The Impact of Use of Google Workspace for Education on Student Engagement in Sustainability Accounting Learning

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Abstract

This study aimed to describe the use of Google workspace for education and explain its effect on student engagement in sustainability accounting learning. Descriptive quantitative research was intended to describe lecturers' experiences in using the Google platform to increase student engagement. In addition, this study used causality analysis to present empirical evidence of the effect of using Google workspace for education on student engagement. The research respondents were students participating in the Sustainability Accounting course at the Faculty of Economics and Business, Universitas Negeri Semarang in the even semester of 2022/2023. The research variable was the use of Google Workspace for Education, teaching behavior, and student engagement. Utilization rate was measured by the frequency of using Google features during sustainability accounting learning. Student engagement was measured by the constructs of agentic engagement, behavioral engagement, emotional engagement, and cognitive engagement. Data collection methods used questionnaires and observation. The data analysis method used quantitative descriptive analysis and multiple linear regression analysis. The results of the study showed that the use of Google workspace for education that could be applied in sustainability accounting learning was (1) the use of Google Drives, Google Forms, and Google Scholar features in project-based sustainability accounting learning; and (2) the use of Google Docs, Jamboard and YouTube applications for learning in class interactively. Empirical evidence indicated that the use of Google workspace for education could not significantly increase student engagement. In addition, teaching behavior was proven as predictor of student engagement significantly.

How to Cite

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INTRODUCTION

Due to the COVID-19 pandemic, online learning has changed to normal learning. However, the impact of online learning is still being felt. Student motivation has decreased significantly during the pandemic (Hussein et al., 2021). Obstacles that are commonly encountered in online learning are the inability of teachers to manage information technology and delayed feedback (Muthuprasad et al., 2021). The effectiveness of online learning really depends on teachers, students, and infrastructure (Gautam & Gautam, 2021). Adequate teacher ability in managing the class will increase student engagement in learning. The existence of infrastructure will also support the quality of learning in the classroom and encourage students to be more involved in lectures.

Student engagement is an important measure in measuring the quality of the educational process (Yanto et al., 2013). Almost all learning models emphasize the role of student engagement in overall learning success (Siddiqi et al., 2022). The learning process can be said to be successful if it is able to build student engagement. Educators have made various efforts to increase student engagement, both in online learning settings and in face-to-face learning (Raza et al., 2019). Interaction during learning takes place between students and students or lecturers and students can increase student satisfaction (Ayanbode et al., 2022). A student with high engagement will have more contacts or more commitment to the academic experience (Yanto et al., 2013).

Universitas Negeri Semarang (UNNES) has been holding face-to-face learning since 2022. However, the phenomena that occur during post-pandemic face-to-face learning shows significant differences in student engagement in class. Online learning causes students to experience difficulties in carrying out activities in class because the learning mode is different compared to before. Various attempts have been made by lecturers to increase student engagement by providing encouragement and direction to students. On the other hand, UNNES has provided training for lecturers and students to utilize Google workspace for education. Improving the quality of lectures by utilizing a variety of existing features is expected to be able to increase a variety of lecture activities so that it will cause students to be more active and involved in lectures. Based on this description, the formulation of the problem in this study is how the impact of using Google workspace for education is on student engagement in accounting learning.

University policies in improving the quality of lectures by utilizing the Google workspace for education feature must get an active response from lecturers and students. Problems regarding the low engagement of students in learning can be overcome with learning innovations. Many opinions have emphasized the significant impact of using information technology to improve the quality of learning. The use of interactive technology for learning is increasingly important and has increased since the COVID-19 pandemic hit (Aleisa, 2022). Hybrid learning is an alternative that needs to be implemented in universities (Ayanbode et al., 2022). Learning ecosystems with digital learning content are important tools for solving learning problems in the future (Nguyen & Tuamsuk, 2022). Application of learning technology in tertiary institutions will create more inclusive learning and make students adapt more quickly (Kirupainayagam & Sutha, 2022).

Google is a technology service provider in learning that has been recognized with a variety of features. A very familiar service is Google classroom as a learning management system feature (Hussein et al., 2021). Google meet is a commonly used synchronous online learning application (Ironsi, 2022). Google workspace is the latest feature based on cloud computing that can be used to increase student engagement in learning such as making assignments, group learning activities and projects (Lake, 2022). Google Scholar has also been used by researchers and librarians because it provides an online publication da-

tabase and can be used as a learning resource (Jacsó, 2012; Norris et al., 2008). Google is also superior for coverage and accessibility (Brophy & Bawden, 2005), so it is the most widely used search engine today (Andersson, 2017; Jamali & Asadi, 2010; Tazehkandi & Nowkarizi, 2021). Google docs exists as an online collaborative document editing service and has begun to be widely used by various parties (Riley-Huff, 2010; Semeraro & Moore, 2016). Google docs is easier to use because it is user-friendly and able to improve students' ability to construct knowledge collaboratively (Chu & Kennedy, 2011). Google forms are also available for collaboration and assessment which gives users the opportunity to create surveys and polls online (Djenno et al., 2015). Google Trends provides data for predictions in tourism (Hu & Wu, 2022).

This study aims to describe the use of Google workspace for education and explain its effect on student engagement in accounting learning. The various features available on the Google platform should be utilized optimally by lecturers in designing classroom learning, both online and hybrid. Learning in class will be more interactive and increase student engagement because of the many learning activities made by lecturers. This paper aims to describe the experiences of lecturers at Universitas Negeri Semarang (UNNES) in utilizing the features available on the Google for Education platform. This paper is also intended to analyze the impact of using Google workspace for education on student engagement.

State of the art research is the latest study that reveals the use of Google workspace for education in accounting learning and analyzes its impact on student engagement. What is novel in this research is a complete descriptive study and causality analysis regarding the impact of using Google workspace for education on student engagement. The results of previous research showed the use of google features in learning. In addition, there were studies that revealed various factors that could increase student engagement. Psychological needs satisfaction (competence and relatedness) was proven to influence student engagement (Benlahcene et al., 2020). Perceived lecturer support (PLS) and academic self-efficacy (ASE) could also determine the level of student engagement (Azila-Gbettor & Abiemo, 2020). Teachers structured approach (TSA) was shown to be a significant predictor of student engagement levels (Maini et al., 2021). In addition, teacher behavior also had a positive and significant effect on the level of student engagement (Dahleez et al., 2021).

Research that had been done previously to improve the quality of learning was the application of blended problem-based learning strategies (Nurkhin et al., 2020). Learning design using information technology is very important to do because it can increase student satisfaction (Nurkhin et al., 2021; Nurkhin, Martono, et al., 2022). Future research can apply a variety of learning innovations by utilizing information technology and relevant learning strategies in higher education. The application of problem-based learning also still needs to be done (Kardoyo et al., 2020). Likewise with peer tutoring and the case method (Nurkhin, Santoso, et al., 2022).

METHODS

Quantitative research was applied with descriptive analysis and causality analysis to present the use of the Google workspace for education platform to increase student engagement in sustainability accounting courses. Respondents in the study were students participating in the Sustainability Accounting course at the Faculty of Economics, Universitas Negeri Semarang in the even semester of 2022/2023, in March-May 2023.

The research variables were the use of Google workspace for education, teaching behavior, and student engagement. Google workspace for education features observed in this study included Google Docs, Google Scholar, Jamboard, Google Drive, Google forms and Youtube. The level of utilization was measured by the frequency of using these features during sustainability accounting

learning. Student engagement was measured by the constructs of agentic engagement, behavioral engagement, emotional engagement, and cognitive engagement (Benlahcene et al., 2020). The teaching behavior variable was measured to how far the lecturer provided feedback and guidance to students.

Data collection methods used questionnaires and observation. The questionnaire method was intended to describe student engagement in accounting learning and capture student opinions regarding the use of the Google platform. Observation was also used to observe student engagement during learning. The data analysis method used quantitative descriptive analysis and multiple linear regression analysis. The research model can be presented in Figure 1.

RESULTS AND DISCUSSION

The research was conducted in April-May 2023 in the Sustainability Report and Accounting course. Utilization of the Google Workspace for Education feature had been carried out in lectures combined with project-based learning. Students were divided into small groups (maximum 3 people) to complete a mini research article project on the topic of Sustainability Accounting. There were 38 students involved in this research.

Lecturers and students had tried to take advantage of the various features available on the Google for Education platform. Before students completed a group project, the lecturer provided an explanation of the project by utilizing Google's features. As an example, how to use google docs to share work between group members, use google scholar to find reference articles, and use google drives to store files and share them with others in the cloud. Lecturers had also utilized other features such as Jamboard and YouTube to increase student engagement in sustainability accounting learning.

Figure 2 below shows the use of Google Workspace for Education in sustainability accounting courses. Google drives and google
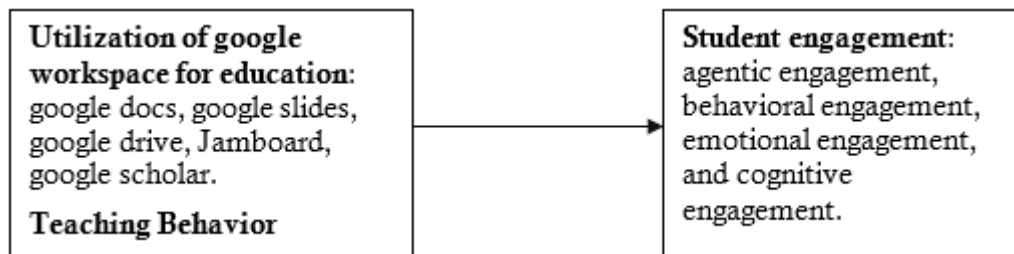
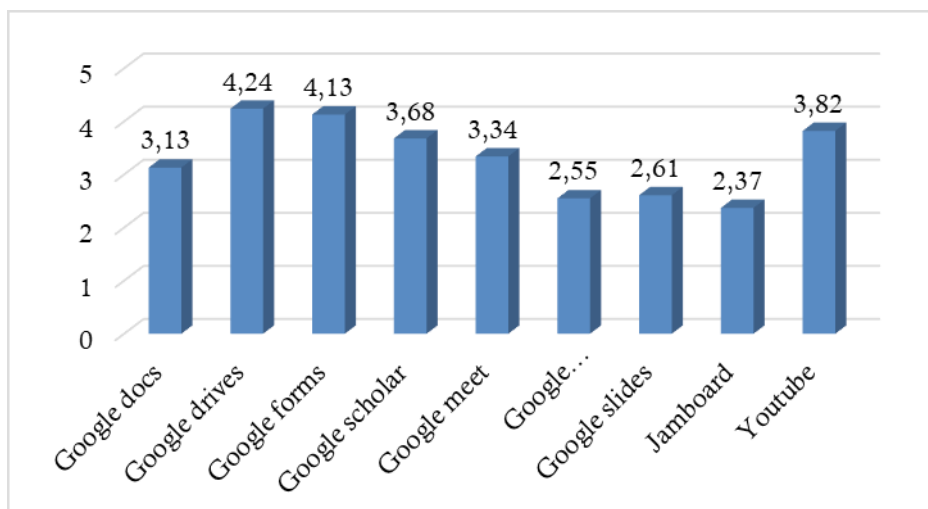

Figure 1. Research Model

Figure 2. The Use of Google Workspace for Education in Sustainability Accounting Learning

forms were the most frequently used features with an average score of 4.24 and 4.13. This means that students used Google Drive well to complete their group assignments. Students also knew the settings so that group members and lecturers could view files on Google Drive including adding or deleting these files. Google forms were often used to collect data. The Google features that were the least utilized in learning were Jamboard and Google Classroom. Jamboard was still unfamiliar to lecturers to be used in lectures in class as a substitute for conventional blackboards. By using a jamboard, lecturers could live ask for answers, responses, or other questions, cases, statements, and others more interactively. Google classroom was rarely used because there were learning management systems that were already available for online learning at UNNES, namely ELENA.

Overall, the use of Google workspace for education in sustainability accounting learning was still not optimal. The average utilization score was only 3.32. Google docs, which should have been used more optimally to complete group projects, were only used at 3.13. This was possible because the mini research article task was still in progress (not finished). Google meet could also be used more optimally to coordinate online by each group member.

The next analysis was to examine the impact of using Google Workspace for Education on student engagement. The teaching behavior variable was added as an independent variable. The results of the analysis are shown in table 1 below. The significance value of the google utilization variable was obtained at 0.335 with a t-count of 0.978, which means that there was no significant effect of using google workspace for education on student engagement in sustainability accounting learning. Meanwhile, the significant value of the teaching behavior variable was 0.000 and the t-count value was 5.294 which indicated a significant and positive effect of teaching behavior on student engagement.

The results of the study proved that the use of Google Workspace for Education was not significant for student engagement. These results confirmed the descriptive analysis regarding the use of Google which had not been maximized in learning accounting. Students had not utilized Google Docs and other features to complete their group assignments. Lecturers were also considered to have not fully utilized Google's very diverse features. Even so, many previous studies had proven the significant effect of using Google features for learning. Google Scholar provides an online publication database and can be used as a learning resource (Jacsó, 2012). Utilization of google docs could improve students' ability to construct knowledge collaboratively (Chu & Kennedy, 2011). Google forms are also available for collaboration and assessment which gives users the opportunity to create surveys and polls online (Djenno et al., 2015).

Interesting results were shown by the significance of teaching behavior on student engagement. Lecturers were considered to have tried to create interesting lectures to fol-

Table 1. Results of Simple Linear Regression Analysis of the Impact of Using Google on Student Engagement

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	28.364	8.345		3.399	.002
	google	.138	.141	.123	.978	.335
	teacher	.993	.188	.664	5.294	.000
a. Dependent Variable: engagement						

low so that students would be as well involved as possible. Lecturers were considered capable of providing feedback that was needed by students. Lecturers were also considered to be more concerned and very enthusiastic in learning. Previous research had also proven the significant effect of teaching behavior on student engagement (Dahleez et al., 2021).

CONCLUSION

The results of the study showed that the use of Google workspace for education had been carried out in sustainability accounting learning, although it had not been maximized. Google's most frequently used features were Google Drive and Google Forms. The Google Docs feature, which students should have used to their full potential, had not yet been used to complete group assignments. This could happen because lecturers and students did not have good skills in utilizing the Google Workspace for Education feature. Other research results provided interesting findings because the use of Google Workspace for Education was not proven to determine student engagement. Meanwhile, teaching behavior was able to increase student engagement in sustainability accounting learning. The results of the research implied that lecturers and students should receive ongoing training to be able to take advantage of various Google features. Lecturers would be able to design lectures that were more interactive in both online and hybrid learning modes.

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