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Researching creativity in education from ASEAN countries: bibliometric analysis

Tuan-Vinh Nguyen, Viet-Nhi Tran
Faculty of Preschool Education, University of Education, Hue University, Hue city, Vietnam

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ABSTRACT

Creativity has emerged as a cornerstone of 21st-century education, particularly within Association of Southeast Asian Nations (ASEAN) countries striving to foster innovation and knowledge-based economies. This bibliometric study examines 453 publications on creativity in education across ASEAN from 2000 to 2024, utilizing Scopus data analyzed through Biblioshiny and VOSviewer. The findings reveal Indonesia as the dominant contributor (65% of publications), with scholars like Zubaidah and Corebima making significant contributions through highly cited works. Key journals, including "Thinking Skills and Creativity" and the "International Journal of Instruction", have played crucial roles in disseminating ASEAN research globally. The thematic analysis identifies five major clusters centered on science, technology, engineering, and mathematics (STEM) integration, project-based learning, digital technologies, research methodologies, and professional development. Temporal network analysis demonstrates an evolution from discipline-specific approaches toward broader conceptualizations of creativity and an increased emphasis on technological integration. Despite these advances, the study identifies persistent challenges in cross-national collaboration, methodological consistency, and longitudinal research. This analysis provides strategic insights for educators, researchers, and policymakers in aligning educational practices with regional innovation goals while highlighting the need for enhanced research collaboration and standardized assessment tools.

Corresponding Author:

Viet-Nhi Tran
Faculty of Preschool Education, University of Education, Hue University
34 Le Loi Street, Hue city 530000, Vietnam
Email: tranvietnhi@hueuni.edu.vn

1. INTRODUCTION

Creativity has emerged as a fundamental competency for educational success and economic competitiveness in the 21st century. Within educational frameworks, creativity encompasses multiple dimensions, including fluency (the generation of diverse ideas), flexibility (consideration of multiple perspectives), originality (the production of novel solutions), and elaboration (concept refinement) [1], [2]. As nations strive to develop human capital capable of thriving in knowledge-based economies, fostering creativity has become increasingly critical for preparing students to address complex global challenges [3], [4].

The theoretical understanding of creativity in educational contexts has evolved substantially. While early research emphasized individual personality traits and cognitive processes [5], [6], contemporary frameworks adopt more integrated social-psychological and systems-oriented approaches [7]. These newer perspectives emphasize how creativity emerges from dynamic interactions between individuals and their sociocultural environments [8], [9]. This evolution in theoretical understanding has been supported by

empirical evidence that links creative learning environments to enhanced student outcomes, including improved academic performance and problem-solving capabilities [10]–[12].

Creativity-fostering practices have been integrated into Association of Southeast Asian Nations (ASEAN) educational systems. These practices span from early childhood education [13], [14] to higher education [15]–[17]. Over the past decade, research on creativity in ASEAN education settings has expanded considerably, encompassing various aspects such as creative pedagogies [18], creativity assessment methods [19], [20], and teacher behaviors that promote creative learning [4], [17], [21]. Despite the recognized importance of creativity in education, several critical gaps exist in our understanding of how creativity studies in educational contexts have developed within ASEAN contexts. First, while ASEAN countries have increasingly emphasized creativity in their educational policies, implementation often faces challenges from traditional teacher-centered pedagogies that emphasize convergent thinking [22], [23]. This tension between policy aspirations and pedagogical practices necessitates a deeper understanding of how research on creativity in educational contexts has evolved in response to these challenges. Second, existing bibliometric analyses of studies on creativity in education present contradictory findings regarding ASEAN contributions. While Şahin *et al.* [24] highlighted significant Indonesian contributions to the field, Hernández-Torrano and Ibrayeva [3] identified only Singapore among the top contributing nations. This discrepancy reveals a critical need for a focused analysis of ASEAN's role in creativity in education research.

This study seeks to fill these critical gaps and provide a deeper, more nuanced understanding of creativity in education research in Southeast Asia. By using bibliometric analysis, the study aims to answer three key research questions (RQ):

i) What are scientific publications' temporal and geographical patterns on creativity in education across ASEAN countries from 2000 to 2024? (RQ1)
ii) Who are the leading authors, institutions, and journals advancing creativity in education research in ASEAN? (RQ2)
iii) How have the thematic focuses of creativity in education research among ASEAN scholars evolved over time? (RQ3)

The research findings will provide valuable insights for educators, researchers, and policymakers seeking to enhance creativity in education across diverse ASEAN contexts. Furthermore, it contributes to a broader understanding of how creativity can be effectively fostered in educational settings, offering practical and theoretical implications for global education research.

2. RESEARCH METHOD

This study applied bibliometric review protocols to analyze research trends in creativity in education across ASEAN countries. This method excels in analyzing large research datasets to measure and evaluate the impact of scientific publications [25]. With its flexibility and high precision, bibliometric analysis has been widely used in research within the field of social sciences, especially in education [26].

Data were sourced from the Scopus database, chosen for its broad coverage of peer-reviewed literature [27], [28]. To ensure thorough results, we constructed a search query that combined three key elements: creativity-related terms, ASEAN country affiliations, and education-related terms. On November 14th, 2024, we employed the following search string to retrieve data from the Scopus database: *(TITLE (("creativity" OR "creative thinking*" OR "divergent thinking*")) AND AFFILCOUNTRY (("Viet Nam" OR Vietnam OR Thailand OR Singapore OR Malaysia OR Indonesia OR Myanmar OR Burma OR Philippines OR Laos OR Brunei OR Cambodia OR Timor)) AND TITLE ((educat* OR teach* OR learn* OR school* OR classroom* OR curriculum* OR training)))*.

This search strategy initially came up with 972 documents. Following preferred reporting items for systematic reviews and meta-analyses (PRISMA) flow diagram detailing steps to verify relevance and the completeness of bibliometric data, a final dataset of 453 articles was confirmed for analysis, as shown in Figure 1. This dataset, comprising the bibliographic records of the 453 articles, has been made publicly available [29].

In this study, data analysis utilized a combination of the R Biblioshiny and VOSviewer software packages to harness their complementary capabilities [30], [31]. Biblioshiny facilitated a broad bibliometric analysis, allowing detailed examination of temporal trends, productivity metrics, and impact indicators [30], [32]. Meanwhile, VOSviewer 1.6.18 was employed for network visualization and clustering, particularly useful for mapping collaboration networks and patterns of keyword co-occurrence [33], [34].

The analytical framework of this study guided by established methodologies [25]. Key areas of analysis included publication trends, country-level productivity, and patterns of international collaboration. Author impact was assessed through metrics such as h-index and citation counts, while journal influence indicators highlighted prominent publishing venues in the field [25], [35]. To capture thematic development,

research themes were identified through a co-word analysis of author keywords with a minimum occurrence threshold of five, ensuring significance in identified trends [33], [35]. Additionally, a time-slice analysis mapped the evolution of these themes across the years revealing shifts in research focus and emerging areas of interest over time [36], [37].

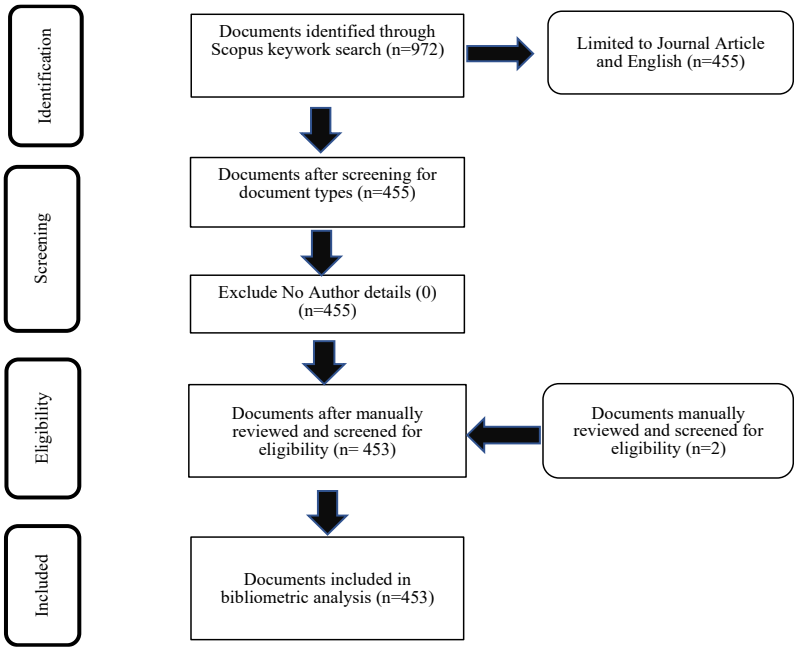

Figure 1. PRISMA flow diagram detailing steps to identify and screen [38]

3. RESULTS AND DISCUSSION

3.1. Annual growth of publications and ASEAN countries' distribution

Analysis of the dataset of 453 articles, as shown in Figure 2, indicates a substantial rise in scientific publications on creativity in education across ASEAN countries from 2000 to 2024. Initial research activity was modest between 2000 and 2015, with an annual average of 12.3 articles. A marked acceleration began after 2016, with the number of articles rising from 24 in 2016 to 85 by 2020. This upward trajectory peaked in 2022 with 112 articles, a 366% increase compared to 2016.

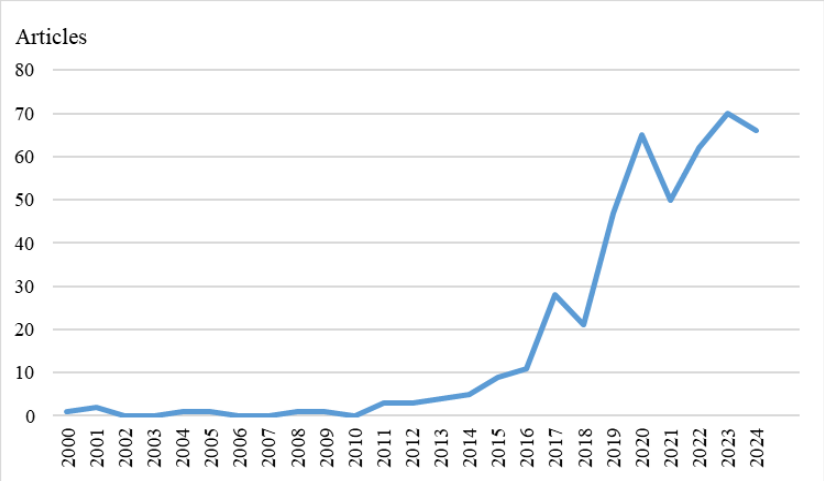

Figure 2. Number of articles on creativity in education over time (2000-2024)

In contrast to the early global emergence of creativity in education research, which found initial studies dating back to 1975 [3], [24], Southeast Asia's engagement in this field has been comparatively delayed. In ASEAN countries, research on creativity in education only began to appear regularly around 2000, underscoring a slower development of both research communities and foundational knowledge compared to other regions. This lag likely reflects a combination of limited research resources and a historically lower prioritization of creativity within educational policies. Only in recent years, as ASEAN countries have increasingly recognized the importance of creative thinking in the context of global integration, has creativity research in educational contexts started to gain traction regionally [39].

As shown in Table 1, publication distribution across ASEAN countries reveals significant disparities in both research output and impact within the field of creativity education. Indonesia stands out as the leading contributor, with 299 articles that make up roughly 65% of ASEAN's total research output in this area. Following Indonesia, Malaysia, and Thailand contributed 86 and 49 articles, respectively. Singapore, while producing fewer studies (23), exhibits a high impact, evidenced by 704 citations, indicating that Singaporean research in this field is distinguished more by its quality and influence than by volume. Meanwhile, Vietnam shows emerging participation with 12 articles and 67 citations, and the Philippines and Brunei have limited engagement, with 5 and 4 articles, respectively. Notably, this research topic focuses solely on seven countries within the ASEAN region, while some other countries are entirely absent from the field of creativity in education research.

Research collaboration patterns, reflected by the total link strength metric, further highlight regional dynamics. Malaysia (link strength of 41) and Indonesia (38) demonstrate the strongest collaborative networks, followed by Thailand (16), suggesting these countries are more integrated into international research communities in creativity education. In contrast, Vietnam (9), the Philippines (4), and Brunei (3) show comparatively lower link strengths, pointing to more isolated research efforts with limited international collaboration.

It can be argued that, despite being conducted on different datasets and having a narrower scope compared to Şahin *et al.* [24] study, these findings are consistent with the conclusions when highlighting the significant contributions of Indonesians to research on creativity in the context of education. In contrast with other study [3], this finding reveals that contributions from Indonesian scholars to publications on this topic are more outstanding than those from Singaporean scholars. Besides, the concentration of publications in Indonesia, Malaysia, and Thailand (as evidenced by analysis of 453 articles) suggests limited representation from other ASEAN countries. This imbalance overlooks unique cultural and educational perspectives that enrich our understanding of creativity development across diverse contexts [23], [40]–[42]. Enhanced cross-national collaboration could address this gap, particularly through comparative studies that examine how different educational policies and cultural factors influence creative development across ASEAN countries.

Table 1. ASEAN countries' distribution of articles on creativity in education

Country	Number of articles	Citations	Total link strength
Indonesia	299	2531	38
Malaysia	86	729	41
Thailand	49	254	16
Singapore	23	704	13
Vietnam	12	67	9
Philippines	5	10	4
Brunei	4	45	3

3.2. Most influential authors and publications

A total of 1,389 authors were involved in publishing the 453 articles analyzed in this study's dataset. Table 2 reveals a strong concentration of scholarly influence among Indonesian researchers in creativity education, with the top five contributors all affiliated with Indonesian institutions. Notably, each began publishing in 2017, suggesting a coordinated rise in research activity, possibly spurred by institutional or policy shifts.

Table 2. Top five contributing authors

Author	Scopus h index	Total citations	Number of articles	Publication year start	Country
Zubaidah, S.	5	124	7	2017	Indonesia
Widodo, W.	4	97	4	2020	Indonesia
Wibowo, A.	4	86	5	2017	Indonesia
Wicaksono, I.	4	50	3	2017	Indonesia
Corebima, Ad.	3	157	3	2017	Indonesia

As shown in Table 2, Zubaidah leads in impact, achieving an h-index of 5 with 124 citations across 7 articles, indicating significant recognition for a focused body of work. While Widodo and Wibowo follow, each with an h-index of 4, though with varying citation patterns: Widodo has 97 citations from 4 articles, while Wibowo has 86 across 5. Remarkably, Corebima, with only 3 articles, holds the highest citation count at 157, underscoring the influence of his individual works. The temporal analysis shows that all top contributors began publishing in this field from 2017 onward, suggesting a coordinated surge in researching creativity in education within Indonesian institutions. This timing coincides with significant educational policy reforms in Indonesia emphasizing creative thinking and innovation in curriculum development.

Table 3 illustrates the five most influential articles, highlighting critical patterns in citation impact and theoretical contributions to creativity in education research across ASEAN. Through a detailed examination of bibliometric indicators and content, these works have substantially shaped the field's trajectory within the region. Sitorus and Masrayati study [19] on the stages of creative thinking in mathematics education stands out as the most locally influential, receiving 13 local citations (LC) and a local-to-global citation ratio of 19.12%. Its impact stems from the identification of five stages of creative thinking within the framework of realistic mathematics education (RME): orientation, preparation, incubation, illumination, and verification. This model offers nuanced insights into how students construct mathematical knowledge, effectively linking theoretical perspectives with classroom practice and offering actionable guidance for educators.

In contrast, Soh's work [4], which examines how teacher behaviors foster student creativity, received 8 LC and achieved the highest global reach with 115 citations. This broad influence is likely a result of Soh [4] development of nine critical conditions that encourage creativity such as autonomy, integration, and delayed judgment along with the introduction of the Creativity Fostering Teacher Behavior Index (CFTIndex), a tool now widely used to measure creativity-supportive teacher behaviors. Similarly, Rahardjanto *et al.* [43] received 8 LC and 54 global citations (GC) for their research on hybrid-project based learning (hybrid-PjBL), an innovative blend of project-based and cooperative learning. Their experimental results demonstrated the significant benefits of this hybrid approach in improving preservice teachers' learning outcomes, creativity, and motivation, with effect sizes surpassing those of traditional teaching methods. This evidence positions hybrid-PjBL as a promising strategy for enhancing educational practices.

Siswono [44] influential study, with 7 local and 70 GC, developed a framework for assessing creative thinking in mathematics, ranging from "very creative" (level 4) to "not creative" (level 0). This framework has become a benchmark for evaluating mathematical creativity in classrooms, particularly in the ASEAN context, providing educators with a straightforward, systematic method for fostering creativity in their students. Meanwhile, Chin and Siew [20] explore the effects of problem-based learning on preschoolers' scientific creativity. Their work boasts the highest local-to-global citation ratio (29.17%), indicating its strong regional impact. Through a quasi-experimental design, the study demonstrated significant improvements in creative attributes like fluency, originality, and elaboration among preschoolers, emphasizing the efficacy of problem-based learning for young learners.

Table 3. Top five most cited articles based on local citations

Article	Author (year)	LC	GC	LC/GC ratio (%)
[19]	Sitorus and Masrayati (2016)	13	68	19.12
[4]	Soh (2017)	8	115	6.96
[43]	Rahardjanto *et al.* (2019)	8	54	14.81
[44]	Siswono (2011)	7	70	10.00
[18]	Siew *et al.* (2015)	7	24	29.17

These works reflected a clear progression from theoretical frameworks to practical pedagogical strategies, with a marked focus on mathematics and science education. This alignment with broader educational reforms in ASEAN [45], [46] highlights the regional significance of the research. Collectively, these studies have contributed to: i) the development of validated methodological frameworks; ii) the implementation of empirically supported pedagogical approaches; iii) the creation of context-specific assessment tools; iv) the establishment of evidence-based teaching strategies; and v) the clarification of operational definitions for creativity. The variation in local-to-global citation ratios sheds light on these studies' diverse influences on academic communities. Some resonate widely across the globe, while others hold particular relevance in the ASEAN region, likely due to their focus on region-specific educational challenges. This balance between local and global impact reflects the dynamic development of studies on creativity in education within ASEAN, integrating regionally pertinent studies with internationally recognized contributions. Moreover, the predominance of research on practical classroom strategies underscores ASEAN's commitment to translating theory into actionable teaching methods. By prioritizing

evidence-based approaches, these studies provide a robust foundation for advancing creativity education, ensuring that both theoretical insights and practical applications continue to shape future pedagogical innovations in the region.

As shown in Table 4, educational research on creativity in ASEAN countries reveals a strategically varied publication landscape, encompassing both international and regional journals. The International Journal of Instruction stands out as a critical publication venue, boasting an h-index of 12 with 585 citations across 28 articles since 2017. Although not ranked by Scopus, its ESCI indexing and substantial citation count underscore its role in disseminating influential pedagogical innovations within the field.

Table 4. Top five influential journals

Journal	Scopus rank (2023)	WoS rank (2023)	Scopus h index	Total citations	Number of articles	Publication year start
International Journal of Instruction	-	ESCI	12	585	28	2017
Thinking Skills and Creativity	Q1	SSCI	7	296	11	2016
Indonesian Journal of Science Education	Q3	-	7	246	18	2015
Journal of Baltic Science Education	Q2	SSCI	7	180	8	2015
European Journal of Educational Research	Q2	-	6	167	11	2020
International Journal of Emerging Technologies in Learning	Q2	-	5	135	8	2019

High-impact international journals like Thinking Skills and Creativity (Scopus Q1, SSCI) and the Journal of Baltic Science Education (Scopus Q2, SSCI) further amplify the reach of ASEAN research. With h-indices of 7 and citation counts of 180 and 296, respectively, these journals illustrate the high visibility and influence of ASEAN research on the global stage. The Q1 ranking of Thinking Skills and Creativity, in particular, demonstrates the field's capacity to engage with leading creativity research platforms, emphasizing ASEAN's contribution to global discourse.

Regionally, Indonesian Journal of Science Education (Scopus Q3) plays a significant role, amassing 246 citations across 18 articles, which underscores its value in addressing issues directly relevant to ASEAN contexts. The European Journal of Educational Research (Scopus Q2) also ranks among the top five, with 167 citations from 11 articles since 2020, reflecting a growing international interest in ASEAN creativity research. This publication landscape mirrors a well-developed research field that maintains a foothold in high-impact international venues while ensuring regional relevance through local journals.

3.3. Research themes and evolution of topics over time

Co-occurrence analysis examines the simultaneous appearance of paired elements within academic texts, such as keywords, authors, or citations, revealing underlying intellectual structures and thematic patterns in scientific fields [33]. This analytical technique generates network maps and clusters that illuminate relationships between research concepts, helping researchers identify core themes, emerging topics, and potential areas for cross-disciplinary collaboration [47]. The frequency of co-occurring terms provides quantitative evidence of conceptual associations, enabling researchers to map the cognitive structure of academic disciplines and track their evolution over time [48]. Figure 3 shows a map of 47 frequently occurring author keywords analyzed from a dataset of 453 journal articles on creativity and education research in ASEAN countries. The map reveals five clusters, offering a specialized and interconnected view of the field's evolution. Each cluster is color-coded to facilitate understanding of thematic distinctions and interrelationships.

The visualized co-occurrences reveals that research on education and creativity by Southeast Asian scholars spans a wide range of educational levels, reflecting a comprehensive and diverse approach. A significant emphasis is placed on science, technology, engineering, and mathematics (STEM) education and scientific creativity education, which emerge as central themes in the network. Keywords such as "STEM education," "scientific creative learning," and "engineering education" are closely linked to methodologies like "problem-based learning," "project-based learning," and "design thinking." This indicates a strong focus on innovative teaching strategies aimed at fostering creativity and critical thinking.

Cluster 1 (creative thinking and project-based approaches/red) centers on pedagogical innovations, featuring keywords such as "project-based learning," "problem-based learning," "STEM education," and "design thinking." The strong interconnections among these terms reflect a cohesive framework for fostering creativity through active learning methodologies. The prominence of STEM-related terms suggests growing recognition of creativity's role in scientific and technical education, particularly relevant to ASEAN's economic development goals.

Cluster 2 (foundational creativity and critical thinking/green) anchored by "creativity" and "critical thinking," this cluster emphasizes the fundamental cognitive aspects of creative development. The co-occurrence of "Scientific creativity" with core creativity concepts indicates increasing attention to domain-specific creative development, particularly in science education. This pattern reflects ASEAN educators' efforts to integrate creative thinking within specific subject areas while maintaining connections to broader creativity principles.

Cluster 3 (learning systems and educational computing/blue), featuring terms like "learning systems" and "educational computing," demonstrates the growing role of digital tools in creative education. The strong connections between this cluster and both pedagogical (red) and cognitive (green) clusters suggest that technology serves as a bridge between theoretical understanding and practical implementation of creativity education. This integration highlights the growing importance of digital literacy and computational thinking as integral components of modern creative education within the ASEAN context.

Cluster 4 (human factors and research methods/yellow) centered on "human" and research methodology terms, this cluster reveals increasing methodological sophistication in ASEAN creativity research. The emphasis on empirical approaches suggests a maturing field moving beyond theoretical discussions to evidence-based investigations. This methodological focus strengthens the field's scientific foundations while maintaining relevance to human development aspects.

Cluster 5 (professional development and motivation/purple) with keywords including "higher education," "motivation," and "teacher creativity", highlighting the importance of educator development and motivational factors. The cluster's connections to other themes demonstrate recognition that effective education for creativity requires well-prepared teachers and supportive institutional environments. Understanding these factors is crucial for designing effective teacher training programs and policies aimed at cultivating creativity systemically across educational levels in the ASEAN.

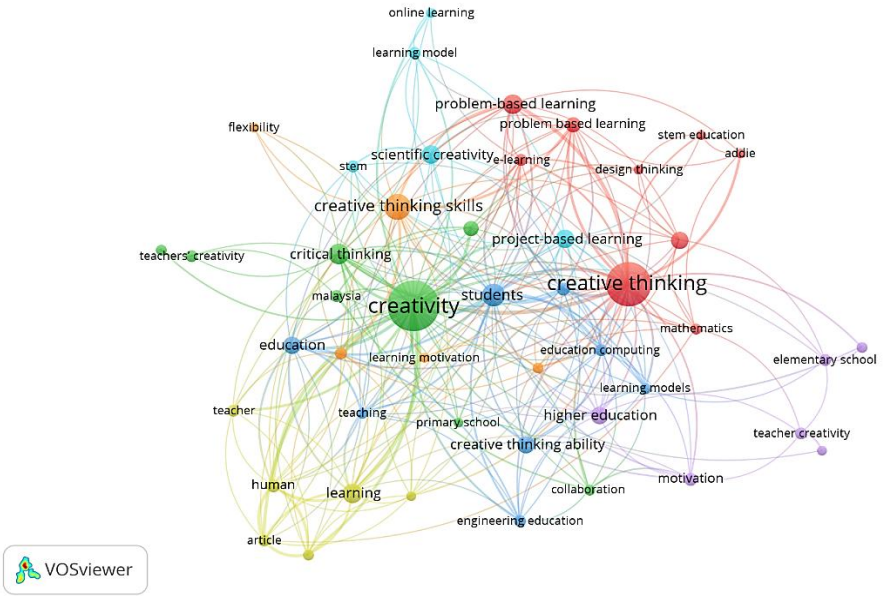

Figure 3. Mapping of 47 author keywords appearing at least five times

Several key terms connect the clusters, highlighting the field's interconnectivity: i) "learning" bridges technology frameworks and human-centric methodologies, linking the blue and yellow clusters; ii) "education" connects cognitive skills and critical thinking with technological applications, linking the green and blue clusters; and iii) "students" occupies a central position, linking all clusters and emphasizing the student-centered focus of creativity research. These findings both align with and differ from previous bibliometric studies in the field. While Hernández-Torrano and Ibrayeva [3] found a global trend toward organizational approaches, our ASEAN-focused analysis reveals a stronger emphasis on STEM integration and practical pedagogical applications. Similarly, where Şahin *et al.* [24] identified art-focused themes as central topics globally, ASEAN research demonstrates a distinctive focus on technology integration and scientific creativity, reflecting regional priorities in economic and educational development.

Visualized through a Sankey diagram, the temporal network analysis of creativity research in education reveals significant evolutionary patterns in research focus from 2000–2021 to 2022–2025, as shown in Figure 4. This technique grounded in Lupton and Allwood [49] framework, facilitates the identification of complex transitional patterns and interconnections within the research landscape. The visualization effectively captures both the persistence of foundational concepts and the emergence of new research trajectories, providing insights into the field's theoretical development and practical applications.

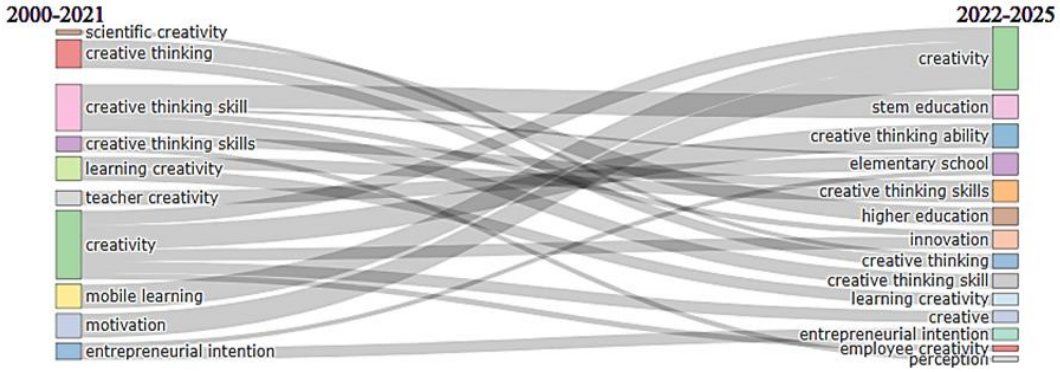

Figure 4. Sanky diagram of the evolution of research topics over time

Our analysis highlights several significant patterns in the evolution of creativity research. First, there is a notable persistence of fundamental creativity constructs across both temporal periods, with terms such as "creativity" and "creative thinking skills" maintaining their centrality. However, this continuity is accompanied by a meaningful transformation in conceptual scope: earlier specific terminology like "scientific creativity" has evolved into broader constructs such as "creative thinking ability" and "higher education." This shift reflects the field's expansion beyond narrow disciplinary boundaries toward a more comprehensive understanding of creativity across diverse educational contexts.

The emergence of STEM education as a dominant theme in the 2022–2025 period represents a significant development in the field. This trend, as Mezinska *et al.* [50] noted, indicates increasing recognition of creativity's role in technology-driven disciplines. The integration of STEM and creativity research aligns with broader economic trends toward knowledge-based economies, as highlighted by Abdulwahed and Hasna [51]. This evolution necessitates further investigation into the impact of various technological tools on creative development across educational levels.

Professional development and motivational factors demonstrate sophisticated evolution in their conceptualization. The transition from specific terms like "teacher creativity" and "motivation" to broader constructs such as "higher education" and "employee creativity" reflects an enhanced understanding of the relationship between professional growth and creative facilitation. This development aligns with Soh [4] framework, emphasizing the crucial role of motivated educators in fostering creative learning environments, further supported by Cayirdag [52] study on creative self-efficacy.

The analysis also reveals sustained interest in domain-specific creativity and entrepreneurial intention across both periods. The persistence of entrepreneurship-related keywords, coupled with the emergence of terms like "innovation" and "perception," suggests an expanding conceptual framework that bridges academic and commercial applications. This evolution reflects the field's responsiveness to changing societal needs and economic imperatives [7], [13]. Additionally, a notable transition is observed in the conceptualization of digital learning. The disappearance of specific technological references like "mobile learning" in favor of broader learning paradigms suggests the mainstreaming of digital tools in educational practices. This shift emphasizes comprehensive approaches to learning creativity that transcend specific technological platforms [53], [54].

These findings both complement and extend previous research, particularly Hernández-Torrano and Ibrayeva [3] analysis of global trends in creativity and education research. While their study identified early organizational and school context orientations, our analysis reveals more nuanced contemporary developments. Key differences include enhanced emphasis on technological integration, broader conceptualization of professional development, and expanded understanding of entrepreneurial creativity.

The temporal network analysis suggests several promising directions for future research. These include investigating technology-enhanced creativity development across educational levels, examining

effective pedagogical strategies for creativity facilitation, analyzing creativity's role in entrepreneurial education within specific cultural contexts, and exploring digital tool integration in creative learning processes. Additionally, the evolution of research focus indicates the need for continued investigation into the intersection of creativity with emerging educational paradigms and technological innovations.

This analysis contributes to our understanding of the evolving landscape of creativity research in education while highlighting areas requiring further scholarly attention. The observed transitions reflect both theoretical maturation in the field and responsiveness to emerging educational and societal needs. Future research should continue to explore these evolving dynamics while maintaining rigorous methodological approaches to understanding creativity in educational contexts. The findings emphasize the dynamic nature of creativity research in education and its continuous adaptation to changing educational landscapes. This evolution suggests the need for ongoing theoretical development and practical application in fostering creativity across various educational contexts. As the field continues to develop, maintaining this balance between theoretical advancement and practical application will be crucial for its continued relevance and effectiveness in supporting educational innovation and student development.

4. CONCLUSION

This bibliometric study examined creativity in educational research across ASEAN from 2000 to 2024, analyzing 453 scientific articles from the Scopus database to reveal significant patterns in research evolution and impact. The analysis shows a marked acceleration in research productivity after 2016, with Indonesian scholars (65% number of articles), particularly Zubaidah and Corebima, emerging as influential contributors through high-impact publications in venues such as "Thinking Skills and Creativity" and the "International Journal of Instruction". The field has shifted from theoretical frameworks to practical applications, with a focus on STEM education, digital learning, teacher professional development, and cross-cultural dimensions. Despite these advances, challenges such as limited cross-national collaboration, inconsistent methodologies in assessing creativity, and a lack of longitudinal studies on intervention impacts remain evident. The findings highlight the importance of regional cooperation, standardized tools, and culturally responsive approaches to creativity education. Future research should develop reliable measurement instruments, conduct comparative cross-cultural studies, and explore the long-term effects of creativity-fostering interventions while expanding international research networks to enhance global influence. Additionally, future bibliometric research could benefit from: i) including additional databases and non-English publications to provide a more comprehensive view of ASEAN creativity research; ii) employing advanced bibliometric techniques to analyze cross-national collaboration patterns; and iii) conducting comparative bibliometric analyses between ASEAN and other regions to identify unique regional characteristics in creativity education research.

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AUTHOR CONTRIBUTIONS STATEMENT

This journal uses the Contributor Roles Taxonomy (CRediT) to recognize individual author contributions, reduce authorship disputes, and facilitate collaboration.

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Tuan-Vinh Nguyen	✓			✓			✓	✓	✓	✓		✓	✓	
Viet-Nhi Tran	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓

C : **C**onceptualization
M : **M**ethodology
So : **So**ftware
Va : **Va**lidation
Fo : **Fo**rmal analysis
I : **I**nvestigation
R : **R**esources
D : **D**ata Curation
O : Writing - **O**riginal Draft
E : Writing - Review & **E**diting
Vi : **Vi**sualization
Su : **Su**pervision
P : **P**roject administration
Fu : **Fu**nding acquisition

CONFLICT OF INTEREST STATEMENT

Authors state no conflict of interest.

INFORMED CONSENT

Not applicable. This study is a bibliometric analysis of published literature and did not involve human participants requiring informed consent.

ETHICAL APPROVAL

Not applicable. This study is a bibliometric analysis of published literature and did not involve human or animal subjects requiring ethical approval.

DATA AVAILABILITY

The data that support the findings of this study are openly available in Mendeley Data at http://doi.org/10.17632/dmvd7tzjrv.1, reference number dmvd7tzjrv.1. This dataset is titled "Bibliometric dataset on creativity in education research in ASEAN countries (2000-2024)."

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BIOGRAPHIES OF AUTHORS

Tuan-Vinh Nguyen is a Ph.D. in Psychology and Education and serves as a university lecturer as well as the Dean of the Faculty of Preschool Education at the University of Education, Hue University, Vietnam. With expertise in psychology and education, he has actively contributed to numerous projects focused on early childhood education and the professional growth of preschool teachers in Vietnam. His current research interests include social-emotional learning, learner well-being, and fostering a positive school environment within preschool settings. He can be contacted via email at: ntvinh@hueuni.edu.vn.

Viet-Nhi Tran is a lecturer at the Faculty of Preschool Education, University of Education, Hue University, Vietnam. He holds a Master's degree in Early Childhood Education and is currently a Ph.D. candidate specializing in Early Childhood Education at Hanoi University of Education, Vietnam. His research interests include science and social education in the early years, early STEAM education, the application of technology in early childhood education, play-based learning in early childhood, and the professional development of preschool teachers. He can be contacted via email at email: tranvietnhi@hueuni.edu.vn.