

# EXPLORING STUDENT EXPERIENCES WITH LEARNER MANAGEMENT SYSTEMS IN HIGHER EDUCATION: A PRELIMINARY INVESTIGATION

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## ABSTRACT

*As the use of digital technology continues to increase, the types of communicative competencies that are needed are also evolving (Butler, 2022). This investigation aims to explore the integration of a Learner Management System (LMS) such as Google Classroom, and the transition from a variety of classroom settings to an essentially 'paperless' classroom. Based on a survey given to Freshman English university students, this paper investigates students' perceptions of their paperless classroom and its possible impact on classroom content delivery. Two separate surveys investigated students' backgrounds and understanding of using an LMS, and their perceptions of benefits and challenges associated with using an online system for in-class tasks. Based on students' impressions, comments, and feedback from the survey, this paper aims to give insight into the aforementioned benefits and challenges. The results reveal obvious gaps in students' previous experiences with technology and subsequent digital literacy abilities. In order to best support students in transitioning into a paperless classroom setting, utilizing beneficial elements of an LMS whilst providing more support to develop digital literacy and etiquette skills is vital.*

## INTRODUCTION

The pandemic has reshaped educational practices. The adoption of online platforms, particularly a Learner Management System (LMS), has surged in higher education institutions worldwide (Ali et al., 2023). By requiring students to use a device in the classroom, it is assumed that all learners have similar backgrounds in using technology in the classroom and well-developed literacy skills. This, however, has proven not to be the

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case, especially in the researcher's current institution. This can also be said to be representative of many higher education institutions in Japan (Yamagishi, 2020).

Pre-pandemic, academic literature was focused on the efficacy of using digital tools and online platforms in the classroom. People who had grown up surrounded by technology were termed in different ways, such as digital immigrants and digital natives (Prensky, 2001; Hockly, 2011). Since this time, a number of alternatives to these terms have been suggested. Butler (2022) identifies social media as a major communication tool for the digital generation (people born after 2000), while Clark and Avrith (2017) discuss Generation Alpha (people born after 2010), who are often more technologically adept than their parents by the time they are eight years old.

Post-pandemic, it is no longer a question of categorizing digital proficiency. However, what does this imply for today's generation of learners? Ultimately, effective use of technology is not determined by age or by whether one was brought up with technology or not. Overall, the implication is clear: learners may appear to be more at ease with new technologies, but we as educators still have a responsibility to check students' understanding and abilities, and help them develop some of the more sophisticated digital skills they lack (Butler, 2022). Now, most higher education institutions utilize some kind of LMS such as Google Classroom.

One event that catalyzed the researcher's interest in this area was a change in work environments. Until March 2023, the researcher worked at a Japanese private girls junior and senior high school. By Japanese standards, this institution was a relatively early adopter of technology with all students using Chromebooks before the pandemic even hit. Many teachers were already using Google Classroom and Google Slides for content delivery, and when society went into lockdown, the process of switching to online class delivery was a relatively seamless endeavor. In transitioning to a university setting in April 2023, the researcher had relatively high expectations for the university students' digital fluency, so it was a surprise to see such a diverse range of backgrounds. A large majority of learners had never used Google Classroom or even a PC to complete classwork before. In the classroom, basic problems like forgetting logins, and taking extended amounts of time needed to make a

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basic Google Slides presentation arose. In order to further understand the digital literacy and backgrounds of the students, and better facilitate their development in the classroom, this research project was born.

In the next sections, the researcher will outline the research aims and methodology, analyze the data, and summarize and discuss ideas for future research.

## **RESEARCH AIMS AND METHODOLOGY**

This research project aims to investigate students' backgrounds, understanding, and experiences with an LMS in higher education settings. Specifically, it seeks to explore students' perceptions of collaboration, communication, organization, and usability within Google Classroom. By understanding students' perspectives, educators can better tailor instructional approaches to enhance digital literacy and optimize the use of LMS for effective learning outcomes.

As the researcher first wanted to investigate whether the students' impressions were similar to impressions made from observation in the classroom and conversations with fellow educators, this study was treated as a preliminary investigative study. A qualitative approach was employed, utilizing a class observation diary kept by the researcher and two surveys to gather insights from students. The surveys comprised multiple-choice, short-answer, and long-answer questions, exploring various aspects of students' interactions with LMS. In the first survey, more general questions were asked, relating to the respondents' background with technology in the classroom and the usability of LMS. In the second survey, more specific follow-up questions were posed, particularly relating to collaboration, group work, communication, and feedback. In both surveys combined, the students answered a total of 35 questions. Unfortunately, there was a substantial difference in responses from the first to the second survey with 74 and 33 respondents respectively. Despite a discrepancy in respondent numbers between the initial and follow-up surveys, valuable data was obtained, informing the subsequent analysis.

## **RESULTS AND ANALYSIS**

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In analyzing and coding the data of the two surveys and the answers to the 35 questions thematically, three main points of focus emerged. The subsequent discussion will outline survey questions and responses that pertain to the themes of background and understanding, usability and organization, and collaboration and communication.

## **Background and Understanding**

Teachers who have been working in Japan for an extended period of time will already be familiar with the stark contrast between technology for everyday use and technology in the classroom. In Japan, the digital generation does not use digital technology for academic purposes as much as their counterparts in other developed nations (OECD, 2019b). Students may be highly proficient at making a social media post or even writing lengthy texts on a tiny screen with only two fingers. However, this does not mean that they know how to navigate a paperless classroom with ease.

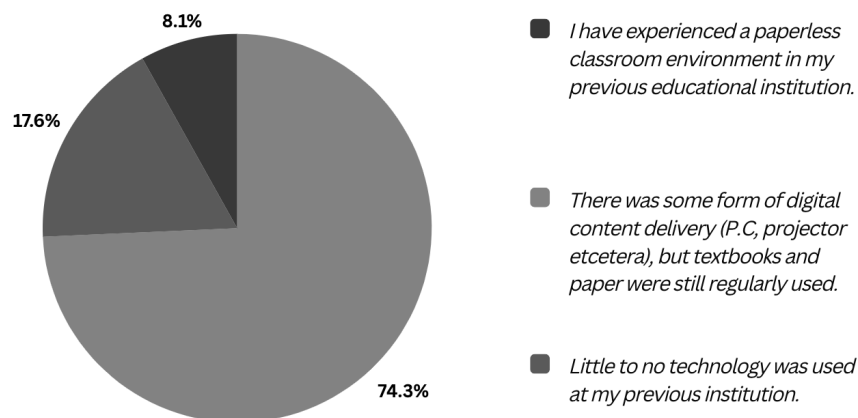
At the beginning of the first survey, to establish whether the first-year students felt like their Freshman English class was in fact a paperless classroom, a short description was given. A paperless classroom was described as a classroom where teachers and learners do not use textbooks and notebooks for exchanging information. They primarily use computers, laptops, iPads, and other technological devices chosen by the institution. Almost all the activities related to the educational program are done electronically (Baby & Saeed, 2020). The students were then asked to what extent they felt their Freshman English classroom was a paperless classroom. 45.9% of students answered that their classroom was one hundred percent paperless, while 52.7% of the students answered that their classroom was a paperless classroom 85% or more of the time. From this, the research ascertained that the large majority of students perceived that their Freshman English class was a paperless classroom for the majority of the time.

Next, the students' backgrounds in using technology in the classroom were investigated. It was not surprising that nearly 75% of students surveyed indicated their high school class content was still primarily delivered through textbooks and paper materials, nearly 18% answered that little to no technology was used in their previous education institution, and only 8% indicated that they had experience of a paperless

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classroom environment. This reconfirmed the researcher's impressions of the learners' previous experience based on classroom observations and interactions.

*Figure 1.1 Prior to studying at this University, what was your experience with paperless classrooms?*



This indicated that more than ninety percent of the Freshman English students surveyed had no prior experience with an entirely paperless classroom. Furthermore, even though 74% of students had experienced some form of technology in the classroom, there was still a heavy reliance on paper-based materials and textbooks in their previous institution.

Finally, the survey asked about students' previous experience using Google Classroom. Interestingly, although only a small percentage of students indicated that they had experience with a paperless classroom, nearly 50% of the respondents answered that they had used Google Classroom or a similar application to some degree at their previous institution. This may suggest that many of this year's freshmen experienced a period of online classes during the pandemic.

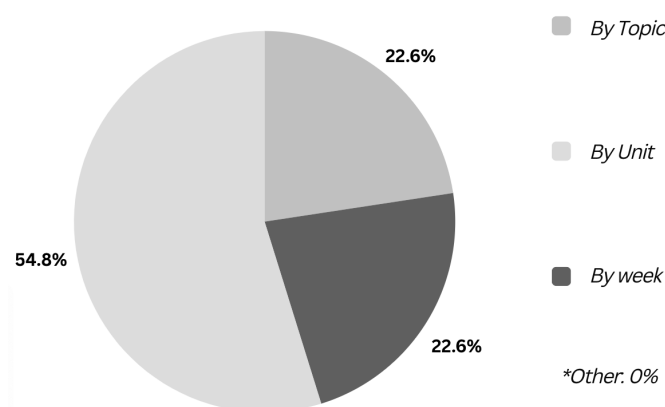
This section of the investigation reaffirmed the researcher's impression that learners had a variety of experiences with technology and Google Classroom, although the vast majority had not experienced a paperless classroom before entering university. The data confirmed the researcher's assumption that there were a variety of backgrounds and levels of digital literacy present among the Freshman English students, as had been noted previously through observation in class.

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## Organization & Usability

Considering that an LMS is set up or organized, and in this case, Google Classroom, is often left up to the LMS provider, the preferences of the educational institution, or the teacher using the LMS, questions about organization and usability were included in the follow-up survey. The first question asked the students how they preferred their Google Classrooms to be organized. Nearly 55% of students said that they preferred their Google Classrooms to be organized by unit, with the remaining 22.6% respectively responding that they preferred Google Classrooms to be organized by week or by topic (category of work). Although preferences were divided to some degree, the data shows that more than half of the students surveyed preferred their Google Classrooms to be organized by topic.

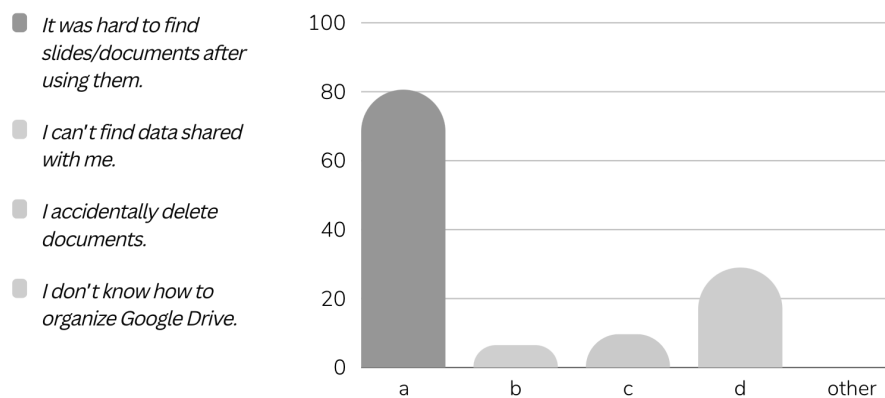
*Figure 1.2 How do you prefer Google Classroom to be organized so that you can find information, assignments, and past work?*



The students were also asked what problems, if any, they had with saving or finding old work, data, and assignments. Unsurprisingly, nearly 81% of students responded that they found it hard to find documents or slides after using them. This is often something noted in the researcher's classroom observations, with large amounts of class time used to help students search for past work or recover documents. 7% of students indicated that they could not find shared data, while 10% responded that they had accidentally deleted documents. 29% of students also indicated that they did not know how to organize Google Drive.

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Figure 1.3 What problems, if any, have you had with saving or finding old work, data, and assignments?

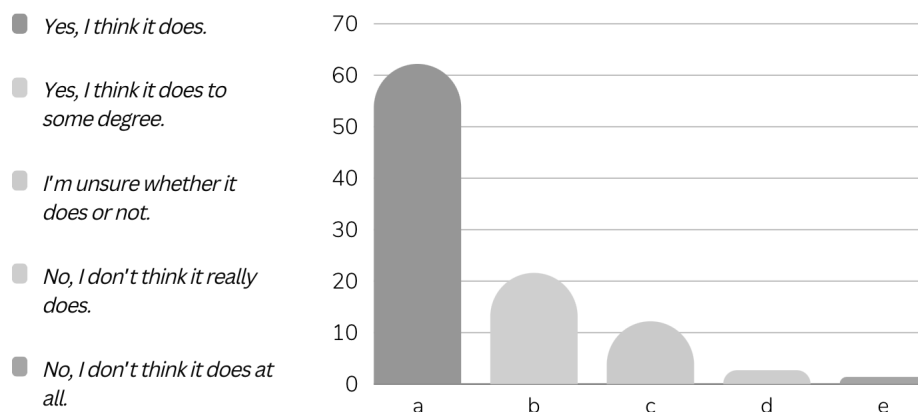


As discussed above, the most significant problems that students encountered were locating and managing documents, and organizing Google Drive. This highlighted the importance of increasing students' levels of digital literacy at the beginning of the Freshman English course. Addressing these challenges is essential to optimize students' engagement and workflow within digital learning environments.

### Collaboration and Communication

Finally, the discussion will focus on data relating to collaboration and communication. In the first survey administered, students were asked if they felt using an LMS helped them to collaborate more effectively. During observations, the researcher noted that LMS functions such as shared documents and other interactive applications may help the students to collaborate. So, it was not particularly surprising to see that 83% of students thought that at least to some degree, using an LMS helped them to collaborate more effectively. This data confirmed observations made by the researcher in the classroom.

Figure 1.4 Do you think that using an LMS helps students to collaborate more effectively?



Following this question, students were then asked to give reasons as to why they had selected the answer in the previous question. Some of the main reasons they gave for this included the ability to share work and ideas, work easily and efficiently, contact teachers and peers easily, and have fewer things to carry. There were a large number of students who still did not understand what an LMS was, although a description was provided within the survey. Making sure that students understood what an LMS is before administering the survey could help garner more accurate information and insights.

In the follow-up survey, the students were asked what types of projects or tasks they found difficult to collaborate on with their classmates and why. The results showed that some students found there were no difficult tasks to collaborate on; others indicated difficulties in making presentations together or using certain applications that were not easy to share. However, the largest number of respondents (40%) indicated communicating and working outside of class was the most difficult. This may be due to the fact that once using an LMS there is less need to actually meet physically to complete group work. As a result, students may be required to communicate via email or messenger applications. This highlights the fact that students need more instruction and scaffolding to help them with digital etiquette and remote group work.

*Figure 1.5 What types of projects or tasks did you find difficult to collaborate on with your classmates and why?*



%	Response
40.0	Group work, pair work, and preparation outside of class. It was hard to communicate/divide work.
30.0	There were no tasks that were difficult to collaborate on.
13.3	Some applications and programs were not easy to share/work on/edit together.
10.0	Presentations because it takes a lot of time/we are not used to making them.
3.3	Difficult tasks and assignments.
3.3	Sometimes the internet connection was bad.

Following this question, respondents were asked if they needed support from their teacher to collaborate effectively. 48% of students answered that they did. Students were also asked what kind of support they would like, if any. Only nine students answered this question but responded that they would like help with forming groups, discussion, communication, sharing documents, and working with other students. Some of these responses were not necessarily tied to the use of LMS, but students again highlighted that they sometimes needed help in communicating and working with their peers.

From the data, it was confirmed that LMS facilitated collaborative endeavors, aided sharing of work, and facilitated communication with peers and instructors. Nevertheless, challenges in remote collaboration were noted, underscoring the need for explicit instruction on digital etiquette and effective online communication strategies.

## DISCUSSION

The benefits of using an LMS, including enhanced collaboration, communication, and accessibility, were highlighted in the survey results. The benefits identified from the data were not particularly surprising but reconfirmed what the researcher experienced and observed in a paperless classroom using Google Classroom and other online applications. Students liked that they could share work and work on tasks simultaneously together. It was convenient to be able to contact teachers and peers

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anywhere at any time. It was also convenient that they did not need a large number of textbooks and other materials.

However, challenges such as asynchronous collaboration and technical proficiency barriers necessitate proactive intervention and support mechanisms. Looking at the challenges, the biggest obstacle seemed to be collaborating and communicating with peers outside of class time. Asynchronous teamwork and remote task management are not only necessary skills for university students but are now vital skills for the post-pandemic workplace. Aligning pedagogical strategies with digital literacy development can mitigate these challenges and maximize the efficacy of LMS in facilitating learning experiences. Educators should prioritize the explicit teaching of digital literacy skills and provide scaffolded activities to support students' navigation of LMS functionalities (Reddy et al., 2023). It is the researcher's hope to include more scaffolded activities with digital literacy and a multiliteracy focus in the Freshman English Orientation Unit in the following academic years. The unit would focus on not only the academic skills necessary for university such as discussion and presentation skills, but also digital literacy and citizenship.

In conducting the preliminary study, it is apparent that more investigation is required to understand how to fully support students in their transition to a paperless classroom. A longitudinal study tracking the implementation of support strategies and their impact on student outcomes could provide valuable insights for educational practitioners and policymakers. Adjustments need to be made to make sure that respondents understand the concepts of a paperless classroom and LMS, and further information needs to be gathered not only from the students' perspective but the teachers' as well. In order to support students, teachers also need to be well-equipped in order to facilitate their students in becoming successful digital citizens ready to transition into the post-pandemic workforce. New teachers also have a variety of backgrounds in online applications and LMS, so in the new academic year, the researcher plans to administer a survey and carry out interviews with teachers of the Freshman English course as well as conduct a survey with the current Freshman English students. Further investigation of methods of support for digital literacy and the implementation of a multi-faceted, longitudinal study can further enrich pedagogical practices and inform evidence-based interventions.

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## CONCLUSION

As educational landscapes continue to evolve in response to technological advancements, understanding students' experiences and needs within digital learning environments is paramount. This preliminary investigation sheds light on the complexities inherent in integrating LMS into higher education settings and emphasizes the importance of tailored support mechanisms and pedagogical approaches to help foster digital fluency and optimize learning outcomes. It is the researcher's hope that further investigation in the form of a longitudinal study will garner further insights to support students and teachers in using technology and an LMS in the classroom and beyond.

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