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Using Learning Platforms to Support Online Learning in Junior High School

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ABSTRACT
The online learning process can be done through various e-learning platforms. The determination of the platform should consider the dimensions of the teacher and those of the students. This study aims to analyze the use of the e-learning platform from the perspective of teachers and students in junior high school. This quantitative research design uses a descriptive method. Participants consisted of 91 teachers and 165 students in Medan City. Data were collected by questionnaire via Google Forms. Quantitative data analysis used descriptive statistics to obtain the percentages for each indicator. Then the presentation of data is done with tables and diagrams. The results showed that teachers and students have different perspectives on each e-learning platform supporting the learning process. Based on the philosophy of teachers and students, it can be stated that 1) teachers and students prefer Google Classroom to Edmodo as an LMS in Online Learning. This is because Google Classroom is easier to use, more interactive, and more efficient; 2) Google Meet is the application most often used and preferred by teachers and students in direct virtual Learning. Even though Zoom Cloud Meeting has a more attractive appearance and features, Google Meet is easier to access and considered to save internet quota; 3) As many as 43% of teachers and 49% of students prefer a combination of Google Classroom, Google Meet, WA Group to support the online learning process. Meanwhile, 41% of teachers and 42% of students prefer a combination of Google Classroom, Zoom Cloud Meeting, and WA Group as an e-learning platform. Only a few teachers and students choose the variety of Edmodo Zoom and WhatsApp groups and the combination of Edmodo, Google Meet, and WhatsApp groups.

INTRODUCTION

Conventional Learning is starting to shift to digital-based Learning. This Learning contains elements of technology, pedagogy, and content knowledge (TPACK). TPACK is a framework for integrating technology into Learning (Berutu et al., 2019; Koehler et al., 2009; Sojanah et al., 2021). One such technology used in the learning process supported by computer devices and internet networks is the implementation of e-learning (Delita et al., 2022). E-learning can accommodate learning systems that regulate the role of teachers, and students, utilization of learning resources, Learning management, learning evaluation, and monitoring systems (Mpungose & Khoza, 2022; Eady & Lockyer, 2013).

E-learning is a trend nowadays, especially during the Covid-19pandemic situation. The spread of coronavirus has rendered face-to-face Learning in the classroom impossible. Since the onset of Covid-19, school's various levels have closed: early childhood education, primary education, secondary education, and tertiary education. This kind of use of technology will increase the effectiveness and efficiency of Learning when appropriately managed.

E-learning requires facilities in the form of hardware connected to the internet and software. Hardware may be computers, laptops, smartphones, tablets, and others, whereas software includes various learning platforms. Online learning platforms can exist in applications, websites, social media, and Learning Management Systems (Gunawan et al., 2020). These platforms include Google Meet, Zoom, Skype, Cisco Webex, MS Teams Slack, EduPage, Google Classroom, Edmodo, Kahoot, Moodle, ClassDojo, Schoology, WhatsApp, Telegram, Email, YouTube, Twitter, and Facebook (Basilaia & Kvavadze, 2020; Gunawan et al., 2020); Rohman & Mistofa, 2017).

Various online learning applications can be used for free, while others are paid. The most widely-used applications to support Online Learning at the elementary to tertiary education levels include Google Meet, Zoom Meeting, Google Classroom, Whatsapp Group, and the Learning Management System (LMS). Google Meet and Zoom Cloud Meeting are used for virtual content delivery. In contrast, WhatsApp Groups are used for more intensive communication, such as teacher instructions, student questions regarding material and assignments, and other forms of interaction. Learning Management System (LMS) is a learning management system used for administrative purposes, documentation, activity reports, and teaching and Learning activities carried out online (Turnbull et al., 2019). These include(1) Edmodo, (2) Google Classroom, (3) Moodle, (4) Kahoot, (5) Quipper School, (6) Schoology, (7) Docebo, (8) Atutor, (9) Chamilo (Rohman & Mistofa, 2017; Delita et al., 2019).

The use of various platforms is based on multiple considerations and reasons. This study explores the reasons for choosing different learning platforms and analyzes the advantages and disadvantages of the media used. The selection of the appropriate e-learning platform will determine the success of Learning. However, many teachers still do not have the expertise to choose and use the e-learning platform. Some teachers have never used it and only use WhatsApp groups to learn. Therefore, the topic of e-learning platforms is exciting and essential to study.

This research focuses on the LMS: Edmodo and Google Classroom, Google Meet, Zoom Cloud Meeting, and WhatsApp Groups. This research has a novelty value, namely the comparison of platforms with similar functions based on the perspectives of teachers and students, then cross-checking is made based on facts and other data. Little research still focuses on this platform, even though it is the most widely used platform for Online Learning. The results of this study will prove helpful for teachers to consider when choosing an e-learning platform that suits the needs of teachers and students alike. However, there have been studies on using Google Classroom (Shaharanee et al., 2016; Rohman & Mistofa, 2017; Al-Maroof & Al-Emran, 2018; Ventayen et al., 2018) Edmodo impact (Sumardi & Muamaroh, 2020). Zoom Cloud Meeting (Sutterlin, 2018; Barbosa & Barbosa, 2019; Mpungose & Khoza, 2022), Google Meet and WhatsApp Group (Maske et al., 2018; Gunawan et al., 2020), but they have different contexts from this research. The purpose of this research is: To compare LMS Edmodo and Google Classroom based on the perspectives of teachers and students, to Compare video conferencing platforms Zoom Cloud Meeting and Google Meet based on the views of teachers and students, & to analyze the combination of online learning platforms that teachers and junior high school students most prefer.

RESEARCH METHODS

Research Design

The research design is qualitative with a narrative model. The narrative model focuses on individual experiences (Clandinin & Connelly, 2000). This study explores the experiences of teachers and students in using distance learning platforms at the junior high school level. This experience relates to the advantages and disadvantages encountered while using

the platform in online Learning. This platform is limited to the type of LMS, namely Edmodo versus Google Classroom, video conferencing applications, namely Zoom Cloud Meeting versus Google Meet, and the use of WhatsApp Groups.

Participants

The sample in this study was determined purposively. Considerations were made in selecting teachers and students in Junior High School with experience using e-learning platforms such as Edmodo, Google Classroom, Zoom Cloud Meeting, Google Meet, and WhatsApp groups. There were 91 teachers and 165 students in Medan City as participants. The selection of these participants began with collecting information from teachers who had used all these platforms, after which the teacher recommended which students should become respondents.

Data Collection

Data was collected online. The questionnaire was distributed via a google form link to the teacher and student WhatsApp groups. Respondent's email addresses were not collected on purpose to respect their anonymity and confidentiality. The questionnaire consisted of 17 items related to research objectives. The first aspect was a comparison between LMS Edmodo and Google Classroom based on the experiences of teachers and students in terms of completeness of features, ease of use, attractiveness, the number of Learning interactions, the number of material file formats, quota savings, and preferences. The second aspect was between Zoom Cloud Meeting and Google Meet regarding access speed, audio and video quality, attractiveness, ease of use, quota savings, and preferences.

The third aspect was the choice of a combination of e-learning platforms. In addition, data were also obtained by conducting semi-structured interviews by telephone to dig deeper into information related to research problems. The interview questions were specific to the experiences of teachers and students using online learning platforms. The validity of the instrument's content was obtained in consultation with three expert teams in educational technology and Learning. The truth of each item was checked for clarity, adequacy, and internal consistency based on team experience.

Data Analysis

Questionnaire data were analyzed using descriptive statistics presented in tables and graphs. Meanwhile, interview data were analyzed qualitatively and presented in narrative form.

RESULTS AND DISCUSSION

Online Learning can be carried out effectively by utilizing technology consisting of hardware and software (Delita, Berutu, & Nofrion, 2022). The hardware needed is in the form of devices such as computers, laptops, tabs, mobile phones, and software integrated with the internet network as an e-learning platform (Eady & Lockyer, 2013; Mpungose & Khoza, 2022). E-learning platforms can facilitate the management of learning materials and videos to enable students to study the material independently (O'Flaherty & Phillips, 2015; Çevikbaş & Argün, 2017). The teachers make various considerations when determining the platform used in Online Learning (Delita, 2021).

Based on interviews with teachers, the considerations for choosing this learning platform include the ease of managing the learning process, the ease of accessing Learning, and the completeness of the features provided by the platform. The selection of this learning platform also considered the students as a factor. Teachers are more likely to choose more accessible media for all students. Before the platform is used, the teacher would teach their students how to use it through direct guidance, looking for materials in the form of files and downloading video tutorials from the internet. When all students can use it, the teacher can set the platform for the learning process. Learning would not be practical nor

achieve its goals if students find it challenging to use the forum. Using e-learning platforms without proper guidance will create obstacles for students during the learning process. (Prensky, 2001;Khoza & Biyela, 2020). In addition, internet connection stability and the amount of data plan users are also considered by the teacher. For this reason, the teacher compares information from peers and the internet about the characteristics of the various platforms to be chosen. Thus, the platform will make learning interactions easier for teachers and students.

Learning Management System is very functional in managing online Learning. LMS provides convenience in administration, documentation, presentation of material, learning interactions, and evaluation in the form of assignments and exams (Turnbull et al., 2019). The use of LMS can increase the effectiveness of continuous Learning. However, teachers must consider various aspects in choosing an LMS. The central element is the usefulness in improving the learning quality and the ease teachers and students can feel. Many types of LMS are developed and provided free or paid by the provider. These LMS include(1) Edmodo, (2) Google Classroom, (3) Moodle, (4) Kahoot, (5) Quipper School, (6) Schoology, (7) Docebo, (8) Atutor, (9) Chamilo (Rohman & Mistofa, 2017; Delita et al., 2019).

Google Classroom vs Edmodo

Google Classroom and Edmodo are free LMS that can be used for various online learning activities. Both can be used in online learning management, especially material sharing, assignments, and discussion forums. Questions were posed to compare these two learning platforms from the teacher's and student's perspectives.

Q1: Which platform is more comprehensive?
Q2: Which platform is easier to use?
Q3: Which platform is more attractive?
Q4: Which platform supports more learning interactions?
Q5: Which platform is more likely to support multiple forms of content presentation?
Q 6: Which platform saves more data quota?
Q7: Which platform is preferred for Online Learning?

The following assessment was made by the teachers and students who used LMS Edmodo and Google Classroom as their e-learning platforms.

Table 1. Comparison between Google Classroom and Edmodo

Respondent	Questions	Frequency (%)		
		Google Classroom	Edmodo	Uncertain
Teachers	Q1	64.83	19.78	15. 39
	Q2	83.52	9.89	6.59
	Q3	62.64	25.27	12.09
	Q 4	68.13	20.88	10.99
	Q 5	63.74	24.17	12.09
	Q 6	67.03	27.47	5.50
	Q 7	83.52	16.48	0
Students	Q1	56.97	36.36	6.67
	Q2	84.24	13.33	2.42
	Q3	61.82	28.48	9.70
	Q 4	55.15	34.55	10.30
	Q 5	50.30	37.58	12.12
	Q 6	81.82	10.30	7.88
	Q 7	83.64	16.36	0

Source: Research Results, 2022

Based on table 1, it can be informed that according to teachers and students, Google Classroom has more exclusive features, is easier to use, looks more attractive, supports more learning interactions and presents the material in various formats, is more data-efficient, preferred by teachers and students for online Learning compared to Edmodo.

This study focuses on using Google Classroom and Edmodo because both are widely used in junior high school learning. Google Classroom is a free e-learning platform from Google for simpler learning management, such as creating, distributing, and evaluating assignments. Meanwhile, Edmodo is designed based on social media to enable communication and collaboration between teachers, students, and parents and more interactive learning management. If viewed from the perspective of teachers and students with experience using Edmodo and Google Classroom, these two LMS have advantages and disadvantages.

The advantages of Edmodo include having more comprehensive features than Google Classroom. In other words, the disadvantage of Google Classroom is that it has fewer features to support the learning process. Edmodo's features include notes, alerts, assignments, quizzes, polls, groups, communities, progress, discover, libraries, grade books, and badges. Notices displayed as information on the home page, for example, contain classes, materials, and others that all students can see. Alerts are simpler than notes and include essential information addressed to specific users. The assignment allows teachers to manage projects and provide hands-on assessments. The quiz can be given in various forms, such as multiple choices, true-or-false, short-answer, fill-the-blank, and matching polls for surveys or voting. Groups facilitate teachers, students, and parents to log in to their accounts. Communities allow teachers to join and share with other Edmodo account users worldwide. Progress is used to oversee the progress of student learning outcomes. Discover facilitates teachers to find references by simply typing out keywords. The Library can manage teaching materials in various forms: pdf, ppt, videos, and other texts. Gradebooks can be used by teachers in managing the assessment of learning outcomes, whereas Badges are a feature to reward students.

The features available on Google Classroom to support Learning include notifications, assignments, Grading, file sharing, class folders, learning archives, originality reports, Google Calendar, and forums (Google, 2015). Announcements contain important notes that can also be connected to the Gmail inbox, for example, students submitting late assignments. The assignment is for management, and Grading is for assessment. In Google Classroom, teachers and students can share files in various formats. Class folders can be synced with Google Drive for file storage. Learning archives allow teachers to archive learning in a class for a single semester. The Originality Report is a new feature helpful in finding authenticity or plagiarism in student assignments. Google Calendar can be used for scheduling materials, projects, or exams. Forum is a communication feature that allows two-way interaction between teachers and students. In terms of comprehensiveness of features, Edmodo is better than Google Classroom. Thus, Edmodo is undoubtedly more usable because it supports more learning interactions, supports the presentation of material in various formats, and is more interesting. However, this is not in line with the personal assessments of teachers and students who stated that Google Classroom is more comprehensive, more interesting, more supportive of Learning interactions, and makes it easier to present material in various formats than Edmodo. This is because teachers and students use Google Classroom more often than Edmodo.

Ease of use is one of the teacher's considerations in choosing an e-learning platform. As many as 83.52% of teachers and 84.24% of students stated that Google Classroom was easier to use than Edmodo.

This convenience is felt notably by teachers in a classroom setting that enables implementation in no time. The Google Classroom interface is more straightforward, making it user-friendly for teachers and students. Data is stored in a centralized cloud database such as Google Drive. Files on the drive can be edited in real-time, making it even more convenient, especially for assignments or remedial.

On the contrary, Edmodo has many features in English, making it more difficult for teachers and students to understand its function, so they rarely use Edmodo. Besides being user-friendly, Google Classroom is also considered to be more data-efficient. Data usage depends on the duration of classes accessed on the LMS.

Google Classroom is more economical for the internet quota because the features used during e-learning are also limited and generally only used for collecting student assignments. With its various features and extended use duration, Edmodo consumes more data. Edmodo and Google Classroom are both accessible via computer and mobile devices. Both are applications that can be downloaded for free. Memory usage on mobile devices is as follows: Google Classroom at 44.82 MB and Edmodo at 224 MB. Thus, Google Classroom is lighter on mobile than Edmodo. For these reasons, teachers and students prefer Google Classroom as an online learning platform to Edmodo. Google Classroom follows the principle of Learning centred on student activities, which is easy to use, and its features follow the needs of online Learning (Shaharanee et al., 2016; Al-Maroof & Al-Emran, 2018; Ventayen et al., 2018).

Google Meet vs Zoom Cloud Meeting

Google Meet and Zoom Cloud Meeting are most used in online Learning for virtual meetings between teachers and students. The features on these two platforms strongly support Learning activities through audio, video calls, screen sharing, and chat. The questions posed to obtain information on comparing these two platforms are as follows.

Q1: Which platform provides faster access when learning online?
Q2: Which platform has better audio and video quality?
Q3: Which platform is more attractive?
Q 4: Which platform is easier to use?
Q 5: Which platform saves more data plan?
Q 6: Which platform is preferred for Online Learning?

The research results related to the comparison of Google Meet and Zoom Cloud Meeting can be observed in table 2 below.

Table 2.Comparison between Google Meet and Zoom Cloud Meeting

Respondent	Questions	Frequency (%)		
		Google Meet	Zoom	Uncertain
Teachers	Q1	45.05	46.15	8.80
	Q2	32.97	56.04	10.99
	Q3	34.06	59.34	9.34
	Q 4	51.65	45.05	3.30
	Q 5	46.15	29.67	24. 18
	Q 6	45.05	54.95	0
Students	Q1	88.48	9.69	1,83
	Q2	69.09	27.88	3.03
	Q3	72.12	26.06	1.82
	Q 4	86.67	10.30	3.03
	Q 5	73.33	13.94	12.73
	Q 6	80.00	20.00	0

Source: Research Results, 2022.

Table 2 shows that from the teacher's perspective, Zoom Cloud Meeting has higher audio and video quality, a more attractive appearance, and is preferred for online Learning compared to Google Meet. Meanwhile, Google Meet is easier to use and saves data plans. Judging from the speed of access to Learning, these two platforms are almost the same. Meanwhile, from a student perspective, Google Meet is faster to access, has better audio and video quality, is more interesting, easier to use, saves more data, and is preferred to use in online Learning compared to Zoom Cloud Meeting.

Various platforms provide video conferencing, both paid and free. Platforms that support this virtual face-to-face include Zoom Cloud Meeting, Google Meet, Skype, Cisco Webex, MS Teams, and others (Rohman & Mistofa, 2017). This research focuses on Zoom Cloud Meeting and Google Meet as the most widely used platforms in Online Learning. Zoom Cloud Meeting is a software program for cloud computing-based video conferencing developed by Zoom Video Communications Inc and can be accessed on the website: http://zoom.us/. This application provides services for meetings, video conferencing, webinars, and phone and chat forums (Tillman & Willings, 2020). Instructions for using Zoom via videos can be accessed at the help centre. Meanwhile, Google Meet is also a video conference service developed by Google with a website address: https://meet.google.com/. These applications strongly support virtual face-to-face Learning because video calls, audio, share screens, and chat support them.

Regarding access speed, based on a questionnaire given to teachers, Zoom and Google Meet are almost the same, i.e., 46.15% of teachers stated Zoom is faster to access, and 45.05% of teachers said Google Meet is more closed to access. However, according to students, 88.48% stated Google Meet was faster to access for Online Learning. The teacher sends the meeting link, while students only need to click the link to join the video conference. When using Google Meet, students can join classes faster. Meanwhile, at the Zoom Cloud Meeting, students who have not joined the reason are still loading or waiting for a stable internet network. Quoting from the Whistle Out research results in Ketikunpad (2020), Zoom can be operated on the internet with a minimum speed of 600 Kbps, while Google Meet requires an internet network with a speed of 300 Kbps. Based on the comparison of the internet network speed, Google Meet is faster to access than zoom.

Another aspect is audio and video quality. According to most teachers (56.04%), Zoom Cloud Meeting provided better audio and video quality. Meanwhile, most students (69.09%) stated that Google Meet has better audio and video quality than Zoom. The audio and video quality of Zoom and Google Meet can be tweaked in the settings section. Video quality can be set to standard, HD, and Full HD. The higher the video quality, the more quota it will consume (Mpungose & Khoza, 2022). Judging from attractiveness, most teachers (59.34 %) stated that the Zoom Cloud Meeting conference was more interesting than Google Meet. This is because Zoom has a feature that enables users to change their backgrounds. This is very useful for teachers and students to set a better experience during virtual meetings. In addition, Zoom also has a face-editing feature to brighten looks by activating Touch Up My Appearance (Zoom Support, 2020). These features can also be used on the mobile version. The zoom screen display is also considered more attractive than Google Meet. On Zoom, one screen can display up to 49 participants, unlike Google Meet, which only accommodates 16 people. Meanwhile, most students (72.12 %) stated that Google Meet is more interesting than Zoom because of its ease of use.

Based on the questionnaire results, 51.65% of teachers stated that Google Meet

was easier to use, and 45.05% noted that Zoom was easier to use. Meanwhile, 86.67% of students said Google Meet was easier to use than Zoom. Both platforms tend to be user-friendly because teachers and students can join the session by clicking on the link shared by the host. Participants can participate through the application installed on their mobile and laptop or log in via their web browser. Specifically for Google Meet, participants can join via their Gmail accounts. If the network connection is unstable, participants will exit automatically but can rejoin once a network is available. The advantage of Google Meet is that if students have joined since the beginning, they can rejoin without having to be re-accepted by the host. While on Zoom, participants who have left must be re-admitted by the host so that participants can rejoin the meeting.

Judging from comparing internet data usage, teachers (46.15%) and students (73.33%) stated that Google Meet is more data efficient. For HD (720p) group conferences, Zoom consumes approximately 535 MB-1.08 GB of data per hour. At the same time, Google Meet uses 2.25-2.4 GB of data per hour for HD quality. Therefore, regarding data usage, Zoom should be relatively more efficient than Google Meet. (CNN Indonesia, 2020) also supports this) data that Zoom only consumes 45.1 MB in 5 minutes, while Google Meet consumes 96.8 MB quota per 5 minutes. However, using these two applications on mobile devices will be more efficient because there is a bandwidth adjustment by default on Zoom and Google Meet. The extensive use of internet data when learning online using these two applications has become a complaint for teachers and students.

For this reason, teachers conduct this virtual meeting relatively quickly. Even though the free Zoom service can be used for 40 minutes, Google Meet is free for up to 60 minutes. Data savings on these two platforms can also be done by turning off the camera and muting the audio or activating the mic only as needed (Sutterlin, 2018; Barbosa & Barbosa, 2019; Mpungose & Khoza, 2022).

Zoom requires 234 MB of storage space for the app on a mobile device, while Google Meet requires 314 MB. Thus, the Zoom application is lighter and only requires less storage memory than Google Meet. Both of these applications are installed on the mobile devices of teachers and students because they are used interchangeably. However, if mobile memory is insufficient, teachers and students can directly use a computer or laptop browser connected to the internet network. The use of these two applications is efficient. Based on the advantages possessed by Zoom, 54.95% of teachers stated that they prefer Zoom for Online Learning. This also underlies some paid Zoom subscriptions to get higher quality services because it is necessary to learn during the Covid-19 pandemic. Meanwhile, 45.05% of teachers and 80.00% of students are likelier to like Google Meet for Online Learning because it can be integrated with Gmail to create or join meetings, can be accessed quickly, and has many other advantages.

Combination of E-Learning Platforms

Each e-learning platform has its respective advantages and disadvantages. Teachers can maximize the use of this platform by combining other platforms to complement each other. The combination of e-learning platforms in this research are Google Classroom, Zoom, and WhatsApp groups (code A); Google Classroom, Google Meet, and WhatsApp (code B); Edmodo Zoom and WhatsApp groups (code C) as well as Edmodo, Google Meet and WhatsApp groups (code D). This related question is the most preferred combination of e-learning platforms for Learning. The selection of this platform combination by teachers and students can be seen in Figure 1 below.

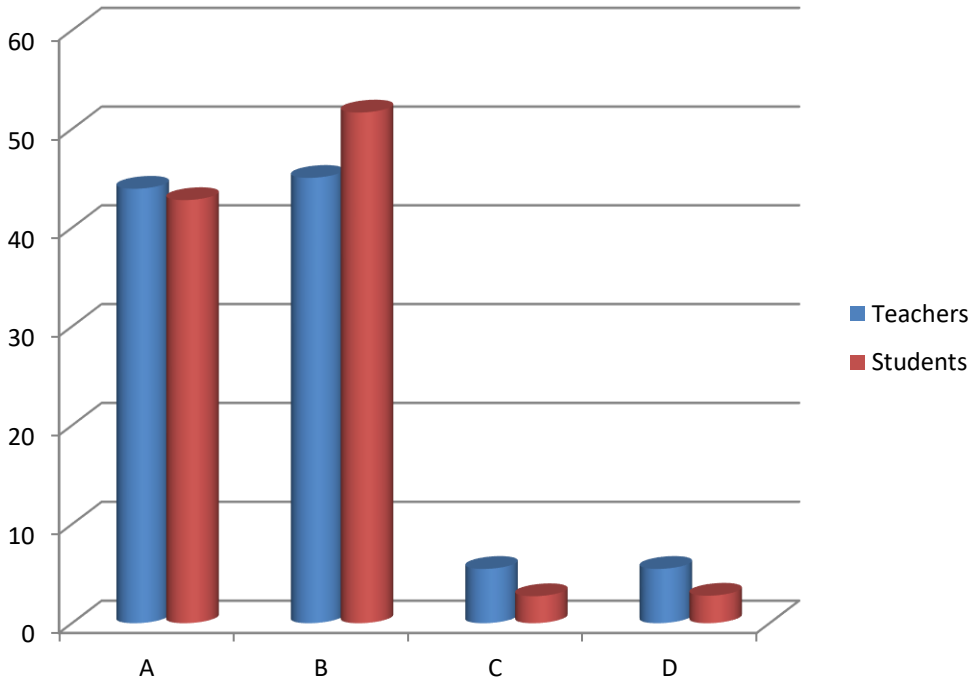

Figure 1. E-Learning Platform Combination Selection

Figure 1 shows that the combination of e-learning platforms that teachers and students most prefer is Google Classroom, Google Meet, and WhatsApp groups in the first option; Google Classroom, Zoom, and WhatsApp came in second, while Edmodo, Google Meet, and WhatsApp groups are in a third option and Edmodo, Zoom, and WhatsApp groups are in last chance.

The implementation of online Learning can be done by combining several e-learning platforms. This will further improve the quality of Learning, which will, in turn, impact student learning outcomes. The learning platforms in this research include Google Classroom, Zoom, and WhatsApp groups; Google Classroom, Google Meet, and Whatsapp groups; Edmodo, Zoom, and WhatsApp groups. As well as Edmodo, Google Meet, and WhatsApp groups. The combination preferred by teachers and students is Google Classroom, Zoom, and WhatsApp groups, where each application complements the others. Google Classroom for distribution of teaching material files, collection of assignments and exams; Zoom for virtual presentation of material and WhatsApp Groups for more intensive and practical communication between teachers and students. The reasons for choosing Google Classroom compared to other LMS include ease of use, simplicity of features, facilitating two-way communication between teachers and students through discussion forums, and integration with other Google products. Google Classroom has the advantage that it can be used for free, is easy for teachers and students to use because of its social media-based appearance (similar to Twitter and Facebook), and is integrated with Gmail, Google Drive, Google Docs, Google Form, YouTube and Google Slides (Abid Azhar & Iqbal, 2018; Rohman & Mistofa, 2017).

Data is stored on Google Drive, so users wouldn't have to worry about losing documents, messages, and files that can be searched in the Gmail inbox, for example, assignment notifications. Google Forms can be used for evaluation in the form of exam questions in various tests such as multiple choice, short entries, essays, and others. File

management can be in the form of .doc, .pdf, .zip, .mp3, .mp4, and so on. Mobile app requires less storage space and also has offline features on G Suite accounts to save data. Google Classroom has limitations such as an unattractive display and limited storage on Google Drive of only 15 GB, including Gmail and Google Photos storage. If the storage capacity is complete, email can't go to Gmail, and files can't be saved in Google Drive. Teachers and students still choose Google Classroom as the primary LMS used. Google Classroom can facilitate students to be active, communicative, and collaborative in Online Learning (Rohman & Mistofa, 2017).

The use of LMS has still limited due to the unavailability of video conferencing features. Video conferencing technology can complement LMS in Online Learning (Mpungose & Khoza, 2022). Zoom and Google Meet are the most preferred teachers and students to combine with Google Classroom. Zoom and Google Meet seem to be more beneficial in virtual meetings. Based on the experiences of teachers and students using these platforms, Zoom is said to have good audio and video quality, attractive features, and appearance, saves internet quota, mainly when used on mobile devices, and requires smaller storage memory on the device. It also allows teachers and students to see more participants on one screen and to see, hear and discuss with each other via desktop, computer, mobile, iPhone, tablet, and other devices (Sutterlin, 2018; Barbosa & Barbosa, 2019).

Meanwhile, Google Meet also has the advantage that it is also the platform of choice for virtual Learning. According to students and teachers, Google Meet can be integrated with other Google products, such as Gmail, making it easy to access and use. The free version allows 60 minutes of virtual meetings, while zoom only allows 40 minutes. Furthermore, WhatsApp Groups are also an option for communication for teachers and students in certain subjects. All respondents said they use Whatsapp Groups in class for faster communication on each topic. The use of WhatsApp groups is considered very effective in supporting Learning. WhatsApp Group allows teachers and students to discuss and share files in various formats, allowing sharing of materials and collecting assignments through this application (Maske et al., 2018; Gunawan et al., 2020). The weakness of this application is that if there are too many materials and a collection of assignments through WhatsApp Groups, the device's memory will quickly fill up. Therefore, the use of the application needs to be combined with LMS. Online Learning will be more effective if students are facilitated by the necessary technology, not only limited to hardware such as computers, smartphones, and data storage but also software in the form of an e-learning platform that can be combined (Berutu et al., 2019; Mpungose & Khoza, 2022). The first order of combination preferable to teachers and students are Google Classroom, Google Meet, and WhatsApp Groups, followed by Google Classroom, Zoom, and WhatsApp Groups.

CONCLUSION

Learning platforms are instrumental in Online Learning. Many aspects must be considered, both from the teacher and student dimensions. The selection of this platform can be viewed from the ease of use, speed of access, completeness of Learning support features, usage of internet data, and attractiveness. Each forum has its respective advantages and disadvantages. Therefore, various platforms can also be combined to improve the quality of the learning process and outcomes. However, this combination must also pay attention to the needs and conditions of students. Teachers' expertise and experience in designing and managing technology-based Learning also determine the success of Learning. No matter how sophisticated the learning platform is, the learning objectives cannot be achieved according to expectations if misused.

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