

## TRANSFORMING TRADITIONAL PEDAGOGIES: THE IMPACT OF ONENOTE ON UNIVERSITY TEACHING AND LEARNING PRACTICES

J.M.P. Gunasekara<sup>1\*</sup>, M.D.G.M. Gamage<sup>2</sup>, and U.U. Sanjeevani<sup>3</sup>

<sup>1,2,3</sup> Institute of Technology University of Moratuwa, Sri Lanka

[malingunasekara@gmail.com](mailto:malingunasekara@gmail.com)<sup>1\*</sup>, [g2madhusa@gmail.com](mailto:g2madhusa@gmail.com)<sup>2</sup>, [upulisanjeevani.u@gmail.com](mailto:upulisanjeevani.u@gmail.com)<sup>3</sup>

**ABSTRACT:** The spread of COVID-19 around the world led to the lockdown of many universities in the world posing significant challenges for conducting traditional face-to-face lectures. As a result, both students and educators had to transition to online teaching and learning, creating opportunities to explore various tools and applications for delivering complex subject content in an understandable way. In this context, this paper presents how Microsoft OneNote can be used as a digital note-taking application for both students as well as educators to deliver the subject content in a user-friendly manner utilizing its features of the OneNote for engaging and user-friendly content delivery. The survey result reveals that a higher percentage of students prefer digital notetaking for their learning at the university.

*Keywords:* digital note, leaning, OneNote, online learning

### 1. INTRODUCTION

The COVID-19 pandemic caused a transition to online learning, posing distinct challenges for university teaching worldwide (Senthilkumar, 2022). This shift was particularly difficult in areas such as engineering and medicine due to the complexity of the subject content. Specifically, intricate illustrations and the application of mathematical formulas posed a significant challenge. The lockdown of cities disrupted traditional classroom teaching methods (Wicaksono, 2024). However, the lockdown encouraged students to continue their academic work online using electronic devices and a variety of software applications (Grijalva-Borja et al., 2020). This situation presents an opportunity for educators and students to explore new tools and strategies to overcome the challenges associated with online teaching and learning.

Moreover, digital note-taking applications emerged with advanced features designed to provide a user-friendly interface with flexibility. Several digital note-taking applications such as Evernote, Notion, Obsidian, Joplin, Apple Notes and OneNote have immense popularity (Harry Guinness, 2024) each offering unique features tailored to various user needs.

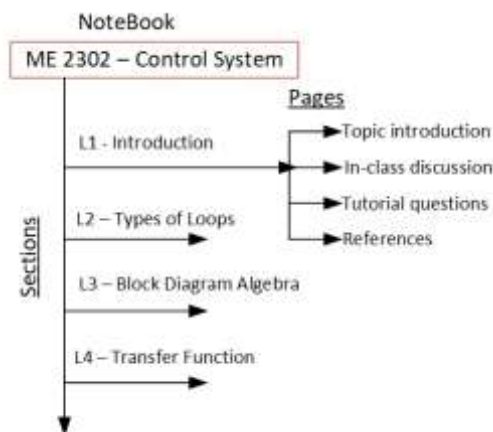
In this study, the Microsoft OneNote digital note-taking application was used to create a bridge between students and educators in the teaching and learning process. Several factors, such as cost-free accessibility, handwriting facility, quick content updates, the ability to add web links, and the option to insert documents in print format, are attractive features that help engage students in the learning process.

To evaluate student engagement with OneNote application, a digital book was created for the Control System Module offered in the third semester of the Engineering diploma curriculum. Student interaction with the features available in OneNote was identified through a survey. The results of this study are expected to provide valuable insights into how Microsoft OneNote can enhance traditional teaching and learning approaches, potentially leading to more interactive and adaptable learning experiences for students in higher education.

### 2. METHODOLOGY

The layout of the Microsoft OneNote is similar to a typical notebook which includes sections and pages. The content for the module can be organized within a notebook created in Microsoft OneDrive allowing access from any device including smart phones, laptops or tablets.

In this study, the content for the 3<sup>rd</sup> semester module was created in OneNote titled “Studentcopy-ME2302”. The sections (L1, L2, L3 etc.) were named according to the lecture topics. Each lecture topic includes various elements such as topic introduction, in-class discussion, tutorial questions, references. These elements were organized into pages under each section as shown in Fig. 1.



**Fig. 1.** Layout of OneNote Created for the ME2302 Module

A OneNote book was created in OneDrive and shared with the student community via a link. The content of the OneNote was developed through the features available, such as the drawing facility (to annotate content), resources addition (web link, pdf, docx, etc.), tagging, voice recording. A Google form was created to collect students’ interest in using OneNote as a digital note-taking application for their learning process. The details of the survey and its findings are presented in the Results and Discussion section.

### 3. RESULTS AND DISCUSSION

Responses from 100 students enrolled in the ME2302 module were selected for the study. The responses were summarized in Table 2. This survey focused on collecting data in three important areas such as, (i) methods used to access OneNote, (ii) how students interact with the features of OneNote and (iii) students’ views on digital note-taking compared to traditional handwritten note taking.

**Table 1.** Questionnaire

<i>Question</i>	<i>Options</i>
(a) How did you access OneNote?	Smart phone / Laptop / Tablet
(b) Which feature/s of OneNote are you interested in?	<ul style="list-style-type: none"> <li>• Quick update of the content</li> <li>• Organization structure</li> <li>• Content can be viewed later</li> <li>• Facility for handwritten content</li> <li>• Adding web links (YouTube etc.)</li> <li>• Adding print notes</li> </ul>
(c) Your feedback on using OneNote for teaching at university?	<ul style="list-style-type: none"> <li>• It is good tool for learning as students can view the content.</li> <li>• Handwritten notetaking is better than digital notetaking for students.</li> <li>• I have no idea about OneNote tool.</li> </ul>
(d) Are you using OneNote for your work now?	Yes / No

**Table 2.** Students' Responses

<b>(a) Device used to access OneNote</b>		
Smart Phone – 56%	Laptop – 82%	Tablet – 6%
<b>(b) Students' interest in the features of OneNote</b>		<b>Percentages</b>
Quick updates of content		71%
Organization structure (sections and pages)		65%
Content can be viewed later		56%
Facility for handwritten content		50%
Adding web links		43%
Adding print notes		31%
<b>(c) Digital vs. Handwritten notetaking</b>		
Digital notetaking is good tool for university learning		90%
Handwritten is better than digital note-taking		34%
No idea of digital notetaking		4%
<b>(d) Further use of OneNote</b>		
Yes		67%
No		33%

The survey results show that students use a variety of OneNote capabilities and engage with components that enhance their learning strategies. Additionally, a significant number of students (90%) agreed that switching from traditional paper-based notetaking to digital notetaking was an effective approach for learning at university.

OneNote supports educators in actively engaging students in the learning process in a flexible manner with features that help clarify complex subject areas. Its numerous advanced functionalities promote greater creativity and effective teaching methods. In fact, the steep learning curve of OneNote motivates over 67% of students to engage with it for their future work. Additionally, this study identified that around 4% of students are unaware of the OneNote application which may pose a challenge in shifting their mindset for taking advantage of technological advancements in the learning process.

#### **4. CONCLUSION**

Universities have incorporated several tools and techniques for teaching and learning in response to global technological advancements. This research examines student engagement with digital notetaking through OneNote, revealing that its features are preferred by the student community for enhancing the learning process. Transforming traditional teaching with the help of OneNote is one of the ways to enhance student learning while providing educators with the flexibility to present subject content more effectively. This study can be expanded by investigating how students and educators engage with various other digital note-taking applications and analyzing their benefits and drawbacks.

## 5. REFERENCES

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