Psikosospen : Jurnal Psikososial dan Pendidikan
https://publisherqu.com/index.php/psikosospen/
Vol. 1 No. 2 Juni 2025
https://issn.brin.go.id/terbit/detail/20250326030437435

COMPARATIVE STUDY OF VIDEO CONFERENCE-BASED MEDIA: ZOOM, MICROSOFT TEAMS, AND GOOGLE MEET IN THE SOCIAL STUDIES EDUCATION STUDY PROGRAM

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Abstract
The objective of this research is to analyze the use of videoconferencing based media, i.e., Zoom, Microsoft Teams, and Google Meet, in the learning process in Social Science Education study program. The research approach used is quantitative with survey technique. Data were collected using questionnaires submitted to the students and lecturers of the Study Program of Social Studies Education. The results showed that the three platforms also possess the strength and weakness of ease of use, facilities, and the impact on learning efficiency. Recommendations are given to choose the platform that is most appropriate for the learning needs in Social Studies Education Study Program.
Keywords : Video Conference, Zoom, Microsoft Teams, Google Meet, Pendidikan IPS

INTRODUCTION

The advancement of information and communication technology has also impacted the educational world, especially post-the collapse of the global pandemic, as it saw a drastic shift from traditional face-to-face learning to distance learning. Video conferencing in this case is the main tool that allows students and lecturers to interact despite their different locations (Lemay et al., 2021)[1]. Out of the many platforms available, the three most frequently used among Indonesian institutions of learning, like the Social Science Education Study Program, are Zoom, Microsoft Teams, and Google Meet.

With the growth of the digital age, video conferencing technology has become one of the most essential tools of online learning. Among the most popular platforms are Zoom, Microsoft Teams, and Google Meet. Each of these three tools has its own pros and cons in terms of enabling online learning. Therefore, a comparative study is needed to identify which

[1] Transition to online learning during the COVID-19 pandemic

tool is most effective when it comes to online learning. that is most fruitful in the learning environment of the Social Studies Education program(Vorina et al., 2022)[2].

The field of education has seen significant changes as a result of the advancement of information and communication technology (ICT), particularly in the area of online learning. During and after the pandemic, video calls using platforms like Zoom, Microsoft Teams, and Google Meet were among the most popular ways that people used technology. Even though they are in different locations, these tools enable direct communication between teachers and students (Nartiningrum & Nugroho, 2020)[3].

Online learning is the primary means of continuing education throughout the pandemic. However, there are drawbacks as well, such as the need for digital skills, technology readiness, and interactive learning (Adnan, 2020)[4]. This demonstrates that one of the most important tools for developing an engaging online learning environment is video conferencing.

Asserts that during the pandemic, online learning will be the main source of continuing education. But there are also disadvantages, like the requirement for technology readiness, digital skills, and interactive learning. This proves that video conferencing is one of the most crucial resources for creating an interesting online learning environment (Adnan, 2020)[5].

Although video conferencing media in general have been discussed in some earlier research within the online learning context, comparative research on these three platforms has not been conducted within the Social Studies Education Study Program context. Social science learning requirements frequently demand interactive and active collaboration among learners. While video conferencing platforms have been widely discussed in the context of online learning, there is a lack of comparative research focusing specifically on their application within Social Studies Education programs. Given that social science education often requires interactive and collaborative learning environments, understanding how different platforms support these pedagogical needs is essential (Cavus & Sekyere–Asiedu, 2021)[6].

This research is comparing usability, completeness of features, and learning effectiveness of three video conferencing applications (Zoom, Microsoft Teams, and Google

[2] Recent Advances in Information Technology, Tourism, Economics, Management and Agriculture - CONFERENCE PROCEEDINGS

[3] Online learning amidst global pandemic: EFL students' challenges, suggestions, and needed materials.

[4] Online learning amid the COVID-19 pandemic: Students' perspectives.

[5] Online learning amid the COVID-19 pandemic: Students' perspectives.

[6] A comparison of online video conference platforms: Their contributions to education during COVID-19 pandemic

Meet) in online learning. Besides, this research also seeks to identify the most effective and most used features of each application from user experience, both from lecturers and students of the Social Science Education Study Program. From the comparison and identification, in this study, a recommendation will be given on choosing the most appropriate and effective video conferencing system to assist the learning process in the environment of the Social Science Education Study Program in an effort to enhance the quality of interaction, participation, and learning achievement in online learning and teaching activities.

RESEARCH METHODS

This study employs a quantitative approach using a survey method to obtain an objective picture of user perceptions, experiences, and preferences regarding three video conferencing platforms: Zoom, Microsoft Teams, and Google Meet. A quantitative approach was chosen because it can measure variables systematically and be analyzed statistically (Ghanad, 2023).[7]

The participants in this study were 25 students of the Social Studies Education Program at UIN Syarif Hidayatullah Jakarta who had used the three video conferencing platforms during the online learning process. The selection of participants was conducted using purposive sampling technique, which is based on certain criteria in accordance with the research objectives.

This study uses the following research instruments: Questionnaires, semi-structured interviews, and document analysis are the research instruments in this research. Questionnaires are implemented in quantitative analysis in areas like the usability, functionality, and user satisfaction of video conferencing software. Semi-structured interviews were administered to obtain rich qualitative data and allow researchers to further investigate users' experiences, preferences, and problems. Document analysis serves as a valuable method for evaluating the utilization of online learning platforms by examining aspects such as student participation, alignment with instructional objectives, and integration into teaching strategies. By systematically analyzing relevant documents, researchers can assess how effectively these platforms support and enhance the learning process (Insight7, 2024)[8].

[7] Ghanad, A. (2023). An overview of quantitative research methods. *International Journal of Multidisciplinary Research and Analysis*, *6*(8), 3795–3802.

[8] Insight7. (2024). *Document analysis in educational research: Best practices*.

There are three main phases in the data gathering process. In order to collect quantitative data about participants' experience in using video conferencing software, an online survey is initially distributed to students and lecturers. Secondly, some students and teachers are interviewed semi-structured to reveal more

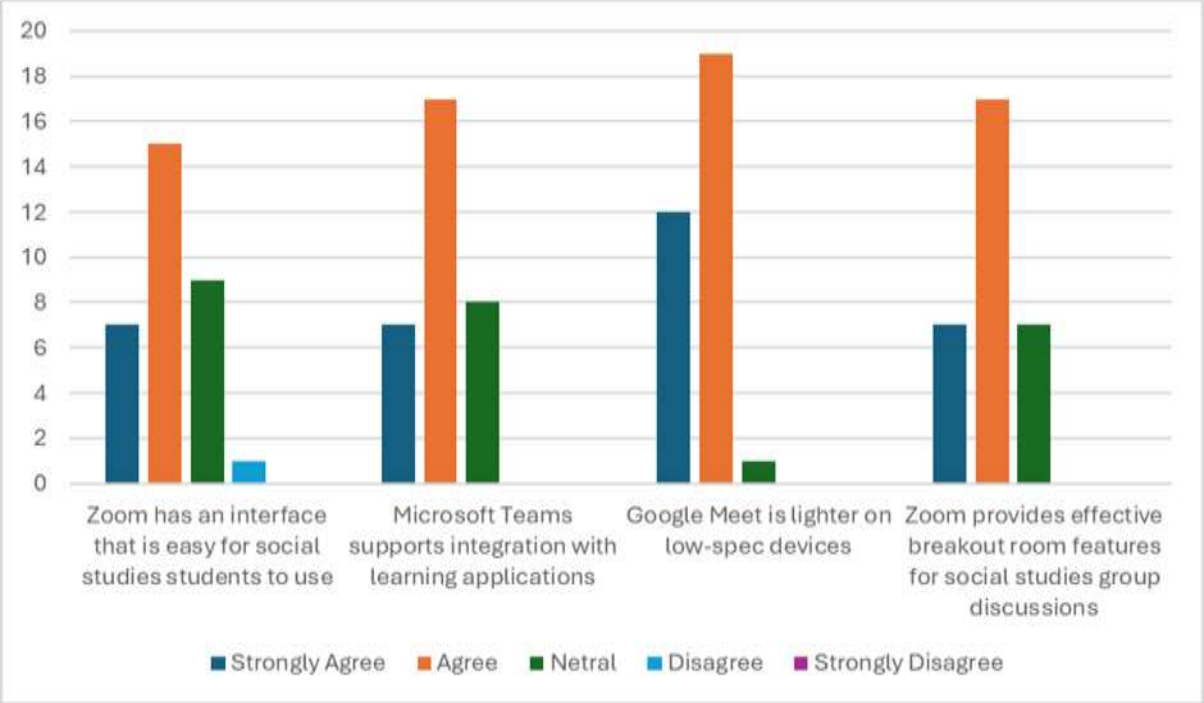
An online questionnaire served as the study's research tool. It is set up as a Google Form. There are multiple important indicators in the questionnaire. The anticipated outcomes in the Result and Discussion section serve as the foundation for these indicators. Among these indicators are: The platforms ought to be simple to use and access. This implies that they should be compatible with the majority of devices and easy to install and log in to. Lectures should have high-quality audio and video. Interactive features, like Zoom's breakout rooms, ought to be included in the platforms. Additionally, they ought to have collaborative features like Microsoft 365 and Google Workspace integration. Lastly, the platforms ought to support class management tools like a calendar, planner as well as a system for reminding students of their assignments. Students' opinions and experiences regarding the efficacy, efficiency, and satisfaction of using Zoom, Google Meet, and Microsoft Teams in online learning for the Social Studies Education study program were gauged by rating each statement on the questionnaire on a 5-point scale ranging from "Strongly Disagree" to "Strongly Agree."

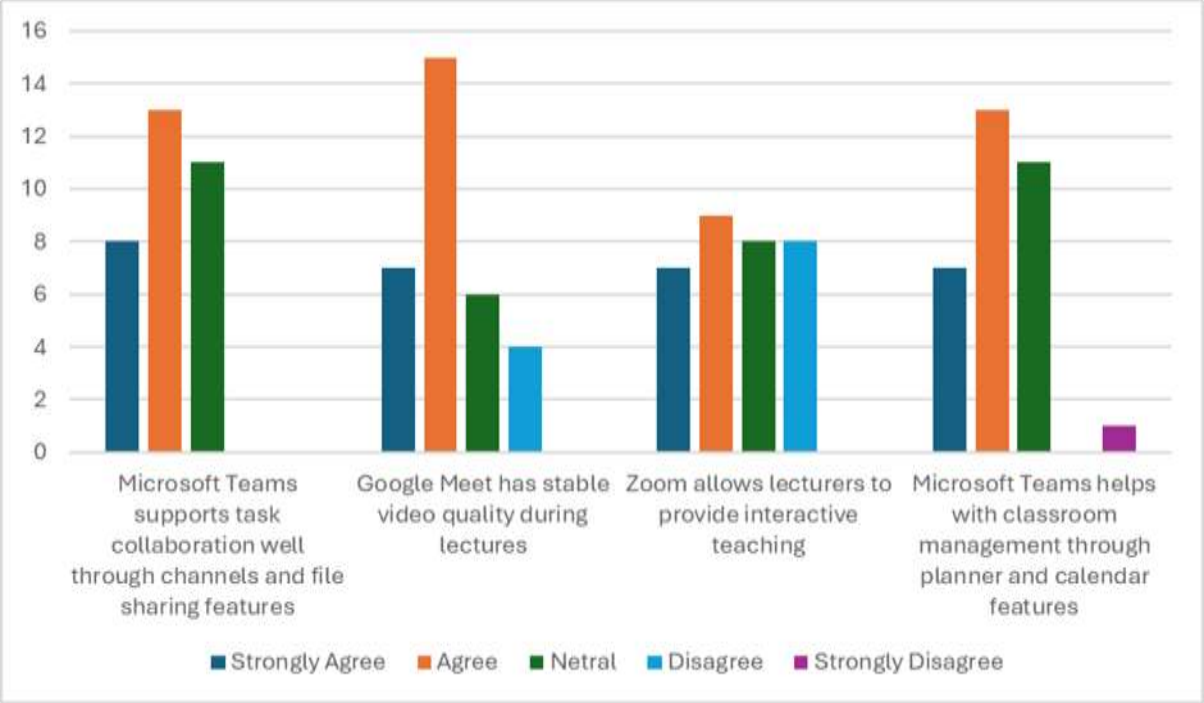
To get online responses, we distributed the link to the Google Form. We disseminated it via a number of online communication platforms, including WhatsApp groups for classes and batches as well as some groups from other campuses that offer IPS Education study programs. Respondents who met the requirements for the purposive sampling approach were contacted using this tactic. Respondents must be students with prior experience using Zoom, Google Meet, and Microsoft Teams in an online learning environment in order to meet the sampling method's requirements. To encourage more people to participate, reminders were sent out during the seven-day survey period. The data collected is more representative and credible because each respondent is only permitted to fill out the form once by activating the email validation feature on Google Form in order to preserve data validity and prevent double filling.

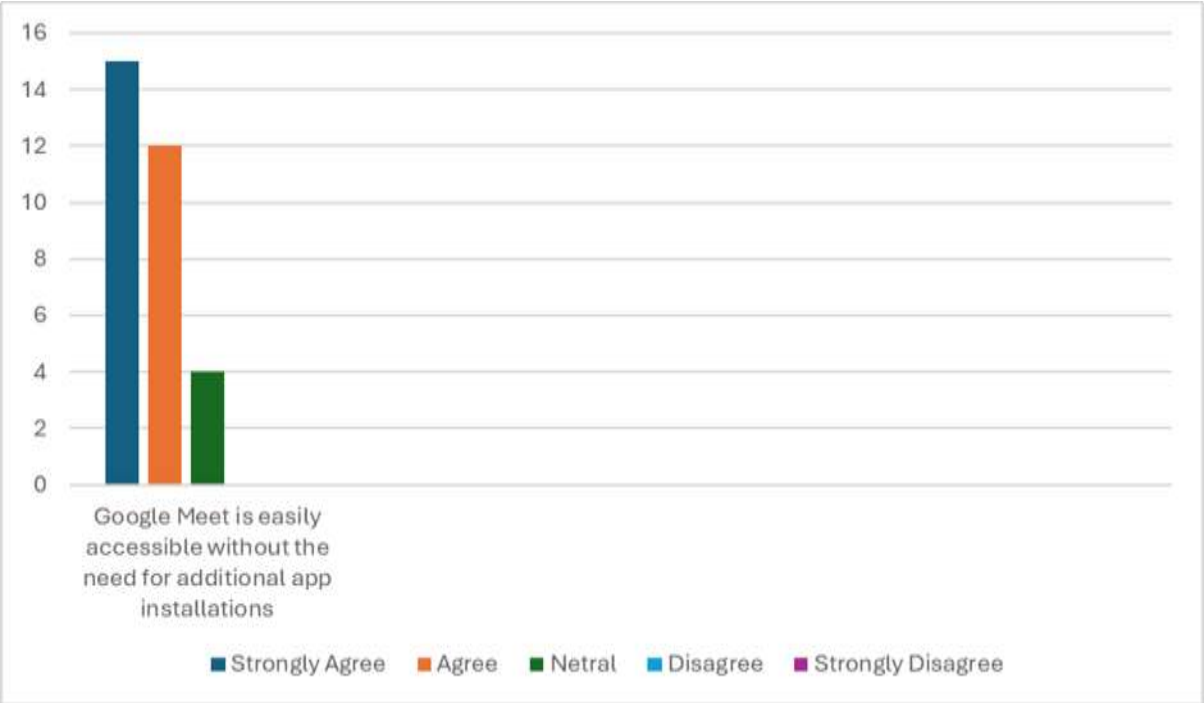
Google Sheets and Microsoft Excel were used to quantitatively process the data from the Google Form survey. Data cleaning is the first step, which verifies that the respondents' information is accurate and comprehensive. By doing this, duplicate or insufficient entries are prevented. Once the data was deemed clean, it was organized into tables according to research indicators, including the platform's usability (Zoom, Google Meet, and Microsoft Teams),

interactive features, audio and video quality, and ease of access. We examined every question on the survey using descriptive statistics. On a Likert scale of 1 to 5, this involved figuring out the frequency, percentage, and mean value. To facilitate comprehension and comparison of the various platforms, the analysis's findings were then displayed as pie charts and bar charts. Stories are used to describe the key findings. These anecdotes demonstrate the respondents' likes and dislikes of every video conferencing app. The Social Studies Education Study Program's online learning environment serves as the backdrop for this information.

RESULTS AND DISCUSSION







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Based on the opinions of social science students, this study compared three video conferencing platforms: Zoom, Microsoft Teams, and Google Meet. Using a Likert scale that went from "Strongly Agree" to "Strongly Disagree," participants scored different features of

each platform. The findings offer a summary of each platform's usability and efficiency in facilitating online education.

According to 31 out of 32 respondents, Google Meet is the most accessible app overall, especially on devices with low specifications. Furthermore, according to 27 respondents, Google Meet is simple to use and doesn't require any extra installation. Despite Google Meet's superior accessibility, four students disagreed that the video quality during lectures was consistent.

Zoom's breakout room feature, which social studies students found useful for group discussions, garnered favorable reviews. Of those surveyed, twenty-four agreed or strongly agreed that this feature was helpful. Only 16 respondents rated interactive lecturers' instruction favorably, while eight disagreed, indicating a wider range of opinions.

The performance of Microsoft Teams is reasonably balanced. The platform's ability to facilitate task collaboration through features like file sharing and channels, as well as its integration with other learning applications, was valued by the participants. The majority of participants agreed with these features. Although some students were ambivalent or disagreed, Microsoft Teams' planner and calendar features were thought to be beneficial for class management.

These results show that every platform has advantages and disadvantages of its own. No platform is better in every way. Therefore, when creating online learning environments, educators and app developers need to take into account the benefits and drawbacks of each platform. According to the study's recommendations, social studies education can be more successfully supported by streamlining the user interface, enhancing interactive features, guaranteeing cross-device accessibility, and maximizing collaborative features.

FINDING

The findings of the study show that all three video conferencing applications Zoom, Microsoft Teams, and Google Meet each have their own qualities and strengths in facilitating learning activities in the Study Program of Social Science Education. Regarding ease of use and simplicity of the interface, Zoom is ranked as the most preferred and easiest to use. Both students and teachers believe that they can utilize Zoom more efficiently since teachers can directly go into the virtual classroom and screen sharing and breakout rooms are readily accessible. In the meantime, Google Meet is also perceived to be easily accessed, particularly

for individuals who are already used to other Google applications, but its collaborative features are constrained without institutional integration. Microsoft Teams, while containing all the features, is thought to have a more complicated interface in such a way that it would take longer to get used to, particularly for students (Hasibuan et al., 2022)[9].

Another significant topic covered in the findings is collaboration features. This is where Microsoft Teams shines since it seamlessly integrates with Microsoft 365, enabling users to manage tasks, edit documents, and communicate all on one platform. Although Google Meet provides a good collaborative environment when combined with Google Docs, Sheets, and Slides, it is not as complete as Teams because Meet does not directly integrate these features. Zoom's collaboration capabilities are more constrained, and it frequently needs to be integrated with other apps to facilitate document sharing or group projects.

All three platforms have proven their dedication to safeguarding user data in terms of security and privacy. Following security flaws that surfaced at the start of Zoom's extensive use, the company has strengthened its security features. Google Meet and Microsoft Teams have continuously received higher ratings for data security, particularly in educational environments where adherence to institutional privacy policies is necessary. By combining technological advances and digital platforms, a huge opportunity is created to accelerate the effectiveness and reach of education reform initiatives that will make the education landscape more inclusive and efficient (Aulia 2025)[10].

CONCLUSION

Each video conferencing platform (Google Meet, Zoom, and Microsoft Teams) has unique advantages and disadvantages when it comes to facilitating online learning, as demonstrated by the findings of this quantitative study involving social science students. Despite ongoing concerns regarding video quality, Google Meet was rated as the most accessible and user-friendly platform, especially for users with low-spec devices. Zoom's breakout room feature, which facilitates group discussions, was well received; however, opinions on lecturer interaction were more divided. Despite differing views on the value of its

[9] Zoom and Google Meet usability analysis for online learning among high school students.
[10] Tantangan dan Strategi Manajemen Kurikulum di Era Digital: Studi Literatur untuk Inovasi Pendidikan.

calendar and planner features, Microsoft Teams was praised for its collaborative capabilities and integration with other educational programs.

These results highlight the fact that no platform is perfect in every way. Therefore, when selecting or creating online learning resources, educators and developers should take the unique needs of students into account. To better support the learning process in social studies education, focus should be placed on enhancing interactivity, streamlining user interfaces, improving accessibility, and fortifying collaboration features.

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