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Google Classroom: Defining its Role as Learning Management System

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ABSTRACT: *Google Classroom (GC) is a platform used by schools to continue their delivery of instructional processes during the pandemic. This study identified the extent of students' and teachers' utilization of GC's features, their assessment as a learning management system, and their experiences using the platform. Concurrent-nested mixed method was employed. Purposive criterion and random sampling were used for the selection of the participants. Findings revealed significant difference in communication and task management in the features of GC. Ease of access, perceived usefulness, communication and interaction, and perceived instruction delivery demonstrated significant difference. This implies the beneficial use of GC for participants in achieving better results in their heutagogical practices in learning and teaching. Two themes emerged from their experiences of GC. Digital interdependence specifically classifies their experiences as adeptness and ease, effectiveness and efficiency, and engagement, while discomfort, lack of resources, connectivity, and academic honesty are their experiences of technological vulnerability.*

KEYWORDS: assessment, digital interdependence, google classroom, technological vulnerability, utilization

INTRODUCTION

The country's educational systems are joining the effort to adapt to, live with, and thrive in the new normal as all corporate and economic sectors work to contain the COVID-19 pandemic. Hence, the different types of distance learning modalities are emerging strongly in the ecosystem of learning and support (Abdullah et al., 2021; Amir et al., 2020; Dhawan, 2020; Zheng et al., 2021;). This is to ensure that students at all levels continue to learn safely (Barrot et al., 2021).

This unprecedented event in the education gave birth to school administrators to plan for the continuity of learning among their students. One of the most commonly used learning modalities among Higher Education Institutions (HEIs) in the country is Online Distance Learning (ODL). Through this learning environment, students are using the internet and technological tools to access their classes (Huang, 2019; Usher & Barak, 2020).

Cognizant, therefore, of this learning environment, a private Catholic Christian college in Cagayan de Oro City, Philippines, adopted the flexible learning in their instructional paradigms. The said college utilized its Learning Management System (LMS), the use of GC. LMS is an educational web 2.0 tool (Turnbull et al., 2019).
Notwithstanding, the use of Google meet for synchronous learning provides live discussion of teachers like in a face-to-face classroom setup (Aswir et al., 2021; Ironsi, 2021; Pham, 2022). In addition, GC centralizes student activities with deadlines, where teachers can their students' submitted tasks (Zhang, 2016).

The use of Google meet or Google workspace in general, even before the pandemic, is imperative to distance learning (Brown, 2018; Latif, 2016; Shaharanee et al., 2016; Sudarsana et al., 2019; Sukmawati & Nensia, 2019). As such, an assessment of students and teachers in the utilization of GC will provide the college understudy an educational-technological dynamic. However, such dynamics must be clearly understood to devise interventions that genuinely effectuate students' and teachers' educational and technological skills in the learning and teaching.

THEORETICAL FRAMEWORK

This study assumed that GC as a learning management system enabled students and teachers to actively engage in online learning and teaching.

This assumption was supported by Technology Acceptance Model (TAM) Theory by Davis (1989), connectivism theory by Siemens & Downes (2005), and the choice theory by Glasser (1999).

Technology acceptance model theory provides a holistic understanding of how users learn to accept and utilize technology based on assessment of its usefulness and ease-of-use. The TAM also highlighted how extrinsic factors such as individual variation, system characteristics, and supportive environments affect the technology usability.

Other than the TAM theory, the assumption also hinged on the theory of connectivism. This theory accepts that technology is a significant part of the learning process in the digital age. Siemens & Downes surmised that users could choose how they want to learn because of the connectivity they have created through technology. Nevertheless, the theorists reckoned that learning takes place

outside an individual's core, such as from social media, online networks, blogs, or information databases.

Furthermore, behaviorism of Glasser's choice theory opined that an individual's self-control is essential to the kind of information he/she gives and receives. It is an individual's choice to make meaning in the context of how he/she perceives and filters the information.

In relation to the theories mentioned in this study, TAM theory provides both teachers and students with the idea of accepting technology as part of the teaching and learning process. Both have to admit and utilize GC. In connectivism, learning and teaching take place in an online setup where teachers and students are engaged and stay connected from a digital channel of GC. Lastly, the choice theory holds teachers and students to either be responsive or not on the kind of information they receive from the different integrated features of GC. It also serves as a basis for the entities above to satisfy one of their basic human needs of surviving during pandemic, particularly in delivering instruction and learning. Hence, they got access to GC for continuity of education.

This study assessed the utilization of GC as a learning management system used in a private Catholic Christian college in Cagayan de Oro City, Philippines. The study sought to answer the following questions: (1) What is the extent of students' and teachers' utilization of GC features considering: collaboration; productivity; communication; and task management?; (2) How do students and teachers assess the GC as a learning management system in terms of: ease of access; perceived usefulness; communication and interaction; and perceived instruction delivery?; (3) Is there a significant difference in the students' and teachers' utilization of the GC features and their assessment of GC as a learning management system?; (4) What are the experiences of students and teachers in the utilization of GC?

RESEARCH METHODOLOGY

This study utilized the concurrent-nested mixed method (Creswell & Plano Clark, 2018). In this research, the students and teachers assessed the utilization of GC as a learning management system for the quantitative. For the qualitative part, a Focus Group Discussion (FGD) was conducted to generate themes from the experiences of teachers and students in using and utilizing GC for instruction and learning.

Purposive-criterion and random sampling methods were used. A total of 534 college students and 30 college teachers from a private Catholic Christian college in Cagayan de Oro City participated. Five students and five faculty members were selected for the conduct of FGD. They were purposively selected with the following criteria: they should have access to GC in the institution, they should be full-time students and teachers for the first semester of SY 2022-2023, and lastly, they should be able to understand their voluntary participation of this study.

The researchers sought approval from the school's Research Ethics Committee (REC) to ensure that this investigation follows ethical research guidelines and that researchers and participants act responsibly in accordance with the Data Privacy Act of 2012.

In getting the data for this study, the researchers used an instrument basing the concepts of Shaharanee's et al. (2016) study. However, for brevity and suitability, slight modifications were made. To ensure the validity, LMS team, experts in the field, fellow researchers, and reviewers from the school's REC validated the questions in every item.
The research instrument was pilot tested. Cronbach's alpha coefficient of the research instrument for students showed .70 above and .80 above for the faculty. According to Taber (2017), a Cronbach alpha reliability coefficient of 0.70 and above indicates high consistency. This indicates reliable internal consistency.

The research instrument was divided into two parts. The first part is on the utilization of GC features, and the second is on assessing GC as a learning management system. The evaluative questions from this research instrument used the 5-point Likert scale. To wit: 5 = very high extent, 4= high extent, 3= moderate extent, 2= low extent, and 1= very low extent. Data analysis employed the following scoring methods.

Scale	Range	Description
5	4.51-5.00	Very High
4	3.51-4.50	High Extent
3	2.51-3.50	Moderate
2	1.51-2.50	Low Extent
1	1.00-1.50	Very Low Extent

After the validity and reliability, the research instrument was placed in a google form link and distributed to participants in November 2022.In the same month, participants underwent a concurrent FGD. The FGD, following the protocol guide of Kvale & Brinkmann (2009), lasted for 90 minutes. Before analyzing their verbal responses, FGD transcripts were returned.

Statistical tools such as descriptive and inferential were used to generate the findings in the quantitative part. For qualitative, thematic analysis using Braun & Clarke's (2006) process were employed. Inter-coders verified researchers' thematic analysis. After the results, all electronic data were erased.

RESULTS AND DISCUSSION

Table 1 presents the students' and teachers' extent of utilization of GC features. As gleaned from the table, student-participants rated productivity (4.61) to a "very high extent" of utilization. The

very high extent rating of students in productivity means that they are utilizing GC for their online classes, specifically in accessing their respective tasks in a particular course. Communication (4.28) and task management (4.28) were both interpreted to a "high extent." This implies that students use GC to connect with classmates via Gmail, meet, chat, etc. Push notifications from the calendar and virtual classroom remind students of classes. Participant 4 mentioned during FGD that "*...GC shows a calendar or notes for task deadlines.*" (P4) Participants 1 and 3 added that "*GC constantly reminds me of tasks that needed to comply.* (P1). "*G-class helps manage my time and organize my tasks.*" (P3) The lowest among the student-participants utilization was collaboration (4.27) which is still interpreted to a "high extent." The idea that students are independent in online learning and collaboration may only happen when teachers assigned them to work together on a group task may explain this finding. Overall, students' extent of utilization of the features of GC (4.36) was at a "high extent." This suggests that students utilized the features of GC to communicate with teachers and peers, collaborate on assignments and organize their schedules. Iftakhar (2016, p.12) averred that GC can simplify student communication and workflow by centralizing discussion threads and assignments.

Moreover, it is worth noting that teacher-participants rated productivity (4.63) to a "very high extent" followed by collaboration (4.46) and task management (4.42) at a "high extent." The disparity in productivity ratings between learners and educators at a "very high extent" suggests that teachers use GC to hold courses, issue assignments, and offer students feedback. This finding was confirmed during the FGD:

> "*It's the best way for me to communicate to the students and to communicate my instructions…*" (P6)

As to collaboration, teachers, students, and colleagues collaborate using Google Docs, Forms, Drives, and more. This GC feature lets them easily share and comment on Google Docs with peers. Participants 6 and 7 supported and narrated this finding in the FGD. Further, task management entails that teachers are notified of the tasks that their students submit to GC. "*...GC also notifies me if the students submitted the activities late*." *(P8).*

Communication (4.39), among the other indicators, is at the lowest rating yet still assessed at a "high extent." This is understandable since teachers handled several subjects, where they cannot quickly respond to students' inquiries. Also, it is deemed considerable because sometimes the lectures given by teachers become linear. Participant 7 shared that *"I also observed that communication is one way. When I am discussing, it seems like I am talking to a wall since I can only see their pictures and then only a few respond to my questions." (P7).* As a whole, teachers participants' extent of utilization of the GC features (4.48) was at a "high extent." This means that teachers are likely engaged with the features of GC akin to the physical classroom setup (Pham, 2022), from activating prior knowledge, conducting assessments, giving lectures, etc. Nevertheless, this finding was reinforced in the actual response of participant 8. "*...and you can*

gather the students in one place in the classroom similar in face-to-face setup… (P8). Laili & Muflihah (2020) upheld that GC is imperative to the teaching process in an online mode of education (Sukmawati & Nensia, 2019).

Table 1. Mean and Standard Deviation Distribution of Participants' Extent of Utilization of Google Classroom's Features

Extent of Utilization of Google Classroom's Features	STUDENTS			TEACHERS		
	Mean	SD	Description	Mean	SD	Description
Collaboration	4.27	0.71	High Extent	4.46	0.53	High Extent
Productivity	4.61	0.69	Very High	4.63	0.61	Very High
Communication	4.28	0.72	High Extent	4.39	0.45	High Extent
Task Management	4.28	0.80	High Extent	4.42	0.51	High Extent
Overall	**4.36**	**0.05**	**High Extent**	**4.48**	**0.07**	**High Extent**

Table 2 shows the students' and teachers' assessment of their utilization of GC as a LMS. For the student-participants, Ease of Access (4.57) and Perceived Usefulness (4.55) were both interpreted to a "very high extent". This may imply that students find GC easy to navigate and use as an online learning platform as it let them re-watch their lessons, activities, assignments. The GC as well let them be reminded with their classes. "*Even if I missed my class, I could still monitor the lessons and tasks given by the teacher*" (P2). Moreover, Perceived Instruction Delivery (4.50) was interpreted to a "high extent" which means that students can monitor their scores and performances in the subjects. Gmail and chat let them effortlessly contact teachers and classmates.

The lowest among the assessment of students of GC as LMS is Communication and Interaction (4.31), which was also interpreted as "high extent." This is possible considering that accessing the GC requires an internet connection. Hence, students use another site for group chats to communicate with peers without paying for internet. However, participant 1 noted that unstable internet connections make submitting work and activities challenging as it limits student-student and teacher-student interactions.

"*...its inaccessibility with the absence of an internet connection is what makes it difficult to use*." (P1).

Generally, students' assessment of their utilization of GC as a Learning Management system (4.48) was at a "high extent". This overall assessment entails that GC aid students to be independent learners making them feel responsible and accountable for the tasks given to them by their teachers. This supports Janzen (2014)'s claim that GC's instructional interface and assignment tracking are made easier so users can communicate via announcements, emails, and chats.

Table 2. Mean Distribution of Participants' Assessment of Utilization of Google Classroom as Learning Management System (LMS)

Assessment of Utilization of Google Classroom as LMS	STUDENTS			TEACHERS		
	Mean	SD	Description	Mean	SD	Description
Ease of Access	4.57	0.57	Very High	4.71	0.47	Very High
Perceived Usefulness	4.55	0.60	Very High	4.52	0.48	Very High
Communication and Interaction	4.31	0.77	High Extent	4.51	0.59	Very High
Perceived Instruction Delivery	4.50	0.63	High Extent	4.61	0.50	Very High
Overall	**4.48**	**0.09**	**High Extent**	**4.59**	**0.05**	**Very High**

Furthermore, the teacher-participants rated Ease of Access (4.71), Perceived Instruction Delivery (4.61), Perceived Usefulness (4.52), and Communication and Interaction (4.51) all at "very high extent". The standard deviation of 0.05 shows that teacher-participants had homogeneous responses to all GC as LMS indicators.

First, at the Ease of Access, teachers are more adept at using and navigating GC for their online classes using uploaded course materials for teaching, sending and receiving submitted assignments from students, and scoring students' outputs. This skill in navigating the GC is likened to the formal training and interventions in using GC that the teachers underwent when classes shifted from face-to-face to online. "*I learned using the GC through training that was given by school headed by LMS team…*" *(P7)*. Participants 6, 8, and 10 also shared the same views.

Secondly, on their Perceived Instructional Delivery, teachers find it easier to give instructions to students on their course learning activities. Participants 10, 7, and 9 supported this finding.

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"I have a very rich experience in using GC because I can be creative in making my lesson more interactive." (P10)
"...when posting important announcements, schedules and also uploading references and important files to use class and for… I also make use of GC." (P7)

Thirdly, on Perceived Usefulness, teachers find GC useful in terms of assessing their students' outputs and performances, which in turn help them mentor their students. *"Checking students' exam is very easy." (P9). "…when I click import grades in GC, scores are generated automatically…. and I can give feedback instantly to students." (P10).*

Lastly, the GC's Communication and Interaction helps teachers improve students' social abilities to participate in Google Meet classes, webinars, and forums, especially in breakout rooms. As a whole, teachers assessed the GC as LMS (4.59) at a "very high extent." The data show that GC as LMS helps teachers achieve topic learning outcomes and assess a specific learning process. Thus, online teachers help motivate students (Latif, 2016; Philipose and Rajagopal, 2019).

Table 3. Test of Difference between the Students' and Teachers' Utilization of Google classroom's Features

Utilization of Google Classroom's Features	STUDENTS		TEACHERS		T value	P
	M	SD	M	SD		
Collaboration	4.27	0.71	4.46	0.53	-1.44	.068
Productivity	4.61	0.69	4.63	0.61	-.187	.658
Communication	4.28	0.72	4.39	0.45	-.823**	.003
Task Management	4.28	0.80	4.42	0.51	-.959**	.004

*significant at 0.05 level

Table 3 compares students and teachers GC feature utilization. As shown in the table, the data show that students' and teachers' utilization of GC significantly differed in communication (p=.003) and task management (p=.004). In terms of communication, GC is helpful for both students and teachers. Teachers use effective online classroom management protocols, assess students' competencies, and give students feedback through Gmail, meet, chat, and breakout rooms in this platform to maximize learning and teaching. Philipose & Rajagopal (2019) disclosed that GC was used to managed class. It was widely used for teacher-student and student-student communication. The GC interface communicated classroom instructions, reminders, internal

assignments, exam feedback, etc. Students and teachers used GC for task management differently, indicating that both are following their class schedules since they are reminded by the Google calendar. Google calendar and task management helped students and professors manage their lessons throughout time. GC outputs are also sent to instructors for formative and summative assessment.

Moreover, data also indicate no significant difference in collaboration (p=.068) and productivity (p=.658). This implies that students and teachers use GC features similarly. This may be attributed to the teachers' extent of utilization of the GC for their delivery of instruction, posting of announcements, course materials, and learning tasks. Ekahitanond (2022) upheld that GC encourages communication and involvement in a structured and adaptable manner, such as through announcements, personal comments, or emails, as well as individual and group engagement and management (Sharda & Bajpai, 2021). The extent of utilization of teachers being the ones to manage the GC may mean that their students are also likely to utilize the features.

Table 4. Test of Difference between the Students' and Teachers' Assessment of Utilization of Google classroom as LMS

Assessment of Google Classroom as LMS	STUDENTS		TEACHERS		T value	P
	M	SD	M	SD		
Ease of Access	4.57	0.57	4.71	0.47	-8.43**	.000
Perceived Usefulness	4.55	0.60	4.52	0.48	-4.78**	.000
Communication and Interaction	4.31	0.77	4.51	0.59	-2.97**	.005
Perceived Instruction Delivery	4.50	0.63	4.61	0.50	-6.50**	.000

*significant at 0.05 level

Table 4 illustrates the test of difference between the students' and teachers' assessment of utilization of GC as LMS. Based on the table, participants demonstrated a significant difference in their assessment of GC as LMS considering ease of access (p=.000), perceived usefulness (p=.000), communication and interaction (p=.005), and perceived instruction delivery (p=.000). In terms of ease of access, teachers find it easier to use the GC than the students. The result could be attributed to the orientation and training sessions provided to the teachers by the LMS team. The finding suggests that the teacher includes in the class orientation a detailed explanation as well as

a demonstration of the various features of GC to ensure that the students will be able to navigate its features smoothly. For perceived usefulness, students find GC more cost-effective than the teachers considering that learning activities are submitted online. This allows them to monitor their progress, particularly on the task required by their teachers. This also came out in the FGD, wherein Participant 4 said that "*GC helps me manage my time as it gives me an overview of the given work and activities by the teacher*." *(P4).* As regards communication and interaction, teachers find it more accessible to connect and collaborate in GC than the students. The school's subscription to Google workspace makes it convenient for teachers to manage their classes virtually. Lastly, on perceived instruction delivery, teachers considered that they had provided clear instructions and immediate feedback on the learning activities than the students. However, in the FGD, it was mentioned by Participant 1 that *"There are instances when it would take hours or days for the teacher to respond to our queries and other concerns about the assignments or lessons." (P1).* Dhawan (2020) reasoned that students believe that the main obstacles to online learning are a lack of interaction, technical issues, and challenges in comprehending educational objectives. This indicates that teachers should provide clear instructions on students' learning tasks in the stream or classwork description. Mishra et al. (2020) argued that presentations and instructional delivery must be carefully organized to make e-content more successful for virtual learning tasks.

Table 5 shows the experiences of students and teachers in utilizing GC as LMS. FGD participants received code names for research confidentiality. The study revealed two themes such as digital interdependence and technological vulnerability.

Table 5. Experiences of Students and Teachers in Utilizing the Google classroom as LMS

Main Themes	Sub-themes	Codes
Theme 1. Digital Interdependence	*Convenience & Adeptness*	Gives reminders Security of access "organize" (referring to platform) Acquainted to its feature
	Efficiency & Effectiveness	"to-do list" Generating attendance Self-help
	Engagement	Engaging Ease of communication

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Theme 2. Technological Vulnerability	*Discomfort*	Distractions at home Difficulty in submitting videos "stressful" "not tech savvy" Adjusting on its use Immediacy of response
	Lack of Resources	No gadgets Difficulty of using the platform
	Connectivity	Inaccessibility
	Academic Honesty	Classroom issues

Theme 1. Digital Interdependence (*Convenience & Adeptness, Efficiency & Effectiveness, Engagement)*

Digital interdependence refers to participants' experiences of utilizing the features and assessing the GC as LMS. Specifically, digital interdependence categorizes their experiences as convenience and adeptness, efficiency and effectiveness, and engagement.

Convenience & adeptness

Convenience and adeptness both speak to participants' experiences of utilizing GC. With this experience, students and teachers were affirming that GC is accessible on their end as it allows them to organize, customize, secure, and manage their tasks all at once. Negara (2018) stated that GC helps users to assort, create, and value their assigned tasks.

Students also note that GC is easy to use, thus users can submit assignments, post announcements and timetables, upload references, videos, and more. Hence, GC assists conveniently and organized to facilitate online learning for digital learners (Sudarsana et al., 2019) in the age of digital interdependence.

"....we mastered that feature. It's very convenient, helpful, and user-friendly." (P10)

Efficiency and effectiveness

Efficiency and effectiveness stem from the intuitive interface of GC, which enables students to become independent learners and makes teachers independent users. As pointed out by Maslihah et al. (2021), in an independent learning environment such as online learning, students and teachers

become resourceful, flexible, confident, and self-reliant. All students enjoyed the GC's flexibility to work at their own pace according to their lecturers' deadlines.

I missed in each subject." (P1)

More so, mastery of navigating the platform was independently learned by the participants. This mastery of navigation includes their success in using the platform for their individual digital learning.

Engagement

Engagement in the GC is observed by the participants of the study. According to Martin (2018), online learners have less chances to interact with the institution, so student participation is crucial. In the context of participants' experiences of using GC as LMS, engagement entails the participants' expression of communication using the platform.

"It's the best way for me to communicate to the students and to communicate my instructions." (P6)

Similarly, GC enables teachers to seamlessly manage their classes virtually. Several authors enumerated the benefits of using GC; these are simultaneous communication between students and teachers (Bondarenko et al., 2018); paperless classroom (Subandi, 2018); fostering collaboration between students and teachers (Beaumont, 2018), and convenience in managing and organizing tasks (A'yun et al., 2021). Most teachers said GC helped them communicate with students, track academic achievement, save time verifying activities, and give fast feedback.

In a nutshell, student-instructor engagement boosts online course participation (Martin, 2018), helping students learn and teach independently.

Theme 2. Technological Vulnerability (*Discomfort, Lack of Resources, Connectivity, Academic honesty)*

Discomfort, lack of resources, connectivity, and academic honesty are experiences of participants' technological vulnerability, which is identified as one of the themes in this study.

Discomfort

The sudden shift to online learning during the pandemic caused discomfort for both students and teachers. Barrot et al. (2021) mentioned in their study that the greatest challenge for students in online learning is associated mainly with their learning environment at home. "*There are a lot of distractions at home,... I chose to have a modular type of learning because I find GC very*

inconvenient" (P1). Barrot et al. also stated that technological literacy and competency are among the least challenging for students in online learning.

Overall, the FGD data showed that both students and faculty felt uncomfortable using GC as LMS due to the lack of a conducive online learning environment, difficulties using the platform's features, and reduced student-teacher interaction and communication. Suryaman (2020) noted that technology mastery, student interaction, and sociability were challenges during the sudden shift to online instruction.

Lack of Resources

Online classes require devices, internet connections, and other equipment for learning and teaching. Students and teachers utilizing GC as a Learning Management System confront various obstacles, including the scarcity of such resources. Malipot (2020) reported that many parents, students, and teachers struggle with distant education due to a lack of resources. Their unfamiliarity of online learning platforms like GC made them technologically vulnerable.

> *"...I do not have my laptop or even cellphone to use during online classes." (P4)*

Connectivity

Internet connectivity is what makes online learning possible. The National Research Council of the Philippines (NRCP) found that educators and students nationwide still lack internet connectivity in light of the COVID-19 epidemic (Arayata, 2021). Sudarsana et al. (2019) opined that the drawback of GC is that it demands students to have a laptop, iPad, or other electronic devices because smartphones and other devices support the platform. Teachers must consider using GC as not all students have computers or Android devices. For two years into having classes online, the internet is still proven to be one of the most common sources of issues and problems for both students and teachers, as participants 2 verbalized:

> *"...submitting works and activities become difficult if my internet connection is weak or limited." (P2).*

These assertions suggest that low internet access hinders online learning since students and teachers cannot maximize GC features to meet educational objectives. Cullinan (2021) delineated that difficulty maintaining access to technology, such as internet connectivity, has become the sharp focus in the online delivery of instruction.

Academic Honesty

One of the main concerns of the teachers after shifting to online classes is the academic integrity of their students. Unlike face-to-face classes, teachers cannot supervise quizzes, exams, and other

activities in online classes. Faculty and administrators struggle to assess student learning online while ensuring academic honesty (Ayoub/Al-Salim and Aladwan, 2021; Chen et al., 2020; Holden et al., 2021). In the FGD, the teacher-participants are worried about the online students' academic integrity.

> *"...we cannot control if the students will open another tab and look for the answers on the internet and paste their answers in the google form." (P7)*

Since GC lacks the feature to monitor or at least know which tabs or websites students can access during online lectures, widespread cheating and academic dishonesty are the key concerns of teachers in their quizzes and exams online.

CONCLUSION

This study aimed to identify the extent of students' and teachers' utilization of GC features, their assessment as a learning management system, and their experiences using the platform. Evidently, GC as a learning management system enabled students and teachers to engage actively in learning and teaching online. This study supports GC as a learning management system essential to participants' heutagogical teaching and learning methods.

The findings showed GC characteristics differed in communication and task management. Participants also differed in ease of access, perceived utility, communication and interaction, and perceived instruction delivery. This implies that GC is beneficial in the learning and teaching process. Additionally, two themes emerged from participants' experiences of GC, namely: digital interdependence and technological vulnerability. These findings confirmed the theories used in this study. As such, the TAM theory of Davis aids the participants in accepting and utilizing GC fully as support for teaching and learning. In connectivism of Siemens & Downes, GC provides a unique learning environment for participants. Lastly, the choice theory of Glasser shows that participants' views on GC's collaboration and productivity as an academic framework are distinct.

REFERENCES

Abdullah, M., Roslim, N., & Salleh,M., & Idzwan, M. (2022). Open and distance learning during the COVID-19 pandemic: university students' learning experiences and academic achievements. *Asian Journal of University Education*. 18. 106. 10.24191/ajue.v18i1.17177.

Amir, L., Tanti, I., Maharani, D., Wimardhani, Y., Vera, J., Sulijaya, B., & Puspitawati, R. (2020).. Student perspective of classroom and distance learning during COVID-19 pandemic in the undergraduate dental study program universitas Indonesia. *BMC Med Educ,* 20, 392. https://doi.org/10.1186/s12909-020-02312-0

Arayata, M.C (2021). Internet access a major challenge among teachers. *Palawan News.* https://palawan-news.com/internet-access-a-major-challenge-among-teachers/

Aswir, Hadi, M., & Dewi, R. (2021). Google meet application as an online learning media for descriptive text material. *Jurnal Studi Guru dan Pembelajaran*, 4(1). https://doi.org/10.30605/jsgp.4.1.2021.533

Ayoub/Al-Salim, M., & Aladwan, K. (2021). The relationship between academic integrity of online university students and its effects on academic performance and learning quality. *Journal of Ethics in Entrepreneurship and Technology*, 1(1), 43-60. DOI 10.1108/JEET-02-2021-0009

A'yun, K., Suharso, P., & Kantun, S. (2021). Google classroom as the online learning platform during the COVID-19 pandemic for the management business student at SMK Negeri 1 Lumajang. *IOP Publishing Ltd*. https://doi.org/10.1088/1755-1315/747/1/012025

Barrot, J., Llenares, l., & Del Rosario, L. (2021). Students' online learning challenges during the pandemic and how they cope with them: the case of the Philippines. *Educ Inf Technol*, 26, 7321-7338, https://doi.org/10.1007/s10639-021-10589-x

Beaumont, K. (2018). Google Classroom: An online learning environment to support blended learning. *Compass: Journal of Learning and Teaching*, 11(2).DOI:10.21100/compass.v11i2.837

Bondarenko, O., Mantulenko, S., & Pikilnyak, A. (2018). Google classroom as a tool of support of blended learning for geography students. *Educational Dimension*, 51, 235–246. https://doi.org/10.31812/pedag.v51i0.3671

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101. 10.1191/1478088706qp063oa.

Brown, M. C. (2018). Google classroom for the online classroom: an assessment. *Distance Learning, 15*(3), 51-56.

Chen, C., Long, L., Liu, J., Wang., Z., Wang., L., Zhang, J. (2020). Online academic dishonesty of college students: A Review. *Advances in Social Science, Education and Humanities Research*, 448

Creswell, J. W., & Plano Clark, V. L. (2018). Designing and conducting mixed methods research (3rd ed.). Thousand Oaks, CA: SAGE.

Cullinan, J., Flannery, D., Harold, J., Lyons, L., Palcic, D. (2021). The disconnected: COVID-19 and disparities in access to quality broadband for higher education students. *Int J Educ Technol High Educ*, 18, 26. https://doi.org/10.1186/s41239-021-00262-1

Davis, F. (1989) Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13, 319-340.

Dhawan, Shivangi. (2020). Online learning: a panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*. 1-18. 10.1177/0047239520934018.

Downes, S. (2005). *Connective knowledge*. https://www.downes.ca/post/33034

Ekahitanond, V. (2022). Perceived efficacy of google classroom usage in varied english courses. *International Journal of Emerging Technologies in Learning (Online), 17* (5). https://doi.org/10.3991/ijet.v17i05.22403

Glasser, W. (1999). Choice theory: a new psychology of personal freedom. HaerperPerennial.

Holden, O. L., Norris, M. E., & Kuhlmeier, V. A. (2021). Academic integrity in online assessment: a research review. *Frontiers in Education*. https://doi.org/10.3389/feduc.2021.639814

Huang, Q. (2019). Comparing teachers' roles of F2F learning and online learning in a blended English course. *Computer Assisted Language Learning*, 32 (3), 190-209.

Iftakhar, S. (2016). Google classroom what works and how?. *Journal of Education and Social Sciences*, 3.

Ironsi, C. (2021). Google meet as a synchronous language learning tool for emergency online distant learning during the COVID-19 pandemic: perceptions of language instructors and preservice teachers. *Journal of Applied Research in Higher Education*, 14(2), 640-659. https://doi.org/10.1108/JARHE-04-2020-0085

Janzen, M. (2014) Hot Team: Google Classroom. The Pennsylvania State University, State College.

Kvale, S., & Brinkmann, S. (2009). Interviews: learning the craft of qualitative research interviewing. *Sage Publications*

Laili, E. & Muflihah, T. (2020). The effectiveness of Google classroom in teaching writing of recount text for senior high schools. *Journal of Languages and Language Teaching*. 8, 348. 10.33394/jollt.v8i4.2929.

Latif, S. (2016). Learning engagement in virtual environment. *International Journal of Computer Applications.* https://doi.org/10.5120/ijca2016911289

Malipot, M. (2020, August 7). Lack of resources 'biggest challenge' for parents, students, teachers. *Manila Bulletin*. https://mb.com.ph/2020/08/07/lack-of-resources-biggest-challenge-for-parents-students-teachers/

Martin, F. (2018). Engagement matters: student perceptions on the importance of engagement strategies in the online learning Environment. *Online Learning Journal.* 22(1).

Maslihah S., Waluya S., Rochmad, K., Karomah N. & Iqbal, K. (2021). Increasing mathematical literacy ability independence through problem-based learning model with realistic mathematics education. J*ournal of Physics: Conference Series,* 1918 042123

Mishra, L., Gupta, T., & Shree, A. (2020). Online teaching-learning in higher education during lockdown period of COVID-19 pandemic. *International Journal of Educational Research Open*, 1. https://doi.org/10.1016/j.ijedro.2020.100012

Pham, A. (2022). Engineering students' interaction in online classes via google meet: a case study during the covid-19 pandemic. *International Journal of Engineering Pedagogy*, 12(3). https://doi.org/10.3991/ijep.v12i3.29673

Philipose, C. & Rajagopal, S. (2019). Google classroom as a learning management system (LMS) for teaching English. *FORTELL*. 38.

Rahman, D.N., Graselly, K., Safitri, N., Destari (2021). Students' perceptions of using google classroom in the process of learning English. *Indonesian Journal of Research and Educational Review,* 1(1), 37-45. https://doi.org/10.51574/ijrer.v1i1.52

Shaharanee, I., Jamil, J., & Rodzi, S. (2016). Google classroom as a tool for active learning. *Proceedings of the International Conference on Applied Science and Technology*, doi:10.1063/1.4960909

Sharda, P., & Bajpai, M. K. (2021). Online learning and teaching using google classroom during the COVID 19 pandemic. *DESIDOC Journal of Library & Information Technology, 41*(5), 352-357. https://doi.org/10.14429/djlit.41.5.16205

Siemens, G. (2005). 'Connectivism: a theory for the digital age'. *International Journal of Instructional Technology and Distance Learning*, *2* (1). 1-9.

Subandi, S., Choirudin, C., Mahmudi, M., Nizaruddin, N., & Hermanita, H. (2018). Building interactive communication with google classroom. *International journal of engineering and technology*, 7, 460.

Sudarsana, I., Putra, I., Astawa, N., & Yogantara, W. (2019). The use of Google classroom in the learning process. *1st International Conference on Advance and Scientific Innovation (ICASI)*, doi:10.1088/1742-6596/1175/1/012165

Sukmawati, S. & Nensia, N. (2019). The Role of Google Classroom in ELT. *International Journal for Educational and Vocational Studies*. 1. https://doi.org/10.29103/ijevs.v1i2.1526

Suryaman, M., Cahyono, Y., Muliansyah, D., Bustani, O., Suryani, P., Fahlevi, M., & Munthe, A. P. (2020). COVID-19 pandemic and home online learning system: Does it affect the quality of pharmacy school learning? *Systematic Reviews in Pharmacy*, *11*, 524–530.

Taber, K. (2018). The use of cronbach's alpha when developing and reporting research instruments in science education. *Res Sci Educ,* 48, 1273–1296. https://doi.org/10.1007/s11165-016-9602-2

Turnbull, D., Chugh, R., Luck, J. (2019). Learning management systems: an overview. In: Tatnall, A. (eds) *Encyclopedia of Education and Information Technologies*. Springer, Cham. https://doi.org/10.1007/978-3-319-60013-0_248-1

Usher, M., & Barak, M. (2020). Team diversity as a predictor of innovation in team projects of face-to-face and online learners. *Computers & Education*, 144. https://doi.org/10.1016/j.compedu.2019.103702.

Zhang, M. (2016). Teaching with google classroom. Birmingham: Packt.

Zheng, M., Bender, D. & Lyon, C. (2021). Online learning during COVID-19 produced equivalent or better student course performance as compared with pre-pandemic: empirical evidence from a school-wide comparative study. *BMC Med Educ,* 21, 495. https://doi.org/10.1186/s12909-021-02909-z