

LMS SIPDA User Satisfaction Compared to Google Classroom at the Department of Public Education, State University of Medan

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Abstract. In learning using e-learning is largely determined by the LMS model used. The LMS model used greatly influences user satisfaction, especially for students and lecturers. This study aims to provide an overview and responses of lecturers and students of Community Education at Medan State University towards LMS SIPDA compared to LMS Google Classroom from the point of view of user satisfaction. This research uses quantitative research with a descriptive approach. The research instrument used in this study was a questionnaire distributed online via the Google Form. The data analysis technique in this study is descriptive quantitative analysis in the form of percentages. The results showed an average of 75.90 % in the category agreed that the satisfaction level of LMS SIPDA users was higher than Google Classroom in the Department of Community Education, Medan State University. So it can be concluded that users are more satisfied with the SIPDA LMS than Google Classroom, with a negative score on the access/login procedure due to the vulnerability to errors in inputting usernames and passwords and the level of difficulty operating the SIPDA LMS which has various features.

Keywords: User Satisfaction, LMS SIPDA, Google Classroom

1. Introduction

As a result of the development of digital technologies, networking, artificial intelligence, and virtualization, the world has now entered the fourth industrial revolution, or 4.0, which is defined by an increase in contact. This clearly defines the differences between humans, machines, and other resources. Of course, many areas of life also advance along with information and communication technologies. One of them is Indonesia's educational system. The thing that is of great concern to education in development is how education creates human resources capable of solving problems. In essence, changes in the 4.0 revolution era cannot be avoided by anyone, so it requires the preparation of superior human resources (HR) so that they are ready to adapt and be able to compete on a global scale. Efforts that can be made are increasing the nation's competitiveness by improving the quality of education.

Basic, secondary and tertiary education are the keys to improving the quality of human resources with the aim that human resources are able to keep up with the times. The nation's competitiveness in the global education market is impacted by the quality of education. The education system as a whole can be improved with the help of good human resources. In essence, education 4.0 is a response to the demands of the 4.0 industrial revolution, in which technology and people may work together to generate new opportunities for creativity and

innovation. Tertiary institutions have become a catalyst that plays a crucial role in advancing national research and technology as a result of the era's increasingly pervasive and quick-moving changes, particularly in the area of digital technology. In order to improve management and educational practices, tertiary schools must be able to leverage technology advancements. By doing so, they can produce competitive and high-quality human resources, which will ultimately increase the quality of graduates from higher universities.

Therefore, to achieve competitive advantage, it is necessary to have a role that supports the implementation of competitive strategies in education. One of the efforts to develop science in order to adapt to the present is information technology (IT). In the world of education, information technology (IT) is the main thing in improving the quality of education 4.0 where there is alignment to create innovations creatively and innovatively. One of the uses of information and communication technology in the world of education is by utilizing e-learning. Medan State University (Unimed) as one of the universities that supports the development of the industrial revolution 4.0 designed a Learning Management System (LMS). The Learning Management System (LMS) is software used to manage learning activities in lectures and create web-based online lecture materials.

Unimed Learning System or the usual one known as SIPDA is the current LMS of Medan State University This used . this LMS made based on applicable e-learning standards and criteria . No only using SIPDA, Medan State University also utilizes other LMS including Google Classroom. Both LMS above is an NGO that meets e-learning standards and criteria. Clark and Mayer [5] said " *e-learning is answer from current digital device this can _ support learning such as desktop computers, laptops, tablets or mobile phones.* ". So it can be concluded that e-learning is a form learning based technology . Then Clark and Mayer 2 [5] said that *e -learning is a must fully can utilise technology moment This such as video, games, computing mobile and social media that moment it is accessible via the web. Designing technology- appropriate e -learning moment This is possible approach _ made to follow development of the times.* One of the characteristics of e-learning according to Clark & Mayer [5] is " *can be done in a manner together with interaction (synchronous e-learning) or can done in a manner stand-alone (asynchronous e-learning)* ". " *Doing learning teacher- centered synchronous e-learning) or for independent learning (asynchronous e-learning) .*

With the LMS, learning conducted by students and lecturers is greatly assisted especially in the midst of the COVID-19 pandemic which demands teaching and learning activities to be carried out online. Implementation of online lectures has taken place since March 2020, and continues until the end of 2020 in accordance with the Chancellor's Circular Letter Number 000809/UN33/SE/2020. The Chancellor's Circular Number 000119/UN33/KP/2022, which was published in 2022, said that the even semester of 2021–2022 at Medan State University involved a hybrid learning of face-to-face and online instruction. So, the learning process will still be implemented with the help of an LMS, which will serve as a complement and enhancer. The hybrid learning approach employed for the even semester of the 2021–2022 academic year is reminiscent of the blended learning approach used by Medan State University prior to the COVID–19 epidemic. Both blended learning and hybrid learning involve a combination of online and in-person instruction.

The year 2022 is the beginning for Medan State University to reintroduce learning with an offline-online mixed system after almost 2 years of implementing fully online learning due to COVID-19. If studied in terms of advantages, since learning using IT is virtually completely dependent on the Internet of Things (IoT), utilizing a learning management system (LMS) is a technique in the field of education to be able to generate human resources that are able to adapt to the period of the industrial revolution 4.0. The idea of the "Internet of Things" intends

to increase the advantages of internet connectivity, such as those provided by LMSs like SIPDA and Google Classroom, which rely on the internet for access. The LMS model created and its optimal, effective, and efficient application are major factors in online learning that incorporates e-learning. In this instance, it is important to underline that the LMS model chosen heavily influences how learning occurs while using e-learning.

The chosen LMS model has an impact on user satisfaction. One of the most crucial metrics for assessing the effectiveness of an LMS implementation in a school is user happiness. Good service quality is not portrayed or performed well based on the point of view or perspective of the service provider, but rather on the point of view or opinion of its customers [1]. Given the context of the issue, the authors are motivated to conduct research for their article, "User Satisfaction of LMS SIPDA Compared with LMS Google Classroom (GCR) at the Department of Public Education, Faculty of Education, State University of Medan," which aims to describe the responses of lecturers and students to LMS SIPDA by Google Classroom LMS from the point of view of the users.

2 Research Method

This study's methodology is quantitative research using a descriptive approach and survey research techniques. Research that is quantitative in nature and is grounded in the positivist school of thought is known as quantitative research (Sukmadinata, 2015: 53). Descriptive research also refers to study that tries to develop a methodical, factual, and precise picture of the topic under study. This study's design is based on numerical and statistical computations. This study's data analysis method employed descriptive quantitative analysis expressed as percentages. Since this study compares Google Classroom (GCR) to the LMS SIPDA users at the Department of Public Education, State University of Medan, it was decided to employ a quantitative approach. The grading algorithm used was as follows:

$$\% \text{ of Assessment} = \frac{\sum \text{score obtained}}{\sum \text{score optimum}} \times 100\% \quad (1)$$

The process of applying the scoring algorithm to the results of the survey response options given to determine whether users are satisfied with the LMS either directly or when distributed online using a Google Form. A closed questionnaire with a Likert scale and five response options—strongly agree, agree, disagree, disagree, and disagree—was employed. The Likert Scale score for questions with a positive orientation is calculated as follows: Strongly Agree (SS) receives a score of 5, Agree (S) receives a score of 4, Less Disagree (KS) receives a score of 3, Disagree (TS) receives a score of 2, and a score of 1 for Strongly Disagree (STS). Scores on the answers to the questionnaire are used to calculate indicators of user satisfaction. According to Doll & Torkzadeh in Rachmawati & Krisbiantoro (2021) there are 5 indicators that are used In the questionnaire given to lecturers and students of the Community Education study program who actively participate in lectures and utilize LMS SIPDA and LMS Google Classroom, namely batch 2021, 2020, and 2019, the following items are used to gauge the satisfaction of LMS users, are as follows: (1) The system content is the basis for the content dimension, which gauges user satisfaction. Typically, the system's contents are made up of information that the system has collected as well as modules and functionalities that users can use. (2) When the system gets input and converts it into information, the accuracy dimension of user satisfaction assesses how accurate the data is. (3) The display dimension (format) gauges user satisfaction based on the aesthetics of the system

interface, report formats, or data produced by the system. (4) The usability or friendliness of users when using the system, such as the process of data input, data processing, and searching for necessary information, are taken into account when measuring user satisfaction in accordance with the ease of use dimension. (5) The timeliness dimension gauges user satisfaction based on how quickly the system displays or provides users with the facts and information they require. [8]

The population of this study consists of lecturers and students from the community education study program classes of 2021, 2020, and 2019 at the State University of Medan's Faculty of Education. Students who are active enrolled in lectures from the classes of 2021, 2020, and 2019 received questionnaires. Purposive sampling was the method utilized in this study for sampling. In order to compare user satisfaction with SIPDA's LMS to Google Classroom, which was conducted directly or through online media using Google Form, questionnaires were given out to instructors and students of Community Education. The 3 (three) stages of the analysis procedure in this study are as follows: (1) Data processing, in this case a thorough review of all collected data to ensure its accuracy. (2) The first step in organizing the data is entering the data that has been verified in the frequency table. Then, each question is calculated by adding up the scores. Then, classifying the data into intervals and then adding the scores of each respondent's answers. (3) Obtaining the results. To do this, all of the scores for each indicator are calculated, shown in percentages, and the percentage results are then categorized by class interval. Then, in order to facilitate understanding, these numbers are then explained in the form of sentences (Nafsi & Trisnawati, 2022). After it has undergone quantitative analysis, the data is averaged and then categorized using the following Likert scale assessment criteria:

Table 1. Table of Interpretation Criteria for SIPDA LMS User Satisfaction Scores Compared to Google Classroom

| <i>Evaluation</i> | <i>Satisfaction Criteria</i> |
|-------------------|------------------------------|
| 0% - 20% | Strongly Agree |
| 21% - 40% | Agree |
| 41% - 60% | Less Disagree |
| 61% - 80% | Disagree |
| 81% - 100% | Strongly Disagree |

3 Result and Discussion

The results of the data analysis were obtained after the researchers conducted research by distributing questionnaires using Google Forms via WhatsApp, which were then responded to by 109 respondents consisting of lecturers and students of the Public Education Study Program, Faculty of Education, Medan State University who were still active in lectures including the 2019, 2020 class and 2021 and use LMS SIPDA and LMS Google Classroom. Based on the 5 (five) indicators used as assessment benchmarks, the percentage results are 75.90 in the agreed category, proving that users are more satisfied using the SIPDA LMS than the Google Classroom LMS in terms of content dimensions, accuracy, appearance, convenience, and timeliness. Overall the results of SIPDA LMS user satisfaction compared to the Google Classroom LMS can be seen in the following table::

Table 2. Interpretation of SIPDA LMS User Satisfaction Criteria compared to Google Classroom

| No | Indicator | Percentage | Category |
|----|-----------------------|------------|----------|
| 1 | Content Dimension | 72,30% | Agree |
| 2 | Accuracy Dimension | 78,28% | Agree |
| 3 | Format Dimension | 78,92% | Agree |
| 4 | Ease of Use Dimension | 72,40% | Agree |
| 5 | Timeliness Dimension | 77,61% | Agree |
| | Average | 75,90% | Agree |

In the content dimension indicator, there are 4 question items with a percentage of 72.30% in the agree category. The point of the first question regarding the performance of LMS SIPDA is better in quality than Google Classroom, getting a percentage result of 77.80% in the agree category. Another word for performance is performance. Application performance is seen from how well an application can do what the application should do [1]. In this case, the performance of the SIPDA LMS is better in quality than Google Classroom because the features in the SIPDA LMS have minimal errors, in contrast to the Google Classroom feature, one of which is the collection of tasks that are prone to errors with the statement “an error occurred when turn in your assignment. Try again” or error when clicking “Submit” option and more. This is in line with the research of Putri & Zafri [4] which states that one of the negative perceptions of students towards Google Classroom is the Google Classroom account which sometimes has errors.

The access/login procedure on LMS SIPDA is much easier than Google Classroom showing 51.56% results in the less agree category. For access/login SIPDA LMS can actually be reached anywhere without having to enter gmail on the device to be used, because the SIPDA LMS is web-based which is supported by a fairly wide browser, such as browsers with various plug-ins (Google Chrome, Mozilla Firefox, Opera, Maxton, Vivaldi) which only requires remembering the account username and password to access/login. Unlike the case with Google Classroom which is an application-based LMS. So to access/login Google Classroom, users are required to have a gmail account, because that is one of the requirements to enter the main page. Then after logging in using gmail, the user can create a study class (Simanihuruk, et al., 2019) in [7]. However, the difficulty of access/login procedures on LMS SIPDA which uses a login system with a username and password makes users sometimes forget and have to remember well in order to log in, then another thing when the user wants to quickly access/login but writes errors in the username or password makes the user unable to login and have to repeat to write. This is in line with the research of Wibowo et al [13] in indicators regarding the ease of use of the LMS only getting an 8% response, which is because some students have difficulty logging into the system because many students experience errors when typing in their usernames, errors that occur in the form of using uppercase and space characters.

In obtaining information in the form of material and so on, LMS SIPDA is easier than in Google Classroom, showing a percentage result of 77.24% with the agree category. SIPDA LMS is a website-based LMS, where in terms of obtaining information in the form of materials and others it is categorized as easier because it can be accessed through various supporting electronic devices such as cellphones, laptops, computers or anything that has internet access and browsers such as chrome, firefox, safari and others just by entering the username and password. Thanks to the various services offered by the e-learning platform,

each individual can access and use interactively the various sources of information available to them anywhere and anytime. Someone can access the material and use it as learning material without the need to install the media to a computer first [6].

After using the LMS SIPDA, there were benefits obtained by lecturers and students showing the results of 82.57% in the category of strongly agree. These results indicate that lecturers and students feel the benefits they get after using LMS SIPDA both in terms of content in the form of material or increasing knowledge in the use of something digital. Pratomo & Wahanisa [14] state that LMS is used to create a web-based online learning material, as well as manage how learning activities can run together with the results. In other words, this LMS is often referred to as a platform for e-learning or as a platform that creates virtualization in the teaching and learning process by utilizing electronic tools.

3.1 Accuracy Dimension Indicator

In the indicator of the accuracy dimension there are 3 question items that get a percentage result of 78.28% with the agree category. The first question point regarding data in the form of material distributed to LMS SIPDA is much more accurate and minimal errors than Google Classroom showing 75.60% results in the agree category. This shows that the data in the form of material distributed to LMS SIPDA is much more accurate and has minimal errors than Google Classroom. Accurate and minimal errors are referred to in the SIPDA LMS because the material shared by the lecturer can be uploaded and viewed by students based on grouped meetings, in contrast to Google Classroom, for the material shared by the lecturer is uploaded in a feature called a forum where material from the first meeting until finally joined in the forum and had to be scrolled to find the required material and in Google Classroom for the forum feature to be freely accessible by students which resulted in many files being joined because there was no special room for each meeting and resulted in errors. In addition, the SIPDA LMS for material that has a long period of time and wants to be reopened can still be accessed, in contrast to Google Classroom for material that is long enough to be reopened sometimes only in the form of a link drive and cannot be accessed. Where in this case, the LMS is able to store the overall material and learning activities [9]

The internet quota used to access LMS SIPDA is greater than the internet quota to access Google Classroom, showing a result of 76.14% in the agree category. This is because in accessing the SIPDA LMS, you must first open the browser on each device that will be used because the SIPDA LMS does not have an application, where when we exit the browser there is also the possibility of exiting the SIPDA LMS or reloading it, unlike the case with Google Classroom which has application, when we exit the application then when we will re-access it without an internet package it can still be done or possibly can be accessed. As a result, more internet data is consumed when accessing LMS SIPDA than when accessing Google Classroom. Google Classroom is effective in terms of internet quota utilization, according to study by Atikah et al. [3], which supports this.

Learning video links on LMS SIPDA can be accessed directly compared to learning video links in Google Classroom which have to switch to a new tab showing 83.11% results in the category of strongly agree. Talking about learning videos that are quoted from Youtube and then shared on these two LMS, the SIPDA LMS can be directly accessed by staying on the SIPDA page, while the Google Classroom LMS switches to a new tab, the Youtube application itself to watch the shared learning videos. This is in the form of navigation from

the two LMS which illustrates how difficult it is to use movement commands between pages or hypertext components on the site [1].

3.2 Format Dimension Indicator

The third indicator is the format dimension showing the results of 78.92% with the agree category. The first point is seen from the format of features on LMS SIPDA which is much more interesting than on Google Classroom showing 79% results in the agree category. Regarding the appearance of features in the attractive category, this is related to beauty. The beauty of an application relates to the selection of graphic forms, site page layouts, color composition, shapes and typography that visually attract visitors to explore the website [1]. Based on available data, lecturers and students agree that the LMS SIPDA feature display is much more attractive than Google Classroom. This is because the overall features of the SIPDA LMS are much more diverse than the features of the Google Classroom LMS. Zhang in Hanifah & Putri [7] mentions that Google Classroom is a simple application.

The format on the SIPDA LMS is much more detailed, structured, and detailed than the Google Classroom LMS display showing 82.93% results with the category strongly agree. The features provided by the SIPDA LMS are much more detailed, structured and detailed, in contrast to the Google Classroom LMS which generally appear in the form of forums, class assignments, and members. The Google Classroom program offers features like the ability to upload documents, videos, assignments, and practices, as well as discussion forums [11]. The features available in Google Classroom as a whole are also found in the LMS SIPDA, it's just that the LMS SIPDA is packed with more complete and detailed features such as the messages feature, then you can see who is online and currently on the SIPDA page, can reply directly other responses when in the discussion column by pulling the reply option, then from meeting 1 onwards can be viewed further by pressing next without having to return to the dashboard and so on. Thus, user satisfaction is higher with the SIPDA LMS feature in terms of being much more detailed, structured and detailed than the Google Classroom LMS.

The appearance of the features in the SIPDA LMS is in accordance with the contents in it, showing the results of 80.36% in the agree category. Akbar [1] states that the suitability of an application is defined as how we judge how appropriate the system is compared to the standards that apply or are expected by users. As a user, lecturers and students certainly need a match between what is displayed and the content in it. For the LMS SIPDA display itself as a whole consists of a dashboard, profile, grades, messages, preferences, notifications, and log out. The features provided are in accordance with the functions and contents in it, the dashboard feature is declared appropriate because it is useful to return to the main page, the profile feature is declared appropriate because with the profile feature we can see our profile in LMS SIPDA, as well as other features .

SIPDA LMS format is much easier to remember in the long term than Google Classroom showing 73.39% results in the agree category. In using an application, sometimes to reuse it is accompanied by a sense of forgetfulness and confusion, this is triggered by difficulties in application features either due to incompatibility or other things. However, in question 10, the SIPDA LMS feature's display generally is in agreement with its contents, according to lecturers and students, so it is continuous that the SIPDA LMS display is much easier to remember in the long term than Google Classroom. Another thing is that the LMS SIPDA access/login procedure is easier than Google Classroom. However, different things will

happen when an LMS as a system must undergo repairs, both with regard to existing bugs, maintenance in data, additional capabilities, improvements in system capabilities and other matters relating to maintenance which will certainly change from before [1].

3.3 Ease of Use Dimension Indicator

The next indicator is the ease of use dimension indicator which shows a result of 72.40% in the agree category. User satisfaction with the ease of use dimension indicator at the first point of this study seen from the activity of inputting or uploading files on LMS SIPDA is much easier than on Google Classroom showing 72.66% results with the agree category. Uploading files on LMS SIPDA is much easier because the upload size limitation in the file is much larger with a maximum size for new files: 20MB, overall limit: 100MB, where the file upload size is also informed above the upload column itself, making it easier for users to control/recheck files to be uploaded. Where in this case, it is different from the Google Classroom LMS which requires a large mobile memory so that files can be uploaded and there is no information on how many file size limits can be uploaded. This is supported by research by Annur & Hermansyah [2] that the difficulty felt in Google Classroom is the difficulty in sending assignments in large data sizes. In addition, Putri & Zafri [4] in their research stated that the cause of students' perceptions of doing assignments and sending them in the form of word/pdf files easily on Google Classroom was negative because when students sent assignments or daily tests in the form of word/pdf files to Google Classroom sometimes constrained or an error in sending it which requires having a large cellphone memory so that the file can be read, and has a good signal, so that students do not rate well when sending assignments so that they can be sent directly.

The process of uploading files on LMS SIPDA takes easy steps, showing 74.68% results in the agree category. The steps to upload files to LMS SIPDA are to log in to your LMS SIPDA account by entering your username and password, then on the Dashboard a selection of available courses will appear. Select the course to which the assignment will be sent. Choose in which meeting the task is located. Select Assignments to view a description of the assigned task, as well as to upload an assignment to be sent/collected. After selecting the task to be sent, a screen will appear to upload/send the task. Click upload to start uploading the file, if the upload process is successful then the file sent will appear in the task table. Then the process of uploading / sending the task is complete.

Files that have been uploaded, both assignments and others on LMS SIPDA, are much easier to store on certain services such as Google Drive than on Google Classroom, showing 75.22% results in the agree category. In terms of saving uploaded files, both assignments and others on certain services such as Google Drive, these two LMS have convenience in this regard. It's just that in Google Classroom when the Google Drive on the device is full, it affects the performance of Google Classroom itself, unlike the SIPDA LMS which has no effect. This assertion is consistent with research by Utami et al. [12] which showed that lecturers have trouble using Google Classroom because the storage in Google Classroom goes to Google Drive storage, and if Google Drive storage is full it results in an error in Google Classroom, which will make it challenging for students and lecturers to engage in the learning process.

When you want to see material given by lecturers or files uploaded to LMS SIPDA, it is much easier than Google Classroom showing 76.14% results in the agree category. The use of

LMS SIPDA is easier to access to view material provided by lecturers or files that are uploaded by yourself than on Google Classroom because the LMS SIPDA is a website based that can be accessed using the internet via mobile phones or PCs with any browser, such as Chrome, Firefox, Internet Explorer, including Safari just by inputting username and password. Unlike the case with Google Classroom which has an application, where to view uploaded materials or files one must have the application installed first or when using the website one must have an email account that is connected to his Google Classroom account.

In operating the SIPDA LMS, it requires more assistance than operating Google Classroom, showing 77.61% results in the agree category. The SIPDA LMS has more features available in it so that lecturers and students agree that operating the SIPDA LMS requires more assistance than operating Google Classroom. According to Wibowo et al.'s research [13], based on the findings of the questionnaire analysis of usage aspects, it was determined that a website-based LMS could be used as a substitute for traditional classroom instruction, provided that teachers and students had received the necessary training. In addition, this is also supported by Nurmitasari et al [10] who stated that Google Classroom is mobile friendly, people who are using Google Classroom for the first time will have no difficulty in using it. Where it is based on the features that are available are few and common.

In using the LMS SIPDA, fewer mistakes were made than using Google Classroom, which showed 50% results in the less agree category. The percentage shown is half of 100%, meaning that 50% agree with the question and 50% are in the disagree category. If examined from the previous questions, this is because LMS SIPDA users are prone to errors in entering their username and password when logging in, while Google Classroom users will be prone to errors when looking for material shared by lecturers through the forum features as a whole. from the initial meeting to the end, everything is in one forum that makes no distinction, which is very easy to make mistakes.

The difficulty level of operating and accessing LMS SIPDA is much more difficult than Google Classroom showing 76.51% results in the agree category. Operating Google Classroom is easier than LMS SIPDA, because the features in Google Classroom are simple features that are easily managed by every Google Classroom user. According to Nurmitasari et al. [10], Google Classroom is mobile-friendly so that consumers have no problems using it.

The login process at SIPDA LMS is more difficult than the Google Classroom login, showing 76.33% results in the agree category. In accordance with the second question on the content dimension indicator regarding the access/login procedure at LMS SIPDA is much easier than Google Classroom which shows less agreeable results because the access/login procedure at LMS SIPDA that uses a username and password is prone to errors when writing and so on.

3.4 Timeliness Dimension Indicator

The percentage gain on the timeliness dimension indicator shows the results of 77.61% with the agree category. The first indicator of the timeliness dimension seen from the collection of tasks at the LMS SIPDA is much more disciplined than Google Classroom if the lecturer has determined the deadline through the system which shows the results of 79.27% in the agree category. In this case, the deadlines available in the LMS SIPDA can be limited by lecturers who cannot be changed and contested by students, if the deadlines are in accordance with those limited by the lecturers, then collecting assignments cannot be done at all, unlike

Google Classroom which if the deadline has been determined by the lecturer, the possibility to still be able to upload assignments is still there with the status "Submitted Late", and it is undeniable that in Google Classroom cheating often occurs where a student is late in sending assignments, then cheating can occur where students The student can set the time in sending assignments by delaying the time.

The use of LMS SIPDA is more efficient in terms of time than the use of Google Classroom, showing 75.96% results in the agree category. This is based on the fact that the learning process must be accompanied by discussion. In Google Classroom discussion forums are carried out through the "Forum" feature where in this feature there is no user marker when responding to questions, this is a problem because when discussing, you have to take turns asking questions which are then answered immediately so that there is no overlap, unlike the LMS SIPDA. in the discussion forum there is a reply feature that makes it easy for users to give and answer questions at any time without having to wait for the previous question to be answered, because later there will be a marker that user A responds to user B's questions, as well as when they want to respond and so on. This underlies that in the learning process in terms of time efficiency, LMS SIPDA is much more efficient in terms of time than Google Classroom.

4 Conclusion

In terms of the dimensions of content, dimensions of accuracy, dimensions of display, dimensions of convenience, and dimensions of timeliness, 75.90 percent of respondents to the survey agree that users are more satisfied with LMS SIPDA than Google Classroom during the learning process. In addition, 58.1% of respondents agree that sipda makes it easier to access learning materials such as videos without having to copy links in new tabs like the one in Google Classroom. Judging from the ease of use dimension, there are 76.51% who believe that operating LMS SIPDA is more difficult than Google Classroom because there are too many features available and 76.33% of respondents say that the login process on LMS SIPDA is more difficult than Google Classroom because it is prone to errors. When compared to Google Classroom, 77.61% of respondents said that entering a username and password required help, and the same percentage said the same about LMS SIPDA. As a result of LMS SIPDA's more extensive feature set than Google Classroom's more limited selection, other study findings suggest that some students and lecturers are still unfamiliar with LMS SIPDA. In addition, access to enter SIPDA LMS is also more difficult than Google Classroom, which when registered and has an application can be done with just one click.

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References

- [1] Akbar, R. I. (2020). Development of LMS Assessment Instruments using Importance Performance Analysis Matrix. *Format*, Vol. 9, No. 2, pp. 136–146. <https://doi.org/10.22441/format.2020.v9.i2.005>
- [2] Annur, M. F., & Hermansyah.(2020). Analysis of the Difficulties of Mathematics Education Students in Online Learning during the Covid-19 Pandemic. *Paedagoria: Journal of Educational Studies, Research and Development*, Vol. 11, No. 2, pp. 195–201.
- [3] Atikah, R., Prihatin, R. T., Hernayati, H., & Misbah, J. (2021). Utilization of Google Classroom as a Learning Media During the Covid-19 Pandemic. *Journal of Picks*, Vol. 7, No. 1, pp. 7–18. <https://doi.org/10.31980/jpetik.v7i1.988>
- [4] Ayu Putri, I., & Zafri.(2021). Student Perceptions About the Use of Google Classroom in History Learning at SMA Negeri 2 Batusangkar. *Chronology*, Vol.3, No. 4, pp. 465–475.
- [5] Clark, R. C., & Mayer, R. E. (2016). *E-Learning And The Science Of Instruction: Proven Guidelines for Consumersand Designers of Multimedia Learning*. New Jersey: John Wiley& Sons.
- [6] Dhika, H., Destiawati, F., Sonny, M., Surajiyo, & Jaya, M. (2019). Application of Learning Management System in Learning Media Using Moodle. *National Seminar on Informatics and Its Applications (SNIA)*, Vol. 58, pp. 26–31.
- [7] K.Y.S. Putri, W. H. (2020). The Effectiveness of Google Classroom Communication as a Distance Learning Media for Communication Studies Students, State University of Jakarta, Class of 2018. *Medialog: Journal of Communication Studies*, Vol.3, No. 2, pp. 24–35. <https://doi.org/10.35326/medialog.v3i2.639>
- [8] Lase, D. (2019). Education in the Industrial Revolution 4.0 Era. *Sundermann Journal*, Vol. 12, No. 2, pp. 28–43. <https://doi.org/10.53091/jtir.v1i1.17>
- [9] Mahbub, M. A. (2021). Optimizing the use of the Learning Management System (LMS) in virtual learning for teachers in the Ma'arif NU Jember Educational Institution. *Transformation: Journal of Community Service*, Vol. 17, No. 1, pp. 107–116. <https://doi.org/10.20414/transformation.v17i1.3055>
- [10] Nurmitasari, N., Rosidah, A., & Sutriningsih, N. (2021). Training for Margoyoso Elementary School Teachers in Using Google Classroom. *For You the Country: Journal of Community Service*, Vol. 5, No. 1, pp. 15–19. <https://doi.org/10.52657/bagimunegeri.v5i1.1460>
- [11] Susilo, P. H., & Rohman, M. G. (2021). Optimization of Google Classroom as an Online Learning Innovation During the Covid-19 Pandemic. *Generation Journal*, Vol. 5, No. 2, 119–124.
- [12] Utami, V. U., Ardi, Lufri, & Fuadiah, S. (2021). Edmodo-Based E-Learning Learning Media on Motion System Material. *Journal for Lesson and Learning Studies*, Vol. 4, No.2, pp. 217–223.
- [13] Wibowo, A. T., Akhlis, I., & Nugroho, S. E. (2014). Development of Web-Based LMS (Learning Management System) to Measure Concept Understanding and Student Character. *Scientific Journal of Informatics*, Vol. 1, No. 2, 127–137. <https://doi.org/10.15294/sji.v1i2.4019>
- [14] Widya, I., Pratomo, P., & Wahanisa, R. (2021). Utilization of Learning Management System (LMS) Technology at Unnes during the Covid-19 Pandemic. *Semarang State University Law National Seminar*, Vol 7, No. 2, 547–560. <https://proceeding.unnes.ac.id/index.php/snh/article/view/730>