

BACHELOR OF ARTS IN MULTIMEDIA STUDIES

Capstone/Special Project



**UNIVERSITY OF THE PHILIPPINES
OPEN UNIVERSITY**

BACHELOR OF ARTS IN MULTIMEDIA STUDIES

ASHLEY JADE R. GEVA

**EXPLORING THE PERCEPTION OF UPOU STUDENTS IN
USING NOTE TAKING APPLICATIONS ON ACADEMIC PRODUCTIVITY**

Thesis Adviser:

SHARI EUNICE T. SAN PABLO
Faculty of Information and Communication Studies

September 6, 2024

Permission of the classification of this academic work access is subject to the provisions of applicable laws, the provisions of the UP IPR policy and any contractual obligations:

Invention (I)	☐ Yes or ☒ No
Publication (P)	☐ Yes or ☒ No
Confidential (C)	☐ Yes or ☒ No
Free (F)	☒ Yes or ☐ No

Student's signature:

Thesis Adviser's signature:

University Permission Page

EXPLORING THE PERCEPTION OF UPOU STUDENTS IN USING NOTE TAKING APPLICATIONS ON ACADEMIC PRODUCTIVITY

“I hereby grant the University of the Philippines a non-exclusive, worldwide, royalty-free license to reproduce, publish and publicly distribute copies of this Academic Work in whatever form subject to the provisions of applicable laws, the provisions of the UP IPR policy and any contractual obligations, as well as more specific permission marking on the Title Page.”

“I specifically allow the University to:

- a. Upload a copy of the work in the theses database of the college/school/institute/department and in any other databases available on the public internet*
- b. Publish the work in the college/school/institute/department journal, both in print and electronic or digital format and online; and*
- c. Give open access to the work, thus allowing “fair use” of the work in accordance with the provision of the Intellectual Property Code of the Philippines (Republic Act No. 8293), especially for teaching, scholarly and research purposes.*

Ashley Jade R. Geva 09/06/2024

Signature over Student Name and Date

Acceptance Page:

This paper prepared by **ASHLEY JADE R. GEVA** with the title: **EXPLORING THE PERCEPTION OF UPOU STUDENTS IN USING NOTE TAKING APPLICATIONS ON ACADEMIC PRODUCTIVITY** is hereby accepted by the Faculty of Information and Communication Studies, U.P. Open University, in partial fulfillment of the requirements for the degree Course.

Dr. Shari Eunice T. San Pablo
Adviser (09/06/2024)

Dr. Benigno B. Agapito, Jr.
Program Chair

Dr. Roberto D. Figueroa Jr.
Dean
Faculty of Information and Communication Studies

Acknowledgement

I would like to extend my heartfelt gratitude to everyone who supported and inspired me to the completion of this research paper.

My first and utmost appreciation is extended to Prof. Shari Eunice T. San Pablo for her invaluable guidance from the proposal stage through the completion of this paper, and for her exceptional patience with me.

I also extend my gratitude to my family for their understanding and unconditional support. Especially to my mother, Marilyn Geva, for standing by me during stressful times. I also appreciate my cousin, Leigh Mejos, and her feline companions, Mochi and Mallows, for providing me comfort when I needed it the most.

I would also like to acknowledge my college friends— Jia, Arvic, Pinky, Gela, Adam, and Uwa, for keeping me company as we all worked on our research papers. Their presence, along with countless cups of coffee and conversations shared on Discord calls brought me joy and comfort throughout the process.

Finally, to my headliner, SEVENTEEN. Your music has been a powerful source of motivation for me to persevere through the pressure while completing this research.

TABLE OF CONTENTS

Title Page	i
University Permission Page	ii
Acceptance Page	iii
Acknowledgment	iv
Table of Contents	v
List of Tables	vii
List of Figures	viii
List of Appendices	viii
ABSTRACT	ix
I. INTRODUCTION	1
Background	1
Statement of the Problem	2
Objectives of the Study	3
Significance of the Study	3
Scope and Limitations of the Study	5
II. REVIEW OF RELATED LITERATURE	6
III. METHODOLOGY	9
Research Design	9
Respondents of the Study	9
Sampling Method	10

Data Gathering Process	10
Data Analysis	17
IV. RESULTS AND DISCUSSION	18
Participant Demographics	19
Question 1 Thematic Analysis	27
Question 2 Thematic Analysis	32
Question 3 Thematic Analysis	36
Question 4 Thematic Analysis	41
Question 5 Thematic Analysis	45
V. SUMMARY, CONCLUSION, AND RECOMMENDATIONS	47
Summary and Conclusion	47
Recommendations	49
REFERENCES	54
APPENDICES	56

List of Tables

Table 1: Survey Questions and its Relative Research Questions
Participant Background in Digital Note-taking

Table 1.1: Survey Questions and its Relative Research Questions
Participant Experiences and Thoughts in Digital Note-taking

Table 2: Research Timeline

Table 3: Frequently Used Note-taking Applications

Table 4: Devices Used to Access Digital Notes

Table 5: Question 1 Common Themes Distribution

Table 6: Question 2 Yes/No Distribution

Table 7: Question 2 Common Themes Distribution

Table 8: Question 3 Common Themes Distribution

Table 9: Question 3 Yes/No Distribution

Table 10: Question 4 Yes/No Distribution

Table 11: Question 5 Yes/No Distribution

List of Figures

Figure 1: Pie Chart of Participants Subscribed to
Digital Note-taking Apps

Figure 2: Pie Chart of Frequency of Weekly Use of
Digital Note-taking Apps

Figure 3: Pie Chart of Participants' Adoption of Note-taking Apps

ABSTRACT

This qualitative study examines the perceptions of students at UP Open University (UPOU) regarding their use of note-taking applications and the perceived impact on their academic productivity. The research investigates the factors that motivate UPOU students to prefer digital note-taking applications and notebooks over traditional methods, highlighting the perceived advantages and limitations of these tools, as well as their perceived necessity for UPOU students and distant learners in general. Utilizing thematic analysis, the study draws on data from surveys and interviews conducted with 16 UPOU students who regularly use digital note-taking applications for academic purposes and found various general themes that align with the participants' answers. The findings indicate a strong preference among students due to its convenience, accessibility, and efficiency. Features such as synchronization across devices and organizational tools are identified as particularly beneficial in enhancing productivity. However, challenges such as technical issues, subscription costs, and health-related concerns are also found. The study concludes that while digital note-taking applications provide substantial benefits for improving academic productivity, their use should be customized to individual preferences and needs. Recommendations for future research include expanding the sample size, assessing the long-term effects of digital note-taking on academic performance, and evaluating the effectiveness of specific application features.

Keywords: note-taking, digital applications, academic productivity, digital notebooks, digital tools, UPOU students, app features

I. INTRODUCTION

Background

In recent years, there has been a significant trend in the use of digital notebooks and note-taking applications, whether for academic purposes or personal use. This trend marks a departure from the traditional pen-and-paper method, driven by the recognition among educators and learners of the various advantages that digital tools offer in enhancing learning experiences.

Programs that enhance productivity and efficiency are classified as productivity applications (Dhaliwal et al., 2021). These applications are designed to reduce task completion times, facilitate and encourage self-assessment, and monitor progress. Most of these applications include features for task planning, organization, and scheduling. This provides students with the flexibility and efficiency to study at any time and anywhere, motivating a productive academic environment through digital tools.

A recent study indicates that productivity tools aid college students in accomplishing their academic work better due to their convenience and effectiveness (Almazan et al., 2020). This suggests that college students perceive the use of digital technologies as a favorable means of facilitating learning and enhancing academic motivation. Furthermore, Clamor and Saloma (2023) have highlighted social inequalities in the digital divide among students in the Philippines, noting that students attending private institutions generally have greater access to and proficiency with digital technologies compared to those at public institutions.

As the demand for more efficient and accessible study tools continues to rise due to the abrupt shift to online and modular classes brought by the COVID-19 lockdown, the transition from traditional to digital note-taking methods appears to be an inevitable and promising advancement in education (Tadesse & Muluye, 2020). Given that students at the University of the Philippines (UPOU) are heavily reliant on gadgets and digital technologies to fulfill their academic requirements, it is crucial to identify the essential tools that can support their study efforts effectively.

In light of the limited research on note-taking applications within the Philippine educational context, this paper aims to contribute to the existing literature by examining the impact and efficiency of note-taking applications for UPOU students. Furthermore, this study aims to advocate for the provision of these tools by the institution to improve the overall learning experience for the students, provided that the data indicate UPOU students view these tools as essential for their education as ODeL students and support the promotion of note-taking applications.

Statement of the Problem

The study explored the perspectives of UPOU students on the usage of note-taking applications and their thematic implications for academic efficiency. In the context of online and distance learning, recognizing students' perceptions of alternative digital learning methods is essential for enhancing their academic success. Additionally, the study is motivated by the following questions:

- What are the factors that motivate UPOU students to use note-taking applications versus traditional note-taking?
- What are the advantages and limitations of using digital notebooks?

- Are note-taking applications considered a necessity for UPOU students to enhance productivity?

Objectives of the Study

The study aims to contribute to the literature on digital note-taking and note-taking applications by exploring their effects and efficiency on UPOU students and addresses both the benefits and challenges of digital learning tools. Additionally, it intends to gain motivation for the institution to provide students access to these digital tools for alternative learning methods. By providing firsthand insights of students into the ways in which digital note-taking can enhance academic experience, the study aims to promote the creation of more efficient learning techniques and resources.

Significance of the Study

This study offers valuable insights for various individuals including as **educators**, who are seeking insights into the effectiveness of digital note-taking tools and how they might integrate these tools into their teaching practices; **students**, who are aiming to optimize their learning strategies with note-taking applications and want to understand the advantages and limitations of note-taking applications in their academic journey; and **casual users** of note-taking applications and digital notebooks, who can better appreciate the impact of these tools on productivity and efficiency in everyday tasks. It also offers several key contributions:

Academic Contribution. The study enhances the academic understanding of digital note-taking tools by providing new insights into their effects and efficiency. This

addition to the current lack of literature regarding note-taking tools and digital notebooks helps deepen the knowledge about how these tools can impact learning outcomes and student experience online.

Alternative Learning Methods. By examining the benefits and challenges of digital note-taking applications, the study supports the development of alternative learning methods. It provides evidence that can help educators and institutions incorporate these tools into their educational practices, potentially improving academic performance and resource accessibility.

Future Research. The results of this study offer a foundation for future research on digital note-taking tools. It encourages future researchers to explore additional dimensions to the study, such as long-term impacts on academic performance, usability of common note-taking apps, and comparative studies between traditional and digital note-taking methods. This foundation can help contribute to a deeper understanding of how digital tools can evolve and meet educational needs and enhance learning outcomes even outside UPOU.

Scope and Limitations

The study was conducted among UPOU students who prefer digital note-taking methods, which limits its scope to individuals both enrolled at UPOU and using note-taking applications or digital notebooks. Additionally, the relatively small sample size may not fully represent the broader UPOU population who utilize these tools. The use of thematic analysis in data analysis also introduces subjectivity, with potential risks of oversimplification and inconsistencies.

Despite these limitations, the study offers valuable insights into UPOU students' preferences, personal experiences, and views on how note-taking apps enhance their academic productivity.

II. REVIEW OF RELATED LITERATURE

The advancements in information delivery systems have expanded the realm of education through open and distance learning. This mode of learning, recognized for its ability to provide accessible and high-quality education, eliminates the necessity of physical interaction between students and their teachers face-to-face at an academic institution. Although distance learning allows for a wider range of teaching approaches, it is primarily dependent on digital technology to provide students with the materials they need for learning (Gunawardena, McIsaac, & Jonassen, 2008). This reliance on technology allows distance learners to have the flexibility of accessing web-based resources and collaborative tools for their studies, as well as exploring learning strategies that best fit them and allow them to study at their own pace. Consequently, online and digital tools have become essential in employing an effective learning process.

One of the tools used in education introduced by technology is digital note-taking. According to Piolat et al. (2005), note-taking refers to “recording information collected from one or multiple sources” and involves “an abbreviated transcription of the information.” This process goes beyond simply copying what is heard or observed, as it requires cognitive effort such as comprehension and memory retention.

In a traditional classroom setting, pen and paper are commonly used for notetaking. However, the emergence of digital note-taking applications over the years has provided students with the option to take notes using mobile devices or other gadgets. Nevertheless, Piolat et al. observed that using computer technology to manage information requires a significant increase in cognitive effort, especially for those who are not accustomed to typewriting or note-taking applications.

Additionally, Javier conducted a study in 2021 that examined a significant hurdle encountered by both students and teachers when transitioning to digital technologies in education due to the COVID-19 pandemic. This challenge stemmed from their limited familiarity with the tools and insufficient experience in utilizing computers, both of which are crucial for ensuring the seamless operation of online and distance learning.

Online and distance learning involve educational activities facilitated by technologies such as the Internet. Courses within this mode of education can be completed either asynchronously, synchronously, or through a blend of both, utilizing web platforms and digital devices (Sun & Chen, 2016).

While we can assume that online and distance learners are digitally competent as they are often viewed as “digital natives” (Clamor & Saloma, 2023) and often own multiple digital devices to explore the Web as part of their academic setup, access to some of the tools that help them study effectively can still be an issue.

Furthermore, Clamor and Saloma (2023) reveal that university students who are academic achievers often belong to affluent socioeconomic backgrounds and are able to adapt to emerging technology trends, have access to a variety of digital study tools, and possess high digital literacy. This implies that students' ability to plan their learning method increases with their access to digital academic tools, including ones that require a subscription.

The shift from traditional classroom learning to online platforms is inevitable. In the same study conducted by Piolat et al., it was found that the method of notetaking can significantly affect students' performance. Those who took handwritten notes

exhibited better memory retention and were less prone to distractions compared to students who relied on gadgets for their notetaking and review.

On the contrary, Mang and Wardley (2012) argue that the adoption of specific devices may actually enhance students' academic performance and improve their ability to concentrate. Similarly, Baur and Koedinger (2006) suggest that note-taking applications can be advantageous for learning when students can engage with the app in ways similar to traditional note-taking practices, such as highlighting, drawing, and annotating documents, rather than simply copying and pasting files into their digital notebooks.

Despite ongoing educational trends, there is a lack of in-depth research on students' attitudes, behaviors, and strategies in both traditional and digital note-taking, as well as a limited number of reviews that validate current studies. It is worth noting, however, that digital tools and easily accessible online resources are heavily utilized for academic purposes.

III. METHODOLOGY

Research Design

A Thematic Analysis qualitative data analysis method was used for this study. This type of research design involves the process of reading and analyzing the participants' answers and finding common patterns, and then defining themes and concepts in these data. This inductive approach enabled the researcher to find significant insights in the study, highlight commonalities between them, and draw meaningful conclusions based on the participants' personal perspectives shared during the survey and interview. This research design was essential for this study because it allowed an exploration of subjective experiences on their usage of notetaking applications and how it supports their productivity as online and distant learners.

Respondents of the Study

The respondents of the study are all enrolled students of UPOU from different faculties and programs and are especially targeted to those who use note-taking applications for academic purposes and prefer digital note-taking over traditional note-taking. This targeted approach ensures that the demographic data collected is relevant to the study and reflective of current digital note-taking practices. A participant pooling form was distributed through a Facebook group chat and private message on MyPortal between March 13, 2024 to May 4, 2024 via Google Forms and gathered a total of 38 volunteer participants, however, only 31 respondents were fit for the study's criteria. Ultimately, only 16 participants were available to participate for the final survey and interview phase conducted between June 25, 2024 to July 29, 2024.

Sampling Method

The researcher utilized purposive sampling as the sampling technique for the study to select respondents who met specific criteria, such as being currently enrolled in UPOU and using digital notebooks or note-taking apps for academic purposes. Qualitative responses were anticipated to be primarily gathered from the participants, thus an online form was employed for the sampling procedure, containing structured questions to determine the eligibility of potential respondents. This approach guaranteed that the participants possessed comprehensive experience with note-taking applications as online and distance learners of UPOU.

Upon selection of eligible participants, data was collected through a series of qualitative questions via Google Forms addressing the research questions, while clarifications on responses were further sought through scheduled Zoom interviews.

Data Gathering Process

A. Participant Selection

The participant selection process was conducted using Google Forms with the following questions.

- Are you currently enrolled in University of the Philippines Open University?

- What program faculty are you currently enrolled in? (*Multiple Choice*)
 - Faculty of Education (AA, ASIDT, BES)

- Bachelor of Arts in Multimedia Studies (AADDA, ASIT, BAMS)
- Faculty of Management and Development Studies (AADE)
- What type of applications do you use for your academic tasks? Select all that applies. (*Checkbox*)
 - Lifestyle Apps (Spotify, Duolingo, Google, etc.)
 - Utility Apps (Calculator, Grammarly/Quillbot, CamScanner, etc.)
 - Productivity Apps (Notion, Evernote, Forest, etc.)
 - News & Information Apps (Philippine Star, ResearchGate, BuzzFeed, etc.)
 - Creativity Apps (Canva, Adobe PS/Illustator, Procreate, etc.)
 - Video Conferencing Apps (Google Meet, Zoom, Slack, etc.)
- Do you use Productivity Apps ((Notion, Evernote, Forest, etc.)? (*Multiple choice*)
 - Yes
 - No
- What do you use Productivity Apps for? Select all that applies. (*Checkbox*)
 - listing and managing tasks
 - tracking schedules and events
 - note taking and documentation
 - collaborating with peers

- How often do you use Productivity Apps for academic purposes? (*Multiple choice*)
 - Everyday
 - 5-6 times a week
 - 3-4 times a week
 - 1-2 times a week
 - Never

- Do you use note-taking applications such as Notion, Evernote, Microsoft OneNote, etc. to record and write lectures/lessons? (*Multiple choice*)
 - Yes
 - No
 - Sometimes

- How often do you use note-taking apps for academic purposes? (*Multiple choice*)
 - Everyday
 - 5-6 times a week
 - 3-4 times a week
 - 1-2 times a week
 - Never

- Do you prefer writing lectures through note-taking apps (digital) or through pen and paper (traditional)? (*Multiple choice*)
 - Digital

- Traditional

Upon selection of eligible participants, data was collected through a series of qualitative questions via Google Forms addressing the research questions, while clarifications on responses were further sought through scheduled Zoom interviews

B. Final Survey Questions

The final survey and interview process involved the collection of data through Google Forms and a Zoom interview with the final 16 eligible participants. Each question was tailored to address specific research inquiries and were intentionally open-ended to allow in-depth discussions and acquire more qualitative responses.

Participant's Background in Digital Note-taking

Survey Question (SQ)	Research Question (RQ)
<i>This section are the list of questions asked in the online survey questionnaire and were clarified via online interview.</i>	<i>This section lists the research question/s that is/are relevant to the SQ, which are:</i> ● RQ #1: <i>What are the factors that motivate UPOU students to use note-taking applications versus traditional note-taking?</i> ● RQ #2: <i>What are the advantages and limitations of using digital notebooks?</i>

	• RQ #3: Are note-taking applications considered a necessity for UPOU students to enhance productivity?
Program Faculty	N/A
Which note-taking application do you mainly use? • Notion • Evernote • Microsoft OneNote • Google Keep • Other _____	RQ #1 & #2
Are you subscribed to any note-taking apps / Do you pay to use exclusive features of the app you are using? If yes, why?	RQ # 1 & #2
How often do you use note-taking apps for academic purposes? • Everyday • 5-6 times a week • 3-4 times a week • 1-2 times a week	RQ #2 & #3
What device/s do you use to take digital notes? Check all that apply. • Mobile phone • Laptop • Desktop computer • Tablet/iPad	RQ #1 & #2

Are there any factors why you mainly use this device for note-taking (e.g. interface, available apps, affordability, etc.)?	RQ #1, #2, & #3
When did you start using note-taking apps for academic purposes? • Lower grade school (Grade 3-4) • Middle school (Grade 5-6) • Junior high school (Grade 7-10) • Senior high school (Grade 11-12) • College	RQ #1, #2, & #3
What prompted you to start using note-taking apps?	RQ #1, #2, & #3

Table 1. Survey Questions and its Relative Research Question/s

Participants' Experiences and Thoughts in Digital Note-taking

Survey Questions (SQ)	Research Questions (RQ)
Why do you prefer to use note-taking applications versus traditional note-taking methods?	RQ #1, #2, & #3
Do note-taking apps help you study efficiently better than traditional note-taking? Explain briefly.	RQ #1, #2, & #3
What are some issues you encounter when using note-taking apps/digital notebooks? Do you think it affects your academic productivity?	RQ #2 & #3
Do you think academic institutions should promote the use of note-taking apps/digital notebooks versus physical books and notebooks? Why or why not?	RQ #2 & #3

As a UPOU student, do you think it is necessary to use note-taking apps/digital notebooks for online learning?	RQ #1, #2, & #3
--	-----------------

Table 1.1. Survey Questions and its Relative Research Question/s

C. Timeline

Activity	Date
Sharing Participant Pooling Form via Facebook and MyPortal	March 13, 2024
Closing of Participant Pooling Form	May 4, 2024
Surveying and interviewing eligible respondents	June 25 – July 29, 2024
Data Transcription	July 29 – August 5, 2024

Table 2. Research Timeline

Data Analysis

The study employed **descriptive statistics** to outline and present participant demographics, including their program faculty affiliation, preferred digital notebook application/s, frequency of use, devices used for note-taking, and the academic level they started using digital notebooks. Frequencies, pie charts, and bar charts were used to summarize and visualize the participant demographics. This contextualizes the responses and identify patterns that may impact the results of the data analysis.

In reference to patterns, the primary method utilized for data analysis **was thematic analysis**. This method involved the systematic generation of code words to identify and define themes and patterns within the data. Employing thematic analysis

helped to enhance data organization by categorizing information and exploring underlying meanings and interpretations of the survey interviews. This approach provided valuable insight into the research problems and a clearer understanding of the study results. The analysis adopted an inductive approach, which is data-driven, focusing on participants' experiences with digital note-taking.

Participants in the study were informed of the research objectives prior to and during the survey and interview process. It was made emphasized that participation was voluntary, and that all information shall be kept confidential for research purposes only. Participants were also informed that they were free to withdraw from the study at any time without any consequences.

IV. RESULTS & DISCUSSION

This chapter presents the results, analyses, and discussions derived from the survey and interview sessions with the participants. Descriptive analytics were employed to summarize and describe the data characteristics, utilizing frequency and selection rate metrics to quantify and present participant demographics. The data is visually represented through tables and charts.

Section 1 addresses the participant demographics, obtained through structured surveys and interviews, providing insight into their backgrounds and usage patterns of digital note-taking applications. Section 2 explores participants' perspectives and experiences with these applications, focusing on their personal insights and encounters. Both sections features open-ended questions designed to elicit qualitative responses, each aligned with specific research questions to support the overall study.

Overall, the integration of demographic and experiential data provides a thorough understanding of participant interactions with note-taking applications and digital notebooks in general. The use of descriptive analysis and qualitative insights affords an elaborate view of user behaviors and preferences. These approaches not only expounds the practical uses of these applications, but also captures the intricate experiences and perceptions of the participants.

SECTION 1. Participant Demographics

Application	Frequency	Selection Rate
Notion	5	23.8%
Evernote	0	-

Microsoft OneNote	2	9.5%
Google Keep	1	4.7%
Others	13	61.9%
Built-in system notes (Apple Notes, Samsung Notes)	4	19%
Google Docs	4	19%
Microsoft Word	2	9.5%
XTiles	1	4.7%
Goodnotes	2	9.5%

Table 3. Frequently Used Note-taking Applications

The table above indicates the frequency, which refers to the number of participants who use a particular note-taking application, and selection rate, which is the percentage of participants who selected the note-taking app out of the total number of participants. The selection rate is calculated by dividing the frequency of app by the total number of answers and then multiplying by 100 to get the percentage. This revealed that a majority of the 16 respondents use more than one note-taking application for academic purposes and that the participants have different preferences beyond the more popular note-taking apps. Although Notion slightly outperforms other popular applications in terms of frequency of use, it is closely matched by built-in system notes and Google Docs, each with a 19% selection rate. In contrast, Evernote did not garner any usage among the participants for digital note-taking.

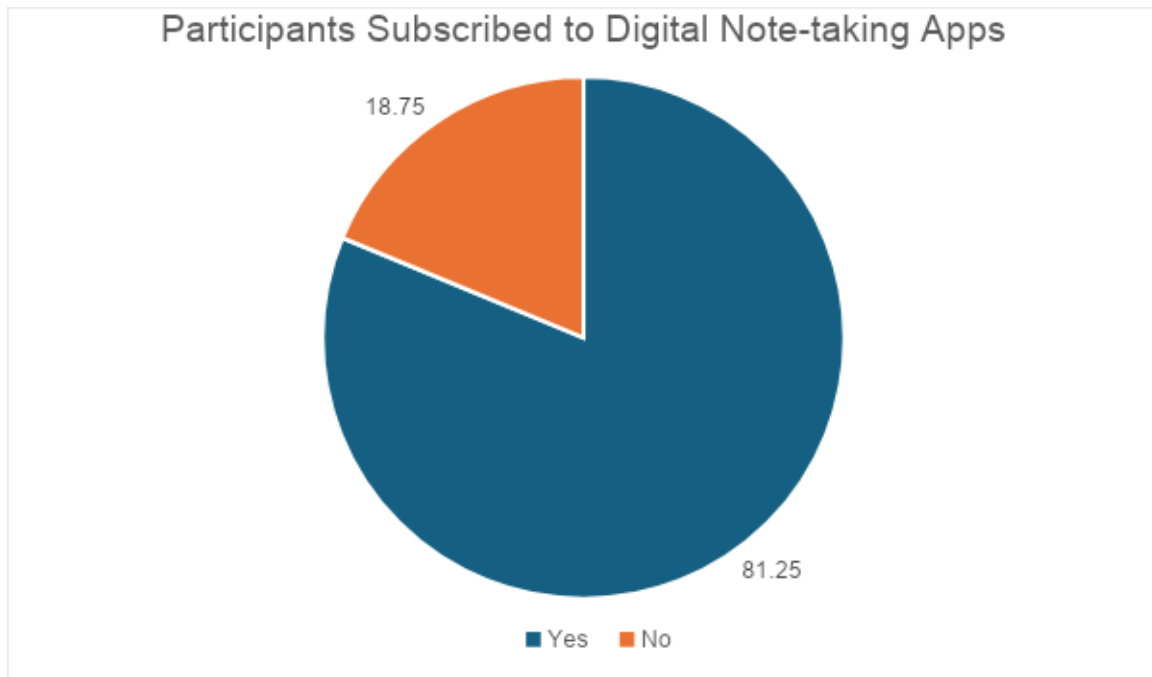


Figure 1. Participants Subscribed to Digital Note-taking Apps

The data presented in the chart indicates that 13 out of 16 (81.25%) of participants in the study do not have subscriptions to any digital note-taking applications. This indicates that the majority of participants opt for the free version of digital note-taking apps. Conversely, 3 out of 16 (18.75%) have active subscriptions. Of the three participants with subscriptions, two utilize the app Goodnotes and share similar reasons for their subscription. They cited access to exclusive features and unlimited digital notebooks as key benefits. The remaining participant, who uses Notion's Education Plan, highlighted the app's role in aiding their organization and serving as a repository for old notes.

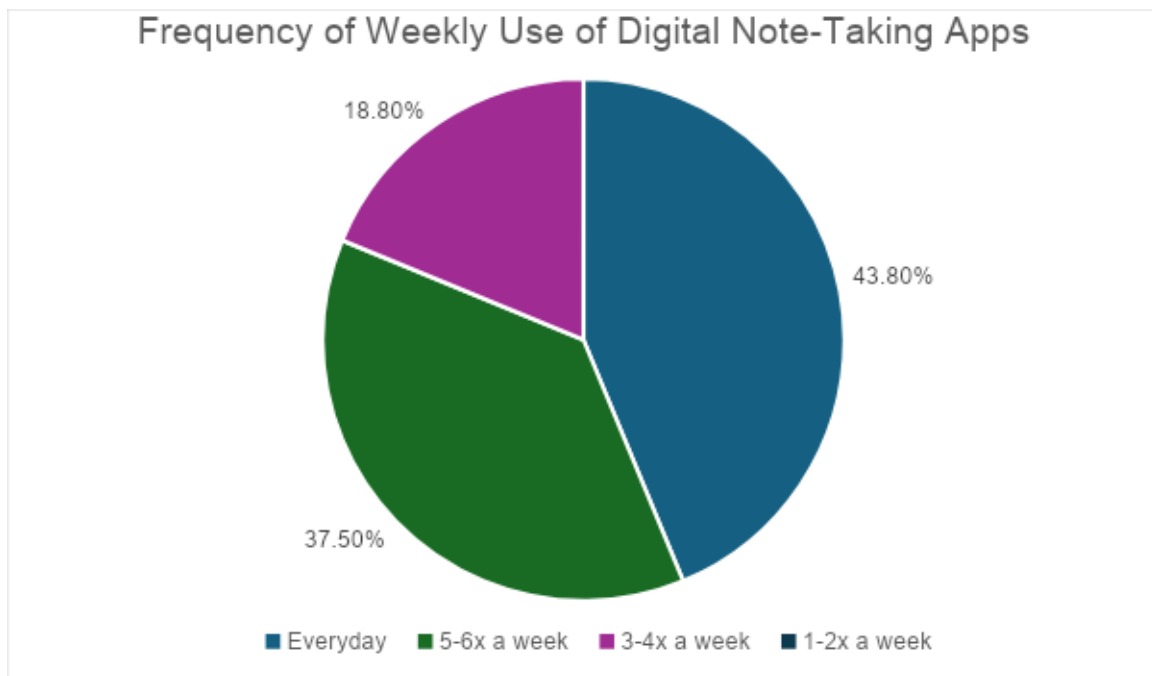


Figure 2. Frequency of Weekly Use of Digital Note-taking Apps

The chart above shows the frequency of digital note-taking among participants in their academic studies over the course of a week. Out of 16 participants, 43.8% use digital note-taking apps daily, 37.5% use them 5-6 times a week, and 18.8% use them 3-4 times a week. None of the participants use these apps just 1-2 times a week, which indicates that most participants are heavily dependent on digital note-taking apps, with a large proportion using them into their daily study routine.

Device	Frequency	Selection Rate
Mobile phone	9	29%
Laptop	11	34.5%
Desktop computer	4	13%
Tablet/iPad	7	22.6%

Table 4. Devices Used to Access Digital Notes

This table indicates the technological devices that the participants use for taking digital notes. The data shows that laptops are the most frequently used device, chosen 11 times by 16 participants, followed by mobile phones with a frequency of 9, and tablets or iPads with a frequency of 7. Desktop computers are the least common, with only 4 participants using them for note-taking.

This could suggest that portability and convenience play a significant role in the choice of device for digital note-taking, with carriable devices being most favored by the participants. The lower usage of desktop computers might indicate a preference for devices that allow for flexibility in various study environments, especially for UPOU students.

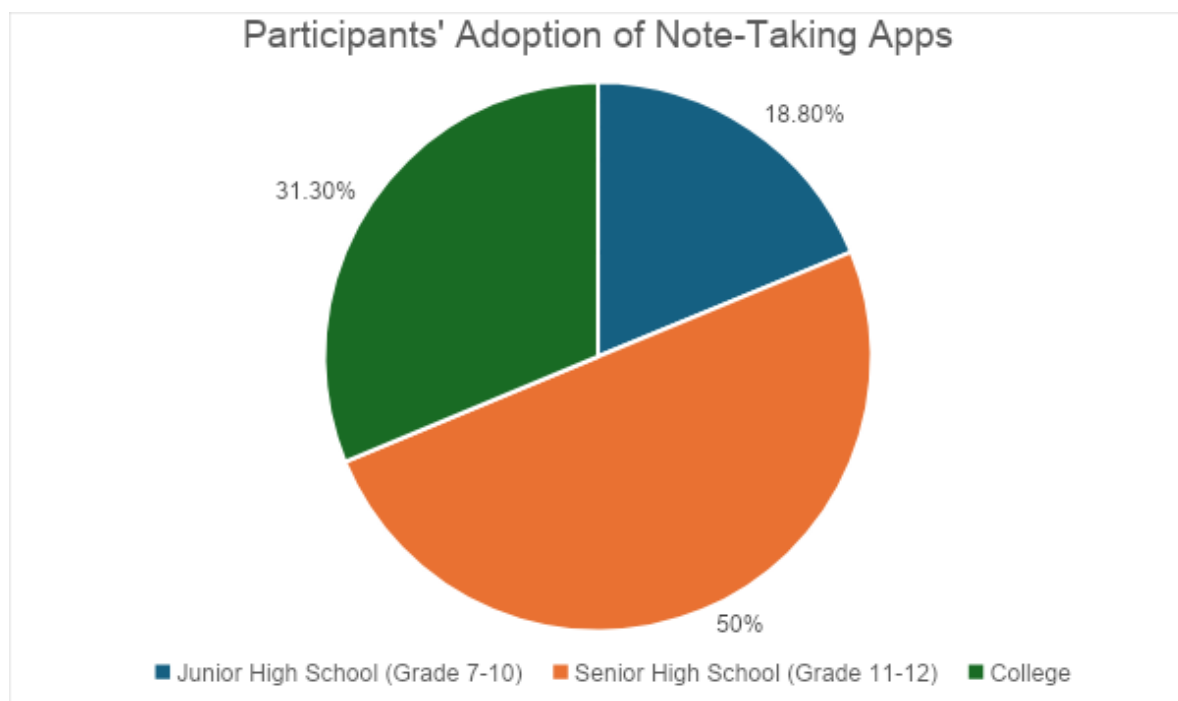


Figure 3. Participants' Adoption of Note-taking Apps

The above chart illustrates the beginning of participants' usage of note-taking applications for academic purposes. Of the 16 participants surveyed, it was found that 8 individuals (50%) initiated their use of note-taking applications during Senior High

School, while 5 participants (31.3%) began during college and only 3 (18.80%) started in Junior High School. This data suggests that a majority of the participants, who are currently enrolled in college, transitioned to digital note-taking in response to the shift to online and distance learning at UPOU. Furthermore, those respondents who indicated starting in senior high school mentioned that they did so to adjust to online classes during the COVID-19 pandemic lockdown. By closely analyzing the narrative responses of each participant, common themes for their motivations were identified.

A. Social Influences

Three participants shared similar points as to why they began using digital note-taking applications, which are social influences. This motivation is gained from social media platforms and from peer influences. In particular:

- **Participant 1** shared that social media influence highly affected their choice to use digital notebooks through influencers.
- **Participant 10** briefly stated that they were prompted to start using note-taking applications because of TikTok videos.
- **Participant 14** was encouraged by their peers to use note-taking apps to help in their academics.

B. Adapting to Online Classes

A shift in online classes is also found to be a reason why students were motivated to shift to note-taking applications as well. In particular:

- **Participant 2**, although began using note-taking apps in junior high school, it was only during the COVID-19 pandemic and the immediate

transition to online classes pushed them to use note-taking applications every day.

- **Participant 6** recalls having to adapt to the digital change because of the pandemic, stating that *“I switched to using note-taking apps instead of writing them down manually on paper, just like what I used to do when I was still in a physical learning setup.”*

C. Reading/Writing Tasks

Various responses to this theme have been identified, however, they all express similar sentiments that online academic tasks and materials prompted the respondents to seek out alternative learning methods, such as using note-taking applications.

- **Participant 3** shared that the class set up in UPOU urged them to start using note-taking apps, “I had to find an alternative so that I don't keep wasting ink and paper since the readings were getting longer and the amount just kept on multiplying.”
- **Participant 4** briefly specified that they used note-taking apps for creative writing purposes in the beginning.
- **Participant 8** mentioned that digital notebooks helped her organize her physical notebooks, hence the transition from traditional to digital note-taking. They recall, *“I used to have a clunky study desk where all my notebooks and handouts from high school were piled up.”*
- **Participant 9** shared that having a note-taking app helps them review the subjects better because it is organizable and convenient.

- **Participant 11** shared that they initially used note-taking apps for listing weekly and everyday tasks for academic and even non-academic activities.
- **Participant 13** noted that they started using note-taking apps because it helps them recall their lesson notes efficiently.

D. Health Conditions

The theme is observed in 2 participants, whose decision to start using note-taking apps is attributed to their preexisting health issues. In particular:

- **Participant 5** mentioned that using the digital version of note-taking has facilitated his note-taking process due to their palmar hyperhidrosis. They state, *“I have palmar hyperhidrosis, which means my hands sweat excessively that I find it hard to write in actual notebooks and papers.”*
- **Participant 12** recalls having to carry notebooks and books in senior high school, which poses difficulties for them in moving around due to their scoliosis, *“I use lots of notebooks, and I think it’s a lot of waste. They’re also heavy to carry around.”*

E. Convenience

Three participants expressed that they began using note-taking apps primarily due to the convenience they offer. In particular:

- **Participant 7** stated that convenience and accessibility of the note-taking apps enables them to re-read content in different devices because of automatic synching features.

- **Participant 15** said that they found digital note-taking to be more efficient and accessible compared to the traditional pen and paper note-taking. *“It also helps reduce paper waste.”*
- **Participant 16** shared opting for digital note-taking saves time and offers greater convenience and allows for efficient submission of their academic requirements online.

SECTION 2. Views and Experiences on Note-Taking Applications

This section provides a comprehensive analysis of participants’ perspectives and experiences regarding note-taking applications and digital notebooks. It systematically addresses and discusses the primary questions posed in the survey interviews. For each question, the themes identified are associated by key terms that support the core elements and meaning of the respective themes.

Question 1. Preference Towards Digital Note-taking versus Traditional Note-taking

The following analysis explores the survey question *“Why do you prefer to use note-taking apps versus traditional note-taking methods?”* and identifies 5 key themes.

Theme	Frequency	Selection Rate
Convenience & Accessibility	9	31%
Economical	6	20.7%

Efficiency	7	24%
Functionality	7	24%

Table 5. Question 1 - Common Themes Distribution

The participants' responses often identified one to three reasons for their preference towards digital note-taking over traditional methods, leading to a discrepancy between the total frequency and selection rate and the overall sample size. The analysis reveals that 31% of respondents identified convenience and accessibility as the top factor driving their preference for digital note-taking. Furthermore, 24% of the participants indicated that efficiency played a significant role in their choice. Additionally, 20% of respondents cited that digital notebooks are more economical compared to the pen-and-paper method. Finally, 24% of respondents emphasized that the enhanced functionality of note-taking apps contributed to their preference.

A. Convenience and Accessibility

This theme indicates that participants favor digital note-taking tools due to their ease of use, portability, and the capability to manage and access information at any time and from any location. Accessibility also implies that note-taking apps facilitate usage for individuals with pre-existing health conditions. The keywords and meanings associated with this theme, as reflected in participants' responses, include "convenient", "useful", "accessible", "portable", "on-the-go", and "flexible." Direct responses from participants that align with this theme include:

- *“The file can be conveniently reproduced and [the app] overall much more convenient to use”*
- *“It is easier to use and transfer to my academic portals... I have a back-up of my answers that I could edit anywhere [and] anytime through any other device.”*
- *“I prefer note-taking apps because of my health condition. Hindi nababasa ‘yung sinusulatan ko.”*
- *“It is much more convenient, and it allows me to save my notes digitally, thus, accessing it anywhere I go.”*
- *“Convenience as I can use any device to create notes and all content will be sync across devices”*
- *“It’s simply accessible!”*
- *“It became more useful when I started joining student [organizations] and a few face-to-face classes. In a way, I can bring my tasks wherever I may go.”*
- *“You can easily access your notes when they are written digitally. Plus, you don’t have to carry a notebook with you when you go out.”*
- *“I found computerized note-taking more convenient than pen and paper.”*

B. Economical

Participants considered affordability, sustainability, and resource efficiency when evaluating their preferences, all of which are addressed by digital devices. Affordability refers to the fact that digital devices and most note-taking apps are cost-effective and free, respectively. While there may be an initial investment, sustainability

is a factor since these devices and apps consume fewer material resources and are reusable in comparison to traditional note-taking methods.

Overall, this theme suggests that participants prefer digital note-taking tools because they are economical, offering good value in terms of cost, durability, and reduced waste. Keywords associated with this theme include “affordable”, “sustainable”, “less paper waste”, and “saves waste.” Direct responses from participants that align with this theme include:

- *“It doesn’t waste much physical resources especially when there’s always potential to have erasures and typographical errors”*
- *“It saves paper...”*
- *“Most of the materials are free and widely available on the internet; unlike in traditional note-taking [where] it is costly to buy different set of pens, highlighters, stickers, washi tapes, sticky notes, etc.”*
- *“It’s simply more sustainable.”*
- *“It’s easy to fix a mistake such as typo, compared to a traditional note-taking set up wherein you have to erase it physically. Such a waste of resources.”*
- *“It helped reduce paper waste.”*

A. Efficiency

This theme emphasizes the capability to achieve goals or complete tasks quickly and effortlessly. It involves maximizing results while reducing input or effort. This theme primarily focuses on time efficiency. Keywords related to this theme include “fast”, “reliable”, “ease”, “easy”, and “immediate”. Direct responses from the participants that align with this theme include:

- *“I usually prefer note-taking apps now because it is easier to use and transfer to my academic portals.”*
- *“It is faster to type notes using applications... I can even copy and paste some information from the module to the note-taking app immediately.”*
- *“More than my bad handwriting, I feel it is faster for me to type than do traditional note-taking.”*
- *“I prefer applications, [it] provides more ease...”*
- *“...since my program is held online, I found it more efficient to use note-taking apps.”*
- *“Mostly due to time constraints regarding work and deadlines, I prefer using note-taking apps as typing is more easier and faster than writing and drawing borders, tables, etc.”*

B. Functionality

This theme highlights the features, capabilities, and overall performance of note-taking applications and digital notebooks in achieving desired outcomes. It includes in-app tools and functionalities available to users and assesses how effectively these tools fulfill their intended functions. Keywords related to this theme are “tools”, “features”, “interface”, “assistance”, “orderly”, and “organized.” Direct responses from the participants that align with this theme include:

- *“It’s space-saving, easy to undo mistakes and redo what I want...”*
- *“Note-taking apps allow me to annotate, copy-paste text, screenshot certain parts, and paste links for cross referencing is what applications can provide”*
- *“...It's also handy. Third-party utilities like Grammarly also gets through and conveniently helps me retrace and correct errors.”*

- *“It’s less cluttered. I like organizing my notes on my workspace.”*
- *“In digital note-taking, one can easily erase lines/writings... Digital notes apps also have tools that can easily identify what you need to write or draw. Ai is also used in digital notes, that sometimes it can mimic one's handwriting...”*
- *“You can easily organize your notes when they are written digitally.”*

Question 2. Participants' Views on Note-Taking Apps vs. Traditional Methods for Study Efficiency

The following analysis explores the survey question that perceives the respondents’ views on note-taking apps versus traditional note-taking methods for study efficiency *“Do note-taking apps help you study efficiently better than traditional note-taking?”* and identifies 4 key themes.

<i>Do note-taking apps help you study efficiently better than traditional note-taking?</i>		
Answer	Frequency	Percentage
Yes	15	93.75%
Neutral	1	6.25%%
No	0	-

Table 6. Question 2 - Distribution

The table above presents the distribution of participants’ responses to whether note-taking applications facilitated more efficient studying compared to traditional

note-taking methods. Of the 16 participants, 93.75% responded affirmatively, while no participants indicated that the digital note-taking apps were inefficient or unreliable. The sole participant who expressed a neutral stance elaborated that, although they favored note-taking applications, they continue to utilize both traditional and digital methods, finding both advantageous for studying. In particular, they expressed that, *“Atleast for me, I find BOTH mediums beneficial on my end. Even though it might be time consuming, I like having a copy of my weekly tasks both in written and digital format.”*

Themes	Frequency	Percentage
Timesaving/Accessible	9	56.25%
Functional features	7	43.75%

Table 7. Question 2 - Common Themes Distribution

Among the 16 respondents, 56.25% indicated that note-taking apps significantly save time due to their accessibility, allowing for quick and easy writing and re-reading that can be readily accessed anytime and anywhere. In contrast, 43.75% reported that the tools and features of these apps enhance their study experience, making note-taking more effective for them.

A. Timesaving & Accessible

Timesaving refers to the characteristics of accelerating task completion to achieve results more swiftly. This theme highlights the efficiency of note-taking apps which enhance productivity by facilitating the ease of writing, reading, and reviewing notes. Keywords associated with this theme include “easy”, “quick”, “saves time”, “handy”, and “productive”. Direct responses from participants that align with this theme include:

- *“I spend less time when using digital note-taking apps compared to handmade notes”*
- *“...it would be easier for me to do my tasks anywhere as long as I have note-taking apps so if I have abrupt notes that I have to, I could just bring out my phone and the app to take note of it.”*
- *“It helps me go through the concepts and materials quickly, so it gives me a general idea of what I should be learning.”*
- *“It helps me note down summaries and outlines of lessons or stuff that I write as a habit. And rather than going back to the lessons provided, I can just quickly skim through my notes.”*
- *“...they do help me with studying better since I'm able to save more time for my other subjects. Mas mabilis 'yung pagkilos ko because I just have to type.”*
- *“It helps me study efficiently better than traditional note-taking... I could absorb all my notes and write them down quickly in applications rather than writing.”*
- *“Since the notetaking process becomes faster, I get more time to studying/recalling/reviewing the concepts.”*

- *“When using it for studying, note-taking apps helps me to go back on the topics that I’ve written in a particular module for that week.”*
- *“Yes, because when i use note taking apps, i can freely access them on my phone, or ipad when i go out. much easier than pen and papers.”*

B. Functional Features

This theme highlights the features that note-taking applications and digital notebooks offer that make studying efficient for its user, such as reading and writing tools, organization, device syncing and multimedia integration. Keywords that are associated with this theme include “features”, “organized”, and “tools”. Direct responses from the participants that align with this theme include:

- *“I don’t have to think about carrying paper around. All my notes are collected and organized in Notion.”*
- *“Comparing it to traditional notes, my digital notes are cleaner and more visually appealing.”*
- *“...having lots of colors and designs helps me retain information.”*
- *“The apps can just easily find the word I have written from any page. Features like virtual flashcards also help me study efficiently. I think it is based on the features of note-taking app one uses and how it is used by a user.”*
- *“I often use font formatting options such as bold and highlighting to emphasize information that I need to remember... note-taking apps help me organize my thoughts when I’m typing away. I can insert annotations too while studying to keep track of my understanding.”*
- *“It’s more organized.”*

- *“...if I use note-taking apps, I can still retain the original and just highlight and create additional notes if needed. It makes it easier to backtrack sources.”*

Question 3. Issues with Note-Taking Apps and Their Perceived Impact on Academic Productivity

This analysis focuses on the survey question *“What are some issues you encounter when using note-taking apps/digital notebooks? Do you think it affects your academic productivity?”* It explores the participants’ experiences with these tools, examining the issues they encounter and their perceived impact on academic productivity.

<i>“What are some issues you encounter when using note-taking apps/digital notebooks?”</i>		
Themes	Frequency	Percentage
Technical issues	8	50%
Costly	4	25%
Health Issues	3	18.75%
None	1	6.25%

Table 8. Question 3 - Common Themes Distribution

The table above presents the common themes identified in the responses regarding common issues encountered while using note-taking applications and digital notebooks. Notably, 50% of the participants reported experiencing technical issues, including synchronization problems, application crashes or lag, and limited features. Moreover, 25% of respondents expressed the costliness of note-taking apps, particularly the need for subscriptions to access better app features and the need for external accessories for devices. Additionally, 18.75% of participants mentioned

health-related concerns, such as posture issues and eyestrain due to prolonged screen time and device usage. Lastly, only 6.25% of the participants reported no issues with the use of note-taking apps.

A. Technical Issues

The majority of the participants identified synchronization issues as a significant inconvenience when using note-taking applications. Synchronization is a common feature in these applications which enables users' notes to be automatically updated and stored across multiple devices in real-time. Any changes made on one device are promptly reflected on all other devices connected to the same account, enhancing the convenience and accessibility of digital notebooks, particularly for users who frequently switch between devices and study on-the-go. However, this feature also presents a major drawback, as synchronization requires an active internet connection. This means that any changes or data added are at risk of loss if the synchronization process is disrupted or if the application is used offline.

Another issue that falls under the technical scope involves performance issues, which are characterized by the application lagging, crashing, and freezing. Some respondents also reported that certain applications significantly consume their devices with excessive battery consumption, which is a risk for overheating and affects the performance of the device. Direct responses from the participants that align with this theme include:

- *“Syncing only goes through when online, so sometimes I lose stuff that I wrote.”*

- *“The nearest problem I got is probably the slow sync of my notes from one device to another, but it does not affect my academic productivity at all, as I can wait for my notes to load.”*
- *“In Notion, sometimes pages I'm editing are slow to sync or that the formatting is inconsistent.”*
- *“Notion may be popular but it is not for me. The so called “everything” app already had some performance issues for a long time and I cannot enjoy the overall user experience despite having a having user interface. I use Apple Notes... which does not take too long to load the pages and no unnecessary features getting in the way.”*
- *“Sudden errors like not responding, then the progress is not saved. It takes a toll when the auto-save does not work.”*
- *“Sometimes, the app just crash when my device has a lot of open windows. This only happens when my study session requires lots of windows/ apps to be open for cross referencing.”*
- *“Sometimes, an input doesn't get saved, therefore it gets lost.”*

B. Costly

In-app subscriptions are perceived as a disadvantage in the utilization of note-taking applications. These subscriptions are available to users of the free version and may be charged as a one-time fee, monthly, or annually. They provide access to “exclusive” features and services that supposedly enhance the application’s functionality, which can include advanced organizational tools, increased storage capacity, and collaboration features.

This theme also extends to external devices that participants might need to purchase to expand their device's functionality, particularly for those who study on-the-go. Such external devices include Bluetooth or portable keyboards, stands and mounts, audio equipment, and other accessories.

Direct responses from the participants that align with this theme include:

- *“Using note-taking applications on a laptop means that you should also be equipped with either a mouse or a pen tablet. That means that while my laptop is portable, if I were to forget these other external accessories, I won't be able to maximise the application's note-taking features and instead, I would just be typing things again, which isn't as productive.”*
- *“It doesn't affect my academic productivity, but my yearly subscription can be a hassle.”*
- *“The issue that I encounter when using note-taking apps would be the capacity of my device's battery and having to stop using it when charging... as someone who depends on my device as a distance learner, my productivity is somehow affected.”*
- *“Costly subscription services is an issue for me, however, I don't believe it has much impact on my academic pursuits.”*

C. Health Issues

Some participants reported that the use of digital devices adversely affects their well-being, which raises an issue regarding digital note-taking. They believe it contributes to increased sitting time and screen exposure. Direct responses from the participants that align with this theme include:

- *“The longer the exposure, mas sumasakit mata ko, which somehow affects my productivity din by reducing my drive or motivation to do academic stuff agad.”*
- *“Digital note-taking lacks the “physically active” perspective and kinesthetic learning compared to traditional note-taking”*
- *“The main issue I have is being easily distracted from my work and the strain on the eyes when I'm in front of the laptop for a long period of time. It definitely affects my productivity because I'd have to really restrain myself from distractions and rest my eyes and head.”*

<i>Do you think these issues affects your academic productivity?</i>		
Answer	Frequency	Percentage
Yes	8	50%
Neutral	2	12.5%
No	6	37.5%

Table 9. Question 3 - Yes/No Distribution

The table above presents the distribution of participants who agreed, disagreed, or remained neutral in response to the follow-up question, “Do you think these issues affect your academic productivity?” A total of 50% of respondents affirmed that the challenges they encounter with note-taking applications have a significant impact on their productivity. Conversely, 37.5% reported that these issues have no effect on their productivity. Finally, 12.5% of respondents, despite identifying challenges with the use of note-taking applications, did not express either positive or negative sentiments regarding their impact.

Question 4. Support for Promoting Note-Taking Apps in Academic Institutions

The following analysis examines the questions, “Do you think academic institutions should promote the use of note-taking apps/digital notebooks versus physical books and notebooks? Why or why not?” and addresses the research question, “Are note-taking applications considered a necessity for UPOU students to enhance productivity?” It offers insights into students’ perceptions of the promotion of note-taking applications within academic settings.

<i>Do you think academic institutions should promote the use of note-taking apps/digital notebooks versus physical books and notebooks?</i>		
Answer	Frequency	Percentage
Yes	11	68.7%
Neutral	3	18.75%
No	2	12.5%

Table 10. Question 4 - Yes/No Distribution

The table above illustrates the distribution of participants’ responses regarding the promotion of note-taking apps and digital notebooks within academic institutions. The data shows that 68% of participants were in favor of promoting these digital tools, while 12.5% opposed, and 18.75% remained neutral. The two participants who disagreed with the promotion of note-taking applications suggested that it would be more beneficial if such applications were presented as an optional tool for students to explore based on their individual needs and preferences. They emphasized that the decision to use any particular application should be left to the students’ discretion. Their direct responses included:

- *“I think po better if upon the discretion of the student or teacher yung paggamit ng digital notebooks, if mas productive for them since digital notebooks are supposed to be aids lang to the unavailability of physical notebooks all the time.”*
- *“I dont think it is in the best interest of academic institutions to tell which students should use in terms of notetaking. I believe it is more important for both the school and the students to achieve their goals.”*

Among those who expressed agreement, two key themes were found, highlighting their perspectives and reasoning for recommending digital note-taking in academic institutions.

Adaption to Digital Age

This theme emphasizes the participants who supported the promotion of digital note-taking, asserting that such endorsement is essential for institutions to fully transition into the digital era and align with emerging trends in education. This theme also highlights the participants' view that promoting digital note-taking is particularly relevant given that students now generally have access to digital devices. Specifically, the participants indicated that:

- *“Yes... pwede syang i-promote considering how technology is very relevant nowadays.”*
- *“It’s necessary especially for courses that are online or related to media.”*
- *“Instead of buying physical school materials frequently, investing in a device accessible for note-taking apps is much better. The digital age is*

now evolving, and digital notebooks are much more convenient nowadays.”

- *“Yes. It’s more efficient and affordable, especially for those already owning gadgets.”*
- *“We’re in a digital age... adapting to it must be anticipated.”*
- *“In the digital age as much as many Filipino learners prefer physical mediums when learning, we also have to learn to adapt in digital learning.”*
- *“Academic institutions should promote the use of note-taking apps/digital notebooks since it is slowly becoming the efficient norm and so that people will be able to discuss the proper ways of utilizing it to see its cons and risks.”*

Features and Functionality

Another common theme among participants supporting digital note-taking in academic institutions is the belief that its tools and features can enhance learning engagement as these applications can help improve organization and flexible learning. The features and functionality theme also addresses the sustainability aspect of using digital note-taking applications compared to traditional methods. In particular, some participants expressed that:

- *“Yes, the schools should promote it. But also let them know about the app subscriptions and other necessities that come along with it.”*
- *“From a practicality and sustainability perspective it is best to promote paperless notes to reduce our carbon footprint.”*

- “Yes... it’s easier to search and learn more about the concepts .”

Question 5. Perception on the Necessity of Digital Note-Taking/Notebooks for UPOU Students

This section presents the findings from the survey question, “As a UPOU student, do you think it is necessary to use note-taking applications/digital notebooks for online learning?” which provides insights into how the participants perceive the necessity of note-taking applications and digital notebooks into the academic lifestyle of UPOU students and their potential impact on students’ academic efficiency and effectiveness.

<i>As a UPOU student, do you think it is necessary to use note-taking applications/digital notebooks for online learning?</i>		
Answer	Frequency	Percentage
Yes	12	75%
No	4	25%

Table 11. Question 3 - Yes/No Distribution

The table above illustrates the distribution of responses from participants regarding the necessity of note-taking applications and digital notebooks for UPOU students. Specifically, 25% of respondents disagreed, with all respondents providing a single common theme.

Personalized Learning Preferences

The 25% of respondents who disagreed indicated that note-taking applications are not essential for UPOU students and that their use should be based on individual preferences. Furthermore, some expressed that students may face challenges in

accessing these tools due to subscription-based features, and others may find them ineffective in their study routine. Direct responses include:

- *“It is not a necessity but a luxury that can help ease the workload and make study sessions more pleasant.”*
- *“I don’t think it’s a necessity if the student doesn’t really find it helpful or productive.”*
- *“Some students may find these apps for non-academic purposes. While digital notes let me write and organize my thoughts efficiently, it may not be the case for others.”*
- *“It is still based on the preference of UPOU students on how they learn efficiently. If digital note-taking does not work for them, then let it be.”*

In contrast, 75% of the respondents agreed, offering a variety of reasons that are organized into three themes. These themes highlight the necessity of note-taking applications within the UPOU learning environment and their suitability of its features for UPOU students.

Appropriate Learning Set-up

This theme emphasizes the respondents’ perception that note-taking applications are crucial for UPOU students, as they align well with the university’s learning environment. The respondents also expressed that it is essential for UPOU students to be familiar with and utilize note-taking applications and digital notebooks because, as online learners, it is important to fully adapt to new technological educational methods. Direct responses include:

- *“UPOU is a pioneer for distance education and therefore requires enrollees and current students to technologically adapt to its education methods.”*
- *“As online learners, we need it more than anyone else.”*
- *“UPOU promotes distance learning, and since most students use digital devices to access their modules and learning resources online, it's essential to use note-taking apps to stay organized and updated.”*
- *“Yes, I do think it is necessary to use note-taking apps for online learning as a UPOU student because it would help improve our organization skills in the online environment.”*
- *“In the UPOU environment, I think it is necessary to use note-taking apps/digital notebooks since it serves as a practice in organizing our ideas for our TMAs, DFs, and other requirements.”*

Suitability for Online Students

This theme highlights the respondents' view that note-taking apps and digital notebooks are essential for UPOU students because their features align with the students' needs. Moreover, these applications are perceived as accessible tools that allow students to study flexibly. Direct responses include:

- *“It makes learning more accessible to different learning set-ups of individuals with different situations from wherever their learning takes place.”*
- *“Doing so will help me read my materials anytime and anywhere. Mas madali ko ring maalala ‘yung mga binabasa ko.”*

- *“As a UPOU student, using note-taking apps and digital notebooks is very necessary for online learning... they’re very important for online learning to summarize a topic for a subject, and list down key notes, instead of going back and forth to given modules.”*
- *“Note-taking apps enable us to attach or embed links and images that can help further extend our learnings.”*

V. SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Summary and Conclusion

This study explores the usage patterns, preferences, and perceptions of UPOU students regarding note-taking applications and digital notebooks, as well as their experiences with the perceived effects on their productivity. The study involved 16 participants, each revealing a diverse range of preferences for digital note-taking tools and applications, with Notion, built-in system notes application, and Google Docs being the most popular choices. It was also revealed that the majority of participants began adopting digital note-taking in Senior High School and continued into college, often influenced by the shift to online learning during the COVID-19 pandemic and social influences such as peers and social media. Additionally, the majority of participants (81.25%) do not subscribe to any digital note-taking applications, indicating a preference for free versions of their preferred applications.

Furthermore, laptops and mobile phones were the most commonly used devices for digital note-taking, highlighting the importance of portability and convenience in students' choices. Several reasons were cited for preferring digital note-taking over traditional methods, including convenience, accessibility, efficiency, and enhanced functionality suited to the learning environment and setup of UPOU students. 93.75% of participants believed that note-taking applications helped them study more efficiently, with most claiming that these applications' time-saving, organizational, and syncing features enhance their academic productivity.

However, challenges were also noted, such as technical issues, cost-related concerns, and health issues due to prolonged screen time. Despite these challenges, most participants supported the promotion of digital note-taking applications in

academic institutions and deemed them necessary for UPOU students, emphasizing their relevance in the digital age and their potential to enhance academic productivity and engagement. The study finds similar key themes that are key to UPOU students' preference for using digital note-taking applications over traditional methods. The most prominent motivator includes its convenience and accessibility, which allows students to sync their notes from different devices and access their notes anytime from location. Other tools and features of the respective applications that they use make reviewing their study notes easier and more efficient than traditional note-taking methods. This also allowed the students to adapt to the digital learning environment of UPOU and enabled them to save more physical resources and waste as they deem the devices, which they already have access to as online and distant learners, more sustainable and durable. Moreover, there were also participants who switched to digital note-taking methods because it aids them in their existing health conditions. These findings are key to their perceived boost in productivity when using note-taking applications.

However, the study also finds disadvantages, particularly with technical issues that could be inevitable when using the applications, such as crashes, lag, synchronization failure, and overuse of the devices' battery life that could lead to additional costs. Speaking of cost, some applications also require subscriptions for full functionality, and some devices may also need external accessories to extend functionality. Furthermore, the study finds that prolonged screen time also negatively impact users' health, such as causing eye strain, affecting overall productivity. These factors need to be considered when evaluating the overall effectiveness of digital note-taking tools.

Finally, the study finds that the majority of the participants consider note-taking applications a necessary tool for enhancing productivity, especially as UPOU students,

given the institution's learning setup and support for their promotion in academic institutions. The participants shared that it may also be beneficial for online and distance learners to support efficient study practices. However, a minority of students argue that it is not universally necessary and must be used based on preference because some students may not have opportunities to access digital devices and reliable internet access, and they may find traditional note-taking methods more effective in studying.

Overall, the study concludes that while digital note-taking applications offer significant advantages in terms of convenience, efficiency, and adaptability to the digital learning environment, their effectiveness is not universally acknowledged among all students. The benefits of digital note-taking tools, such as enhanced productivity and reduced physical waste, are weighed against drawbacks like technical difficulties, subscription costs, and health concerns. This suggests that while digital note-taking is a valuable tool for many students, its adoption should remain a matter of personal preference, considering individual needs and circumstances. Future research could further explore how different educational contexts and technological access levels influence the choice and effectiveness of note-taking methods among students.

Recommendations

Drawing from the results of the study, the following recommendations are advised to enhance and further develop the research:

Increase sample size and diversity. This study involved only 16 participants who regularly use note-taking applications for study purposes and were available to participate at the time the study was conducted. The study could be more reliable if a

larger and more diverse group of participants, both within and outside UPOU, were included in the study, and if various user habits and experiences were observed and explored. Additionally, expanding the sample size would provide a broader perspective on the perceived effectiveness of note-taking applications in different educational contexts.

Include longitudinal analysis by tracking the participants' academic performance. This would uncover long-term patterns and trends, potential changes in preferences, frequently used application features, and other habits that help boost students' motivation and performance, providing a deeper understanding of the effectiveness of note-taking applications in education.

Analyze the effectiveness of specific features. This recommendation will help education stakeholders understand which features could be most beneficial for them for academic use and success, as well as guide them into finding the application best suited to their needs. It will also assist programmers and/or application developers in focusing on enhancing current features and planning future development to ensure that the note-taking application effectively addresses user needs.

Evaluate deeper on its negative effects on health and impact on academic productivity to help identify potential drawbacks that could affect users' well-being and academic performance. This recommendation will facilitate the implementation of interventions necessary to address the risks associated with prolonged screen time when using note-taking applications, particularly for online and distant learners.

REFERENCES

- [1] Castano, M.C. & Cabanda, E. (2007, June). Sources Of Efficiency And Productivity Growth In The Philippine State Universities And Colleges: A Non-Parametric Approach. *International Business & Economics Research Journal*: Volume 6, Number 6. <https://doi.org/10.19030/iber.v6i6.3379>
- [2] Piolat, A., Olive, T., Kellogg, R. (2005). Cognitive effort during note taking. 19(3), 291–312. doi:10.1002/acp.1086
- [3] Almazan, F.D., Balao, J., Pabuna, H., & Uy, N.D. (2020, March 18). College Students' Use of Productivity Applications. *Ascendens Asia Journal of Multidisciplinary Research Abstracts*: Volume 4, Number 1. <https://ojs.aaresearchindex.com/index.php/AAJMRA/article/view/2709>
- [4] Dhaliwal, H., Ahluwalia, K., Zada, D. K., Qin, D., Tanveer, R., Botros, J., & Xu, J. (2021, September 19). An analysis of productivity app strengths: An environmental scan. <https://doi.org/10.31234/osf.io/cb9dn>
- [5] Clamor, W.L. & Saloma, C. (2023, April 27). Digital capital and belongingness in universities: quantifying social inequalities in the Philippines. *Frontiers*. <https://doi.org/10.3389/feduc.2023.1137121>
- [6] Makany, T., Kemp, J., and Dror, IE. (2009) Optimising the use of note-taking as an external cognitive aid for increasing learning. *British Journal Of Educational Technology*. 40, (4), 619-635. https://ink.library.smu.edu.sg/cgi/viewcontent.cgi?article=7651&context=lkcsb_research

- [7] Gunawardena, C. N., & Mclsaac, M. S. (2013). Distance education. In Handbook of research on educational communications and technology (pp. 361-401). Routledge. <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=ec1d873d0496778399dd0976c94c4fc8835725a6>
- [8] Bauer, A. & Koedinger, K. (2006). Pasting and Encoding: Note-Taking in Online Courses. Proceedings - Sixth International Conference on Advanced Learning Technologies, ICALT 2006. 2006. 789-793. 10.1109/ICALT.2006.256.
- [9] Mang, C. F., & Wardley, L. J. (2012). Effective adoption of tablets in post-secondary education: Recommendations based on a trial of iPads in university classes. Journal of Information Technology Education: Innovations in Practice, 11, 301. <https://core.ac.uk/download/pdf/194460434.pdf>
- [10] Tadesse, S. and Muluye, W. (2020). The Impact of COVID-19 Pandemic on Education System in Developing Countries: A Review. Open Journal of Social Sciences, 8, 159-170. doi: 10.4236/jss.2020.810011.
- [11] Sun, A., & Chen, X. (2016). Online education and its effective practice: A research review. Journal of Information Technology Education: Research, 15, 157-190. Retrieved from <http://www.informingscience.org/Publications/3502>

APPENDICES

APPENDIX A

Google Forms Participant Selection Form

Research Participant Pooling Form

Greetings!

I am Ashley Jade R. Geva, a fourth-year student at the University of the Philippines Open University studying Bachelor of Arts in Multimedia Studies. As part of my MMS 200 class and thesis study, I am kindly requesting your participation in an academic study I will be conducting titled "EXPLORING THE EFFECTS OF USING NOTE TAKING APPLICATIONS ON ACADEMIC PRODUCTIVITY OF UPOU STUDENTS".

The primary objective of this survey form is to identify and recruit individuals who meet the specific criteria required for participation in this research study.

If you have been selected as a participant, you will be contacted through the email and social media platforms you provided. Participation is **voluntary**, and all information collected will be kept confidential and used only for the purposes of this study. If you decide to withdraw your participation of the study at any point, the researcher will nullify your data without penalty.

Thank you!

For questions and clarifications, you may send an email to me at argeva@un.edu.ph

* Indicates required question.

1. Email *

2. I acknowledge the objectives of this survey form and authorize the researcher to use my information in assessing my eligibility as a participant in the research study. *

Mark only one oval.

☐ Yes

Participant Assessment

3. Are you currently enrolled in University of the Philippines Open University? *

Mark only one oval.

☐ Yes

☐ No

9. Do you use note-taking applications such as Notion, Evernote, Microsoft OneNote, etc. to record and write lectures/lessons? *

Mark only one oval.

☐ Yes

☐ No

☐ Sometimes

10. How often do you use note-taking apps for academic purposes? *

Mark only one oval.

☐ Everyday

☐ 5-6 times a week

☐ 3-4 times a week

☐ 1-2 times a week

☐ Never

11. Do you prefer writing lectures through note-taking apps (digital) or through pen and paper (traditional)? *

Mark only one oval.

☐ Digital

☐ Traditional

4. What program faculty are you currently enrolled in? *

Mark only one oval.

☐ Faculty of Education (AA, ASIDT, BES)

☐ Faculty of Information and Communications (AADD, ASIT, BAMS)

☐ Faculty of Management and Development Studies (AADE)

5. What type of applications do you use for your academic tasks? Select all that applies. *

Check all that apply.

☐ Lifestyle Apps (Spotify, Duolingo, Google, etc.)

☐ Utility Apps (Calculator, Grammarly/Quillbot, CamScanner, etc.)

☐ Productivity Apps (Notion, Evernote, Forest, etc.)

☐ News & Information Apps (Philippine Star, ResearchGate, Buzzfeed, etc.)

☐ Creativity Apps (Canva, Adobe PS/Illustrator, Procreate, etc.)

☐ Video Conferencing Apps (Google Meet, Zoom, Slack, etc.)

6. Do you use Productivity Apps (Notion, Evernote, Forest, etc.)? *

Mark only one oval.

☐ Yes

☐ No

7. What do you use Productivity Apps for? Select all that applies. *

Check all that apply.

☐ listing and managing tasks

☐ tracking schedules and events

☐ note taking and documentation

☐ collaborating with peers

8. How often do you use Productivity Apps for academic purposes? *

Mark only one oval.

☐ Everyday

☐ 5-6 times a week

☐ 3-4 times a week

☐ 1-2 times a week

☐ Never

This content is neither created nor endorsed by Google.

Google Forms

APPENDIX B

Google Forms Survey Questionnaire

EXPLORING THE EFFECTS OF USING NOTE TAKING APPLICATIONS ON ACADEMIC PRODUCTIVITY OF UPOU STUDENTS

Good day!

I am Ashley Jade R. Cirva, a fourth-year student at the UPOU studying Bachelor of Arts in Multimedia Studies and I am currently conducting my study for MMS 200.

Based on your responses in the previous survey form, you have been chosen to participate in this research as your eligibility aligns with the criteria needed for this study. Your participation is anticipated and appreciated.

This questionnaire is split into two sections. The initial part covers your experience with digital note-taking, including the applications and devices you use, and is estimated to take approximately 3-5 minutes. The second section consists of 5 questions that requires both short and long paragraph responses regarding your use of note-taking apps for academic purposes. Each question is expected to take around 3 minutes to complete. Overall, the questionnaire should take more or less than 20 minutes to fully complete.

Participation is voluntary, and all information collected will be kept confidential and used only for the purposes of this study. Should you wish to withdraw your participation of the study at any point, the researcher will nullify your data without penalty.

For questions and clarifications, you may send an email to me at apcirva@up.edu.ph

* Indicates required question

1. Email *

2. I have read and understood the terms and voluntarily wish to participate in this study. *

Mark only one oval.

☐ Yes

3. Name *

8. What device/s do you use to take digital notes? Check all that apply. *

Check all that apply:

☐ mobile phone

☐ laptop

☐ desktop computer

☐ tablet/iPad

☐ Other: _____

9. Are there any factors why you mainly use this device for notetaking (e.g. interface, available apps, affordability, etc.)? *

10. When did you start using note-taking apps for academic purposes? *

Mark only one oval.

☐ Lower grade school (Grade 3-4)

☐ Middle school (Grade 5-6)

☐ Junior High School (Grade 7-10)

☐ Senior High School (Grade 11-12)

☐ College

11. What prompted you to start using note-taking apps? *

Paragraph Answers Section

It is strongly recommended to provide detailed explanations in your responses. Feel free to use and switch between both English and Filipino languages as needed.

4. Program Faculty *

Mark only one oval.

☐ Faculty of Information and Communications (FICS)

☐ Faculty of Education (FE)

☐ Faculty of Management and Development Studies (FMDs)

☐ Other: _____

Participant Background in Digital Note-taking

5. Which note-taking application do you mainly use? *

Mark only one oval.

☐ Notion

☐ Evernote

☐ Microsoft OneNote

☐ Google Keep

☐ Other: _____

6. Are you subscribed to any note-taking apps / Do you pay to use exclusive features of the app you are using? If yes, why? *

7. How often do you use note-taking apps for academic purposes? *

Mark only one oval.

☐ Everyday

☐ 5-6 times a week

☐ 3-4 times a week

☐ 1-2 times a week

12. Why do you prefer to use note-taking apps versus traditional note-taking methods? *

13. Do note-taking apps help you study efficiently better than traditional note-taking? Explain briefly. *

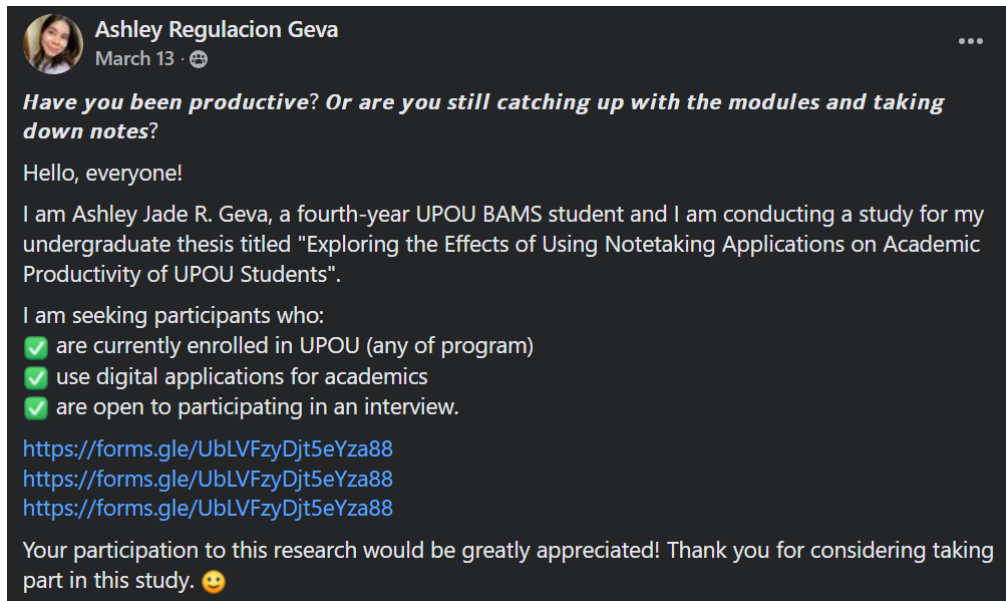
14. What are some issues you encounter when using note-taking apps/digital notebooks? Do you think it affects your academic productivity? *

15. Do you think academic institutions should promote the use of note-taking apps/digital notebooks versus physical books and notebooks? Why or why not? *

16. As a UPOU student, do you think it is necessary to use note-taking apps/digital notebooks for online learning? *

APPENDIX C

Participant Selection Facebook Post



APPENDIX D:

TCPS Certificate

