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A Comparative Analysis of Educators' and Students' Perceptions on Google Sheet and Document in Academic Settings

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Abstract

This study investigates the effectiveness of Google Sheet and Document in academic settings, focusing on the perceptions of educators and students within a writing class. Utilizing a mixed-methods approach, it integrates survey responses from 19 students with a detailed analysis of a teacher's journal over 15 sessions. The research aims to evaluate the alignment between educators' and students' expectations and experiences with these digital tools. Findings indicate that Google Sheet and Document enhanced classroom management, student engagement, and learning outcomes. While the results show a positive perception of these tools, they also highlight the need for improved training, technical support, and user interface enhancements. Despite its positive outcomes, the study acknowledges limitations in scope and suggests further research to assess long-term efficacy and broader usage situations.

Introduction

As the medium of global communication continuously evolves, the value of effective digital tools in educational settings becomes increasingly significant. The advent of COVID-19 pandemic accelerated the shift towards digitalization in education, necessitating a rapid adaptation to online LMS (Learning Management Platforms). Google Sheet and Document gained prominence during the surge in remote learning. While the technical capabilities of Google Sheet and Document are well-documented in existing literature, particularly in their roles to facilitate collaborative learning, manage administrative tasks, and enhance student engagement, there is limited number of studies in understanding the alignment between educators' and students' perceptions of these tools.

This research seeks to examine the similarity between the expectations and experiences of educators and students in utilizing Google Sheet and Document. The effectiveness of these digital tools is not only based on their technical features but also in how they are perceived and employed by both educators and students. This study adopts

a mixed-methods research design, combining both quantitative and qualitative data to explore this alignment. It involves surveys administered to students within a university education and an analysis of a teacher's journal, offering insights into the real-world application of Google Sheet and Document in academic settings. The goal is to provide a deeper understanding of these tools' roles and limitations in education, thereby contributing to the ongoing discourse on the effectiveness of digital tools in enhancing the learning experience in an ever-evolving educational landscape.

1. Literature Review

Since the development of computers and software, integrating digital technology and programs into higher education has been a significant focus. This integration has transformed not only society and culture but also teaching methodologies and collaborative learning. Digital transformation in higher education refers to a fundamental shift in which institutions utilize digital technologies to significantly enhance the learning experience (Adedoyin and Soykan, 2020). Also, the transformation encompasses a comprehensive approach that necessitates strategic planning, the establishment of trust, process-oriented thinking, and collaboration between educators and students (Cameron & Green, 2019). It leads to a holistic change that tackles technological challenges and initiates the essential organizational and cultural shifts. Adedoyin and Soykan (2020) observe that the ongoing digital transformation remains a significant topic of discussion in the field of higher education. In essence, digital transformation in higher education is a multifaceted phenomenon that goes beyond the mere adoption of technology.

The arrival of the COVID-19 pandemic accelerated the pace of digital transformation in higher education, while also presenting unique challenges and opportunities for innovation in teaching and learning environments. The global health crisis required a rapid shift to online learning, urging educational institutions to adapt swiftly to maintain educational activities (Strielkowski, 2020). Various strategies were proposed to mitigate these issues, fostering a positive and sustainable transformation in the long run. Kopp, Gröblinger and Adams (2019) describe the optimal use of digital technologies to encourage interactive learning, improve accessibility, and foster collaborative learning environments. At the same time, numerous challenges need to be addressed to facilitate a smooth transition, including infrastructure development, staff training, and adapting to emerging technological trends. Bond et al. (2018) and Sandkuhl and Lehmann (2017) emphasized the importance of identifying and

overcoming these barriers to ensure a smoother transition into a digitalized educational landscape. In this respect, the COVID-19 pandemic served as both a catalyst and a test for the ongoing digital transformation in higher education, highlighting the need for various strategies to navigate its complex challenges and opportunities.

The notion of a VUCA (Volatile, Uncertain, Complex, Ambiguous) environment has become increasingly important in discussions, especially since the COVID-19 pandemic. Coined by Horney, Pasmore, and O'Shea in 2010, the VUCA concept has grown increasingly relevant, due to rapid technological advancements, demographic changes, globalization, and the pandemic. In this context, the challenges and opportunities in the ongoing digital transformation in higher education become more complex and nuanced. The pandemic has prompted educational institutions to reconsider their preparedness and adaptability, prompting a reevaluation of strategies to navigate these complexities (Hadar et al., 2020). As we prepare for what the future holds, educational frameworks like the Organization for Economic Co-operation and Development (OECD) 2030 initiative, aligning digital transformation strategies with the need to prepare both educators and students for a VUCA environment has become important issue (OECD, 2018). Therefore, adapting digital transformation efforts to the complexities of a VUCA world is essential for ensuring that educational institutions, educators, and students are prepared to navigate future challenges.

In addition, building on the difficulties posed by the VUCA environment and the need for adaptability, universities have adopted software platforms to optimize both educational outcomes and administrative operations. Specifically, LMS have been instrumental in the transition to a digital educational landscape (Strielkowski, 2020). These platforms, with their user-friendly features, have proven invaluable in assisting both teachers and students, especially during the abrupt transition to online learning due to the COVID-19 pandemic. For example, Quesada (2006) found that these platforms have improved students' writing and other linguistic skills. Similarly, Chaves, Chaves, and Rojas (2015) noted that ICT tools have improved English language skills, including pronunciation and vocabulary. Also, digital transformation in higher education has particularly shifted pedagogical strategies from a teacher-centered to a learner-centered approach. According to Hiltz and Turoff (2005), this transition encourages active participation and fosters a more personalized and inclusive learning environment. It also accounts for the diverse learning styles and paces of individual learners, thereby enhancing engagement and motivation. Moreover, UNESCO (2016) has highlighted the increasing importance of technology in enhancing learning outcomes, stating that it

significantly boosts educational effectiveness. Mastering these technological systems not only assist in effective studying but also prepare students for a global society. Overall, the effective implementation of LMS and other e-learning tools is important for enabling educators and students to meet the challenges of today's educational landscape.

Platforms like Google Classroom offer various potential solutions. As educational institutions navigate a VUCA environment, platforms like Google Classroom have become instrumental in offering some level of stability and predictability. According to Fonseca and Peralta (2019), the COVID-19 pandemic significantly heightened the importance of such platforms, as educational institutions relied heavily on them for the abrupt transition to online learning. Kasula (2016) adds that such platforms provide practical solutions for organizing and effectively managing diverse courses and foster group-based activities through integrated tools such as Google Drive. Fonseca and Peralta (2019) found that the experiences of students using Google Classroom in a writing course promoted autonomous and interactive learning, offering an easy-to-use and motivating tool that simplifies education management amidst the ongoing global challenges. These platforms, with their user-friendly interfaces and integrated tools, serve as valuable anchors for both educators and students, effectively mitigating some of the challenges posed by VUCA conditions.

While the digital transformation in higher education offers numerous benefits, it also presents many challenges. Kopp, Gröblinger, and Adams (2019) outline five primary barriers for digital transformation: change management, pace of adaptation, technological integration, competency development, and financial constraints. Debates continue about the effectiveness and appropriateness of online learning, particularly concerning the potential negative impacts on learning outcomes due to the absence of face-to-face interactions. For instance, Joshi et al. (2020) raise concerns about the diminished face-to-face interactions in online learning environments, which may adversely impact learning outcomes. Also, perceptions of the effectiveness of online teaching vary significantly among individuals and organizations, adding another layer of complexity. Despite these challenges, efforts have been made by governments and various organizations to make technology, especially information and communication technologies (ICTs), more accessible to students worldwide. Additionally, Bond et al. (2018) and Sandkuhl & Lehmann (2017) recommend enhancing IT infrastructure and promoting collaborative knowledge-sharing, as well as providing essential training for staff, as key strategies to help students navigate the challenges associated with new technologies. Despite such concerns, the general integration of technology in education

has been beneficial in enhancing student motivation and creating more interactive learning environments. So, while challenges continue, the trend in digital transformation largely enhances the learning experience for students in higher education.

2. Research Question

This study seeks to evaluate the perceptions of both educators and students regarding the use of Google Sheet and Document in academic contexts. It specifically focuses on how these tools contribute to classroom management, student engagement, and learning outcomes in dynamic educational environments. The research question for this paper is: How do educators and students perceive the effectiveness of Google Sheet and Document in enhancing classroom management, student engagement, and learning outcomes in dynamic academic environments?

3. Methodology

Participant

The participants of the study consisted of a total of 19 individuals, 18 are first-year and one second year student majoring in English or closely related fields in the English department, Appendix B. These participants are from a general writing class course. The participants' ages ranged from 19 to 20 years, and there were six males and 13 females. Additionally, the study uses observations from an experienced educator, documented in a teacher's journal. This educator, with three years of teaching experience in ESL courses such as academic writing, academic reading, speaking and listening, provides insights that supplement the data gathered from the student participants.

Research Design

The study employs survey and teacher journaling to evaluate student interactions with Google Sheet and Document in an academic setting writing class. The survey explores various aspects of student engagement, including prior training, suggestions for improvement, comfort with technology in education, and preferences compared to other software and LMS. It also looks at the strengths and challenges of using Google Sheet and Document for specific academic tasks. At the same time, the teacher's journal provides a detailed account of managing a writing course while employing Google Sheet and Document, capturing teaching strategies, student engagement, and writing skills development, and offering insights into the effectiveness of instructional methods and areas needing improvement. Google Sheet and Document play pivotal

roles in assignment management, grading, and communication, with Google Document facilitating real-time collaboration and feedback.

Data Collection

This study adopted a mixed-methods approach to investigate teaching and learning interactions in a writing class over 15 sessions, spanning from April 11th to July 18th, 2023.

1. Quantitatively, an online survey was distributed to students, featuring Likert scale and multiple-choice questions. This survey focused on evaluating the students' comfort and satisfaction with Google Sheet and Document, comparing these tools with other digital platforms, and identifying challenges in dynamic educational settings.
2. Qualitatively, the study relied on a teacher's journal, which provided detailed accounts of each session, covering teaching methods, classroom dynamics, and student engagement. The journal entries, emphasizing the practical use of Google Sheet and Document, offered insights into how these tools impacted teaching strategies and the overall learning environment. These entries, detailed in the methodology and available in Appendix C, complemented the quantitative data by offering a more detailed view of daily classroom experiences.

Prior to data collection, consent was obtained from all participants, ensuring they were informed about the study's objectives, particularly regarding their experiences with Google Sheet and Document. The teacher consented to the use of their journal entries in the analysis. Participation was voluntary, with a guarantee of anonymity and emphasis on the importance of honest feedback.

Data Analysis

The research utilized a structured approach for analyzing the collected data, involving several key steps:

1. Initially, a framework of the primary themes of interest were determined, to guide the analysis. This framework was significant in interpreting the data from both the teacher's journal and the student surveys.
2. For the student surveys, descriptive statistics was used to analyze the data.

This involved calculating values and frequencies for the Likert scale and multiple-choice responses. This statistical analysis provided a quantitative understanding of the students' perspectives.

3. Alongside, the teacher's journal entries were qualitatively examined. This process was centered on gaining meaningful insights and reflections about the teaching methods and classroom experiences. The aim was to understand the significant themes that directly related to the use of Google Sheet and Document.
4. An essential part of the analysis was comparing the teacher's journal findings with student feedback. This comparison aimed to identify similarities and differences between the teacher's observations and students' experiences.
5. In the final stage, the results were integrated from both the surveys and the teacher's journal. This step was important in providing a broad perspective, combining the details from the teacher's experiences with the student feedback.

4. Results

This section presents the survey's findings on students' comfort and experiences with educational technology. This includes student's ease of using technology, effectiveness of Google Sheet and Document in educational tasks, challenges faced, comparisons with Microsoft Office, experiences with other LMS, and the impact of training. These insights highlight areas for further development to improve their learning experience in a general writing class.

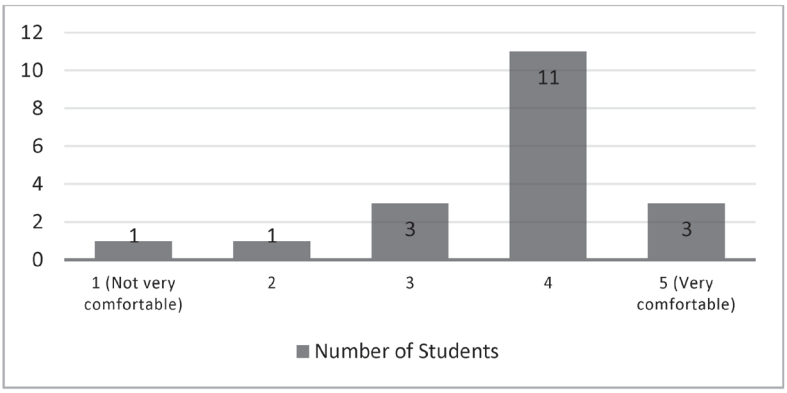

Figure 1. *Comfort Level with Technology in Education Among Students*

The survey results show a high comfort level with technology in education among

the participants. Out of 19 students, the majority, 11 students, report a comfort level of 4, suggesting they are quite at ease with using technology in their learning environment. At the same time, lower levels of comfort are less common, with one student each at levels one and two, indicating discomfort with educational technology. Three students place themselves in the mid-range with a score of three, implying a neutral stance toward technology usage.

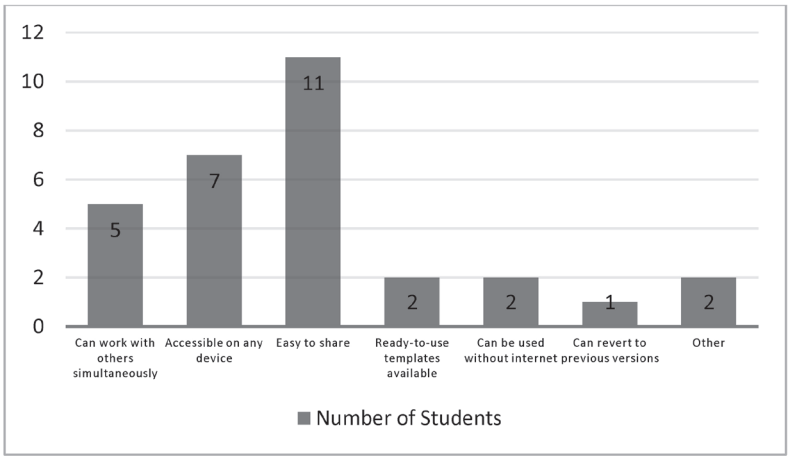

Figure 2. *Perceived Benefits of using Google Sheet and Document*

The data gathered from the study shows the varying degrees of perceived benefits associated with educational technology. The feature 'Easy to share' is the most appreciated benefit, with 11 students recognizing its importance. The ability to access the technology on any device is also highly valued, as indicated by seven students. Collaborative aspects, such as the ability to 'Work with others simultaneously', are acknowledged by five students, emphasizing the value working in groups with real-time collaboration. Fewer students note the benefits of 'Ready-to-use templates' and the capacity to 'Use without an internet connection', each receiving acknowledgment from two students. Only one student highlighted the advantage of being able to 'Revert to previous versions' of Document. Additionally, 'Other' benefits are noted by two students, suggesting that there are more specific or personal advantages experienced by individuals.

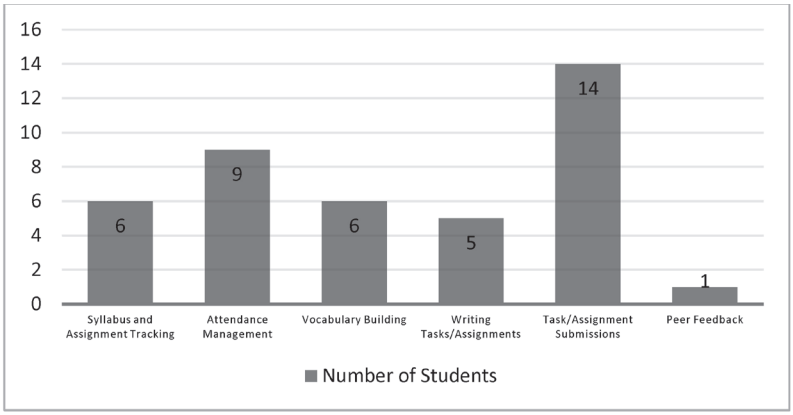

Figure 3. *Utility of Google Sheet and Document for Educational Tasks*

The data presents an overview of how students find Google Sheet and Document useful for various educational tasks. 'Task/Assignment Submissions' stand out as the most utilized feature, with 14 students finding them particularly helpful. 'Attendance Management' is also seen as a valuable use case, by nine students. Both 'Syllabus and Assignment Tracking' and 'Vocabulary Building' are seen as beneficial by six students each, indicating the flexibleness of these tools in handling various aspects of course management and language learning. 'Writing Tasks/Assignments' are recognized by five students, suggesting these tools are conducive to creating and editing written work. However, 'Peer Feedback' is noted as a useful feature by only one student, which may reflect a more limited use or awareness of collaborative features within this platform.

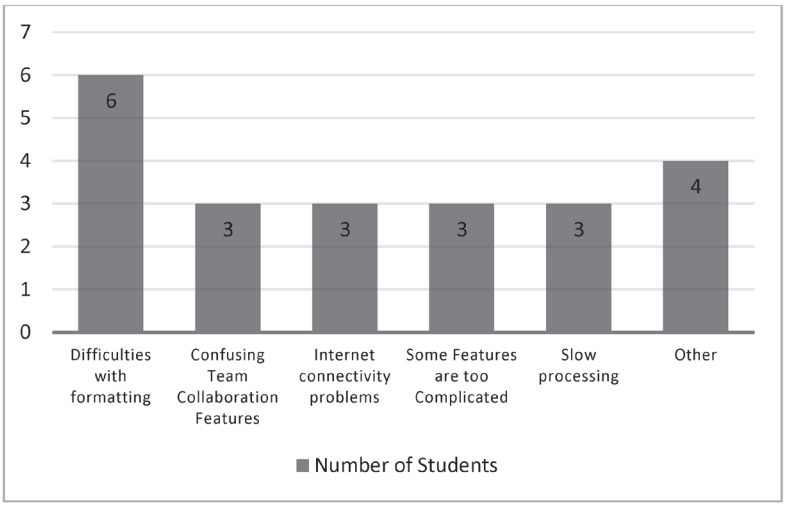

Figure 4. *Challenges Encountered with Google Sheet and Document*

The data from the chart highlights the challenges encountered by students while using Google Sheet and Document. The most common issue, experienced by six students, is 'Difficulties with formatting', indicating a need for more training for using Google Sheet and Document. 'Confusing Team Collaboration Features', 'Internet connectivity problems', 'Some Features being too Complicated', and 'Slow processing' are challenges that each affected three students, suggesting these are significant but less of a concern overall. Additionally, four students reported other issues not categorized in the survey, which could indicate individual specific use-case difficulties.

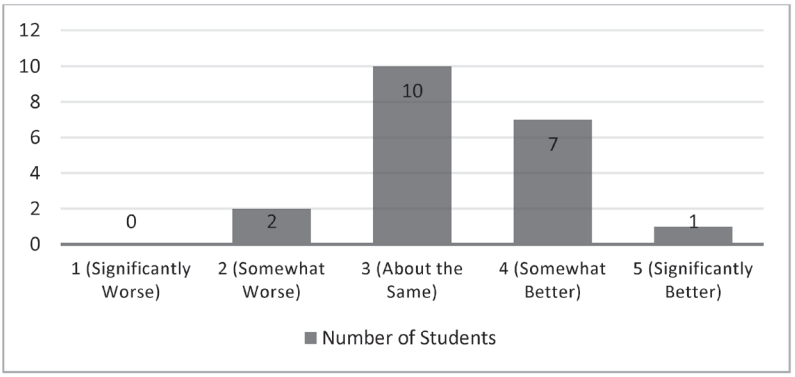

Figure 5. *Google Sheet and Document vs. Microsoft Office's Word and Excel*

In comparing Google Sheet and Document with Microsoft Office's Word and Excel, majority of the students rate them as 'About the Same,' with ten students expressing this viewpoint. However, a notable portion, seven students, feel that Google's offerings are 'Somewhat Better,' indicating a preference for Google Sheet and Document in certain aspects. Only one student perceives Google Sheet and Document as 'Significantly Better,' which reflect a strong alignment with individual needs or preferences. On the less favorable side, two students consider Google Sheet and Document to be 'Somewhat Worse' than Microsoft Office's Word and Excel, though none of the students' rate Google Sheet and Document as 'Significantly Worse.'

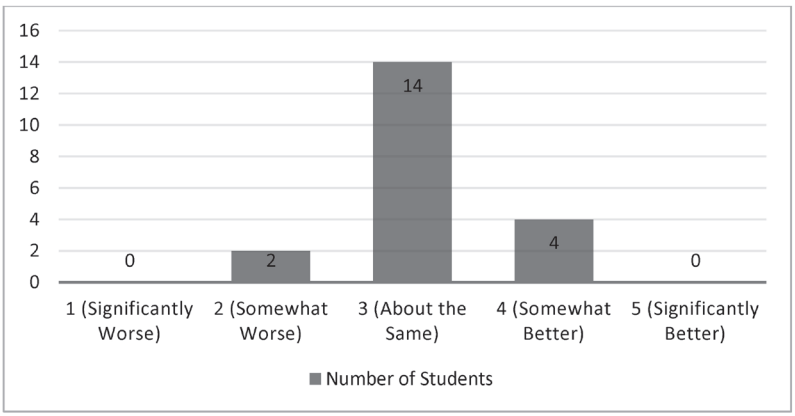

Figure 6. *Google Sheet and Document vs. Other LMS*

When evaluating Google Sheet and Document against other LMS, a majority of the students, totaling 14, see Google Sheet and Document as 'About the Same' in terms of functionality and usability. A smaller segment of the students, four in total, sees Google Sheet and Document are 'Somewhat Better', suggesting that these students see specific advantages in using Google Sheet and Document for their educational needs. On the other hand, two students rate Google Sheet and Document as 'Somewhat Worse' than other LMS, pointing to possible areas for improvement. Notably, none of the students consider Google Sheet and Document to be 'Significantly Better' or 'Significantly Worse', but there is mild preference for Google Sheet and Document in some cases.

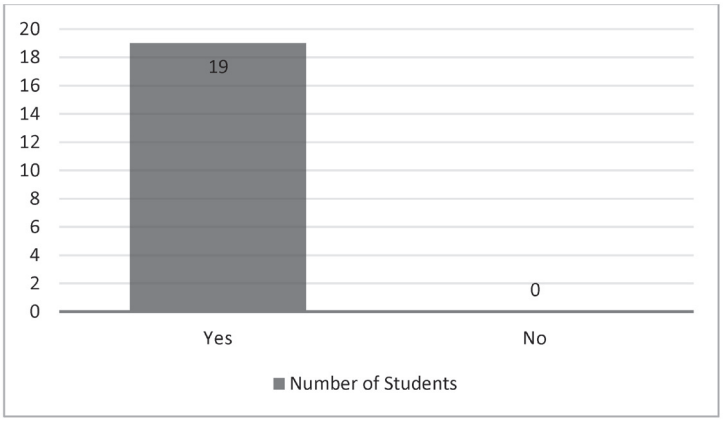

Figure 7. *Student Experience with other LMS*

The data reveals that all 19 students have experience with LMS other than Google Sheet and Document. This familiarity suggests not only a broad exposure to digital learning environments but also hints at a potential integration of LMS platforms in their academic journey, potentially beginning as early as high school.

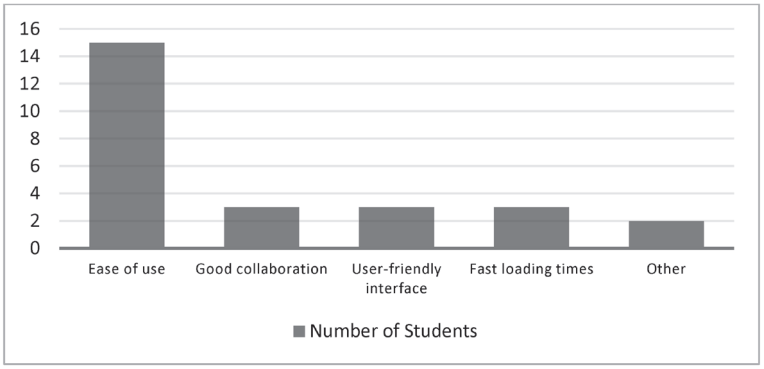

Figure 8. *Perceived Superior Features in Google Sheet and Document*

The data indicates that 'Ease of use' is the most valued feature of Google Sheet and Document, with 15 students identifying it as superior to other LMS. This suggests that the straightforward nature of Google Sheet and Document is an important factor in their preference. 'Good collaboration' features, 'User-friendly interface,' and 'Fast loading times' are each noted by three students, indicating these aspects are appreciated but to a lesser extent. Also, two students have pointed out other unspecified superior features, hinting at unique or individualized benefits that Google Sheet and Document provide.

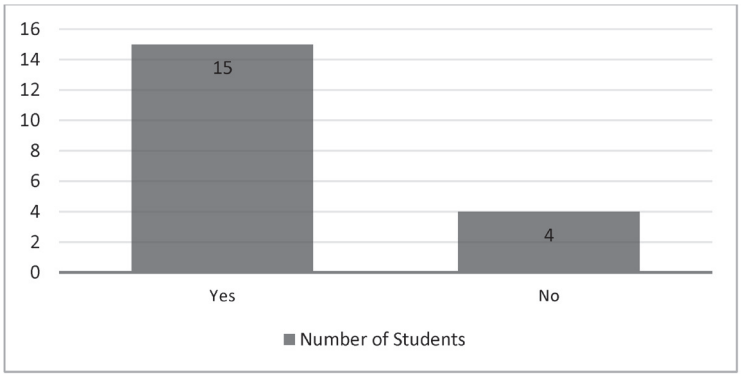

Figure 9. *Formal Training Received for Google Sheet and Document*

The chart shows that a substantial number of students, 15 out of 19, have received formal training in using Google Sheet and Document. This indicates that the majority have been provided with guidance to enhance their proficiency with these Google Sheet and Document. On the other hand, four students did not receive any formal training, suggesting there is a smaller group that may be relying on self-learning or other methods to navigate these applications.

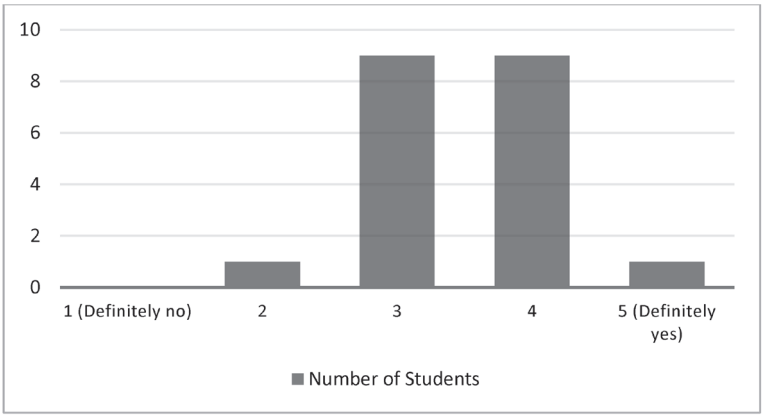

Figure 10. *Perceived Improvement with Additional Training/Guidance on Google Sheet and Document*

According to the data, majority of students see additional training or guidance would improve their use of Google Sheet and Document, with nine students each rating the likelihood of improvement at a 3 and 4 out of 5. This indicates that most students see room for improvement in their abilities and recognize the potential benefits of further

education on these platforms. A single student strongly believes that more training would benefit them, giving the highest rating of 5. Conversely, one student does not see additional training as beneficial, rating the potential for improvement at 2.

5. Discussion

The study's analysis, derived from teacher's journal entries and student survey results, shows an insightful perspective on the use of Google Sheet and Document in an academic environment. This analysis cover aspects of classroom management, student engagement, and learning enhancement, particularly in a VUCA environment. The initial survey data, as depicted in Figure 1, shows a significant comfort level with technology among students. This is an important factor for successfully integrating digital tools like Google Sheet and Document into educational practices, especially in writing classes. It suggests that most students are not only comfortable with but also prepared for an educational landscape increasingly reliant on digital literacy. The teacher's journal entries, particularly from Session 1, support this observation. It details how students adapt to using Google Sheet and Document for a variety of classroom activities, such as keeping track of the syllabus and conducting vocabulary exercises. The introduction of these tools set a positive tone for their continued use throughout the course.

Further, the survey data in Figure 2 shows the perceived benefits of these tools. Features like 'Easy to share' and 'Accessible on any device' are especially valued, pointing out the importance of sharing and accessibility in learning environments. This aligns with findings from other studies, such as Peralta (2019), and is mentioned in the teacher's journal entries from Sessions 2 and 5. Here, the practical application of Google Sheet for vocabulary exercises and Google Document for writing tasks is noted, demonstrating their usefulness in fostering real-time collaboration and accessibility.

Figure 3's data provides insight into specific use cases for these tools, such as assignment submission and management tasks. The teacher's journal entries from Sessions 6 and 10 highlight these uses, showing how students regularly leveraged these platforms for submitting assignments and managing syllabus-related tasks. Additionally, the journal entries from Sessions 3 and 8 demonstrate the tools' versatility in classroom activities, such as vocabulary exercises to conducting quizzes using Google Forms. This flexibility suggests that Google Sheet and Document are not just about document creation and sharing but offer a broad range of functionalities suitable for various educational scenarios.

However, the discussion also acknowledges challenges in using these tools. Formatting issues, the most common problem as shown in Figure 4, are reflected in the teacher's journal, particularly in Session 11. These challenges indicate that while the tools are beneficial, there is a need for continuous improvement in their user interface and functionality.

The comparison of Google Sheet and Document with other educational software and digital platforms, as revealed in Figures 5 and 6, shows a general satisfaction with these tools. Yet, it also highlights areas needing enhancement. The teacher's adaptability in teaching methodologies, as demonstrated in journal entries from Sessions 9 and 10, emphasizes the importance of continuously adapting LMS tools.

In Figure 5, the survey compares Google Sheet and Document with Microsoft Office's Word and Excel. The majority of students rated them as 'About the Same,' suggesting a similarity in functionality and user experience. However, a notable number perceived Google Sheet and Document as 'Somewhat Better,' indicating a preference for certain unique features of Google's tools. This preference is also supported in Figure 8, where 'Ease of use' is identified by a significant number of students as a superior feature of Google's tools. This is pointed out in the teacher's journal, especially in Session 2, where the ease of engaging with these tools for writing and peer review exercises is noted.

The survey results in Figure 9 highlight the significant role of formal training in using these tools. Most students had received such training, which reflects in their efficient utilization of these digital tools from the beginning, as observed in the teacher's journal from the first session. However, some students' lack of formal training points to a potential gap in digital literacy.

Finally, Figure 10's findings suggest that additional training or guidance could further enhance students' use of Google Sheet and Document. This reflects a broader need for comprehensive training programs to ensure all students can effectively utilize these digital tools in their academic work. The teacher's journal, particularly from later sessions like 11 and 14, points out the challenges faced and the need for more varied instructional strategies to take advantage of the capabilities of these digital tools.

Conclusion

In conclusion, this study assesses how educators and students perceive Google Sheet and Document in a writing class within an academic context. It examines their impact on classroom management, student engagement, and learning outcomes, particularly

in situations similar to a post-COVID environment and those demanding adaptability, albeit not strictly in a VUCA environment as traditionally understood. The benefits of Google Sheet and Document in enhancing educational experiences are highlighted by survey results and a teacher's journal. These tools are appreciated for their effectiveness and collaborative features, crucial in managing classrooms and engaging students effectively. Their advantages, like ease of sharing and real-time collaboration, are noticeable in VUCA-like contexts where adaptability and rapid response are essential, contributing to the required flexibility and responsiveness in unpredictable educational scenarios. However, the study also uncovers challenges, including technical difficulties and a need for improved training and support. These issues are significant in VUCA-like contexts, where maintaining a smooth classroom flow is vital. In such environments, proficiency in digital tools is key for educational success. While the study provides valuable insights, its limitations, such as sample size and scope, highlight the need for further research. Future studies should encompass a more diverse participant group and a wider analysis of digital tools in various educational settings. Moreover, research should continually consider the evolving nature of educational environments, especially under VUCA-like conditions, to comprehend the long-term role and impact of digital tools like Google Sheet and Document. In conclusion, proficiency in these tools is imperative to address the challenges of VUCA-like educational landscapes. By tackling the identified challenges and exploring the functionalities of Google Sheet and Document, the academic setting can leverage these digital resources, thereby enriching the learning experience amidst the evolving educational landscape.

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Appendix A: Classroom Management Using Google Sheet and Document in the Post-COVID Era: A Survey for University Students (Japanese version)

1. あなたの専攻または研究分野は何ですか？
2. あなたは何年生ですか？
3. 教育におけるテクノロジーの使用にどれぐらい快適ですか？ (1 = 非常に快適でない、5 = 非常に快適)
4. パンデミックの影響で、大学が Google シートや Docs などのオンラインツールにどれくらい迅速に移行したか? (1-5 のスケールで評価してください)
5. パンデミック前後で Google シートと Docs の使用にどんな利点を感じましたか？
6. 次のうち、どのタスクで Google シートと Docs が特に役立つと感じますか？
7. Google シートと Docs の使用で何か問題はありましたか？
8. Google のシートや Docs は、Microsoft Office's Word や Excel などの他のツールと比べてどう思いますか？（1 = かなり悪い、5 = かなり良い）
9. Google のツール（シートや Docs）は、Moodle や Manaba のような他の学習管理システムと比べてどう感じますか？（1 = かなり悪い、5 = かなり良い）
10. 他の LMS システム（Moodle や Manaba など）を使用したことがありますか？
11. もし「はい」と答えた場合、Google のツールが Moodle や Manaba のような他の LMS システムよりも優れていると感じる機能は何ですか？
12. Google のシートや Docs の使用方法について、正式なトレーニングや指導を受けましたか？
13. Google のシートや Docs の使用経験は、更なるトレーニングやガイダンスによって改善されると思いますか？（1 = 絶対にいいえ、5 = 絶対にはい）
14. 新しい機能や変更を導入することで、Google のシートと Docs はどれ程改善できると思いますか？（1 = まったく改善しない、5 = 大幅に改善する）

Appendix B: Classroom Management Using Google Sheet and Document in the Post-COVID Era: A Survey for University Students (English Version with Results)

1. What is your major or field of study?

Student's Major	Number of Students
English	6
English Department	1
English Literature Department	8
English Literature	4

2. What year are you in?

Grade	Number of Students
Freshman (新入生)	18
Second-year (2 年生)	1

3. How comfortable are you with the use of technology in education? (1 = Very uncomfortable, 5 = Very comfortable)

Comfort Level with Technology in Education	Number of Students
1 (Not very comfortable)	1
2	1
3	3
4	11
5 (Very comfortable)	3

4. On a scale of 1-5, how quickly did your university transition to online tools like Google Sheet and Document due to the pandemic?

Speed of Transition to Online Tools	Number of Students
1 (Very slow)	0
2	0
3	6
4	9
5 (Very quick)	4

5. What advantages have you felt in using Google Sheet and Document before and after the pandemic? (Select all that apply)

Perceived Benefits	Number of Students
Can work with others simultaneously	5
Accessible on any device	7
Easy to share	11
Ready-to-use templates available	2
Can be used without internet	2
Can revert to previous versions	1
Other	2

6. For which tasks do you find Google Sheet and Document particularly useful? (Select all that apply)

Tasks Where Google Sheets and Docs Were Found Useful	Number of Students
Syllabus and Assignment Tracking	6
Attendance Management	9
Vocabulary Building	6
Writing Tasks/Assignments	5
Task/Assignment Submissions	14
Peer Feedback	1

7. Have you faced any issues while using Google Sheet and Document? (Select all that apply)

Issues with Using Google Sheets and Docs	Number of Students
Difficulties with formatting	6
Confusing Team Collaboration Features	3
Internet connectivity problems	3
Some Features are too Complicated	3
Slow processing	3
Other	4

8. How do you feel about Google Sheet and Document compared to other tools like Microsoft Office's Word and Excel? (1 = Much worse, 5 = Much better)

Comparative Rating of Google Tools and Docs vs. Microsoft Office Tools	Number of Students
1 (Significantly Worse)	0
2 (Somewhat Worse)	2
3 (About the Same)	10
4 (Somewhat Better)	7
5 (Significantly Better)	1

9. How do you feel about Google Sheet and Document compared to other Learning Management Systems like Moodle or Manaba? (1 = Much worse, 5 = Much better)

Comparative Rating of Google Tools vs. Other LMS	Number of Students
1 (Significantly Worse)	0
2 (Somewhat Worse)	2
3 (About the Same)	14
4 (Somewhat Better)	4
5 (Significantly Better)	0

10. Have you ever used other LMS systems like Moodle or Manaba?

Experience with Other LMS Systems	Number of Students
Yes	19
No	0

11. If you answered 'Yes,' what features do you find superior in Google Sheet and Document compared to other LMS systems like Moodle or Manaba? (Select all that apply)

Features Superior in Google Tools	Number of Students
Ease of use	15
Good collaboration	3
User-friendly interface	3
Fast loading times	3
Other	2

12. Have you received any formal training or guidance on how to use Google Sheet and Document?

Formal Training for Google Sheets and Docs	Number of Students
Yes	15
No	4

13. Do you think your experience with Google Sheet and Document could be improved with further training or guidance? (1 = Absolutely no, 5 = Absolutely yes)

Improvement with Additional Training/Guidance	Number of Students
1 (Definitely no)	0
2	1
3	9
4	9
5 (Definitely yes)	1

14. How much do you think Google Sheet and Document can be improved by introducing new features or changes? (1 = No improvement, 5 = Significant improvement)

Potential Improvement with New Features/Changes	Number of Students
1 (No improvement at all)	0
2	1
3	9
4	9
5 (Significantly improved)	1

Appendix C: Teacher's Journal

April 11, 2023: Introduced the course with a focus on objectives and expectations. Students were guided in setting up Google Classroom for course communications and Google Sheet for organizing course materials. The Google Sheet included tabs for the syllabus, detailing due dates for readings and assignments; a tab for attendance tracking to promote responsibility; and a third tab dedicated to vocabulary exercises, aiding in understanding parts of speech and sentence construction.

April 18, 2023: Looked into the basics of English writing, emphasizing sentence structure and paragraph formation, using the "Great Writing" textbook. Google Sheet was utilized for maintaining an updated record of student attendance. Introduced a writing exercise on Google Document, where students created a document about a personal topic, enabling a blend of personal expression and academic writing.

April 25, 2023: Focused on enhancing reading and vocabulary skills. Students engaged in vocabulary exercises using Google Sheet, which also facilitated peer review by allowing students to view and edit each other's work. Paragraph writing concepts were further reinforced by sharing examples and structures on Google Document.

May 2, 2023: Continued to emphasize paragraph writing. Noted the need for varied teaching methods beyond digital tools, recognizing the potential fatigue from prolonged use of Google Document and Sheet for typing and completing tasks.

May 9, 2023: Concentrated on paragraph development and grammar. Google Document was utilized for students to review and provide feedback on each other's paragraph writing assignments. Feedback and improvement points were also given through the comment section in Google Sheet.

May 16, 2023: The session revolved around mastering future tense in writing, with Google Sheet serving for attendance and task tracking. Planned to introduce a new textbook in the upcoming sessions, recorded in the Google Sheet syllabus.

May 23, 2023: Conducted activities focused on paragraph construction, using Google Sheet for vocabulary sets and tracking progress. Introduced a writing journal on Google Document, encouraging students to write weekly entries for personal development and feedback.

May 30, 2023: Administered a vocabulary quiz through Google Forms, crafted from sentences and vocabulary elements discussed in previous sessions. Corrected sentences were made visible on Google Sheet, providing clarity and learning opportunities for all students.

June 6, 2023: Slowed the course pace for more focused learning, updating the

syllabus and plans on Google Sheet. Continued the use of Google Document for detailed paragraph development.

June 13, 2023: Focused on reviewing and assessing students' paragraphs. Encouraged the use of Google Document for students to compile and revise their paragraphs based on individual feedback sessions.

June 20, 2023: Addressed the challenges of uploading work to Google Drive, emphasizing the importance of using Google Document for tracking students' writing styles and progress.

June 27, 2023: Received positive feedback on the use of Google Document for organizing paragraph tasks. Planned to introduce model answer structures in future lessons using Google Document for effective learning.

July 4, 2023: Conducted a follow-up quiz using Google Forms, later analyzing the common errors using Google Forms' summary feature to enhance student understanding.

July 11, 2023: Distributed quiz scores from Google Forms and reviewed the paragraph writing section. Suggested that students compile all written paragraphs onto a single Google Document for peer-to-peer feedback and review.

July 18, 2023: Engaged students in discussions about their experiences and learnings, particularly focusing on the use of Google Sheet and Document for completing writing tasks and tracking their development. Encouraged the application of these skills and tools in future academic endeavors.