undergone significant transformation over the centuries [1]. Traditionally, it has been delivered through face-to-face interactions in mosques, madrasahs, and Islamic schools, where the transfer of knowledge is not only intellectual but also spiritual and moral [2]. However, with the advent of the digital age, there has been a paradigm shift in how education is delivered and received [3]. Distance learning, which leverages technology to facilitate learning outside the conventional classroom, has emerged as a crucial mode of education delivery [4]. This shift is particularly relevant in the context of Islamic education, as it opens up new avenues for access and dissemination of knowledge to a global audience, transcending geographical and cultural barriers [5].

The integration of distance learning in Islamic education is not merely a response to technological advancements but also a necessity driven by various global challenges [6], [7]. The COVID-19 pandemic, for instance,
has underscored the importance of remote learning solutions as educational institutions worldwide were forced to close their physical doors [1]. Islamic educational institutions were no exception, and they had to quickly adapt to ensure the continuity of education [8]. This situation has highlighted both the potential and the challenges of distance learning in the Islamic educational context [9].

The growing body of research on distance learning within Islamic education reflects an increasing interest in understanding its dynamics, effectiveness, and implications [10]. However, the literature is vast and fragmented, necessitating a comprehensive and systematic approach to synthesize existing knowledge. Bibliometric analysis offers a powerful tool to achieve this by quantitatively analyzing the scholarly literature, identifying patterns, trends, and the intellectual structure of the field [10]–[13]. Through this method, researchers can gain insights into the evolution of Islamic education in the context of distance learning, key research themes, influential authors, and future research directions [13].

Despite the burgeoning interest in distance learning within Islamic education, there remain significant gaps in the understanding of its intellectual structure. The existing literature, while extensive, is often dispersed across various disciplines and lacks a cohesive framework that can guide future research and practice. This dispersion makes it challenging for scholars, educators, and policymakers to discern the core themes, influential works, and emerging trends that define the field.

One of the critical issues is the lack of a comprehensive mapping of the intellectual landscape of Islamic education in distance learning. Without this, it is difficult to identify the foundational theories, methodologies, and key contributors that have shaped the field. Furthermore, there is a need to understand how the integration of technology and distance learning practices impacts the pedagogical and philosophical underpinnings of Islamic education. Are the traditional values and principles of Islamic education being preserved, adapted, or challenged in the digital age? How do different cultural contexts influence the adoption and adaptation of distance learning in Islamic education?

Another significant challenge is the evaluation of the effectiveness of distance learning in achieving the educational goals of Islamic education. While some studies highlight the benefits of increased accessibility and flexibility, others point to issues such as the digital divide, lack of personal interaction, and the need for tailored pedagogical approaches that align with Islamic educational values. Thus, there is a pressing need for a systematic analysis that can provide a holistic view of the current state of research, identify gaps, and propose a coherent agenda for future studies.

In light of the aforementioned challenges, this research aims to explore the intellectual structure of Islamic education in the context of distance learning using bibliometric analysis. The specific objectives of this study are to map the intellectual landscape by identifying the key themes, influential authors, foundational theories, and significant publications that have shaped the field of Islamic education in distance learning. By doing so, the study seeks to provide a comprehensive overview of the scholarly discourse and highlight the main areas of focus. Additionally, the research will analyze trends and patterns through bibliometric analysis, examining the evolution of research over time, identifying emerging trends, shifts in research focus, and the development of new paradigms to understand how the field has progressed and where it is heading. The study will also evaluate the impact of distance learning by assessing the implications of integrating distance learning in Islamic education, examining both the benefits and challenges, including the effectiveness of various pedagogical approaches, the role of technology, and the extent to which traditional Islamic educational values are upheld or transformed. Furthermore, the research aims to identify gaps and propose future research directions by synthesizing the existing literature and identifying underexplored areas, providing recommendations
for future research to guide scholars and practitioners in addressing critical issues and advancing the field. Finally, the findings of this study will serve as a valuable resource for educators, policymakers, and institutions involved in Islamic education, providing a clear understanding of the intellectual structure and current state of research to inform decisions related to curriculum development, pedagogical strategies, and the implementation of distance learning initiatives.

2. LITERATURE REVIEW

2.1 Evolution of Islamic Education

Islamic education has a long and rich history, evolving through various phases and adapting to different cultural and social contexts. Traditionally, it was delivered in mosques, madrasahs, and Islamic schools, focusing on the comprehensive development of individuals by integrating religious, moral, and academic knowledge. Key historical figures, such as Al-Ghazali, Ibn Sina, and Ibn Khaldun, have significantly influenced Islamic educational thought, emphasizing the importance of holistic education that nurtures both the intellect and the spirit. In recent decades, the landscape of Islamic education has witnessed significant changes due to global advancements in technology and shifts in educational paradigms. The integration of modern educational theories and practices, alongside the preservation of traditional values, has been a subject of ongoing debate among scholars and practitioners. The need to balance tradition and modernity has driven research into innovative pedagogical approaches that can effectively deliver Islamic education in contemporary settings.

2.2 Distance Learning in Islamic Education

The emergence of distance learning has been a transformative force in the field of education globally. Distance learning, characterized by the use of technology to facilitate education beyond the physical confines of the classroom, offers numerous benefits, including increased accessibility, flexibility, and the ability to reach a wider audience. In the context of Islamic education, distance learning provides an opportunity to extend the reach of educational programs to Muslims around the world, regardless of their geographical location. Several studies have explored the implementation of distance learning in Islamic education, highlighting its potential to enhance learning experiences. For example, a study by [14] examined the use of online platforms in delivering Islamic studies courses, finding that students appreciated the flexibility and accessibility provided by these platforms. Similarly, research by [15] investigated the impact of social media on learning engagement in Islamic education, concluding that social media can facilitate interactive and collaborative learning environments. However, the adoption of distance learning in Islamic education is not without challenges. Issues such as the digital divide, technological literacy, and the need for culturally sensitive content have been identified as significant barriers. Additionally, there are concerns regarding the preservation of the traditional values and spiritual essence of Islamic education in an online format. Researchers like [16] have emphasized the importance of developing pedagogical models that align with Islamic educational principles while leveraging the advantages of technology.

2.3 Intellectual Structure of Islamic Education in Distance Learning

Understanding the intellectual structure of a field involves examining the key themes, influential authors, and foundational theories that have shaped its development. In the context of Islamic education in distance learning, bibliometric analysis provides a valuable tool for mapping this intellectual landscape. Bibliometric studies analyze scholarly literature quantitatively, revealing patterns, trends, and the
interconnections between different research contributions.

Previous bibliometric analyses in the field of education have provided insights into various aspects, such as research productivity, collaboration networks, and citation patterns. For instance, a bibliometric study by [17] on Islamic education literature revealed the dominance of certain themes, including curriculum development, pedagogical approaches, and the integration of modern technologies. This study highlighted the importance of interdisciplinary research and the need for a holistic understanding of the field.

In the context of distance learning, bibliometric analysis can identify the key contributors and seminal works that have influenced the adoption and implementation of online education in Islamic contexts. It can also uncover emerging trends, such as the increasing use of mobile learning applications and the incorporation of artificial intelligence in educational platforms. By mapping these trends, researchers can gain a comprehensive understanding of the evolution of the field and the current state of research.

2.4 Pedagogical Approaches in Distance Learning for Islamic Education

Effective pedagogical approaches are crucial for the success of distance learning in any educational context. In Islamic education, these approaches must not only facilitate the acquisition of knowledge but also nurture the spiritual and moral development of students. Various pedagogical models have been proposed and implemented, each with its strengths and limitations. One of the commonly used models is the blended learning approach, which combines online and face-to-face instruction. This model allows for the flexibility of online learning while maintaining the personal interaction and mentorship essential in Islamic education. A study by [18] on blended learning in Islamic education found that students benefited from the combination of self-paced online modules and interactive in-person sessions. This approach was particularly effective in teaching complex religious concepts that require detailed explanations and discussions.

Another approach is the use of synchronous online classes, where students and instructors interact in real-time through video conferencing tools. This method mimics the traditional classroom setting and allows for immediate feedback and engagement. Research by [19] on synchronous online classes in Islamic education highlighted the importance of maintaining a structured and interactive environment to ensure student engagement and learning outcomes. Moreover, the incorporation of multimedia resources, such as videos, podcasts, and interactive simulations, has been shown to enhance the learning experience. These resources can make abstract concepts more tangible and provide diverse perspectives on religious teachings. Studies have indicated that multimedia-rich content can improve student motivation and retention of knowledge.

3. METHODS

This study employs a bibliometric analysis to explore the intellectual structure of Islamic education in the context of distance learning. Bibliometric analysis is a quantitative research method that uses statistical and mathematical tools to analyze patterns within scientific literature. This method is particularly effective for identifying trends, influential authors, key publications, and thematic development within a research field. For this study, a comprehensive dataset was gathered from Google Scholar, focusing on publications related to Islamic education and distance learning. The selected timeframe spans from 1792 to the present, ensuring a thorough coverage of the evolution of research in this area.

The data collection process involved a systematic search using specific keywords
and phrases, such as "Islamic education," "distance learning," "online learning," and "e-learning." The search was refined using Boolean operators to include variations and combinations of these terms. Once the relevant articles were identified, they were screened for quality and relevance. This screening process included evaluating the abstracts, methodologies, and findings to ensure that only the most pertinent studies were included in the analysis. The final dataset comprised peer-reviewed journal articles, conference papers, and significant book chapters. These sources were then analyzed using bibliometric tools to extract key information such as citation counts, authorship patterns, co-authorship networks, and thematic clusters.

For the bibliometric analysis, specialized software like VOSviewer was used. VOSviewer helped in visualizing the bibliometric networks, including co-citation and co-authorship networks, which provide insights into the collaborative nature and influential works in the field. This software was employed to detect and visualize emerging trends and research frontiers through citation bursts and keyword co-occurrence analysis. The results of these analyses were then interpreted to map the intellectual landscape of Islamic education in distance learning, identify major research themes, and highlight gaps in the existing literature.

### 4. RESULT AND DISCUSSION

#### Table 1. Research Data Metrics

<table>
<thead>
<tr>
<th>Metrics Data</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publication years</td>
<td>1792-2024</td>
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<tr>
<td>Citation years</td>
<td>232</td>
</tr>
<tr>
<td>Papers</td>
<td>980</td>
</tr>
<tr>
<td>Citations</td>
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<td>Cites/paper</td>
<td>14.14</td>
</tr>
<tr>
<td>Cites/author</td>
<td>9324.25</td>
</tr>
<tr>
<td>Papers/author</td>
<td>570.66</td>
</tr>
<tr>
<td>Authors/paper</td>
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<tr>
<td>h-index</td>
<td>53</td>
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<tr>
<td>g-index</td>
<td>99</td>
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<tr>
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<td>39</td>
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<tr>
<td>hI,annual</td>
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<tr>
<td>Paper with ACC&gt;=1</td>
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</tr>
<tr>
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<td>3</td>
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<tr>
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<tr>
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<td>1</td>
</tr>
<tr>
<td>ACC&gt;=20</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Output Publish or Perish, 2024

Table 1 presents an extensive overview of the research data metrics related to Islamic education in distance learning, spanning an impressive timeframe from 1792 to 2024. The data encompasses a substantial body of 980 papers, which have collectively garnered 13,853 citations. This results in an average of 14.14 citations per paper, reflecting the significant impact and relevance of these publications within the academic community. The average citation per year stands at 59.71, indicating a consistent engagement with the research over the years. The metrics also reveal a substantial h-index of 53, suggesting that at least 53 papers have received 53 or more citations, which is a strong indicator of both the productivity and the citation impact of the research in this field. Additionally, the g-index of 99 further underscores the prolific nature of the contributions, with the top 99 papers collectively receiving a high number of citations.

The data also provides insights into the authorship patterns and collaboration within the field. With an average of 2.31 authors per paper, it is evident that collaborative efforts are common, reflecting a multidisciplinary approach to exploring Islamic education and distance learning. The total number of citations per author is notably high at 9324.25, and the number of papers per author is 570.66, highlighting the extensive contribution of individual researchers to this domain. The hI,norm (normalized h-index) of 39 and the hI,annual (annualized h-index) of 0.17 indicate the sustained influence and relevance of the research over time. Furthermore, the hA index of 27 suggests that the average impact of the cited articles is substantial. The distribution of papers with varying citation counts (ACC >= 1,2,5,10,20: 545, 346, 173, 87, 33) illustrates a broad range of influential works, with a significant number achieving high citation counts.
Table 2. Most Cited Article

<table>
<thead>
<tr>
<th>Citations</th>
<th>Author and Year</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>875</td>
<td>[20]</td>
<td>The transmission of knowledge in medieval Cairo: A social history of Islamic education</td>
</tr>
<tr>
<td>511</td>
<td>[21]</td>
<td>The Walking Qur'an: Islamic education, embodied knowledge, and history in West Africa</td>
</tr>
<tr>
<td>421</td>
<td>[22]</td>
<td>E-learning challenges faced by academics in higher education</td>
</tr>
<tr>
<td>334</td>
<td>[23]</td>
<td>Strategi pembelajaran era digital</td>
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<tr>
<td>318</td>
<td>[24]</td>
<td>Pengembangan media pembelajaran pai berbasis lingkungan melalui model assure</td>
</tr>
<tr>
<td>286</td>
<td>[25]</td>
<td>Critical issues in Islamic education studies: Rethinking Islamic and Western liberal secular values of education</td>
</tr>
<tr>
<td>282</td>
<td>[26]</td>
<td>Islamic education and indoctrination: The case in Indonesia</td>
</tr>
<tr>
<td>275</td>
<td>[27]</td>
<td>Memorization and learning in Islamic schools</td>
</tr>
<tr>
<td>265</td>
<td>[28]</td>
<td>Defining Islamic education: Differentiation and applications</td>
</tr>
<tr>
<td>261</td>
<td>[29]</td>
<td>Making modern Muslims: the politics of Islamic education in Southeast Asia</td>
</tr>
</tbody>
</table>

Source: Output Publish or Perish, 2024

Table 2 lists the most cited articles in the field of Islamic education in the context of distance learning, highlighting the significant contributions that have shaped scholarly discourse and research. The top-cited article, "The Transmission of Knowledge in Medieval Cairo: A Social History of Islamic Education" by JP Berkey, with 875 citations, underscores the historical depth and social context of Islamic education. This work is pivotal in understanding the roots and evolution of Islamic educational practices, and its high citation count reflects its foundational importance to both historical and contemporary studies of Islamic education.

Following closely is RT Ware III's "The Walking Qur'an: Islamic Education, Embodied Knowledge, and History in West Africa" with 511 citations. This article delves into the cultural and historical aspects of Islamic education in West Africa, highlighting how embodied knowledge and oral traditions have sustained Islamic teachings. The substantial number of citations indicates its influential role in broadening the geographical and cultural understanding of Islamic educational practices. Additionally, N Islam, M Beer, and F Slack's work on "E-learning challenges faced by academics in higher education," with 421 citations, points to the contemporary issues faced in integrating digital technologies into educational frameworks. This study is particularly relevant given the ongoing transition to distance learning platforms.

The list also includes significant contributions from various perspectives within Islamic education. TN Azis' "Strategi pembelajaran era digital" (334 citations) and H Baharun's "Pengembangan media pembelajaran PAI berbasis lingkungan melalui model ASSURE" (318 citations) focus on strategies and media development for teaching Islamic education in the digital era. These works emphasize the innovative approaches required to adapt traditional Islamic education to modern technological contexts. A Sahin's "Critical Issues in Islamic Education Studies: Rethinking Islamic and Western Liberal Secular Values of Education" (286 citations) and C Tan's "Islamic Education and Indoctrination: The Case in Indonesia" (282 citations) critically examine the intersection of Islamic and secular educational values, highlighting the ideological challenges and debates within the field. These articles collectively showcase the diverse research interests and methodological approaches that characterize the study of Islamic education in the digital age.

Lastly, articles by HN Boyle, SL Douglass, and RW Hefner provide critical insights into specific aspects of Islamic education. Boyle's "Memorization and Learning in Islamic Schools" (275 citations) explores traditional learning methods,
emphasizing the role of memorization in Islamic pedagogy. Douglass and Shaikh's "Defining Islamic Education: Differentiation and Applications" (265 citations) seeks to clarify the various interpretations and applications of Islamic education, contributing to a more nuanced understanding of the field. Hefner's "Making Modern Muslims: The Politics of Islamic Education in Southeast Asia" (261 citations) examines the political dimensions of Islamic education in Southeast Asia, reflecting on how education shapes and is shaped by political agendas. These highly cited works highlight the complexity and multifaceted nature of Islamic education, showcasing the field's rich intellectual diversity and the critical issues that continue to drive scholarly inquiry.

4.1 Keyword Co-Occurrence Analysis

The first VOSviewer figure represents a network visualization of the key terms and concepts in the field of Islamic education within the context of distance learning. The nodes in the network correspond to specific keywords or themes, while the edges represent co-occurrence relationships between these terms within the literature. The size of the nodes indicates the frequency of occurrence, and the color-coding and clustering reflect thematic groupings based on the strength of their connections.

1. Strategy and Learning (Red Cluster)
   The red cluster is prominently centered around the keyword "strategy," which is interconnected with several other terms like "learning Islamic education," "teaching Islamic education," "attitude," and "Islamic religious education." This cluster highlights the strategic approaches and pedagogical methods employed in the delivery of Islamic education through distance learning. The focus on "strategy" suggests significant scholarly attention towards developing effective teaching methodologies that align with Islamic educational principles in a digital environment. The presence of terms like "attitude" and "motivation" indicates that researchers are also exploring the psychological and motivational aspects of students engaging with
Islamic education online. This cluster underscores the importance of understanding both the cognitive and affective dimensions of learning to optimize educational outcomes.

2. Online Learning and Media (Green Cluster)
The green cluster is centered around "online learning" and includes related terms such as "media," "outcome," "obstacle," "social medium," and "online." This cluster highlights the role of various digital platforms and media in facilitating Islamic education. The focus on "online learning" signifies the growing emphasis on leveraging internet-based tools to disseminate Islamic knowledge. The terms "media" and "social medium" suggest that researchers are investigating the use of multimedia resources and social media platforms to enhance learning experiences. This cluster also addresses the challenges ("obstacle") associated with online learning, such as technological barriers and the digital divide, which can impact the effectiveness of distance education.

3. Islam and Educational Institutions (Blue and Yellow Clusters)
The blue cluster, with "Islam" at its core, is interconnected with terms like "challenges," "educational institution," "traditional Islamic education," and "educational technology." This cluster focuses on the intersection of Islamic principles and modern educational technologies. It highlights the challenges faced by educational institutions in integrating technology while maintaining the integrity of traditional Islamic educational values. The yellow cluster, centered on "Islamic education institution," connects with terms such as "pesantren," "digital learning," "Islamic education management," "tradition," and "modernization." This cluster illustrates the institutional perspective of Islamic education, emphasizing the role of traditional institutions like pesantren (Islamic boarding schools) and their adaptation to digital learning environments. It reflects the tension between tradition and modernization in Islamic education, exploring how institutions manage this balance.

4. Digital Era and Distance Education (Light Blue Cluster)
The light blue cluster, focused on "distance education," This cluster highlights the broader context of digital transformation in education. It emphasizes the role of distance education in the digital era, showcasing the technological advancements that have enabled remote learning.

5. Educational Technology and Challenge (Purple Cluster)
This cluster represents a distinct thematic grouping that focuses on the integration of educational technology and its applications within the context of Islamic education. This cluster is interconnected with terms such as "educational technology," "educational institution," "challenges," and "modernization," highlighting the role of technological advancements in reshaping educational practices and institutions.

The network visualization reveals significant interconnections between the clusters, indicating that the themes of strategy, online learning, institutional adaptation, and digital transformation are interrelated. For instance, the link between "strategy" and "online learning" suggests that strategic planning is crucial for effective online education. Similarly, the connection between "Islamic education institution" and "distance education" highlights the institutional efforts to implement distance learning solutions. The visualization also indicates a focus on both macro and micro aspects of Islamic education in distance
learning. Macro aspects include institutional strategies, educational policies, and the integration of technology, while micro aspects cover individual learner attitudes, motivation, and engagement with digital platforms.

The second VOSviewer figure is a network visualization that represents the co-occurrence of keywords in the field of Islamic education within the context of distance learning. The color gradient from dark blue to yellow indicates the timeline, with dark blue representing earlier publications and yellow representing more recent ones, ranging from 2018 to 2022. The size of the nodes represents the frequency of keyword occurrences, while the lines indicate co-occurrence relationships. The clusters are grouped by color to show thematic connections between keywords.

The purple cluster, centered around the keywords "strategy," "learning Islamic education," and "attitude," reflects a significant focus on the strategic and pedagogical approaches within Islamic education. The term "strategy" is highly connected, suggesting that researchers are exploring various methods to enhance the teaching and learning processes in Islamic education, particularly through distance learning platforms. The inclusion of "attitude" indicates an interest in understanding the perceptions and attitudes of both educators and learners towards Islamic education delivered through digital means. This is crucial for developing effective strategies that are well-received by all stakeholders.

The yellow cluster highlights "online learning," "media," and "social medium," emphasizing the role of digital platforms and multimedia resources in Islamic education. The prominence of "online learning" reflects the growing reliance on internet-based tools to facilitate education, especially in the wake of global events like the COVID-19 pandemic that necessitated remote learning solutions. "Media" and "social medium" suggest a focus on the use of various digital content forms, such as videos, podcasts, and social media platforms, to deliver educational content. This cluster also addresses the challenges ("obstacle") associated with online.
learning, highlighting areas where improvements are needed to make digital education more effective and accessible. The yellow cluster, centered on "Islamic education institution" and "pesantren," also highlights the institutional perspective, focusing on traditional Islamic schools and how they are adapting to modern digital learning environments. The term "pesantren" signifies the importance of traditional Islamic boarding schools in this educational landscape, and their efforts to incorporate digital learning.

The color gradient in the visualization provides insights into the evolution of research topics over time. Terms like "digital learning," "digital era," and "modernization" appearing in yellow indicate that these are more recent areas of focus, reflecting the increasing interest in digital transformation in education. Earlier terms such as "educational technology" and "distance education" in blue and green suggest that these themes have been foundational in the field, serving as the basis for subsequent research on digital learning and modernization.

Figure 3. Density Visualization
Source: Data Analysis, 2024

This third VOSviewer figure is a density visualization representing the keyword co-occurrence network in the field of Islamic education in the context of distance learning. In this visualization, the density of the terms is depicted using a heatmap gradient, where areas with a higher concentration of related keywords are shown in yellow and green, and less dense areas in blue and purple. The figure provides insights into the most heavily researched and connected topics within the field.

The central area of the visualization, highlighted in yellow, represents the most densely populated keywords, indicating high research activity. Terms like "strategy," "learning Islamic education," and "online learning" are prominent in this cluster. This suggests that a significant portion of the research focuses on strategic approaches to teaching Islamic education through online platforms. The term "strategy" is crucial, reflecting the efforts to develop effective pedagogical methods and
frameworks for delivering Islamic education in a digital format. "Learning Islamic education" highlights the focus on understanding how students engage with and absorb Islamic teachings online. The high density of "online learning" indicates its centrality to the research, emphasizing the transition from traditional to digital learning environments.

Surrounding the core cluster, terms such as "media," "social medium," "motivation," and "outcome" are found. This cluster underscores the importance of digital media in facilitating online learning and its impact on student motivation and educational outcomes. "Media" and "social medium" suggest that various forms of digital content and social networking tools are integral to modern Islamic education. These tools are used to enhance engagement and provide diverse learning resources. The inclusion of "motivation" and "outcome" indicates that researchers are also concerned with the psychological aspects of learning and the effectiveness of these digital strategies in achieving educational goals.

Another significant area of high density is centered around the term "Islam" and includes related terms like "Islamic education institution," "pesantren," and "Islamic education management." This cluster highlights the institutional perspective of Islamic education and the adaptation of traditional institutions to the digital era. "Islamic education institution" and "pesantren" reflect the ongoing efforts to integrate digital technologies within traditional Islamic schools and colleges. These institutions are exploring how to maintain their educational and religious integrity while adopting modern teaching methods. "Islamic education management" suggests a focus on the administrative and organizational aspects of this transition.

The visualization also includes several peripheral terms that, while less densely connected, still play an important role in the overall research landscape. Terms like "history," "tradition," "teaching Islamic education," and "attitude" represent specific areas of focus that contribute to a deeper understanding of the field. "History" and "tradition" suggest an interest in how historical and traditional educational practices can inform and enrich modern approaches. "Teaching Islamic education" and "attitude" highlight the focus on the perspectives of educators and learners, which are critical for developing effective teaching strategies and fostering positive attitudes towards online Islamic education.

The figure does not explicitly provide a timeline, but the density and clustering of terms can imply the evolution of research focus over time. The central and densely populated terms like "strategy," "learning Islamic education," and "online learning" likely represent more recent and active areas of research, driven by the increased adoption of digital learning technologies. Peripheral and less densely populated terms may indicate emerging or less explored areas that could benefit from further research. For instance, the relatively lower density around "history" and "tradition" suggests these areas are important but perhaps not as extensively studied in the context of digital learning.
4.2 Co-Authorship Analysis

This last VOSviewer figure represents a network visualization of authors within the field of Islamic education in the context of distance learning. Each node corresponds to an author, and the edges represent co-authorship relationships. The size of the nodes indicates the frequency of the author’s contributions, while the color-coding groups authors into clusters based on their collaborative networks.

In this visualization, we observe several distinct clusters, each representing a network of co-authors who frequently collaborate. For instance, the green cluster includes authors such as Hamzah, MI, and Wekke, IS, indicating a strong collaborative relationship between these researchers. Similarly, the red cluster shows collaboration between authors like Widodo, H, Jailani, M, and Suyadi, S. The presence of multiple clusters suggests that the field is somewhat segmented, with various research groups working independently of each other. The relatively isolated positions of authors like Fauzi, A, and Nawi, A, imply that these researchers either work independently or have fewer collaborations compared to those in denser clusters. Overall, this visualization highlights the collaborative nature of research in Islamic education and distance learning, while also suggesting potential areas for increased inter-group collaboration to enrich the field further.

5. CONCLUSION

The analysis of thematic clusters, research trends, opportunities, and author collaboration within the field of Islamic education in the context of distance learning reveals a rich and evolving landscape. Thematic clusters highlight key areas of focus such as strategic approaches, online learning methodologies, the integration of digital media, and the adaptation of traditional Islamic educational institutions to modern technologies. Research trends indicate a growing interest in digital transformation and modernization, emphasizing the importance of educational technology and the need to balance tradition with innovation.
Opportunities for future research are abundant, particularly in developing culturally appropriate digital content, overcoming challenges like the digital divide, and exploring the psychological aspects of online learning. The author collaboration network underscores the collaborative nature of the field but also reveals areas for potential growth in inter-group collaborations. By fostering more interconnected research efforts and addressing emerging challenges, the field can continue to advance, ensuring that Islamic education remains relevant and accessible in the digital age.

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