

Scientific Mapping and Network Analysis of Scholarly Works on Short Videos in Education

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Abstract

This study employs bibliometric analysis to examine research trends and emerging themes using short videos in education. Using 238 records from the Dimensions database, the investigation identifies and describes publication trends, highly cited works, leading journals, most cited authors, active countries, and country collaborations. Results indicate a consistent increase in publications, though citation trends have fluctuated. The most cited study, Glance and colleagues, explores the pedagogical foundations of massive open online courses, while *CBE-Life Sciences Education* is the most cited journal. Most cited scholars include D. G. Glance, M. Forsey, M. Riley, E. A. van Vliet, N. Brouwer, and J. C. Winnips, with the United States leading in short video research and international collaborations. Co-citation analysis highlights *Computers & Education* as a frequently cited source and the publications from *Frontiers in Psychology*, *Interactive Learning Environments*, and *Education and Information Technology*. Moreover, bibliographic coupling reveals a close connection between publication on short videos and suggests a strong shared intellectual content. Four themes emerge from short video publications: (1) addressing educational needs through digital learning innovations, (2) technology integration in teaching and learning in higher education, (3) short videos in post-pandemic education: opportunities and challenges, and (4) social media as a learning tool: the impact of platforms on student engagement and academic performance. Overall, this study offers valuable insights into publication trends on short videos and provides practical recommendations for future research and practice.

Keywords: network analysis, research themes, scientific mapping, short videos

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Introduction

Technology provides essential tools for teaching and learning. Specifically, learners can easily access information using the internet, and utilizing technology enables students to conduct research and watch tutorial videos to enhance their understanding of the subject. Granić (2022) also reported several factors in adopting technology in education, including self-efficacy, perceived enjoyment, and several facilitating conditions. Social media, e-learning, and learning management systems are some common delivery modes of education technology. Meanwhile, other technologies such as artificial intelligence, mobile learning applications, and video platforms have been used in education to enhance learning outcomes (Abbas & Qassim, 2020; Demir & Akpınar, 2018; Wang et al., 2024). On the other hand, using video as an instructional tool has the potential to enhance teaching and learning experiences. Notably, Evangelou (2023) reports that video can engage students, enhance learning, and simplify complex or abstract concepts. Additionally, videos can cater to different learning styles, making education more accessible and interactive. Despite these benefits, several challenges were also identified, including the low quality of instructional materials, the additional time required for teachers to search for and prepare videos, limited pedagogical skills in effectively integrating videos into lessons, and various technological constraints.

Additionally, Brame (2016) asserts that educational video is essential in classroom content delivery. Notably, Brame describes that this material becomes effective when the teacher considers various factors such as Cognitive Load Theory (CLT), engagement of students, and active learning. Cognitive Load Theory (CLT) emphasizes the limitations of working memory; therefore, selecting appropriate material is required to maximize learning. This is why some instructional developers have shifted to creating short videos to engage students better and offer collaborative learning. Another practical approach is segmenting information, a strategy closely linked to microlearning and nanolearning, which breaks content into manageable, focused units for improved comprehension and retention (Yousef et al., 2023). On the other hand, Zhang (2020) explains that short video platforms have several purposes, such as business promotion, income generation, personal consumption, entertainment, and education. Lastly, another strategy that can be implemented when using short videos is incorporating questions within the material. This approach serves as a knowledge check, helping students assess their understanding of the content they are watching.

Moreover, Yi (2024) examined the impact of short videos on elementary students and found that WeChat's Video Accounts effectively improved their English reading abilities. Yi further explained that the format of short videos is well-suited to the present time, as it delivers information instantly and is easily absorbed by the students. Additionally, the combination of visuals and audio caters to diverse learning styles, enhancing engagement, comprehension, and interest. On the other hand, Caldeiro-Pedreira and Yot-Domínguez (2023) perform a systematic review on using TikTok in education, highlighting its impact on student motivation and learning. Their study emphasizes the role of TikTok in developing digital skills and promoting responsible usage in the classroom. Likewise, Jah et al. (2024) describe several studies from Scopus and Web of Science and report that TikTok has been used to enhance students' communication skills. Their findings highlight the platform's significance as an instructional tool in English language classrooms.

Meanwhile, Setyawan et al. (2024) investigate the effectiveness of YouTube Shorts in enhancing high school students' listening skills. The findings suggest that using YouTube Shorts significantly improved students' comprehension by providing concise and engaging learning materials. Despite studies highlighting the benefits of short videos, Gong and Tao (2024) argue that increased short video usage among elementary students negatively impacts academic performance, with attention as a mediating factor. Additionally, greater parental short video use worsens this effect. Their findings offer valuable insights for parents, teachers, and platforms in developing more effective educational strategies. Additionally, Xie et al. (2023) examined the drawbacks of short video usage through mediation and moderation analysis. Their findings reveal that short-form video

addiction in undergraduate students directly increased academic procrastination and indirectly influenced it via attentional control. Overall, the study offered valuable insights into the adverse effects of short-form video addiction and its contributing factors.

Building on previous studies, understanding key trends in short video usage is essential for teachers, students, and academic stakeholders in making informed decisions about its use in education. Therefore, this study examines both previous and present research by conducting a scientific mapping and network analysis of literature related to implementing short videos in education. This study would also provide essential data that will direct future scholarly works. The following research objectives are provided to guide the investigation.

1. Determine the publication-related data of the included studies in terms of:
 - a. publication frequency and citations per year
 - b. most cited publications
 - c. most cited journals
 - d. most cited authors
 - e. most active countries and collaboration
2. Describe the network visualizations of co-citation analysis based on cited sources and bibliographic coupling of documents.
3. Describe the research themes manifested in the network and overlay visualizations of title and abstract data on using short videos in education.

Methodology

This investigation employed bibliometric analysis to examine research trends and themes related to short video publications. Bibliometric analysis is a specialized category of systematic literature review (SLR) that identifies patterns in producing or publishing scholarly works (Hallinger & Kovačević, 2023). However, unlike traditional SLRs, this study does not focus on synthesizing findings from individual studies. Instead, it utilizes various quantitative tools such as Bibliometrics, VOSviewer, CiteSpace, and Gephi to analyze bibliographic data from diverse documents retrieved from databases including Scopus, Web of Science, Dimensions, and Lens. The procedure of Donthu et al. (2021) and Astaño (2025) in conducting bibliometric analysis was used to guide the researcher in the investigation. Firstly, the proponent defined the objectives and scope of the study. Secondly, appropriate bibliometric analysis techniques were employed. Moreover, the necessary data for the analysis was retrieved using search queries in the selected database. The researcher's criteria were applied after the identified records were exported and processed by excluding errors. Then, the bibliometric analysis using the selected quantitative software was carried out. Overall, this current research employed science mapping and network analysis through visualization.

Database

One of the key stages in bibliometric analysis is selecting a database. In this study, the researcher selected Dimensions as the sole data source due to its extensive collection of linked research data accessible via a web platform (Dimensions, n.d.). This database saves time by consolidating various scholarly works in a single platform. Additionally, its filtering capabilities, such as publication year, research categories, and publication type, allowed for a more refined search process. Likewise, the platform also supports data visualization, including built-in analytical views with VOSviewer. In summary, this platform is a valuable resource for accessing records and using short videos in education.

Search process and export of data for visualization

The research process for obtaining the necessary data for the bibliometric analysis followed a systematic search strategy, as outlined in Table 1. Initially, the keywords "*short videos*" AND "*education*" were used to query the title and abstract data, yielding 915 documents. The search was then refined by filtering the results to include only journal articles, reducing the dataset to 730 records by excluding book chapters, monographs, and preprints. To narrow the result further, an additional filter was applied to include only research categorized under education, which provided 308 documents. The researcher then exported the data specifically for bibliometric mapping. A manual review of individual titles and abstracts was performed to ensure data accuracy by removing duplicates and excluding non-English documents. Additionally, medical-related records were removed to maintain the focus on education. Finally, the refined dataset, with 238 records, was analyzed using VOSviewer (Version 1.6.20) to generate visualizations for bibliometric analysis.

Table 1. Systematic process used to retrieve records on the use of short videos

Search Process	Documents
Query in title and abstract: "short videos" AND "education"	915
Filtered by publication type: Article	730
Filtered by research categories: Education, Education Systems, Curriculum and Pedagogy, Language, Communication, and Culture, Creative Arts and Writing, Specialist Studies in Education	308
Manual review of title and abstract: Excluded the medical-related records; duplicates; title and abstract in other languages	238

Results and Discussion

Publication frequency and citations per year

The trend of research on short videos from late 1990 to early 2025 showed both the number of publications and their corresponding citations per year (see Figure 1). Initially, the field documented minimal activity, with publications and citations remaining low until 2010. However, a gradual increase in publications began in the following decade, accompanied by fluctuating but generally rising citation rates, indicating a growing interest in the topic. Notably, interest in publication has increased since 2020, reflecting a significant rise in research on short videos. It can also be inferred that citations on short videos peaked in 2020 but have since declined, indicating a shift in research toward more specific topics within the field. Additionally, this trend may provide insights into the proliferation of short video platforms as a key focus of the research community. This finding is consistent with the review by Putri et al. (2024), which highlighted that short video platforms, particularly TikTok, have been the primary focus of educational studies. Putri and colleagues' study examined the influence of the platform on enhancing motivation and student engagement. However, challenges persist in its use, presenting research opportunities for improving the implementation. The authors recommend continued scholarly work on the long-term impact of TikTok, the mechanisms of learning facilitated by the platform, and its integration with cultural contexts. Additionally, the growing trend of using short videos is supported by the study of Shen (2022). In China, users are not just passive viewers but also active creators of high-quality and engaging content. However, some platforms also tend to experience a decline in usage rates over time, as noted by the author. This suggests that while short videos continue to gain popularity, platform sustainability, and user engagement remain critical areas for further research.

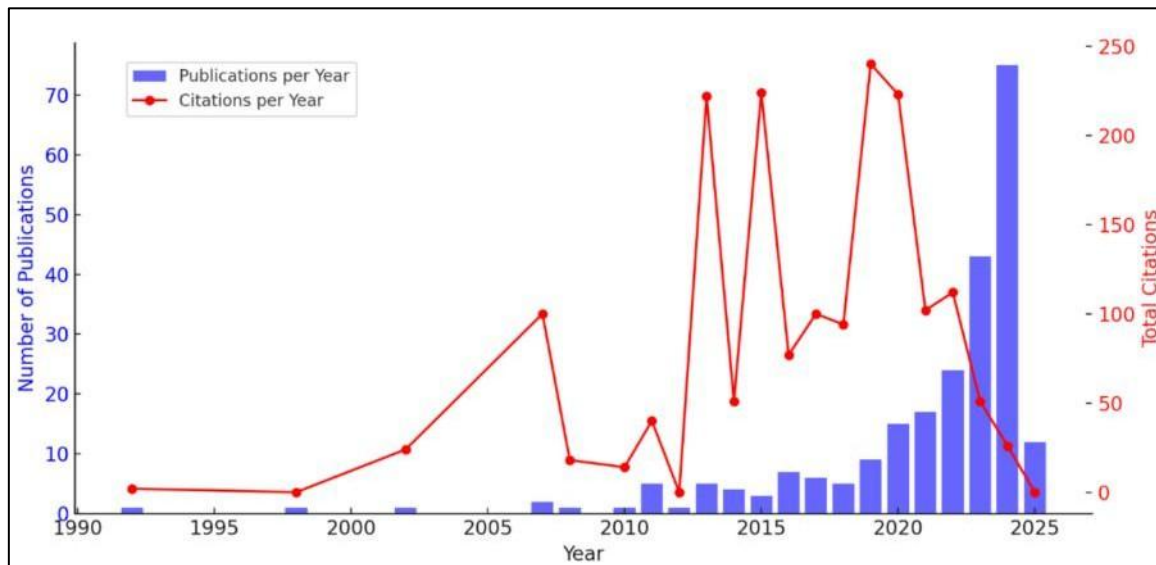


Figure 1. Publication frequency and citations per year of research on short video

Most cited publications on short videos

Table 2 presents the most cited publications on short videos and their respective citation counts. Based on the analysis, Glance et al. (2013) published the most cited study, "*The Pedagogical Foundations of Massive Open Online Courses*," with 157 citations. This study examines empirical evidence on MOOCs. It suggests that while direct research is limited, they are at least as effective as traditional face-to-face university courses and may even enhance learning outcomes in certain areas. The second most cited publication is the study of van Vliet et al. (2015), which explores the role of flipped classroom pedagogy in enhancing metacognition and collaborative learning, with 147 citations. Additionally, the study of Afify (2020) has 87 citations, the inquiry focused on the impact of interactive video length on cognitive load, achievement, and retention. Lastly, the studies by Akbulut (2007) and de Jong et al. (2019) have also been cited 80 and 68 times, respectively.

Table 2. Most cited publications on short videos

Author/s	Studies	Citations
Glance et al. (2013)	The pedagogical foundations of massive open online courses	157
van Vliet et al. (2015)	Flipped-class pedagogy enhances student metacognition and collaborative learning strategies in higher education but effect does not persist	147
Afify (2020)	Effect of interactive video length within e-learning environments on cognitive load, cognitive achievement, and retention of learning	87
Akbulut (2007)	Effects of multimedia annotations on incidental vocabulary learning and reading comprehension of advanced learners of English as a foreign language	80
de Jong et al. (2019)	Twelve tips for integrating massive open online course content into classroom teaching	68

Most cited journals

Table 3 highlights the most cited journals publishing research on short videos, providing insight into their influence on the academic community. CBE-Life Sciences Education leads with 170 citations from just two articles, reflecting its substantial impact. Likewise, First Monday has a single publication with 157 citations, demonstrating its reach within the academic community. Moreover, Instructional Science has 137 citations from two publications, emphasizing the role of short videos in education. While journals like the Turkish Online Journal of Distance Education and the Journal of Veterinary Medical Education have fewer citations, they still contribute to the growing body of research, showcasing the diverse applications of short videos across disciplines. Additionally, the data highlights the quality of scholarly works in these journals through their H-index and Scimago Journal Rank (SJR), with all the journals being within the Quartile 1 (Q1) or Quartile 2 (Q2) and having high H-indices. These findings emphasize the increasing academic interest in short videos and their impact across various fields.

Table 3. Most cited journals on short videos

Journals	H-index	SJR	Publications	Citations
CBE-Life Sciences Education	90	Q1	2	170
First Monday	83	Q2	1	157
Instructional Science	89	Q1	2	137
Turkish Online Journal of Distance Education	32	Q2	1	87
Journal of Veterinary Medical Education	45	Q2	2	82

Most cited authors

Table 4 highlights the impact of authors in the field, as reflected by their citation counts. Notably, D. G. Glance, M. Forsey, and M. Riley, affiliated with the University of Western Australia, co-authored one of the most cited publications focusing on the pedagogical foundations of massive open online courses (MOOCs). Similarly, E. A. van Vliet, N. Brouwer, and J. C. Winnips contributed to research on flipped-class pedagogy, with their publication receiving 147 citations. The authors were affiliated with the University of Groningen, Academic Medical Center, and the University of Amsterdam. Additionally, the two studies were published in 2013 and 2015. The citation counts indicate that these authors have played a significant role in shaping research on short videos, providing insights into their educational applications and impact.

Table 4. Most cited authors on short videos

Author/s	Affiliation	Citations
D. G. Glance	University of Western Australia	157
M. Forsey	University of Western Australia	157
M. Riley	University of Western Australia	157
E. A. van Vliet	University of Groningen	147
N. Brouwer	Academic Medical Center	147
J. C Winnips	University of Amsterdam	147

Most active countries and collaboration on short videos

Table 5 presents the countries that are the most active in publishing scholarly works on short videos, ranked by the number of publications. Notably, the United States is the leading country with a total number of publications of 25 and 426 citations, which suggests that the country has a strong research presence and impact in this area. Meanwhile, the United Kingdom and Australia tie for second place with 12 publications each, though the United Kingdom has slightly more citations. On the other hand, China and Indonesia have fewer publications and citations, indicating a potentially emerging or less established research output in this field. In brief, the findings highlight a preference for Western countries in short video research, with the US as a major contributor.

Table 5. Most active countries on short video publications

Country	Publications	Citations
United States	25	426
United Kingdom	12	190
Australia	12	181
China	9	49
Indonesia	8	19

Aside from analyzing the most active countries in publication, collaboration among them was also investigated. Using VOSviewer, co-authorship analysis was performed using countries as the unit of analysis, with a minimum of two (2) documents in a country. Results revealed that 10 countries had four clusters and 11 links (Figure 2). Notably, the size of the nodes represents each country. It reflects the volume of publications, with the United States showing the highest publications, consistent with the data in Table 5, indicating a significant role in the research on short videos. The color gradient, ranging from dark purple (2018) to bright yellow (2022), means the average publication year, revealing trends in research activity across these nations. The network highlights connections between collaborating countries, such as strong links between the United States and the United Kingdom, suggesting active research partnerships.

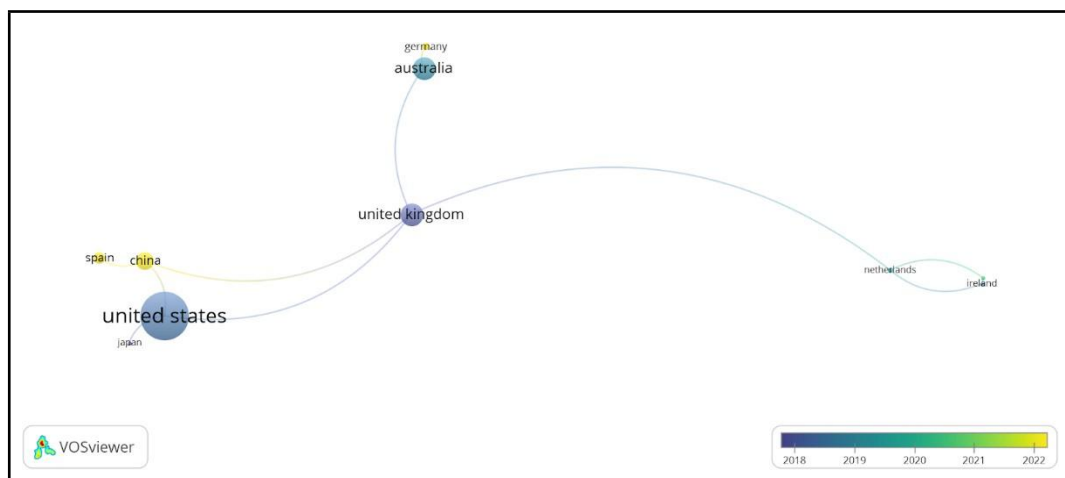


Figure 2. Overlay visualization of country collaboration in co-authorship analysis

Additionally, the positioning and clustering of countries indicate the degree of interconnectedness and thematic similarity in their research collaborations, with Spain and China

closely associated with the United States, Ireland, and the Netherlands, forming a separate cluster connected to the United Kingdom. Australia and Germany appear as distinct nodes, showing their involvement in the network while maintaining a somewhat separate position. Japan is also presented as being closely associated with the United States, indicating a collaborative research relationship. In summary, the visualization emphasized the dominance of the United States and its strong collaborative activities with the United Kingdom and Australia in short video research; other countries were also noted with varying degrees of engagement.

Co-citation analysis and bibliographic coupling

Co-citation analysis is a method used to understand the relationships between documents by analyzing how often they are cited together in other documents. Significantly, co-citation analysis helps identify related research clusters, showing how different areas of knowledge are connected. Moreover, the co-citation analysis describes the intellectual structure of scholarly works in the field and analyzes the connection among the studies to determine the development of foundational themes (Donthu et al., 2021; Rossetto et al., 2018). In this study, visualization of cited sources as the unit of analysis was performed with a minimum of 10 citations (Figure 3). The results revealed 39 items, four clusters, 562 links, and a total link strength of 5288. As presented in the visualization, the clusters illustrate the aggregation of related research. Journals highlighted in red represent publications focused on educational technology, while those in yellow and green correspond to pedagogy-related research. Meanwhile, journals in blue are primarily associated with the field of medical education. Notably, research papers from *Computers & Education* are frequently cited along with the publications from *Frontier in Psychology*, *Interactive Learning Environment*, *Education and Information Technology*, and other journals. Interestingly, *Computers & Education* has 35 links, a total link strength of 647, and 62 citations, highlighting its influence on publications on the use of short videos in education or other fields such as research in *Medical Teacher*, *BMC Medical Education*, and *Anatomical Science Education*.

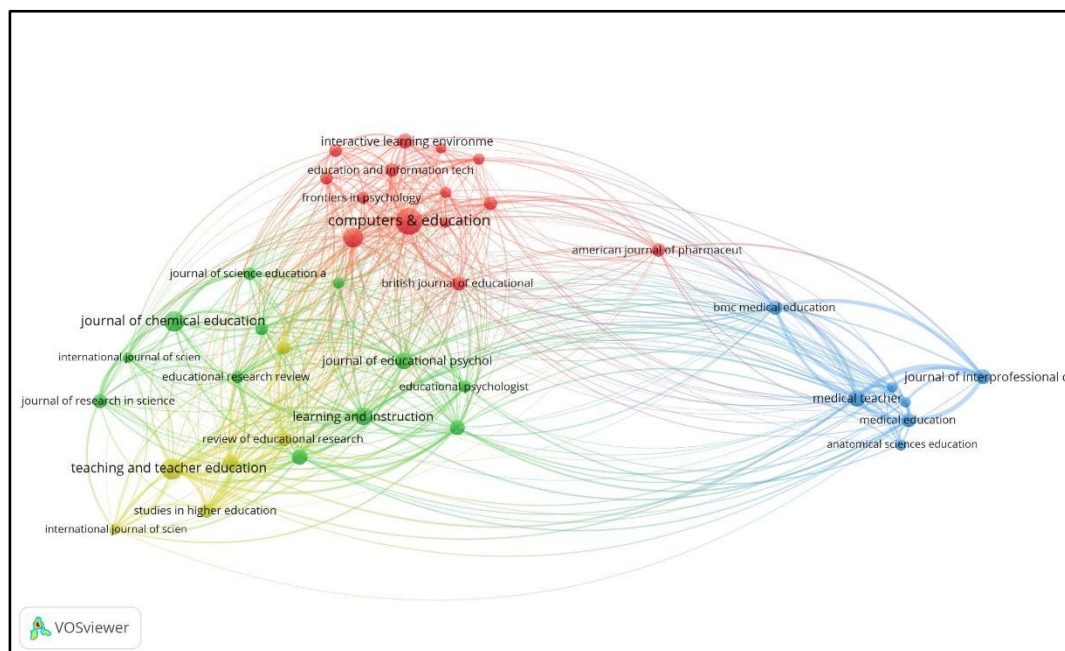


Figure 3. Co-citation analysis visualization based on cited sources

According to Pandey et al. (2024), a document is considered bibliographically coupled when cited in the reference lists of two or more other documents. This suggests they are dealing with similar topics or drawing upon a common body of knowledge. The network visualization of the

bibliographic coupling was performed using at least two (2) as the minimum number of citations of documents. The analysis yielded 23 items, seven clusters, 37 links, and a total link strength of 55 (Figure 4), demonstrating the connections between research documents. Moreover, the nodes, labeled with author and year, represent individual publications, while connecting lines indicate shared references, revealing how these scholarly works build upon common foundational literature. The network illustrates a progression from older publications like Akbulut (2007) to more recent ones such as Laparra et al. (2023) and Cherif et al. (2024), depicted by the yellow color gradient. Notably, Afify (2020) appears as a central node, bridging different clusters and signifying its role in integrating diverse related research. Meanwhile, the close connection between van Vliet (2015) and Akbulut (2007) suggests a strong shared intellectual content. Overall, the overlay visualization highlights the evolution of knowledge within the field, highlighting key publications and their relationships through shared citations.

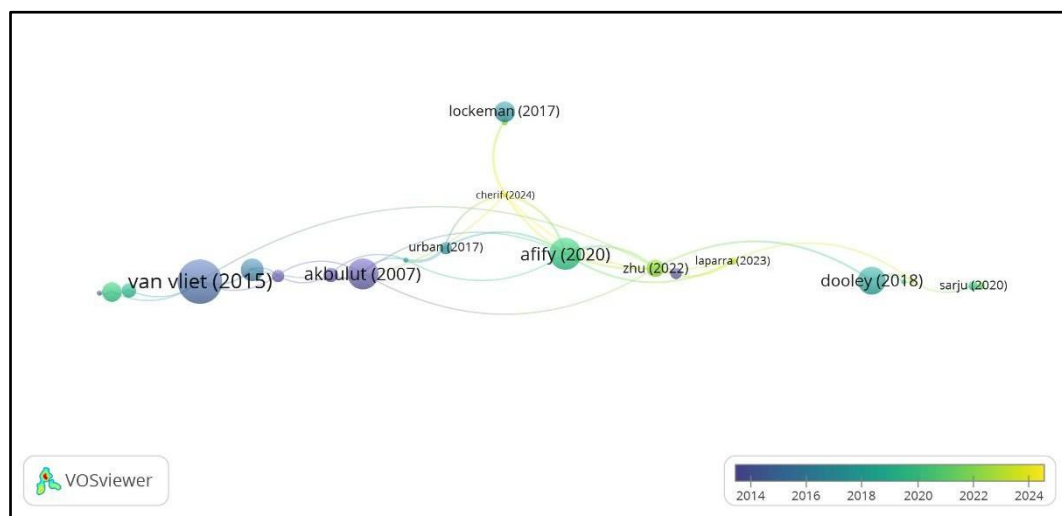


Figure 4. Bibliographic coupling of authors on short videos

Emergent research themes on short video in education

Using VOSviewer, the research themes on short videos were described by mapping frequently occurring terms in the title and abstract fields. With a minimum term co-occurrence threshold of 20, the analysis yielded 29 items, 400 links, and a total link strength of 4994, providing insights into distinct and emerging themes on using short videos in education (see Figure 5). Additionally, the resulting terms were clustered into four categories, offering distinct themes in the current research in the field. Each cluster was then interpreted and described accordingly.

1. The first cluster highlighted in red has 10 items and is arranged alphabetically: *activity, need, participant, problem, project, researcher, study, teacher, time, and year*. Noteworthy, the dominant term in this cluster is “study,” with 28 links, a total link strength of 821, and 137 occurrences.
2. The second cluster, denoted by the green color, has seven (7) items and is arranged alphabetically: *course, COVID, experience, higher education, student, teaching, and university*. Notably, the prevalent word in this cluster is “student,” with 28 links, a total link strength of 912, and 147 occurrences.
3. The third cluster represented by the blue color has six (6) items and is arranged alphabetically: *China, education, example, paper, person, and short video*. Notably, the two prevalent terms in this category are “short video” and “education”. The term short video has 28 links, a total link strength of 964, and 162 total occurrences. Meanwhile, education has 28 links, a total link strength of 1041, and 178 total occurrences. Notably, this term is the most frequently occurring word in the overall analysis.

4. The fourth cluster, represented by the yellow color, has six (6) items arranged alphabetically: *application, effect, information, platform, social medium, and TikTok*. Notably, the prevalent word in this cluster is “platform,” with 27 links, a total link strength of 347, and 52 total occurrences.

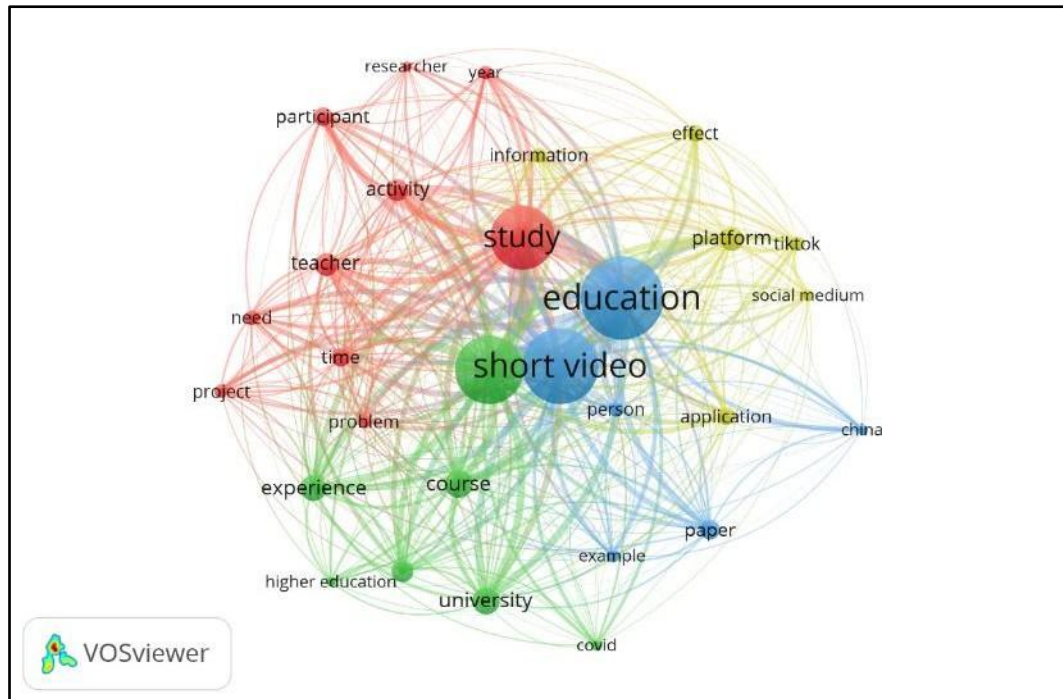


Figure 5. Network visualization of term co-occurrence of title and abstract

To elaborate on the emergent research themes in the provided data, the findings on the use of short videos in education were examined. Specifically, four (4) themes are presented, focusing on their pedagogical implications, academic impact, student engagement, and technological integration.

Research Theme 1: Addressing Educational Needs Through Digital Learning Innovations

The primary focus of the visualization of terms in Cluster One was on how teachers, researchers, and students can utilize digital tools to address problems in teaching and learning. Additionally, it also considered educational needs, including the integration of technology in instruction, the accessibility of digital resources, and the development of innovative strategies to enhance student engagement and learning outcomes. Much research has focused on how to leverage the use of technology in the classroom, such as the implementation of Artificial Intelligence (AI) and mobile applications to improve academic outcomes (Al-Abdullatif et al., 2023; Becker et al., 2020; Farida et al., 2018). Notably, this theme is supported by the report of Joosten et al. (2020), who identified seven (7) primary and three (3) secondary trends in digital learning that improve student achievement. Joosten and colleagues reported that the primary trends include open education resources (OER), adaptive learning, massive open online courses (MOOCs), game based-learning/ gamification, design, learning management system (LMS)/ interoperability, and mobility/ mobile devices. Meanwhile, the secondary trends are virtual reality/ artificial intelligence, dashboards, and blended learning. The report also highlights that while secondary trends show promising potential, research gaps in their implementation persist. Therefore, as presented in the first theme, addressing educational needs through digital learning innovations is essential. These innovations play a crucial role in enhancing engagement and personalized learning experiences.

Research Theme 2: Technology Integration in Teaching and Learning in Higher Education

The second theme was drawn from Cluster Two data, highlighting key terms such as "*Covid*," "*course*," "*higher education*," and "*experiences*," which suggest a primary focus on participants in higher education institutions. This includes the dynamics of teaching and learning, as both terms, *teaching* and *students*, frequently appear in the visualization analysis. Additionally, emerging trends indicate a growing interest in exploring the role of technology, particularly the use of short videos as an educational tool in higher education, both during and after the pandemic. This finding is consistent with the report of Marshall et al. (2024), in which higher education is transforming, driven not only by technological advancements but also by shifts in pedagogical and professional engagement, as well as the balance between the benefits of technology and challenges. Additionally, their findings emphasize that digital transformation in higher education is an ongoing process rather than a final goal. Therefore, this requires rediscovering culture, organizational structures, and values to support these changes. However, research gaps persist in understanding how higher education can effectively promote equity and inclusion in an increasingly digital environment. Additionally, the bibliometric analysis by Arviansyah et al. (2024) supports the emerging theme of technology integration in teaching and learning in higher education. The study also reports similar themes emphasizing educational innovation, e-learning, and engineering education. Lastly, the authors recommend further exploration in implementing mobile learning, distance learning, collaboration, technology development, and m-learning.

Research Theme 3: Short Videos in Post-Pandemic Education: Opportunities and Challenges

Data revealed that investigations have focused on using short videos in teaching strategies, student learning experiences, and information dissemination in the post-pandemic educational landscape. The third theme highlights the opportunities and challenges of using short videos in education. This finding aligns with the study of Zhang and Wasie (2023), which examines the current state of educational technology, potential, and challenges in the post-pandemic era. The pandemic accelerated technology integration into education, making it the new normal. As a result, educators have incorporated technology into their teaching, while students utilize various online learning resources. During distance learning, many institutions adopted platforms such as Zoom, Google Classroom, and other applications for content delivery. Even after the return to in-person learning, numerous institutions have continued using these technologies as a contingency plan for unforeseen circumstances. Additionally, Ester et al. (2023) reported that micro-videos as a learning tool can potentially enhance motivation and academic achievement in the post-pandemic era. The authors concluded these tools could be used for teacher training and student learning. Further, short videos can be considered a form of microlearning or nanolearning, depending on the content's complexity and the video's length. Notably, this trend is consistent with the bibliometric analysis conducted by Astaño (2025), which highlights the importance of continued scholarly work on this approach.

Research Theme 4: Social Media as a Learning Tool: The Impact of Platforms on Student Engagement and Academic Performance

This theme is based on terms from the overlay visualization of word co-occurrence in titles and abstracts (see Figure 6). The results indicate that these terms appeared in yellow, suggesting that this theme emerged in late 2022 or early 2023. This finding highlights the role of social media platforms, such as TikTok, in content delivery and education. Primarily, this theme focuses on the effects of social media applications on student learning, academic performance, and the evolving role of digital education. Aside from TikTok, other platforms may offer short video

content such as YouTube Shorts and Facebook Reels. The theme explores the potential of social media, particularly TikTok, as a platform for delivering short video content to enhance student engagement and improve academic outcomes. Notably, several studies have highlighted its effectiveness in developing students' communication skills across educational levels, from middle school to university (Aida et al., 2023; Aziz & Sabella, 2021; Fei & Li, 2024; Jabri et al., 2024). Likewise, studies by Kurniawan et al. (2024), Sari et al. (2022), and Setyawan et al. (2024) support this theme, focusing on the use of YouTube Shorts and videos to improve high school students' procedural text writing and listening ability. Violot et al. (2024) reported increased YouTube Shorts production, primarily targeting entertainment, while the longer type was utilized in many aspects. Violot and colleagues argued that while YouTube Shorts have gained popularity, they do not necessarily outperform traditional long-form videos in educational contexts. On the other hand, Dugho and Sumayo (2025) documented the improvements in students' viewing skills by implementing Facebook Reels. Specifically, the authors highlighted enhancements in understanding grammar concepts, including tenses, questions, and modals. Overall, these findings suggest that short videos have the potential to be used in education. Therefore, proper applications and guidelines must be established to ensure effective implementation.

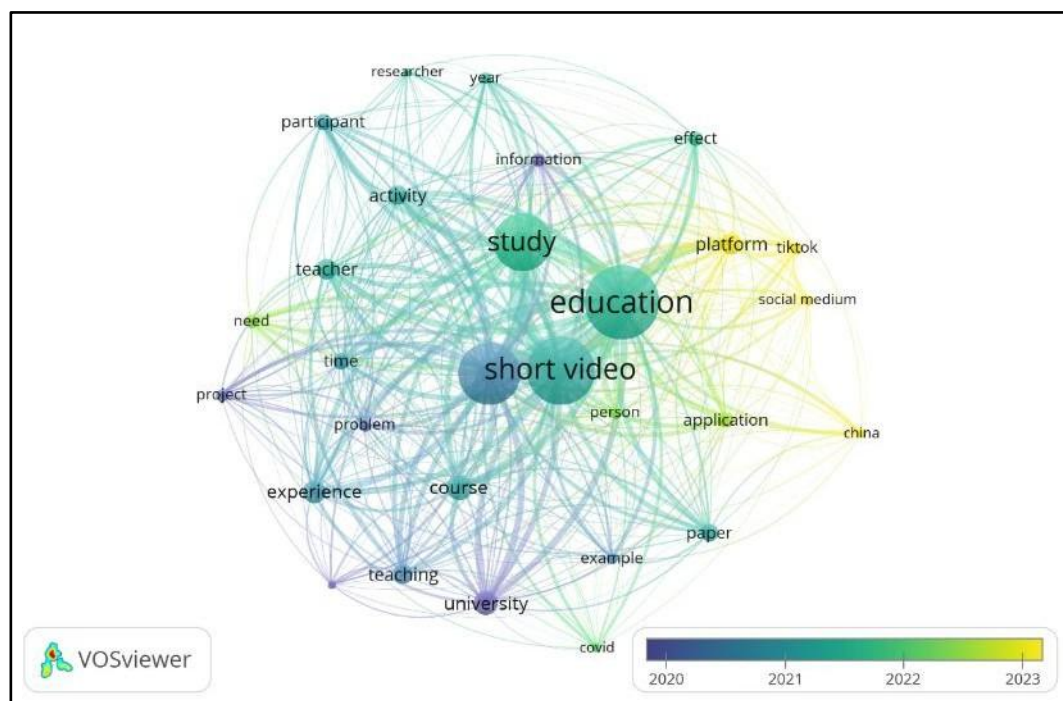


Figure 6. Overlay visualization of term co-occurrence of title and abstract

Conclusion

This study explores research trends and emerging themes in using short videos in education through bibliometric analysis. This investigation identifies publication trends, highly cited works, leading journals, most cited authors, and active countries and collaborations. Additionally, it examines co-citation patterns based on cited sources and bibliographic coupling of documents, using 238 records from the Dimensions database. Findings indicate a steady growth in publications on short videos, though citation trends have fluctuated over the years. The most cited study, Glance et al. (2013), focuses on the pedagogical foundations of massive open online courses, while CBE-Life Sciences Education is the most cited journal. Most cited authors include D. G. Glance, M. Forsey, M. Riley, E. A. van Vliet, N. Brouwer, and J. C. Winnips. Notably, the United States leads in short video research and demonstrates strong country collaborations, as shown in co-

authorship visualizations. On the other hand, co-citation analysis highlights frequent citations from *Computers & Education* along with the publications from *Frontiers in Psychology*, *Interactive Learning Environments*, *Education and Information Technology*, and other journals. Bibliographic coupling reveals key publications such as Afify (2020) integrating diverse research strands, with strong intellectual connections between van Vliet (2015) and Akbulut (2007). Moreover, four (4) emergent themes in short video research were identified: (1) *addressing educational needs through digital learning innovations*, (2) *technology integration in teaching and learning in higher education*, (3) *short videos in post-pandemic education: opportunities and challenges*, and (4) *social media as a learning tool: the impact of platforms on student engagement and academic performance*. In summary, this investigation provides valuable insights into publication trends, guiding future scholars in advancing research on short videos in education.

Limitations of the current research and recommendations for future studies and practices

To guide future research on short videos, this study outlines its limitations and offers recommendations for further exploration.

1. One limitation of this study is its reliance on a single database, Dimensions. Future research is encouraged to incorporate multiple databases, such as Scopus, Web of Science, and Lens, to provide a more comprehensive analysis.
2. The author observed that some records contained missing details, highlighting the limitations of the database in collating information for bibliometric analysis. As a result, the analysis and interpretations were constrained.
3. Notably, the publication years were not included as selection criteria, allowing for the inclusion of all relevant scholarly works in the database to analyze research trends and emerging themes on short videos comprehensively. Future researchers should focus on at least a 10-year publication window for a more targeted analysis.
4. This study employed VOSviewer for bibliometric mapping. However, future research may explore alternative tools like CiteSpace, Gephi, or Bibliometrix for enhanced visualization and deeper trend analysis.
5. As reported in the overlay visualization of title and abstract data, inquiries have shifted toward using social media platforms like TikTok, Facebook Reels, and YouTube Shorts for short video-based learning. This study encourages researchers to explore these platforms across different grade levels and subject areas to assess their impact on students' academic performance, motivation, and interest.
6. Similarly, future research can explore integrating these platforms in teacher training and continuing professional development, focusing on both preservice teachers and in-service educators.
7. As a general guideline for implementing short videos in the actual classroom instruction, they should serve as a complementary instructional tool rather than the sole teaching material, integrating with existing resources provided by the teacher.
8. As noted by various authors, short videos can be considered a form of nanolearning. To maximize their effectiveness, their design should be consistent with the theoretical framework of this instructional strategy, including principles from Cognitive Load Theory.

Conflicts of Interest

The author declares no conflicts of interest and affirms that this study was conducted independently, without external influence from funding agencies, organizations, or individuals.

References

- Abbas, N. F., & Qassim, T. A. (2020). Investigating the Effectiveness of YouTube as a Learning Tool among EFL Students at Baghdad University. *Arab World English Journal Special Issue on CALL*, 6, 344–356. <https://doi.org/10.24093/awej/call6.23>
- Afify, M. K. (2020). Effect of Interactive Video Length within E-learning Environments on Cognitive Load, Cognitive Achievement and Retention of Learning. *Turkish Online Journal of Distance Education*, 21(4), 68–89. <https://doi.org/10.17718/tojde.803360>
- Aida, N., Muin, A., & Rohbiah, T. S. (2023). Students' English Vocabulary through "Kate Kulp" Tiktok Videos. *Journal of English Language Teaching and Cultural Studies*, 6(2), 146–155. <https://doi.org/10.48181/jelts.v6i2.20395>
- Akbulut, Y. (2007). Effects of multimedia annotations on incidental vocabulary learning and reading comprehension of advanced learners of English as a foreign language. *Instructional Science*, 35, 499–517. <https://doi.org/10.1007/s11251-007-9016-7>
- Al-Abdullatif, A. M., Al-Dokhny, A. A., & Drwish, A. M. (2023). Implementing the Bashayer chatbot in Saudi higher education: measuring the influence on students' motivation and learning strategies. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1129070>
- Arviansyah, M. R., Azis, Y., Sondari, M. C., & Harsanto, B. (2024). Current trend and future research agenda for technological innovation in higher education institutions. *Humanities and Social Sciences Communications*, 11. 1686. <https://doi.org/10.1057/s41599-024-04150-7>
- Astaño, J. L. (2025). Bibliometric Analysis of Studies on Nanolearning and Microlearning. *International Journal of Studies in Education and Science*, 6(2), 240–256. <https://doi.org/10.46328/ijses.144>
- Aziz, I. N., & Sabella, R. H. (2021). TikTok as Media of Learning English (Experimental research on the third class of senior high). *JEET, Journal of English Education and Technology*, 2(02), 408–419. <https://jeet.fkdp.or.id/index.php/jeet/article/view/51>
- Becker, S., Klein, P., Gößling, A., & Kuhn, J. (2020). Using mobile devices to enhance inquiry-based learning processes. *Learning and Instruction*, 69, 1–14. 101350. <https://doi.org/10.1016/j.learninstruc.2020.101350>
- Brame, C. J. (2016). Effective Educational Videos: Principles and Guidelines for Maximizing Student Learning from Video Content. *CBE—Life Sciences Education*, 15(4). <https://doi.org/10.1187/cbe.16-03-0125>
- Caldeiro-Pedreira, M.-C., & Yot-Domínguez, C. (2023). Uses of TikTok in education. A systematic review of the didactic possibilities of TikTok. *Anàlisi*, 69, 53–73. <https://doi.org/10.5565/rev/analisi.3630>
- Cherif, K. M., Azzouz, L., & Bendania, A. (2024). Algerian secondary school students' preferences for the use of YouTube in their informal learning. *Educational Technology Quarterly*, 2024(2), 120–134. <https://doi.org/10.55056/etq.697>
- de Jong, P. G. M., Pickering, J. D., Hendriks, R. A., Swinnerton, B. J., Goshtasbpour, F., & Reinders, M. E. J. (2019). Twelve tips for integrating massive open online course content into classroom teaching. *Medical Teacher*, 42(4), 393–397. <https://doi.org/10.1080/0142159x.2019.1571569>
- Demir, K., & Akpınar, E. (2018). The effect of mobile learning applications on students' academic achievement and attitudes toward mobile learning. *Malaysian Online Journal of Educational Technology*, 6(2), 48–59. <https://doi.org/10.17220/mojet.2018.02.004>
- Dimensions. (n.d.). *Why did we build Dimensions | Dimensions*. Dimensions. <https://www.dimensions.ai/why-dimensions/>
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 133, 285–296. <https://doi.org/10.1016/j.jbusres.2021.04.070>

- Dugho, R. M., & Sumayo, G. (2025). Effectiveness of Facebook Reels in Developing Viewing Skills of English Language Students at a Philippine State University. *Journal of English Language Teaching and Applied Linguistics*, 7(1), 36–45. <https://doi.org/10.32996/jeltal.2025.7.1.4>
- Ester, P., Morales, I., & Herrero, L. (2023). Micro-Videos as a learning tool for professional practice during the post-covid era: An educational experience. *Sustainability*, 15, 1–15. 5596. <https://doi.org/10.3390/su15065596>
- Evangelou, F. (2023). Video as an Educational Tool for Teaching and Learning for Primary School Students: A Research Approach by Greek Teachers. *European Journal of Education and Pedagogy*, 4(1), 104–111. <https://doi.org/10.24018/ejedu.2023.4.1.575>
- Farida, Jumadi, Wilujeng, & Senam. (2018). Developing android-based science instructional media to improve scientific literacy of junior high school students. *Journal of Physics: Conference Series*, 1006, 1–9. <https://doi.org/10.1088/1742-6596/1006/1/012034>
- Fei, X., & Li, C. (2024). An Integrating of Blended Learning in College English Teaching Based on Tiktok Short Videos. *International Journal of Sociologies and Anthropologies Science Reviews*, 4(4), 313–326. <https://doi.org/10.60027/ijssar.2024.4369>
- Glance, D. G., Forsey, M., & Riley, M. (2013). The pedagogical foundations of massive open online courses. *First Monday*, 18(5). <https://doi.org/10.5210/fm.v18i5.4350>
- Gong, Q., & Tao, T. (2024). The relationship between short video usage and academic achievement among elementary school students: The mediating effect of attention and the moderating effect of parental short video usage. *PLOS ONE*, 19(11), 1–19. e0309899. <https://doi.org/10.1371/journal.pone.0309899>
- Granić, A. (2022). Educational Technology Adoption: A systematic review. *Education and Information Technologies*, 27, 9725–9744. <https://doi.org/10.1007/s10639-022-10951-7>
- Hallinger, P., & Kovačević, J. (2023). Applying bibliometric review methods in education: rationale, definitions, analytical techniques, and illustrations. In *International Encyclopedia of Education: Fourth Edition*, 546–556. Elsevier. <https://doi.org/10.1016/b978-0-12-818630-5.05070-3>
- Jabri, U., Nurwahida, Ismail, & Hasan. (2024). Revolutionizing English Vocabulary Learning: Harnessing the Power of Tiktok Videos. *International Conference of Business, Education, Health, and Scien-Tech*, 1(1), 347–353. <https://journal.conference.umpalopo.ac.id/index.php/icbens/article/view/38>
- Jah, A., Tahreb, N. S., Ibrahim, Q., Hamzah, I. F. A., & Halim, H. A. (2024). TikTok as Pedagogical Tool for English Language Learning: A Systematic Literature Review. *Gading Journal for Social Sciences*, 27(Special Issue: Language and Education), 101–111. <https://gadingssuitm.com/index.php/gadingss/article/view/548>
- Joosten, T., Lee-McCarthy, K., Harness, L., & Paulus, R. (2020). Digital Learning Innovation Trends. In <https://files.eric.ed.gov/fulltext/ED603277.pdf> (pp. 1–24).
- Kurniawan, K., Indrawati, & Monika, R. T. (2024). Integrating 5E Learning Cycle and YouTube Shorts to Improve Procedural Text Writing. *Pakistan Journal of Life and Social Sciences (PJLSS)*, 22(2), 21430–21449. <https://doi.org/10.57239/pjlss-2024-22.2.001513>
- Laparra, V., Pérez-Suay, A., Piles, M., Muñoz-Marí, J., Amorós, J., Fernandez-Moran, R., Fernández-Torres, M.-Á., & Aduara, J. E. (2023). Assessing the Impact of Using Short Videos for Teaching at Higher Education: Empirical Evidence from Log-Files in a Learning Management System. *IEEE Revista Iberoamericana de Tecnologías Del Aprendizaje*, 18(3), 233–238. <https://doi.org/10.1109/rita.2023.3301411>
- Marshall, S., Blaj-Ward, L., Dreamson, N., Nyanjom, J., & Bertuol, M. T. (2024). The reshaping of higher education: technological impacts, pedagogical change, and future projections. *Higher Education Research & Development/Higher Education Research and Development*, 43(3), 521–541. <https://doi.org/10.1080/07294360.2024.2329393>

- Pandey, D. K., Hassan, M. K., Kumari, V., Zaid, Y. B., & Kumar, V. (2024). Mapping the Landscape of FinTech in Banking and Finance: A Bibliometric Review. *Research in International Business and Finance*, 67, 102116. <https://doi.org/10.1016/j.ribaf.2023.102116>
- Putri, A., Billaizah, A., Alizah, A., Prastiwi, A., & Tarihoran, N. (2024). Benefit of TikTok Usage and It's Effectiveness in Teaching English: A Systematic Review. *Formosa Journal of Sustainable Research (FJSR)*, 3(6), 1147–1164. <https://doi.org/10.55927/fjsr.v3i6.9007>
- Rossetto, D. E., Bernardes, R. C., Borini, F. M., & Gattaz, C. C. (2018). Structure and evolution of innovation research in the last 60 years: review and future trends in the field of business through the citations and co-citations analysis. *Scientometrics*, 115, 1329–1363. <https://doi.org/10.1007/s11192-018-2709-7>
- Sari, U., Salija, K., & Atmowardoyo, H. (2022). The Implementation of YouTube Video to Improve Students' Procedure Text Writing Ability at Senior High School. *Pinisi Journal of Art, Humanity and Social Studies*, 2(4), 8–15. <https://ojs.unm.ac.id/PJAHSS/article/view/35370>
- Setyawan, R. F., Supriyono, Aini, M. R., & Puspitasari, H. (2024). The Effectiveness of Using YouTube Shorts Videos to Enhance Senior High School Student's Listening Ability. *JOSAR (Journal of Students Academic Research)*, 9(1), 194–203. <https://doi.org/10.35457/josar.v9i1.3559>
- Shen, J. (2022). Analysis on the Trend and Development of Future Short-Video Industry. *Proceedings of the 2022 7th International Conference on Social Sciences and Economic Development (ICSSED 2022)*, 625, 255–260. <https://doi.org/10.2991/aebmr.k.220405.043>
- van Vliet, E. A., Winnips, J. C., & Brouwer, N. (2015). Flipped-Class Pedagogy Enhances Student Metacognition and Collaborative-Learning Strategies in Higher Education but Effect Does Not Persist. *CBE—Life Sciences Education*, 14, 1–10. <https://doi.org/10.1187/cbe.14-09-0141>
- Violot, C., Elmas, T., Bilogrevic, I., & Humbert, M. (2024). Shorts vs. Regular Videos on YouTube: A Comparative Analysis of User Engagement and Content Creation Trends. *WEBSCI '24: Proceedings of the 16th ACM Web Science Conference*, 213–223. <https://doi.org/10.1145/3614419.3644023>
- Wang, S., Wang, F., Zhu, Z., Wang, J., Tran, T., & Du, Z. (2024). Artificial intelligence in education: A systematic literature review. *Expert Systems with Applications*, 252, 1–19. <https://doi.org/10.1016/j.eswa.2024.124167>
- Xie, J., Xu, X., Zhang, Y., Tan, Y., Wu, D., Shi, M., & Huang, H. (2023). The Effect of short-form Video Addiction on Undergraduates' Academic procrastination: a Moderated Mediation Model. *Frontiers in Psychology*, 14, 1–10. 1298361. <https://doi.org/10.3389/fpsyg.2023.1298361>
- Yi, M. (2024). The influence of short videos on elementary school students' English reading ability: Taking WeChat channels as an example. *SHS Web of Conferences*, 199, 01022. <https://doi.org/10.1051/shsconf/202419901022>
- Yousef, A. M., Huang, R., Tlili, A., Garcia, M. B., Mahmoud, S. A., & Metwally, A. H. S. (2023). Small Bites, Big Impact: The Power of Nanolearning. *7th International Conference on Smart Learning Environments*, 108–116. https://doi.org/10.1007/978-981-99-5961-7_12
- Zhang, T. (2020). A Brief Study on Short Video Platform and Education. *Proceedings of the 2nd International Conference on Literature, Art and Human Development (ICLAHD 2020)*, 543–547. <https://doi.org/10.2991/assehr.k.201215.494>
- Zhang, Z., & Wasie, S. (2023). Educational Technology in the Post-Pandemic Era: Current Progress, Potential, and Challenges. *The 15th International Conference on Education Technology and Computers (ICETC 2023)*, 40–46. <https://doi.org/10.1145/3629296.3629303>