
Systematic Literature Review: Research on Improving Student Learning Outcomes Through Google Meet Using Vosviewer, 2019-2022

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ABSTRACT

This investigation aims to examine the advancements in research that concentrate on augmenting student learning achievements via the utilization of Google Meet. The study was conducted with the objectives of (1) a map of the development of the number of publications researching to improve student learning outcomes through google meet, (2) Knowing which scientific articles have the highest number of citations, (3) It knows the development map of scientific publications based on keywords.

The present investigation obtained data from scholarly articles in the Google Scholar database, utilizing the keyword "Google Meet." The selection of articles was conducted through a systematic process that evaluated their titles, abstracts, and keywords, spanning 2019 to 2022. The query produced 318 scholarly publications corresponding to the designated keywords per Harzing's Publish or Perish software. The results revealed that the year 2021 had the most significant number of scholarly publications, comprising 44%, about improving student learning outcomes through the utilization of Google Meet, as evidenced by the Google Scholar database. Specifically, there were 141 publications on this topic this year. Moreover, it is noteworthy that the publication authored by Darmuki (2020) garnered the most citations, totaling 154 mentions. The utilization of the VOSViewer software facilitated the visualization of the evolution of scientific publications through the analysis of Google Meet's keywords, which led to the identification of five distinct clusters.

Keywords: VOSViewer, PTS, SLR, Google Meet

INTRODUCTION

Education is an obligation that every citizen must follow. The constitutional foundation of the 1945 Constitution, Article 31, paragraph 1, states, "Every citizen must receive basic education, and

the government is obligated to finance it." We hope the community can maximize the existing educational institutions by mandating education. Education can be carried out anywhere in formal and informal educational institutions. We expect that education will shape individuals guided by

Pancasila, balanced in body and soul, and capable of developing the potential and quality of the existing human resources (Hasnadi, 2019). Students can think logically, precisely, critically, innovatively, and imaginatively through learning mathematics (Hasibuan, 2018). This condition forms the fundamental reason why improving mathematics learning quality is crucial as one of the efforts to enhance the quality of education in Indonesia. Improving learning quality in schools ideally focuses on improving and developing the interaction process between students and educators and learning resources in a learning environment (Sutrisno & Siswanto, 2016).

The Covid-19 pandemic that hit Indonesia in early 2020 has impacted all sectors, including education (Purwanto et al., 2020). This condition has led several countries, including Indonesia, to close schools and universities. Online learning has become the best choice to prevent the spread of the Covid-19 virus while still providing meaningful learning for students during the pandemic (Jayul & Irwanto, 2020). Circular Letter No. 4 of 2020 has been implemented by the Ministry of Education and Culture to reinforce the learning-from-home policy during the COVID-19 emergency. The present correspondence delineates the execution of educational regulations in reaction to the global health crisis. Technological advancements have brought changes to the teaching and learning process (Keengwe & Georgina, 2012). Platforms such as

Zoom and Google Meet can use as alternative synchronous online learning methods. Meanwhile, asynchronous online learning can be conducted through platforms like Google Classroom and SPADA.

Tech-savvy students will find it easier to adapt to online learning. This condition means that online learning is closely related to the use of gadgets. Students interacting more with gadgets will find it easier to adapt to the available applications (Gheytsi et al., 2015). Many online-based learning media are available but have yet to be maximally utilized by teachers. One example is the Google Meet application, which can be used as an online-based learning medium to help improve student's learning outcomes.

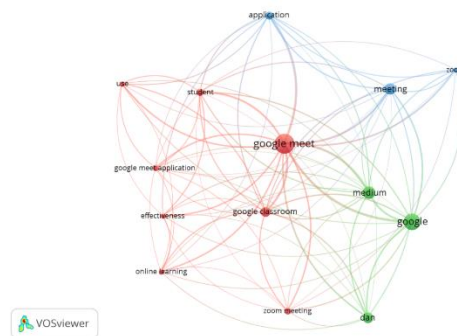
Google Meet provides excellent convenience in learning activities during the pandemic due to its easy usage and no need for downloads, thus helping reduce smartphone storage space (Haryani, 2020). Google Meet is a product of Google and is a video communication service developed by Google. This free software offers top-quality features with an above-average video display and allows for video conferences with up to 100 members. Google Meet can be an immediate learning solution for face-to-face student interactions or video conferences (Wijayanto et al., 2020).

METHOD

The present investigation utilizes a descriptive quantitative methodology that incorporates a bibliometric approach. Saleh and Sumarni (2016) explicate that bibliometrics is a scholarly field that employs mathematical and statistical methodologies to assess the quantitative and qualitative transformations in a corpus of documents and other forms of media. Scholars use bibliometric analysis, a quantitative method, to examine bibliographic information in journals and scientific articles. This method is commonly employed to explore references cited in scientific articles, delineate the scientific domains covered by journals, and classify scientific articles based on research fields. This approach has been utilized in diverse domains, including but not limited to sociology, the humanities, communication, marketing, and other disciplines within the social sciences. The present study employs bibliometric analysis, primarily focusing on citation and co-citation analysis. Citation analysis involves examining articles cited by other works, while co-citation analysis involves identifying instances where two or more articles have been cited in conjunction. The present investigation utilizes scholarly literature published between 2019 and 2022, obtained from the Google Scholar database, as the primary research data source. Retrieving scholarly articles was executed by directly utilizing the scholar.google.com platform, employing the

keyword "Google Meet" in the title, abstract, and keywords search fields. Figure 1 depicts the developmental trajectory of the scientific publication model utilized by Google Meet, as analyzed through VOSViewer software. The utilization of VOSViewer enables the facile visualization of a comprehensive bibliometric map, facilitating the interpretation of relationships (Kurnia, 2021).

Through VOSViewer, we can display a sizeable bibliometric map in an easy way to interpret relationships (Kurnia, 2021).



RESULT AND DISCUSSION

The Publish or Perish software yielded findings indicating that 807 articles and 318 publications matched the predetermined keywords in their article titles out of the total searches conducted. The accompanying figure visually represents this information.

The Google Scholar database has exhibited a significant annual increase in publications about "The Use of PowerPoint for Learning" between 2019 and 2022. Table 1 illustrates that 2021 saw

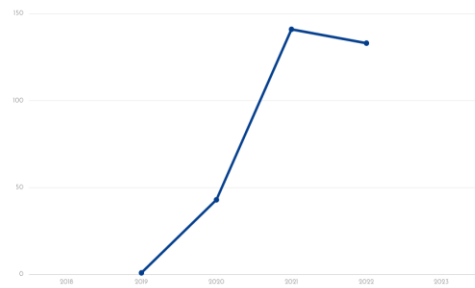
the most significant number of publications devoted to investigating the impact of PowerPoint on learning, comprising 141 articles, or 44% of the total data.

Table 1. Percentage of the number of publications.

| Tahun Publikasi | Jumlah Artikel | Persentase |
|-----------------|----------------|------------|
| 2019 | 1 | 0,3% |
| 2020 | 43 | 14% |
| 2021 | 141 | 44% |
| 2022 | 133 | 42% |

The growth development of publications regarding the implications of Google Meet, as shown in the graph in Table 1, indicates that the highest increase in scientific publications occurred in 2021 from 2019 to 2022. This result

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proves that research on improving student learning outcomes through the Google Meet platform is still an exciting area to investigate, despite experiencing a decline this year.

Table 2 shows that A Darmuki is an author with the highest number of citations, with 154 citations, for the article titled "Efforts to Improve Speaking Skills of Students Using Google Meet Application Media based on Uploading Video Assignments in 2020." Furthermore, the complete list of scientific articles ranked 2 to 5, published between 2019 and 2022, can be seen in Table 2 below.

Table 2. Research-based on citations.

| No | Citi es | Autho rs | Title | Ye ar | Publica tion |
|----|---------|-----------|--|-------|----------------------------|
| 1 | 154 | A Darmuki | Upaya meningkatkan kemampuan berbicara mahasiswa | 2020 | Jurnal Education Fkip Unma |

| | | | | | |
|---|----|-----------------------------|---|------|---|
| | | | menggunakan media aplikasi Google Meet berbasis unggah tugas video di youtube pada masa pandemi ... | | |
| 2 | 86 | NME Juniarti, IW Rasna | Pemanfaatan aplikasi Google Meet dalam keterampilan menyimak dan berbicara untuk pembelajaran bahasa pada masa pandemi Covid-19 | 2020 | Jurnal Pendidikan ... |
| 3 | 33 | PS Pernahtah, N Nova ... | Penggunaan Aplikasi Google Meet dalam Menunja | 2021 | Pedagogi: Jurnal Ilmu ... |
| | | | ng Keefektifan Belajar Daring Masa Pandemi Covid-19 di SMA Negeri 3 Pekanbaru | | |
| 4 | 32 | K Dewi, T Pratiwi, AK Putra | Implementasi pemanfaatan google classroom, google meet, dan instagram dalam proses pembelajaran online menuju abad 21 | 2021 | Jurnal Integrasi dan Harmoni Inovatif ... |
| 5 | 31 | S Aisyah, DI Sari | Efektivitas penggunaan platform google meet terhadap hasil | 2021 | JURNAL MathEdu (Mathematic Education ... |

NME Juniartini, IW Rasna. (2020). Pemanfaatan aplikasi Google Meet dalam keterampilan menyimak dan berbicara untuk pembelajaran bahasa pada masa pandemi Covid-19. *Jurnal Pendidikan Retrieved from ejournal-pasca.undiksha.ac.id*

PS Pernantah, N Nova.... (2021). Penggunaan Aplikasi Google Meet dalam Menunjang Keefektifan Belajar Daring Masa Pandemi Covid-19 di SMA Negeri 3 Pekanbaru. *Pedagogi: Jurnal Ilmu Retrieved from <http://pedagogi.ppj.unp.ac.id/index.php/pedagogi/article/view/991>*

S Aisyah, DI Sari. (2021). Efektivitas penggunaan platform google meet terhadap hasil belajar siswa. *JURNAL MathEdu (Mathematic Education Retrieved from <http://journal.ipts.ac.id/index.php/MathEdu/article/view/2313>*.



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