Enhancing Classroom Learning with Microsoft 365 for Education: A Comprehensive Study of Learning Management Systems

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BACKGROUND

Learning Management Systems (LMS) have been instrumental in schools and academic institutions worldwide; they provide teachers and students with a digital platform for distributing classroom materials and designing courses (Pritchett & Wohleb, E, 2013). The COVID-19 pandemic has triggered an unprecedented rise in the use of LMS systems, with some systems garnering attention and traction, such as Moodle, Google Workspace for Education, and Blackboard (Aboagye et al., 2020). As traditional classrooms and schools were closed, shifting to remote and hybrid learning became imperative. Microsoft 365 for Education, which includes applications such as Microsoft Teams and OneDrive, has assumed a pivotal role for educators and students. LMS systems have paved the way for developing asynchronous teaching, hybrid learning, and flipped classrooms. To accurately gauge the overall educational quality, it is vital to evaluate different LMS platforms.

As the world transitions after the pandemic, the role of LMS systems in classrooms remains essential. While known for their popular operating software, Windows and Microsoft have significantly impacted the digital classroom. They have extended their reach into educational technology, providing various LMS solutions and tools to support online learning, simplify classroom administration, and improve the educational experience. This shows Microsoft's dedication to lead in operating systems and productivity software and become a notable player in the ever-changing world of hybrid and online learning (Aires et al., 2021).

This study explores the landscape of LMS systems, focusing on Microsoft 365 for Education in classrooms and institutions of education, and assesses the different applications utilized. Additionally, the advantages of implementing this system were evaluated. Finally, this study considers the

future outlook of Microsoft 365 for Education as a reliable educational LMS. It offers valuable insights for educators and institutions as they navigate the continually evolving realm of digital education using LMS platforms.

MICROSOFT 365 FOR EDUCATION INTRODUCTION

Microsoft 365 for Education was part of Microsoft's early initiative to enter the education sector. In 2011, Microsoft introduced "Office 365 for education, a cloud-based suite specifically tailored for academic institutions. Six years later, Microsoft rebranded "Office 365 for Education" as "Microsoft 365 for Education," reflecting the platform's broader scope beyond traditional office applications.

(Figure 1. Office 365 for Education in 2011 [before rebranding])

During the COVID-19 pandemic, Microsoft 365 was a lifeline for many educational institutions needing to switch to online learning. The most pressing need during the pandemic was a videoconference tool to communicate with students remotely. Microsoft Teams has also become a go-to platform for virtual meetings (Juanis, 2020), along with other popular videoconferencing software such as Zoom and Google Meets. This increased demand prompted Microsoft to proactively enhance teams with various features tailored for teachers and educators.

Furthermore, Microsoft recognizes the importance of LMS platforms in ensuring uninterrupted education (R. K. Bsharat & Behak,

2021). They took measures to enable the integration of the Microsoft Teams and LMS platforms. Microsoft Teams' flexibility and quick adaptation have transformed it into a valuable academic asset. As it continued to upgrade and expand its applications, Microsoft transitioned its existing office applications to provide seamless integration into its established LMS system.

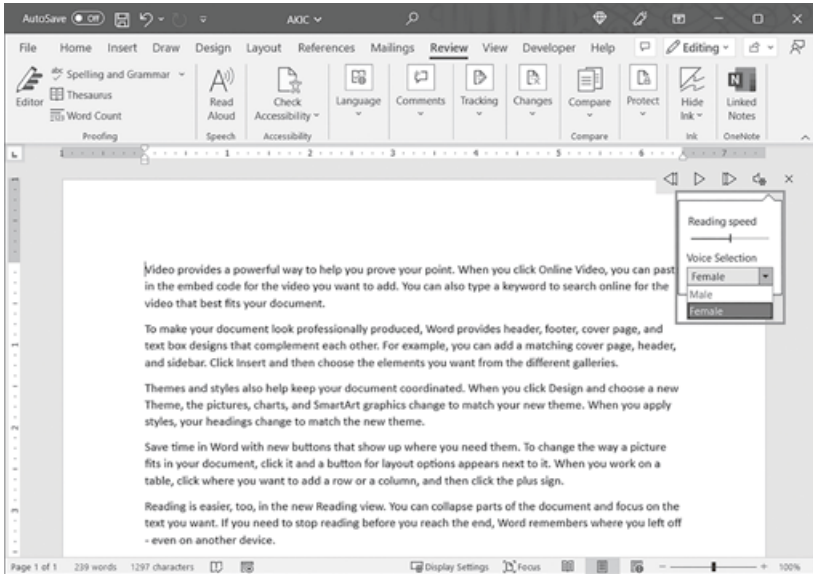## AN OVERVIEW OF APPLICATIONS INSIDE MICROSOFT 365 FOR EDUCATION

Microsoft 365 for Education deploys different software applications that cater to the needs of students, teachers, and institutions. Each application in the suite has a specific purpose and function geared towards enhancing collaboration, productivity, and academic outcomes within the educational environment.
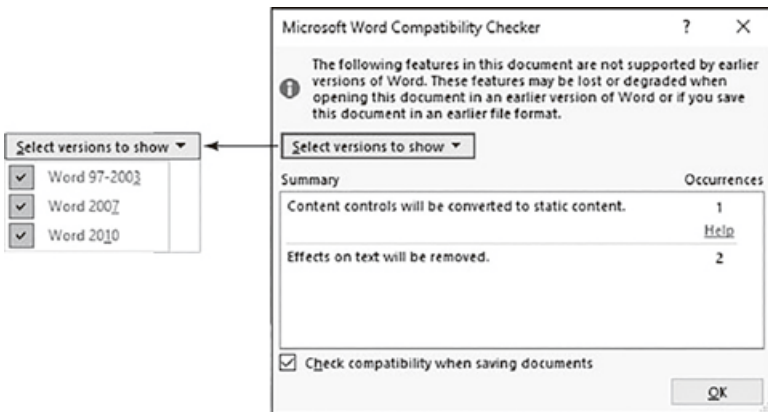
MICROSOFT WORD

(Figure 2. Microsoft Word Icon)

Microsoft Word is arguably one of the most popular word-processing applications. While most people are familiar with these applications, Microsoft 365 for Education offers real-time editing and collaboration features, making group work more efficient.

(Figure 3. Microsoft Word)

Microsoft Word is compatible with other Microsoft Office tools and file formats. Students with different application versions can save and open files and use the compatibility function to switch as required (Holland, 2022).
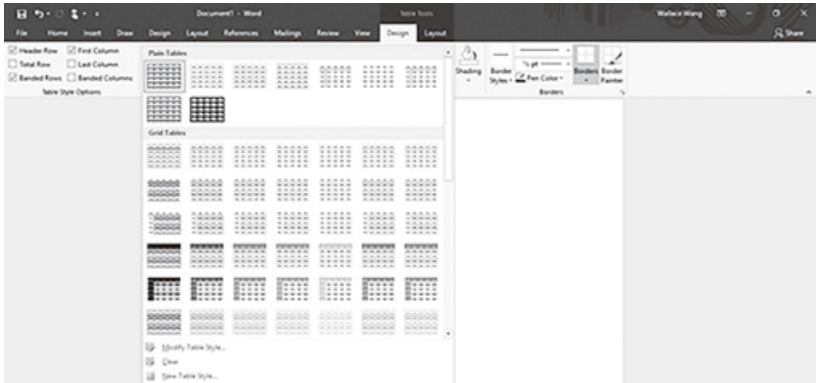

(Figure 4. Microsoft Word compatibility Checker)

　　　　Like most word-processing applications, Microsoft Word performs spell-checks, grammar-checks, and autocorrection to improve the overall written content quality. Microsoft Word also offers advanced functionalities for creating tables, integrating graphics, and generating charts, making it a versatile tool for document design and data presentation.
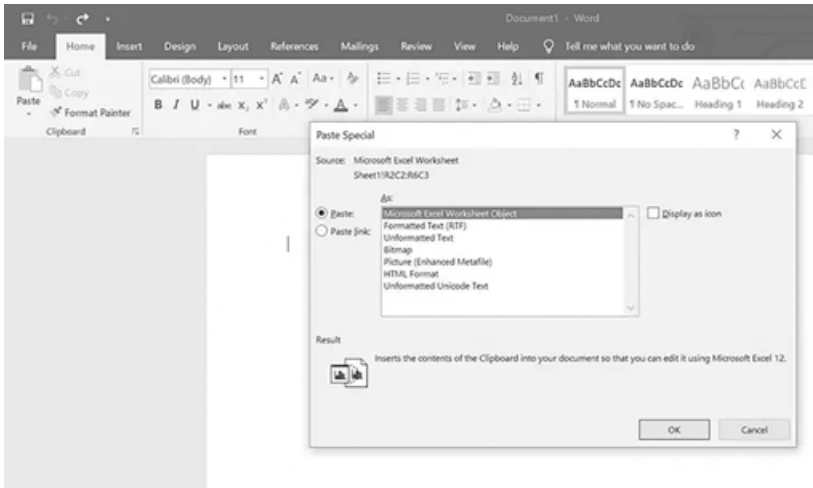

(Figure 5. Microsoft Word Spell Checker)

(Figure 6. Microsoft Word Table Ribbon)

　　　　A notable advantage of Microsoft Word is its integration with other applications, such as Microsoft Excel and PowerPoint (ibid.). For example, Excel spreadsheets can display data or charts relevant to reports created using Microsoft Word. Users can also easily incorporate PowerPoint slides from presentations into Microsoft Word documents.

(Figure 7. Insert a Microsoft Excel spreadsheet into a Microsoft
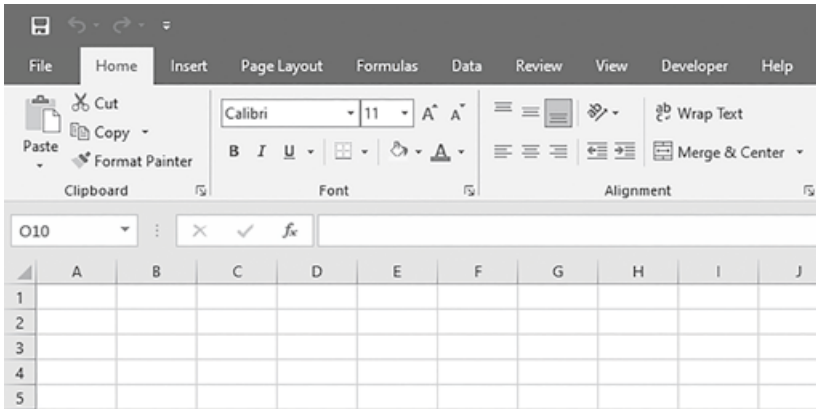Word document).

     Like Google Docs, Microsoft Word allows users to edit and share information in real time, promoting teamwork and productivity. It is also synchronized with Microsoft OneDrive, allowing users to save their work remotely on a cloud-based storage system.

MICROSOFT EXCEL

(Figure 8. Microsoft Excel Logo)

     Microsoft Excel is a spreadsheet application that allows users to analyze data, create charts and graphs, and organize large amounts of information. While students mainly use Microsoft Excel for data or statistical analysis, it can also be used for other valuable areas, such as finance budgeting, scheduling planning, or even CV/resume building.

(Figure 9. Microsoft Excel)

MICROSOFT POWERPOINT

(Figure 10. Microsoft PowerPoint Logo)

Microsoft PowerPoint offers design templates and formatting choices for professional presentations. Many features, including animations and transitions, help enhance engagement during presentations, whether created by teachers or students. One key feature of using Microsoft PowerPoint in Microsoft 365 for education is that students can easily share and send their files seamlessly using its sharing tool.

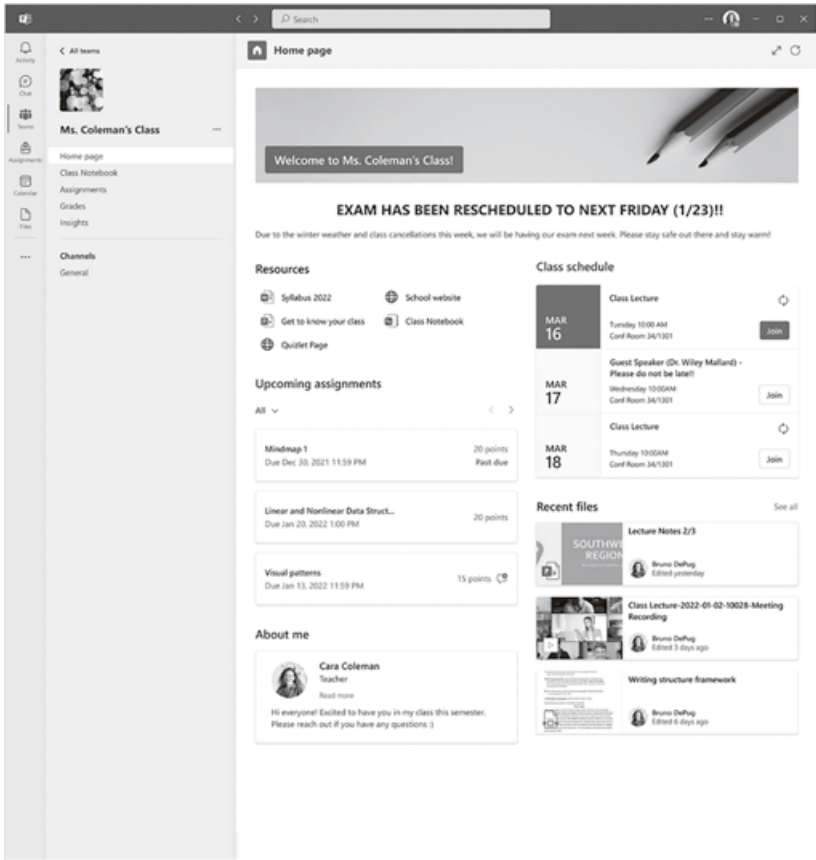(Figure 11. Microsoft PowerPoint Sharing Tool)

MICROSOFT TEAMS (MICROSOFT 365 FOR EDUCATION LMS)

(Figure 12. Microsoft Teams Logo)

Although many users use it for video conferencing, Microsoft Teams for Microsoft 365 for Education combines video collaboration tools with powerful educational management features. This enables teachers to create, share, and manage course content while enhancing real-time engagement among students. This LMS simplifies course organization, file sharing, communication, assessment, and streamlining education. Microsoft Teams within Microsoft 365 for Education transforms modern learning by adapting to various teaching styles and improving online learning accessibility and efficiency with an innovative platform.

(Figure 13. Microsoft Teams LMS for Microsoft 365 for Education)

Beyond this, Microsoft Teams for Education excels in multiple areas compared to other popular LMS systems.

a. Integration with other Microsoft applications

The integration of Microsoft Teams with Microsoft 365 for Education is a helpful feature for teachers seeking an effective platform for teaching by simplifying the process of designing and creating assignments by offering real-time access and collaboration with Microsoft Word, Excel, or PowerPoint. The Microsoft Teams LMS offers a more efficient experience

for teachers and students than other platforms; it eliminates the need to switch between various applications, making teaching and learning easier for everyone involved (Tran & Nguyen, 2021; Hubbard & Bailey, 2018).

b. Familiarity with the user interface

Microsoft Teams is widely adopted in educational institutions and workplaces, meaning many individuals are familiar with its functionality (Victor, 2022; Bukosky, 2023). Other video conference platforms may lead to higher learning curves, necessitating additional training sessions (Wijayanto et al., 2021). However, the user-friendly design of Microsoft Teams minimizes these challenges, providing all users with a smoother transition to the platform saving time and resources.

c. Hardware/software cross-platform compatibility

Microsoft Teams is flexible and easy to use on various devices and operating systems. This makes it convenient for users with different technological preferences (Kent, 2023). Microsoft Teams can be accessed from virtually any device, whether a user has a Windows computer, Mac, tablet, or smartphone with iOS or Android.
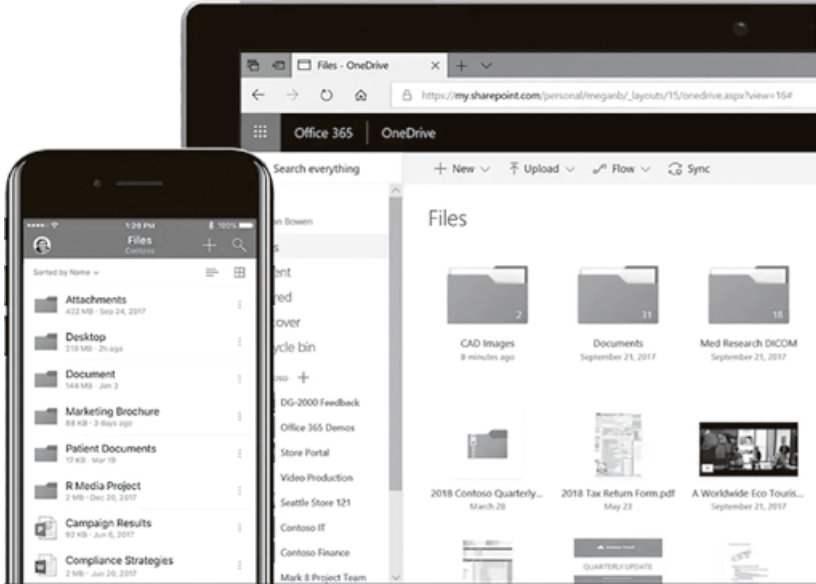
MICROSOFT ONEDRIVE

(Figure 14. Microsoft Teams Logo)

Microsoft OneDrive for Microsoft 365 for Education is a cloud storage option designed for students. It offers an area for storing and accessing documents and files from anywhere via an Internet connection. OneDrive is distinguished by how well it works in unison with other Microsoft apps, such as Word, Excel, PowerPoint, and Teams. Users can easily manage their documents and collaborate with others, making them

better than other cloud storage options. Additionally, each account comes with a 1TB starting storage, which is sufficient for the average student or teacher (Lowry, 2022).
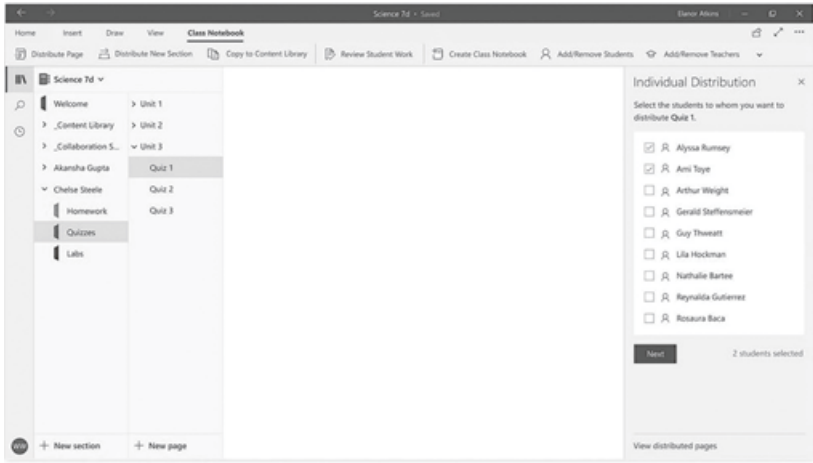

(Figure 15. Microsoft OneDrive)

MICROSOFT ONENOTE / CLASS NOTEBOOK

(Figure 16. Microsoft OneNote Logo)
(Figure 17. Microsoft One Note Class Notebook Logos)

Microsoft OneNote is a digital notetaking application that helps users create and organize notes digitally, similar to paper notebooks. One key feature of OneNote is that users can write, edit, and save all notes to OneNote. It maintains a continuous version record and previous updates for reversion.

(Figure 18. Microsoft OneNote Class Notebook Interface)

The Microsoft OneNote Class Notebook is a version unique to OneNote and is tailored for school and educational use where teachers and students can work together simultaneously. For example, in Microsoft Teams, teachers can add a OneNote Class Notebook tab to their team's classrooms. From there, students can write and edit within Teams without exiting and opening OneNote.
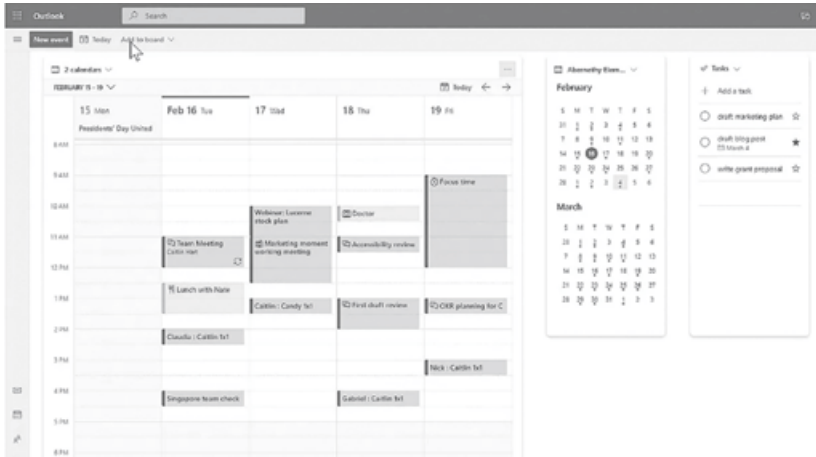
MICROSOFT OUTLOOK

(Figure 19. Microsoft Outlook Logo)

Although less popular than Google Gmail, Microsoft Outlook helps users manage emails, calendars, contacts, and tasks simultaneously. It operates seamlessly using Microsoft 365 for Education by offering shared calendars and scheduling features. Students can also stay organized

by creating to-do lists and setting reminders for upcoming homework assignments or tests.
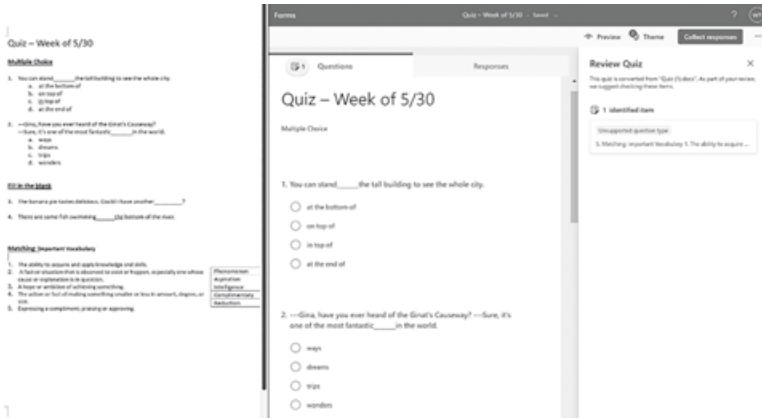

(Figure 20. Microsoft Outlook Interface)

MICROSOFT FORMS

(Figure 21. Microsoft Forms Logo)

Microsoft Forms is a less-commonly used application that allows users to create surveys and quizzes. It is similar in functionality to Google Forms; users can design engaging assessments, track real-time responses, and customize the appearance and layout of the form.

(Figure 22. Quiz Interface from Microsoft Forms)

A significant advantage of Microsoft Forms over other survey tools is its branched logic. Branching logic is a feature that helps create surveys or quizzes in which questions can change based on how someone answers them (Microsoft, n.d. -b). This is very helpful for creating assessments that change according to each person's answers or providing more personal experiences. For example, if a teacher makes a quiz and a student receives the correct question, branching logic can show them a more difficult question. If they are incorrect, it shows them a different question to help them learn better and find a more suitable question.
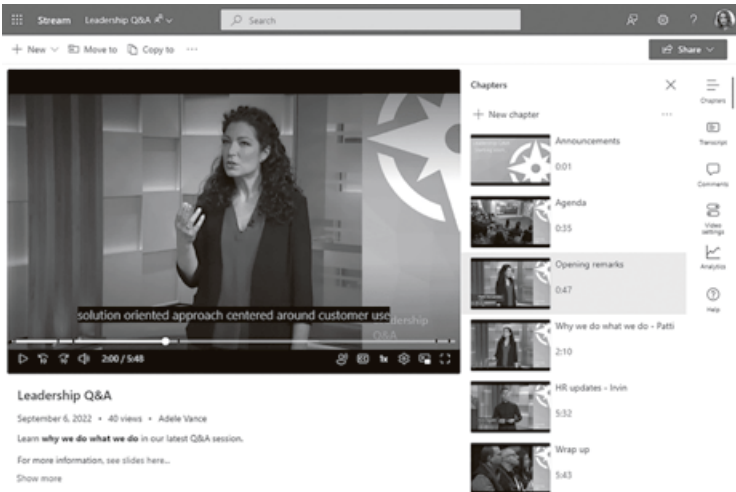
MICROSOFT STREAM

(Figure 22. Microsoft Stream Logo)

A lesser-known application, Microsoft Stream for Microsoft 365 for Education, is a video-sharing platform for students and educators. Microsoft Stream helps users to share, watch, and manage videos in a safe

and collaborative space. However, within the Microsoft 365 for Education platform, students can easily and safely access educational videos, lectures, tutorials, and presentations within the intranet system, further enhancing security and privacy. It has advanced features like video playback, content title search, and accessibility tools.

(Figure 23. Watch videos with content titles using Microsoft Stream)

　　　　Microsoft Stream provides an ad-free environment, ensuring students are not interrupted by advertisements. Many other video-sharing platforms display advertisements that can be distracting, particularly in educational settings (Knowlton, 2021).
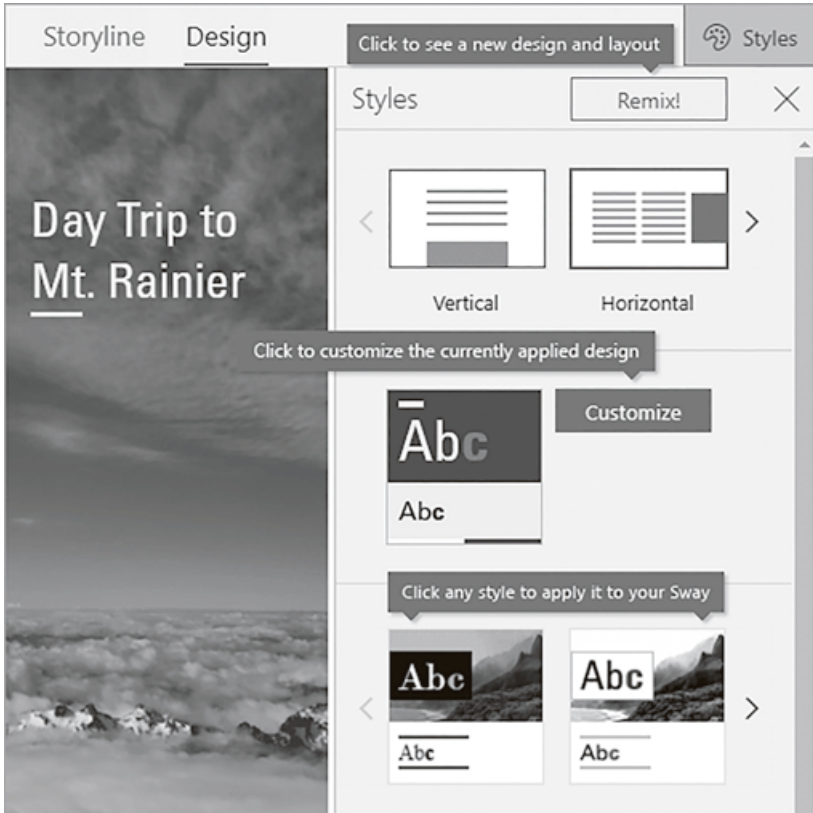
MICROSOFT SWAY

(Figure 24. Microsoft Sway Logo)

　　　　In its basic form, Microsoft Sway is an application for creating presentations and websites. This is similar to other creative website design

applications, such as Google Sites or WordPress; however, unlike other design platforms, Microsoft Sway emphasizes multimedia-rich content and adapts well to different devices owing to its responsive design (Microsoft, n.d. -a). It is a popular alternative to Microsoft PowerPoint for creating more visually appealing presentations and portfolios.

(Figure 25. Microsoft Sway Template Design Section)

MAIN ADVANTAGES OF MICROSOFT 365 FOR EDUCATION AS AN LMS PLATFORM

Microsoft 365 for Education is a powerful LMS platform that provides several benefits to educators and institutions. There are advantages to using Microsoft 365 for Education and enhancing the digital learning experience.

a. Full integration with Microsoft 365

Microsoft 365 for Education works smoothly with popular Microsoft 365 productivity tools such as Microsoft Word, PowerPoint, OneDrive, and Teams. Teachers can create interactive course content, assignments, and tests using familiar apps (Jones, 2022). It helps students have a consistent learning experience in which they can obtain class information, work on different projects, and perform assignments in one place. Other LMS systems may not do this effectively, causing problems with how things work, and students may become less productive (Mahoney, 2019; Patel, 2023).

b. Free for qualifying academic schools and institutions

Currently, three licenses/subscriptions are available for Microsoft 365 for Education (A1, A3, and A5). All the applications discussed from the basic level A1 are available free to students and faculty while active at an academic institution. The A3 and A5 licenses offer additional options, such as desktop-based application deployment, additional administrative applications and processes, and priority support. Microsoft 365 for Education also offers a significant discount on many applications if purchased before leaving an institution.

c. Superior data security and privacy

Microsoft 365 for Education emphasizes a significant focus on security and privacy to protect students' and educators' data and personal information. Encryption is rigorously employed to secure the data and ensure data

integrity. In addition, multifactor authentication (MFA) and Single Sign-On (SSO) are included, providing advanced identity verification and protection against unauthorized access (The Common Sense Privacy Program, 2021). Microsoft 365 for Education also aligns with stringent regulations such as the General Data Protection Regulation (GDPR) and Family Education Rights and Privacy Acts (FERPA) (Marketingjourney, 2023).

d. Scalability for Institutions

Microsoft 365 for Education stands out for its exceptional adaptability and scalability, making it a versatile solution that can cater to the needs of various educational institutions, whether large or small (Zuraini & Nofriati, 2021). Institutions that may not have funding available can enjoy the full features of Microsoft 365 for Education A1 license without worrying about purchasing additional hardware or software. Microsoft's commitment to frequent updates and innovative features also ensures that schools can consistently remain secure and protect themselves against cyber threats (Toelle, 2021).

EMERGING TRENDS IN MICROSOFT 365 FOR EDUCATION

LMS continue to provide valuable digital platforms for classrooms. Teachers and students worldwide have had to abruptly switch to online interactions during the pandemic. To continue delivering high-quality instruction, relying on LMS to distribute resources and materials in the classroom is essential. Even before COVID-19, Microsoft was not a key player in developing LMS platforms for its portfolio, as it was very successful and focused on other areas, such as business software and security applications. However, as the popularity of LMS systems increased, Microsoft created and designed Office 365 for education, which later transitioned to Microsoft 365 for Education. Schools and universities worldwide have integrated their institutions with it, considering the numerous advantages of its deployment in the classroom over other comparative systems (Rehman, 2023; Celt, 2020). Microsoft 365 for

Education is an excellent starting point for teachers and institutions who want to stay in the Microsoft ecosystem because of its free licenses for institutions and familiarity with its applications. The future of the LMS system is promising as it continues to upgrade and add new features for classroom use.

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