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Proficiency in Microsoft 365 Productivity Tools and Learning Capabilities of Elementary School Teachers: Basis for Formulation of Training Design for Slac Session

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ABSTRACT

This study examined the relationship between elementary school teachers' proficiency in Microsoft 365 productivity tools and their learning capabilities in terms of knowledge acquisition, adaptability to digital learning, collaboration and communication skills, and instructional material preparation. A quantitative descriptive–correlational research design was employed, involving elementary school teachers as respondents. Data was gathered using a validated survey questionnaire and analyzed through descriptive statistics and multiple regression analysis. Findings revealed an uneven pattern of technology proficiency, with teachers demonstrating higher proficiency in content creation tools such as Microsoft Word, Excel, and PowerPoint, while showing only moderate proficiency in communication and collaboration oriented tools, including Outlook, OneDrive, and Microsoft Teams. Although teachers exhibited a developed level of learning capability across all domains, regression results indicated that only Microsoft Word, PowerPoint, and Outlook significantly predicted teachers' learning, with PowerPoint consistently emerging as the strongest predictor. Tools associated with data management and cloud based collaboration showed limited direct influence on learning outcomes, suggesting underutilization of their instructional potential. These findings highlight a clear gap between tool familiarity and effective pedagogical integration, particularly in collaborative and cloud based digital practices. Accordingly, a training design for School Learning Action Cell (SLAC) sessions entitled “Digital Instructional Innovation through Microsoft 365 Integration: A Capacity Building Training for Teachers on Instructional Design, Data Analysis, Multimedia Presentation, and Cloud Based Collaboration” was developed. The study concludes that targeted, instruction focused capacity building initiatives are necessary to align teachers' digital proficiency with meaningful instructional outcomes in technology enhanced learning environments.

INTRODUCTION

The 21st century is characterized by rapid technological advancement that continues to influence all sectors of society, including education. Globally, schools have embraced digital innovations to enhance teaching and learning, particularly through productivity tools that allow teachers to prepare, present, and manage instructional tasks efficiently. One of the most widely used platforms in the academic world is Microsoft 365, which includes applications such as Word, Excel, PowerPoint, Outlook, OneDrive, and Teams. These tools provide teachers with flexible and accessible resources for lesson design, collaboration, communication, and assessment.

In the Philippine context, the Department of Education (DepEd) has repeatedly underscored the integration of information and communication technology (ICT) in teaching and learning processes through policies, memoranda, and training programs (Department of Education, 2020; Department of Education, 2022). Teachers are expected not only to develop competencies in pedagogy and content delivery but also in the effective use of ICT to strengthen their instructional practices (UNESCO, 2021). Despite these mandates, the digital proficiency of teachers remains uneven due to factors such as lack of training, insufficient facilities, and limited access to updated digital tools (World Bank,

2020). This situation highlights the urgent need for focused interventions to improve teachers' technological capabilities.

The Department of Education (DepEd), through Memorandum OUA-OUT-011023-010 issued in January 2023, mandated the transition of its official productivity and communication platform to Microsoft 365 (M365) for all employees, including teachers and other personnel (Department of Education, 2023). This policy aligns with DepEd's continuing efforts to strengthen digital transformation in the basic education sector and promote ICT integration in teaching and learning processes (Department of Education, 2020; Department of Education, 2022). The Microsoft 365 platform provides a comprehensive suite of tools designed to enhance collaboration, communication, and efficiency in the workplace, including Outlook for managing emails and calendars; Word, Excel, and PowerPoint for document creation and presentations; OneDrive for secure cloud storage; Teams for real-time collaboration; and other applications such as SharePoint, Forms, and Planner for workflow and instructional support (Microsoft, 2021).

In Region XII, the educational landscape reflects a mix of urban and rural challenges characterized by disparities in access to information and communication technology (ICT) resources. While urban schools generally have better

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internet connectivity and more available digital tools, rural schools continue to experience limited connectivity, inadequate computer facilities, and fewer opportunities for sustained professional development (Department of Education, 2022; UNESCO, 2021). These conditions directly affect elementary school teachers, who serve as frontliners in delivering quality education and are expected to integrate digital tools into instructional practices.

Proficiency in Microsoft 365 tools among teachers in Region XII plays a critical role in enhancing their learning capabilities and instructional effectiveness. Teachers with adequate skills in productivity applications can design interactive lessons, manage student data efficiently, and collaborate effectively with colleagues through digital platforms (Microsoft, 2021). Conversely, teachers who lack these competencies may struggle to adapt to modern teaching requirements, particularly in blended and technology-supported learning environments. Furthermore, the shift toward digital platforms during and after the COVID-19 pandemic has reinforced the necessity of ICT proficiency in education, making it an essential professional competence rather than an optional skill (World Bank, 2020; UNESCO, 2021).

The learning capabilities of teachers extend beyond mere knowledge acquisition, encompassing adaptability, problem-solving, collaboration, and the effective application of digital skills in instructional contexts (UNESCO, 2021). In the Schools Division Office (SDO) of South Cotabato, the proficiency gap in Microsoft 365 among teachers reflects a broader need for localized and responsive professional development initiatives that are aligned with actual classroom realities and technological demands (Department of Education, 2023; Department of Education, 2022). Addressing this gap is essential not only for improving teacher performance but also for enhancing instructional delivery and classroom efficiency through digital tools.

Professional growth is a continuous process among educators, and within the Philippine public school system, the School Learning Action Cell (SLAC) serves as a key mechanism for sustained teacher development and instructional improvement (Department of Education, 2020). SLAC sessions are designed to provide a collaborative professional learning environment where teachers can discuss instructional challenges, share best practices, and enhance competencies through peer support and structured capacity-building activities (Department of Education, 2022). However, for SLAC to be truly effective, its activities must be grounded in the current and emerging needs of teachers, particularly regarding the digital competencies required in contemporary education. In the Schools Division of South Cotabato, where proficiency in Microsoft 365 productivity tools varies among elementary school teachers, SLAC sessions can be utilized as a strategic platform for targeted capacity building and digital upskilling. Designing training modules that specifically address Microsoft 365 proficiency will enable teachers to maximize digital tools for lesson

preparation, classroom management, communication, collaboration, and instructional innovation (Microsoft, 2021). Such localized and data-driven SLAC interventions ensure that professional development initiatives are not generic but are responsive to the identified needs of schools and teachers within the division (UNESCO, 2021).

Therefore, this study is anchored on the need to assess the proficiency in Microsoft 365 productivity tools and the learning capabilities of elementary school teachers. The findings will serve as the basis for formulating a SLAC-based training design that addresses teachers' digital needs, strengthens professional growth, and contributes to improved teaching and learning outcomes in the region (World Bank, 2020; Department of Education, 2023).

Statement of the Problem

This study aimed to assess the proficiency of elementary school teachers in Microsoft 365 productivity tools and its relationship to their learning capabilities, which will serve as the basis for the formulation of training design for SLAC sessions in Region XII.

Specifically, it sought to answer the following questions:

1. What is the level of proficiency of elementary school teachers in using Microsoft 365 productivity tools namely:

- 1.1 Word;
- 1.2 Excel;
- 1.3 PowerPoint;
- 1.4 Outlook;
- 1.5 OneDrive; and
- 1.6 Teams?

2. What is the level of learning capabilities of elementary school teachers in terms of:

- 2.1 Knowledge acquisition;
- 2.2 Adaptability to digital learning;
- 2.3 Collaboration and communication skills; and
- 2.4 Instructional material preparation?

3. Do teachers' proficiencies in Microsoft 365 productivity tools significantly predict their learning capabilities in terms of:

- 3.1 Knowledge acquisition;
- 3.2 Adaptability to digital learning;
- 3.3 Collaboration and communication skills; and
- 3.4 Instructional material preparation?

4. Based on the findings of the study, what training design for School Learning Action Cell (SLAC) sessions can be formulated to enhance teachers' digital proficiency and learning capabilities?

LITERATURE REVIEW

This section presents theoretical perspectives and empirical studies that examine the relationship between teachers' proficiency in productivity tools, specifically Microsoft 365, and their learning capabilities. It also explores the role of school-based professional development, particularly the Department of Education's School Learning Action Cell (SLAC), in addressing

teachers' developmental needs. The review synthesizes international and Philippine literature, identifies recurring constraints such as infrastructure, policy, and privacy issues, and highlights gaps that this study aims to address.

Teachers' Competence in Using Microsoft 365 Productivity Tools

The use of Microsoft 365 productivity tools has increasingly gained recognition as an essential component in education, particularly in digital instruction, collaboration, and professional development. With the shift to remote and technology-enhanced learning, teachers have been required to adapt to applications such as Word, Excel, PowerPoint, Teams, Outlook, and OneDrive to support both instructional and administrative tasks.

Hasanah and Dewi (2022) investigated the challenges encountered by primary school teachers in Indonesia in integrating Microsoft Office 365 into online classrooms during the pandemic. Their findings revealed that teachers experienced difficulties in operating the tools and in creating materials that sustained student engagement. However, they adopted coping strategies such as maintaining communication with parents, designing creative instructional resources, and setting classroom agreements, which helped maximize the use of Office 365 applications.

Similarly, Jamiludin *et al.* (2021) highlighted the positive impact of Microsoft Office 365 on student learning in a history class in Southeast Sulawesi. The study found that students had favorable perceptions of Microsoft Teams, particularly in promoting collaboration and communication. Nevertheless, challenges such as unstable internet connectivity and limited access to devices hindered the effective use of the platform.

In the Philippine context, Lubag *et al.* (2023) examined the performance of senior high school students in Microsoft Office Specialist (MOS) certification exams. The results showed varying levels of proficiency across Microsoft 365 applications, with higher performance in Word and PowerPoint compared to Excel. This suggests that while learners—and by extension, teachers—are generally familiar with basic applications, gaps remain in more advanced tools that require further training.

Moreira *et al.* (2022) further reinforced the importance of Microsoft 365 in education. Their findings revealed high levels of satisfaction among teachers in using Word, PowerPoint, Outlook, and Teams during online instruction. Notably, teachers expressed intent to continue using these tools beyond the pandemic, indicating that Microsoft 365 has become an integral part of modern teaching practices.

In mathematics education, Wahyuni and Kusumawati (2020) explored the use of Microsoft Office 365 in facilitating instruction during the pandemic. Their review emphasized the versatility of the applications in creating flexible learning materials, quizzes, and online discussions. However, they also identified barriers such

as weak internet connectivity, limited access to devices, and insufficient mastery of the applications among both teachers and students.

Knowledge Acquisition of Elementary School Teachers

Knowledge acquisition refers to teachers' ability to seek, understand, and internalize new information and skills essential for effective teaching. In elementary education, this capability includes content knowledge (understanding subject matter), pedagogical knowledge (understanding how to teach effectively), and digital literacy skills, including proficiency in tools such as Microsoft 365 productivity applications.

Teachers with strong knowledge acquisition skills are better able to learn new software features, adopt innovative teaching strategies, and integrate educational technology into instruction efficiently. Hasanah and Dewi (2022) found that teachers who actively engage in professional development and self-directed learning demonstrate higher competence in using digital tools, which enhances lesson planning, instructional delivery, and classroom management.

Knowledge acquisition also requires continuous learning and adaptation. Elementary school teachers must remain updated with curriculum revisions, instructional strategies, and emerging educational technologies. This ability directly influences teaching effectiveness and supports teachers in addressing diverse learning needs in the classroom. Wahyuni and Kusumawati (2020) emphasized that teachers with strong knowledge acquisition skills are more confident in implementing technology-enhanced instruction, such as using Microsoft Word for lesson planning, Excel for data management, and Teams for collaborative learning activities.

Overall, knowledge acquisition is a foundational learning capability that enables elementary school teachers to expand their professional skills, adapt to technological changes, and enhance instructional effectiveness in response to evolving educational demands.

Adaptability to Digital Learning

Adaptability to digital learning is a critical component of elementary school teachers' learning capabilities. It refers to teachers' ability to adjust instructional strategies, teaching methods, and classroom management practices to effectively integrate digital tools and online learning platforms into instruction. In the current educational context, where technology-mediated learning has become increasingly prevalent, adaptability enables teachers to maintain instructional quality across face-to-face, online, and blended learning environments.

Teachers with strong adaptability can quickly learn new software, troubleshoot basic technical issues, and modify lesson plans to suit digital learning environments. For instance, the effective use of Microsoft Teams for virtual instruction, OneDrive for collaborative file management, and interactive PowerPoint features for

learner engagement demonstrates adaptability in practice (Jamiludin *et al.*, 2021).

Furthermore, adaptability to digital learning involves openness to continuous professional development and responsiveness to emerging educational technologies. Hasanah and Dewi (2022) emphasized that teachers who demonstrate high adaptability are better able to respond to shifts in instructional delivery, such as transitions from traditional classroom teaching to online learning, and are more capable of implementing innovative teaching strategies aligned with evolving student needs.

Overall, adaptability to digital learning reflects teachers' capacity to adjust, innovate, and effectively utilize digital tools in instruction. This capability is essential for the successful integration of technology in education and ensures that teachers can deliver meaningful and effective learning experiences in both conventional and digital learning environments.

Collaboration and Communication Skills of Elementary School Teachers

Collaboration and communication skills are essential components of elementary school teachers' learning capabilities. These skills refer to teachers' ability to interact effectively, share knowledge, and work with colleagues, students, parents, and other stakeholders to enhance instructional practices and support student learning. In contemporary education, where teamwork and digital communication are increasingly emphasized, these competencies enable teachers to participate in professional learning communities, co-develop instructional materials, and facilitate collaborative learning experiences.

Teachers with strong collaboration skills actively engage in group discussions, participate in joint planning, and coordinate instructional activities with other educators to improve classroom outcomes. Communication skills enable teachers to deliver clear instructions, provide constructive feedback, and maintain professional relationships both in face-to-face settings and through digital platforms such as Microsoft Teams and Outlook (Moreira *et al.*, 2022).

Wahyuni and Kusumawati (2020) emphasized that teachers who demonstrate strong collaboration and communication skills are more effective in integrating technology into instruction. These teachers are better able to guide students in virtual learning environments, share digital resources efficiently, and coordinate lesson development with colleagues. Such competencies are particularly important in the use of cloud-based tools like OneDrive for file sharing and Microsoft Teams for collaborative tasks, as they support efficient interaction and knowledge exchange among teachers and learners.

Overall, collaboration and communication skills reflect teachers' ability to work effectively with others and convey information clearly. These competencies are vital for professional growth, effective integration of educational technology, and the creation of a supportive and interactive learning environment.

Instructional Material Preparation of Elementary School Teachers

Instructional material preparation is a critical dimension of elementary school teachers' learning capabilities. It refers to teachers' ability to design, organize, and develop instructional resources that effectively facilitate student learning. This includes lesson plans, worksheets, presentations, assessments, and multimedia materials aligned with learning objectives and responsive to the diverse needs of learners.

Teachers with strong instructional material preparation skills are able to integrate both traditional and digital resources into their teaching. The use of Microsoft 365 productivity tools enhances this capability, particularly Word for worksheets, PowerPoint for interactive presentations, Excel for tracking student performance, and Teams for distributing instructional materials. These tools improve the efficiency, organization, and quality of instructional resources, allowing teachers to design materials that are both structured and engaging (Hasanah & Dewi, 2022; Wahyuni & Kusumawati, 2020).

Effective instructional material preparation also requires the integration of pedagogical knowledge, creativity, and technological competence. Teachers who demonstrate this capability are better able to anticipate learning difficulties, incorporate multimedia and interactive elements, and adapt instructional materials to various learning modalities, including face-to-face, blended, and online environments. Jamiludin *et al.* (2021) emphasized that well-prepared instructional materials significantly enhance lesson effectiveness and contribute to improved student learning outcomes.

Overall, instructional material preparation reflects teachers' ability to create high-quality, relevant, and engaging learning resources. It is a fundamental learning capability that supports effective teaching and promotes meaningful student learning, particularly in technology-enhanced educational settings.

Proficiency in Microsoft 365 Productivity Tools and Learning Capabilities

The integration of technology in education has strengthened the relationship between teachers' proficiency in digital tools and their learning capabilities. Proficiency in Microsoft 365 productivity tools—such as Word, Excel, PowerPoint, Outlook, OneDrive, and Teams—directly supports teachers' ability to acquire knowledge, adapt to digital learning environments, collaborate and communicate effectively, and prepare high-quality instructional materials.

Teachers who are proficient in Microsoft 365 can utilize these applications to streamline administrative tasks, design engaging instructional materials, and manage classroom activities efficiently. For example, proficiency in Word and PowerPoint enables teachers to develop well-structured lesson plans and visually engaging learning materials, thereby enhancing instructional delivery (Hasanah & Dewi, 2022; Moreira *et al.*, 2022). In addition,

competence in Excel supports data management tasks such as recording and analyzing student performance, which contributes to informed decision-making and knowledge acquisition (Lubag *et al.*, 2023).

Digital tools such as Microsoft Teams and OneDrive further enhance collaboration and communication among teachers, students, and parents. Teachers who are proficient in these platforms are better able to engage in professional collaboration, share instructional resources, coordinate activities, and provide timely feedback, thereby demonstrating strong collaboration and communication skills (Wahyuni & Kusumawati, 2020). Likewise, proficiency in Microsoft 365 is closely associated with adaptability to digital learning, as teachers who are familiar with these tools can more easily adjust instructional strategies in online and blended learning environments, ensuring continuity and quality of instruction (Jamiludin *et al.*, 2021).

Overall, existing studies indicate a positive relationship between teachers' proficiency in Microsoft 365 tools and their learning capabilities. High proficiency enhances not only technical skills but also pedagogical effectiveness, professional growth, and instructional innovation. Teachers who develop both digital competence and strong learning capabilities are better positioned to improve instructional delivery, enhance student engagement, and respond effectively to the demands of technology-driven education.

Synthesis

The reviewed literature clearly demonstrated that digital competence specifically proficiency in Microsoft 365 productivity tools has become a critical determinant of effective teaching and continuous professional growth. Studies consistently showed that teachers who are adept in applications such as Word, PowerPoint, Excel, OneDrive, and Teams are better able to design engaging lessons, facilitate collaboration, manage data, and sustain instruction across diverse learning modalities. Theoretical frameworks such as TPACK and SAMR further reinforce the idea that technological skills must be integrated with sound pedagogical strategies to move beyond simple tasks substitution toward meaningful transformation of learning experiences.

At the same time, existing research identified recurring gaps in advanced functions and collaborative features, particularly in Excel and Teams, which hinder teachers from fully leveraging these tools. This underscores the necessity of targeted, school-based professional development, with School Learning Action Cells (SLAC) emerging as a practical and context-sensitive approach to closing these skill gaps.

Grounded on these insights, the present study confirmed that strengthening teachers' Microsoft 365 proficiency directly enhanced their learning capabilities, adaptability, and instructional effectiveness. The convergence of empirical evidence and theoretical perspectives validated the study's focus and highlighted the urgency

of structured, collaborative training to equip teachers with the competencies needed for a technology-driven educational environment. Accordingly, the study supported the formulation of a training design for SLAC sessions.

MATERIALS AND METHODS

This described the comprehensive methodology of the research. It presented the research design, respondents and locale of the study, sampling technique, data-gathering instruments and procedures, the figure of the data-gathering process, and the statistical treatment of data used in the study.

Research Design

This study employed a descriptive-correlational research design to examine the relationship between elementary school teachers' proficiency in Microsoft 365 productivity tools and their learning capabilities. The descriptive component assessed teachers' skills in applications such as Word, Excel, PowerPoint, Outlook, OneDrive, and Teams, as well as their learning capabilities in knowledge acquisition, adaptability, collaboration, communication, and instructional material preparation. According to Creswell and Creswell (2018), this design is appropriate for describing existing conditions and analyzing relationships between naturally occurring variables without manipulation. It enabled the researcher to capture teachers' current digital competence and determine how these skills related to their learning capabilities, providing insight into areas for improvement and professional development.

The correlational component examined the degree of association between teachers' proficiency in Microsoft 365 tools and their learning capabilities. This allowed the study to identify whether higher proficiency in digital tools corresponded to higher levels of learning capabilities, suggesting that digital competence supports professional growth, instructional effectiveness, and adaptability in technology-enhanced education.

A quantitative approach was utilized to collect measurable data through surveys, self-assessment questionnaires, and proficiency tests. The participants of the study were elementary school teachers from Sto. Niño District, who regularly used Microsoft 365 productivity tools in their teaching and administrative tasks. Statistical techniques such as descriptive statistics (mean, frequency, and percentage) and inferential statistics (regression analysis) were applied to analyze the data and determine the strength and significance of the relationship between the two variables.

Overall, the descriptive-correlational design was suitable for this study because it provided a snapshot of teachers' current digital proficiency and learning capabilities and explored the relationship between these variables. The findings served as evidence-based input for professional development interventions such as the formulation of a training design for School Learning Action Cell (SLAC)

sessions.

Locale of the Study

The study was conducted in Sto. Niño District, which is part of the Schools Division of South Cotabato. This district is composed of thirteen (13) elementary schools, each varying in student population, teacher complement, and access to digital learning resources. The selected locale provided a representative setting to examine the proficiency of elementary school teachers in Microsoft 365 productivity tools and their corresponding learning capabilities.

Sto. Niño District was chosen as the site of the study due to its diverse composition of schools, which includes central and barangay-based schools. This diversity ensured that the study captures a wide range of teacher experiences, digital skills, and teaching contexts. By focusing on all 13 elementary schools within the district, the research provides a comprehensive understanding of the current level of technology proficiency and learning capabilities among teachers.

Respondents of the Study

The respondents of this study were the elementary school teachers of Sto. Niño District, Schools Division of

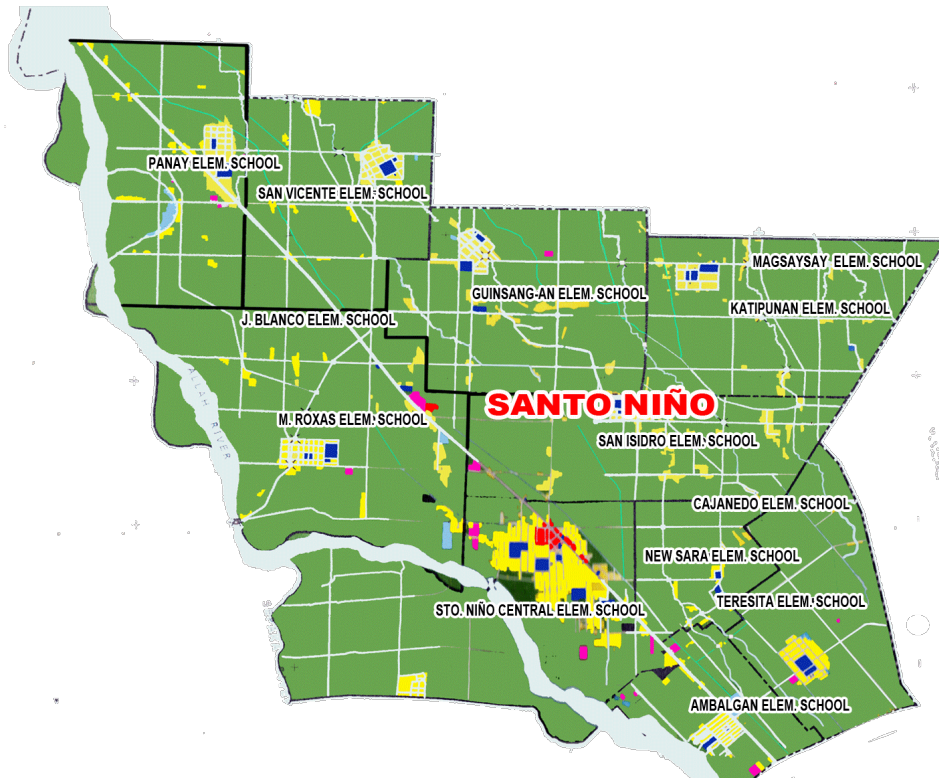


Figure 1: Map of Sto. Niño District as the Locale of the Study
 Source: *Sto. Niño Municipal Planning and Development Center (MPDC, 2025)*

South Cotabato. These respondents represented various elementary schools within the district, encompassing public institutions to ensure a comprehensive representation of teachers’ proficiency and learning capabilities.

Since Sto. Niño District is a lone district of the Municipality and composed of 13 elementary schools, total enumeration was employed.

Table 1 presents the distribution of the 223 elementary school teachers in Sto. Niño District, South Cotabato, who served as respondents in this study. The respondents were drawn from 13 elementary schools within the district to ensure a representative sample of teachers with varying experiences and access to digital resources. Among the schools, Sto. Niño Central Elementary School contributed the largest number of respondents, totaling 65 teachers or 28.26% of the total sample, reflecting its status as the central and most populous

school in the district. Schools with smaller populations, such as Cajanedo ES, Magsaysay ES, and J. Blanco ES, contributed the lowest number of respondents, each with 9–10 teachers, representing approximately 4.35% to 4.78% of the total population.

Other schools, including Ambalgan ES and Panay ES, contributed 20 and 23 respondents, respectively, each representing 10% of the total population. Overall, the table highlights that the study encompassed all 223 teachers in the district, providing a comprehensive overview of the proficiency levels in Microsoft 365 productivity tools and learning capabilities across the Sto. Niño District.

Sampling Technique

This study employed complete enumeration of all 223 elementary school teachers in Sto. Niño District as respondents. Given the manageable population size,

Table 1: Population of Respondents per School

Elementary School	Population	No. of Respondents	%
Ambalagan ES	20	20	10.00
Cajanedo ES	9	9	4.35
Guinsang-an ES	15	15	6.52
J. Blanco ES	10	10	4.78
Katipunan ES	12	12	5.22
M. Roxas ES	12	12	5.22
Magsaysay ES	9	9	4.35
New Sara ES	10	10	4.78
Panay ES	23	23	10.00
San Isidro ES	16	16	6.96
San Vicente ES	12	12	5.65
Sto. Niño Central ES	65	65	28.26
Teresita ES	10	10	4.78
Grand Total	223	223	100

this approach ensured that every teacher in the district participated, providing a comprehensive and accurate representation of their proficiency in Microsoft 365 productivity tools and learning capabilities.

As Creswell and Creswell (2018) noted, census sampling is appropriate when the researcher seeks information from the entire population to gain a thorough understanding of the phenomenon being studied. By including all teachers, the study eliminated sampling bias, captured the full range of experiences and competencies, and strengthened the validity and reliability of the findings.

This comprehensive coverage also supported the formulation of precise and actionable recommendations, such as designing professional development interventions like School Learning Action Cell (SLAC) sessions, specifically through the development of a training design aligned with the needs of the district’s teaching workforce.

Data Gathering Instrument

To gather data for this study, a structured questionnaire was used as the primary research instrument. The instrument was adapted and modified from the validated questionnaire developed by Hasanah and Dewi (2022) to align with the objectives of the present study. It was designed to assess two main variables: (1) the level of proficiency of elementary school teachers in using Microsoft 365 productivity tools, and (2) their level of learning capabilities.

To ensure the validity and reliability of the instrument, it underwent expert validation by specialists in educational research and instructional technology. Furthermore, the instrument was subjected to pilot testing to determine its clarity, appropriateness, and internal consistency before its final administration. The results of the pilot test were analyzed using Cronbach’s Alpha to establish the reliability of the instrument.

The questionnaire was divided into two main parts

corresponding to the two Statement of the Problem (SOP) indicators. Each part contained sub-sections with five (5) items per sub-domain to ensure a comprehensive and reliable assessment of the variables under study.

The rating scale below with interpretation was applied to all items in the questionnaire, revised from the study of Castillo (2024). In this scale, 1 represents the lowest score while 5 represents the highest score. The scale ranges have an interval of 0.8 per category. The data obtained through the questionnaire provided the basis for descriptive analysis and correlation testing to explore the relationship between teachers’ digital proficiency and their learning capabilities.

For the first research problem, which examined the level of proficiency of elementary school teachers in using Microsoft 365 productivity tools, the questionnaire included the following sub-sections 1)Microsoft Word – assessing the ability to create, format, edit, and manage documents efficiently;2) Microsoft Excel –evaluating skills in organizing, analyzing, and presenting data; 3) Microsoft PowerPoint – measuring competence in designing and delivering engaging presentations; 4) Microsoft Outlook – assessing skills in email communication, scheduling, and task management; 5)Microsoft OneDrive – evaluating proficiency in cloud storage, file organization, and sharing; and 6) Microsoft Teams – measuring the ability to conduct virtual instruction, facilitate collaboration, and integrate Microsoft 365 tools in teaching.

A five-point Likert scale was used to determine the level of proficiency.

For the second research problem, which examined the level of learning capabilities of elementary school teachers, the questionnaire included the following sub-sections: 1) Knowledge Acquisition – assessing the ability to acquire, retain, and apply new knowledge and skills; 2) Adaptability to Digital Learning – measuring the capacity to adjust teaching strategies to digital and

Table 2: Scale for Assessing Proficiency in Microsoft 365 Productivity Tools

Rating	Scale Range	Qualitative Description	Qualitative Interpretation
5	4.20 – 5.00	Highly Proficient	Outstanding level of proficiency in using Microsoft 365 productivity tools
4	3.40 – 4.19	Proficient	Very satisfactory level of proficiency in using Microsoft 365 productivity tools
3	2.60 – 3.39	Moderate Proficient	Satisfactory level of proficiency in using Microsoft 365 productivity tools
2	1.80 – 2.59	Less Proficient	Unsatisfactory level of proficiency in using Microsoft 365 productivity tools
1	1.00 – 1.79	Not Proficient	Poor level of proficiency in using Microsoft 365 productivity tools

blended learning environments; 3) Collaboration and Communication Skills – evaluating the ability to interact effectively with colleagues, learners, and stakeholders, and to participate in professional learning communities; and 4) Instructional Material Preparation – assessing competence in designing, organizing, and producing instructional materials that support student learning.

A separate five-point Likert scale was used for this section to appropriately measure developmental levels of learning capabilities.

Data Gathering Procedure

The data for this study were collected systematically to ensure accuracy, reliability, and ethical compliance. Before conducting the study, the researcher sought

Table 3: Scale for Assessing Teachers’ Learning Capabilities

Rating	Scale Range	Qualitative Description	Qualitative Interpretation
5	4.20 – 5.00	Highly Developed	Outstanding level of teachers’ learning capabilities.
4	3.40 – 4.19	Developed	Very satisfactory level of teachers’ learning capabilities.
3	2.60 – 3.39	Moderately Developed	Satisfactory level of teachers’ learning capabilities.
2	1.80 – 2.59	Less Developed	Unsatisfactory level of teachers’ learning capabilities.
1	1.00 – 1.79	Not Developed	Poor level of teachers’ learning capabilities.

official permission first from the Dean of the Graduate School followed by the Schools Division Office of South Cotabato and the district supervisor of Sto. Niño District. Coordination with the principals of the 13 elementary schools was done to inform them about the study’s objectives, the instruments to be used, and the schedule for data collection. This step ensured transparency, cooperation, and logistical support from the school administration.

After collecting and gathering, the responses were encoded into a statistical software program for analysis. Descriptive statistics such as mean, frequency, and percentage were used to determine the level of proficiency in Microsoft 365 tools and learning capabilities of teachers. Inferential statistics, specifically Regression Statistical Analysis, was employed to examine the relationship between the two variables.

The researcher conducted a brief orientation session to teachers per school explaining the purpose of the study, the significance of their participation, and instructions on how to answer the questionnaire. Teachers were assured of confidentiality and anonymity, emphasizing that the information collected will only be used for research purposes and would not affect their professional standing. The questionnaires were distributed to all 223 teachers, covering two main areas: proficiency in Microsoft 365 productivity tools and learning capabilities. The respondents were given ample time to accomplish the distributed questionnaire.

By following these procedures, the study ensured systematic, ethical, and reliable collection of data, which formed the basis for analyzing the proficiency of elementary school teachers in Microsoft 365 productivity tools and their learning capabilities in Sto. Niño District

After completion, the questionnaires were collected and the researcher ensured that all retrieved questionnaires maintained the integrity of the data, considering that all 223 teachers were included in the study.

Statistical Treatment

The data gathered from the respondents were analyzed using quantitative statistical methods to address the objectives of the study and answer the research problems. Descriptive statistics, specifically the mean and standard deviation (SD), were utilized to determine the level of proficiency of teachers in Sto. Niño District in using Microsoft 365 Productivity Tools and their learning capabilities.

The mean was used to identify the average level of responses, while the standard deviation was used to

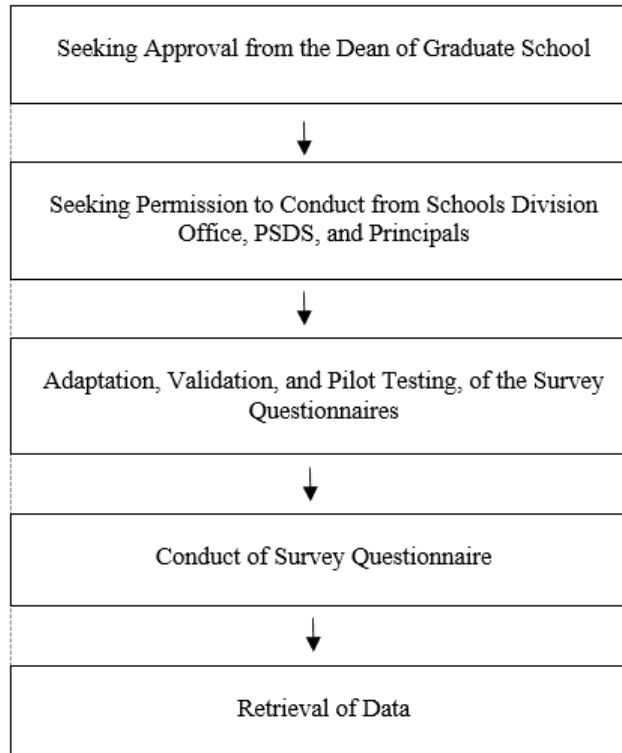


Figure 2: Waterfall Diagram of the Data Gathering Instrument and Procedure

measure the degree of variability or dispersion of the responses from the mean.

Furthermore, Regression Statistical Analysis was employed to systematically examine, quantify, and predict the extent to which teachers’ proficiencies in Microsoft 365 productivity tools—specifically Word, Excel, PowerPoint, Outlook, OneDrive, and Teams—significantly influence their learning capabilities. This inferential statistical tool helped determine the strength and direction of the relationship between the two variables under study.

RESULTS AND DISCUSSIONS

Proficiency Level of Elementary School Teachers in using Microsoft Word as part of Microsoft 365 Productivity Tools

Microsoft Word is a word processing program designed to create, edit, and format documents, such as DepEd

reports, communication and worksheets. Word enhances accessibility for it offers features like Immersive Reader to support diverse learning styles, making content more accessible to all students.

Table 4 indicates that elementary school teachers demonstrated a proficient level of competency in using Microsoft Word, with an overall mean of 4.04 (SD = 0.77). This level reflects strong and consistent skills in document creation, formatting, and collaborative editing. Teachers show high proficiency in creating and formatting documents ($\bar{x} = 4.20$), suggesting confidence and efficiency in preparing instructional materials, reports, and other professional documents.

Teachers also demonstrated proficiency in using tables, images, and multimedia elements, as well as in applying styles, templates, and themes, indicating their ability to organize content effectively and produce visually

Table 4: Proficiency Level of Elementary School Teachers in Using Microsoft 365 Productivity Tools: Microsoft Word

Indicators	Mean	SD	Verbal Description
I can create and format documents efficiently using Word.	4.20	0.68	Highly Proficient
I can use tables, images, and other multimedia elements in Word documents.	4.17	0.76	Proficient
I can apply styles, templates, and themes to make documents organized and professional.	3.98	0.78	Proficient
I can use Word features such as spell check, grammar check, and track changes.	3.86	0.83	Proficient
I can share Word documents and collaborate with others in real time.	4.00	0.80	Proficient
Mean	4.04	0.77	Proficient

structured and coherent documents. These competencies suggest that teachers are not only capable of basic word processing but can also enhance documents to support clarity, presentation quality, and instructional effectiveness. While ratings for editing and revision tools—such as spell check, grammar check, and track changes—were slightly lower, they remained within the proficient range. This implies regular use of Word’s editing features, though possibly with less emphasis on more advanced revision and feedback functions. Nonetheless, teachers’ familiarity with these tools supports accurate and polished document preparation.

Additionally, teachers demonstrated proficiency in sharing and collaborating on Word documents in real time ($\bar{x} = 4.00$), highlighting their readiness to engage in collaborative professional tasks such as joint lesson planning, committee work, and peer feedback. This capability reflects adaptability to collaborative digital workflows that are increasingly important in modern educational environments.

Overall, the findings suggest that teachers possess a strong and well-established proficiency in Microsoft Word, indicating solid capability in document creation, formatting, and collaborative editing, with only minor variation in advanced formatting and editing skills. Microsoft Word appears to be a foundational tool in teachers’ professional practice, supporting documentation, collaboration, and instructional resource development. This aligns with previous research showing that educators tend to develop higher proficiency in long-standing productivity tools that are deeply embedded

in daily teaching tasks (Darling-Hammond *et al.*, 2019; Koehler *et al.*, 2019).

Proficiency Level of Elementary School Teachers in using Microsoft Excel as part of Microsoft 365 Productivity Tools

Microsoft Excel is a spreadsheet software program used for organizing, analyzing, and storing data in tables. It is part of the Microsoft 365 suite and is available on various platforms, including Windows, macOS, iOS, Android, and web browsers, which are being utilized by DepEd teachers and personnel. Excel allows users to perform calculations, create charts, and apply formulas that support data-driven decision-making. It is widely used for tasks such as tracking student records, managing reports, and organizing administrative data. Its built-in features, such as filtering and sorting, help users efficiently handle large amounts of information. Through Excel, DepEd personnel can improve accuracy, productivity, and efficiency in their daily work.

The results in this table indicated that teachers demonstrated a proficient level of competency in using Microsoft Excel, with an overall mean score of 3.84 (SD = 0.85). This finding suggests that teachers possess solid and functional skills in spreadsheet creation, data computation, organization, visualization, and collaboration, which are essential for effective data-driven decision-making in educational settings.

Teachers showed proficiency in creating and formatting spreadsheets ($\bar{x} = 3.87$), reflecting their ability to encode and present data accurately and efficiently. This competency

Table 5: Proficiency Level of Elementary School Teachers in Using Microsoft 365 Productivity Tools: Microsoft Excel

Indicators	Mean	SD	Verbal Description
I can create and format spreadsheets effectively.	3.87	0.82	Proficient
I can use formulas and functions to perform calculations.	3.74	0.82	Proficient
I can create charts and graphs to present data clearly.	3.80	0.85	Proficient
I can organize and analyze student data (e.g., grades, attendance) using Excel.	3.90	0.89	Proficient
I can share Excel files and collaborate on data analysis with colleagues.	3.89	0.89	Proficient
Mean	3.84	0.85	Proficient

supports routine professional tasks such as preparing class lists, instructional records, and administrative documents. Previous studies have noted that spreadsheet software like Excel remains a foundational digital tool for educators due to its versatility and alignment with daily teaching responsibilities (Kamodi & Garegae, 2019).

Proficiency was also evident in the use of formulas and functions for data computation ($\bar{x} = 3.74$). This indicates that teachers can perform basic calculations necessary for grade computation, averaging scores, and summarizing student performance. However, the slightly lower mean suggests that while teachers are comfortable using common formulas, there may be room for further development in advanced data analysis features. Research

emphasizes that spreadsheet proficiency often develops incrementally, with educators first mastering basic computational functions before progressing to more complex analytical tools (Rebman *et al.*, 2021).

Teachers likewise demonstrated proficiency in creating charts and graphs ($\bar{x} = 3.80$), highlighting their ability to transform numerical data into visual representations that support clearer interpretation and communication of student performance trends. Data visualization through Excel has been widely recognized as a practical way for teachers to monitor learning progress and inform instructional planning (Phan *et al.*, 2022).

The highest mean among the indicators was observed in organizing and analyzing student data, such as grades

and attendance ($\bar{x} = 3.90$). This suggests that Excel is extensively used as a classroom management and assessment tool, enabling teachers to systematically track student information and make informed instructional decisions. Studies consistently show that educators rely on Excel for managing student records because it supports accuracy, efficiency, and data-driven intervention (ChartExpo, 2026).

Additionally, teachers demonstrated proficiency in sharing Excel files and collaborating on data analysis with colleagues ($\bar{x} = 3.89$). This reflects their readiness to engage in collaborative tasks such as department-level reporting, shared monitoring of learner progress, and joint planning activities. The availability of cloud-based Excel and co-authoring features has further strengthened collaborative practices among educators (Microsoft Support, 2024).

Overall, the findings suggest that teachers demonstrate proficiency in Microsoft Excel, showing competence in data encoding, computation, organization, visualization, and basic collaborative data management. While their skills are sufficient for most instructional and administrative purposes, the results also indicate potential areas for growth, particularly in advanced data analysis and higher-level spreadsheet functions. This pattern aligns with existing literature, which highlights that teachers' Excel proficiency is generally strong in practical applications

but benefits from continued professional development focused on advanced analytical capabilities (Kamodi & Garegae, 2019; Rebman *et al.*, 2021; Phan *et al.*, 2022).

Proficiency Level of Elementary school teachers in using Microsoft PowerPoint as part of Microsoft 365 Productivity Tools

Microsoft PowerPoint is a presentation software that allows users to create slideshows with text, images, transitions, animations, and other multimedia elements. It is part of the Microsoft 365 suite and is available on various platforms. DepEd teachers use this application to enhance their own and their students' digital literacy skills, preparing them for a technology-driven world

Table 6 presents a clear pattern of consistent and well-balanced proficiency among elementary school teachers in using Microsoft PowerPoint, as reflected in the overall mean score of 3.93 (SD = 0.90). Rather than excelling in only isolated skills, teachers demonstrate steady competence across all presentation-related functions, suggesting that PowerPoint is routinely and effectively embedded in instructional practice.

The results indicate that teachers are particularly adept at combining visual design, multimedia elements, and content organization to support lesson delivery. Their ability to integrate images, audio, and video, alongside

Table 6: Proficiency Level of Elementary School Teachers in Using Microsoft 365 Productivity Tools:mMicrosoft PowerPoint

Indicators	Mean	SD	Verbal Description
I can design interactive and visually engaging presentations.	3.91	0.87	Proficient
I can insert multimedia elements such as images, audio, and video in slides.	3.96	0.89	Proficient
I can apply slide transitions and animations appropriately.	3.87	0.93	Proficient
I can organize content logically for effective lesson delivery.	3.92	0.90	Proficient
I can present my slides effectively during face-to-face or online sessions.	4.00	0.92	Proficient
Mean	3.93	0.90	Proficient

logical sequencing of instructional content, reflects an understanding of how multimedia-rich presentations can enhance clarity and maintain learner attention. Research on digital pedagogy highlights that such integration supports deeper engagement and improves comprehension when instructional materials are visually structured and pedagogically aligned (Mayer, 2020).

Teachers' proficiency in applying animations and transitions appropriately suggests purposeful rather than excessive use of visual effects, which is important in avoiding cognitive overload among learners. Effective presentation design emphasizes clarity and coherence over decoration, especially in elementary instruction where attention management is critical (OECD, 2021). The relatively close mean scores across indicators suggest that teachers apply PowerPoint features in a controlled and instructional manner rather than focusing solely on aesthetic appeal.

Notably, teachers scored highest in presenting slides during both face-to-face and online sessions, highlighting adaptability to varied teaching modalities. This finding reflects the growing importance of presentation tools in maintaining instructional continuity in blended and digital learning environments. Teachers who are comfortable presenting across multiple platforms are better positioned to sustain learner engagement and ensure consistent lesson delivery (Darling-Hammond *et al.*, 2020).

Altogether, the table suggests that teachers possess functional and practical proficiency in Microsoft PowerPoint, enabling them to design, organize, and deliver lessons effectively using multimedia and visual supports. However, the results also point to opportunities for growth in leveraging advanced interactive features, such as embedded learner interaction or adaptive slide design, to further enhance student participation and learning outcomes.

Proficiency Level of Elementary School Teachers in using Microsoft Outlook as part of Microsoft 365 Productivity Tools.

Microsoft Outlook is a personal information manager software system from Microsoft, available as part of the Microsoft 365 suite. It is primarily used as an email client, but it also includes functions such as calendaring, task management, contact management, note-taking, journal logging, and web browsing. Outlook facilitates collaboration among teachers and staff through features like shared calendars, task lists, and email groups. DepEd personnel can receive and send emails through their respective Microsoft Outlook accounts using the same email address.

Table 7 indicates that elementary school teachers demonstrate a Moderately Proficient level of competency in using Microsoft 365 Outlook, as shown by an overall mean of 3.06 (SD = 1.04). This suggests that teachers possess basic functional skills needed for everyday communication and scheduling tasks but have not yet fully maximized Outlook's more advanced productivity features. The relatively high standard deviation further indicates noticeable variation in teachers' individual levels of proficiency.

Teachers demonstrated moderate proficiency in composing and sending professional emails, reflected in the highest-rated indicator, "I can compose and send professional emails using Outlook" (M = 3.17, SD =

Table 7: Proficiency Level of Elementary School Teachers in Using Microsoft 365 Productivity Tools: Microsoft Outlook

Indicators	Mean	SD	Verbal Description
I can compose and send professional emails using Outlook.	3.17	1.03	Moderately Proficient
I can manage my inbox and organize emails efficiently.	3.10	1.02	Moderately Proficient
I can schedule appointments, meetings, and reminders using the calendar feature.	3.04	1.06	Moderately Proficient
I can create and manage tasks within Outlook.	2.96	1.00	Moderately Proficient
I can communicate effectively with colleagues, students, and parents using Outlook.	3.01	1.07	Moderately Proficient
Mean	3.06	1.04	Moderately Proficient

1.03). This finding implies that teachers are generally capable of communicating effectively with colleagues, students, and parents through Outlook, which remains a primary communication platform within school settings. Studies emphasize the continued importance of email communication in educational institutions for coordination, documentation, and professional correspondence (OECD, 2020; Trust *et al.*, 2022).

In terms of email management, teachers also showed moderate proficiency in managing inboxes and organizing emails efficiently, indicating familiarity with basic organizational practices such as sorting messages and responding to communication demands. Additionally, teachers demonstrated moderate proficiency in scheduling appointments, meetings, and reminders using the Outlook calendar, suggesting that they can use calendar tools for basic time management and coordination of school-related activities.

However, the lowest mean score was observed for "I can create and manage tasks within Outlook" (M = 2.96, SD = 1.00), which also falls within the Moderately Proficient range. This result suggests that teachers are less familiar with Outlook's task and workflow management features, such as creating task lists, setting priorities, and tracking deadlines. Research indicates that while educators frequently use digital tools for communication, features related to task coordination and workload management are often underutilized despite their potential to increase efficiency and reduce administrative burden (Voogt *et al.*, 2018; OECD, 2020).

Overall, the findings indicate that teachers demonstrate a moderate level of competency in Microsoft Outlook, showing the ability to manage basic email communication, scheduling, and task coordination. Nonetheless, there remains a clear need for further professional development focused on advanced Outlook features, particularly task and workflow management, to enhance communication efficiency and support more effective workload organization in school settings.

Proficiency Level of Elementary School Teachers in using Microsoft OneDrive as part of Microsoft 365 Productivity Tools.

Microsoft OneDrive is a cloud storage service that allows users to store, share, and access their files from any device with an internet connection. It is included in Microsoft 365 subscriptions and offers features for collaboration, backup, and file recovery. OneDrive seamlessly integrates with other Microsoft 365 apps like Word, Excel, PowerPoint, and Teams, providing a unified platform for creating, sharing, and collaborating on files. Educators can create cloud assignments using OneDrive, allowing students to edit their own copy of the assignment and submit it for grading.

Table 8 shows that elementary school teachers demonstrated a Moderately Proficient level of competency in using Microsoft OneDrive, with an overall mean score of 3.13 (SD = 1.20). This result indicates that teachers possess basic functional skills in cloud storage and file management but have not yet fully optimized OneDrive's

collaborative and advanced cloud-based features. The relatively high standard deviation suggests considerable variation in individual teachers' proficiency levels. Teachers demonstrated moderate proficiency in uploading and organizing files ($M = 3.20$), reflecting their

ability to store instructional materials and manage digital resources in a cloud environment. Similarly, teachers showed moderate proficiency in securely sharing files and folders with colleagues and students ($M = 3.16$), which supports routine instructional coordination and resource

Table 8: Proficiency Level of Elementary School Teachers in Using Microsoft 365 Productivity Tools: Microsoft OneDrive

Indicators	Mean	SD	Verbal Description
I can upload and organize files in OneDrive.	3.20	1.19	Moderately Proficient
I can share files and folders with colleagues and students securely.	3.16	1.21	Moderately Proficient
I can access my files from multiple devices using OneDrive.	3.12	1.22	Moderately Proficient
I can collaborate with colleagues on shared documents in real time.	3.12	1.19	Moderately Proficient
I can use OneDrive to back up important instructional materials.	3.08	1.21	Moderately Proficient
Mean	3.13	1.20	Moderately Proficient

distribution. Research highlights that cloud-based file sharing plays an essential role in enabling flexible access to instructional materials and supporting collaborative workflows in schools (OECD, 2021).

Moderate proficiency was also observed in accessing files from multiple devices ($M = 3.12$), indicating that teachers can retrieve instructional resources across different platforms, such as school computers and personal devices. This capability is important in blended and technology-supported learning environments, where instructional continuity often depends on reliable multi-device access to teaching materials (Trust *et al.*, 2022).

Teachers likewise demonstrated moderate proficiency in collaborating on shared documents in real time ($M = 3.12$). While this suggests familiarity with basic collaborative functions, it may also indicate limited or inconsistent use of real-time co-authoring features. Studies have shown that although educators commonly use cloud storage for file access and backup, collaborative features are often underutilized due to limited training or confidence in managing shared digital workspaces (Voogt *et al.*, 2018).

The lowest mean score was recorded for using OneDrive to back up important instructional materials ($M = 3.08$), suggesting that systematic use of cloud-based backup as a data protection strategy may not yet be fully established among teachers. Effective use of cloud storage for backup and version control is increasingly emphasized as a critical component of digital competence and instructional resilience (OECD, 2021).

Overall, the findings indicate that teachers demonstrate a moderate level of competency in Microsoft OneDrive, showing basic skills in uploading, accessing, sharing, and backing up instructional materials. However, the results also point to the need for further professional development focused on advanced collaborative features and strategic cloud-based resource management to enhance instructional efficiency and support more effective digital teaching practices.

Proficiency Level of Elementary School Teachers in using Microsoft Teams as part of Microsoft 365 Productivity Tools.

Microsoft Teams is a collaboration platform that combines chat, video meetings, file storage, and application integration. It is designed to facilitate real-time communication and collaboration within organizations, including educational institutions under the Department of Education.

Table 9 reveals that elementary school teachers possessed a moderate level of proficiency in using Microsoft Teams, as reflected by an overall mean of 2.92 ($SD = 1.18$). This finding indicates that teachers are generally capable of performing essential functions within the platform, particularly those related to online communication and coordination, but their proficiency decreases as instructional and management tasks become more complex.

Teachers demonstrated moderate proficiency in creating and managing virtual classrooms, as well as in communicating and collaborating with colleagues and students through chat and video conferencing. These results suggest that Microsoft Teams is primarily utilized as a communication tool to support online meetings, messaging, and basic coordination. This functional use allows teachers to maintain interaction and instructional continuity, especially in blended or remote teaching contexts.

At the same time, teachers showed moderate proficiency in assigning tasks and monitoring student submissions and in facilitating online discussions and group activities. While these skills indicate familiarity with Teams' instructional features, the moderate ratings imply cautious or limited use, particularly when managing multiple learners, monitoring progress, and supporting collaborative activities in a virtual environment. Similarly, teachers demonstrate moderate proficiency in integrating other Microsoft 365 tools within Teams, suggesting that the platform's potential as a fully integrated virtual

Table 9: Proficiency Level of Elementary School Teachers in Using Microsoft 365 Productivity Tools: Microsoft Teams

Indicators	Mean	SD	Verbal Description
I can create and manage virtual classrooms in Teams.	2.96	1.17	Moderately Proficient
I can assign tasks and monitor student submissions using Teams.	2.85	1.14	Moderately Proficient
I can communicate and collaborate with colleagues and students via chat or video call.	3.00	1.23	Moderately Proficient
I can integrate other Microsoft 365 tools within Teams for teaching purposes.	2.93	1.19	Moderately Proficient
I can facilitate online discussions and group activities using Teams.	2.87	1.19	Moderately Proficient
Mean	2.92	1.18	Moderately Proficient

learning environment has not yet been fully realized. Overall, the distribution of scores indicates that teachers tend to use Microsoft Teams more for communication and coordination rather than for advanced instructional design and collaborative learning. This pattern aligns with research suggesting that teachers' professional digital competence develops progressively, often beginning with basic interaction tools before advancing toward more pedagogically rich and integrated digital practices (Forsström & Amdam, 2026). The OECD (2026) likewise emphasizes that although digital platforms such as Teams support instructional continuity, their full educational value depends heavily on teachers' confidence and training in managing virtual classrooms, task integration, and collaborative learning spaces.

In summary, teachers demonstrated a moderate level of competency in Microsoft Teams, showing the ability to perform basic communication and instructional tasks such as online meetings, messaging, and task management. However, the findings highlight the need for targeted professional development to strengthen teachers' use of advanced features related to virtual classroom management, integration of Microsoft 365 tools, and facilitation of collaborative learning activities to optimize teaching and learning outcomes.

Summary of Proficiency Levels of Elementary School Teachers

Microsoft 365 productivity tools play a pivotal role in enhancing educational delivery by offering a comprehensive suite of applications that address multiple facets of teaching and learning. By integrating tools such as Word, Excel, PowerPoint, Outlook, OneDrive, and Teams, Microsoft 365 provides educators with a versatile digital environment that supports communication, collaboration, content creation, and organization.

Table 10 provides an integrated overview of elementary school teachers' proficiency across key Microsoft 365 productivity tools. The overall mean score of 3.49 (SD = 0.93) indicates that teachers are generally proficient in using Microsoft 365 for instructional and professional purposes. This reflects a solid level of digital readiness, particularly in tools directly associated with traditional classroom tasks.

Higher proficiency levels are evident in Microsoft Word, Excel, and PowerPoint, which obtained mean scores within the proficient range. These results suggest that teachers are highly comfortable with tools used for document preparation, data organization, and instructional presentations, likely due to their long standing integration into teaching practices. In contrast, Microsoft

Table 10: Summary of Proficiency Levels of Elementary School Teachers in Using Microsoft 365 Productivity Tools

Indicators	Mean	SD	Verbal Description
1 Microsoft Word	4.04	0.67	Proficient
2 Microsoft Excel	3.84	0.77	Proficient
3 Microsoft PowerPoint	3.93	0.84	Proficient
4 Microsoft Outlook	3.06	0.98	Moderately Proficient
5 Microsoft OneDrive	3.13	1.17	Moderately Proficient
6 Microsoft Teams	2.92	1.13	Moderate Proficient
Overall Mean	3.49	0.93	Proficient

Outlook, OneDrive, and Teams registered only moderate proficiency, indicating comparatively less confidence in tools that support communication management, cloud based storage, and virtual collaboration.

This contrast highlights a clear pattern: teachers demonstrated stronger skills in content creation tools than in collaborative and cloud based platforms. Such findings

support existing research emphasizing that teachers' digital competence often develops first in familiar, productivity oriented applications before extending to more complex, collaborative ecosystems (Forsström & Amdam, 2026). The OECD (2026) similarly notes that while educators may be proficient in basic digital tasks, maximizing the instructional value of integrated

platforms like Teams and OneDrive requires focused professional development. Overall, the table underscores both the strengths of teachers' foundational digital skills and the need to strengthen competencies that support digitally integrated and collaborative teaching.

Capability Level of Elementary School Teachers in Terms of Knowledge Acquisition

The capability level of elementary school teachers in terms of knowledge acquisition refers to the degree to which teachers can effectively obtain, develop, and enhance professional knowledge essential for quality teaching and learning. This includes their ability to understand subject matter content, acquire appropriate pedagogical strategies, and stay informed about curriculum standards, educational policies, and innovations in teaching. It also encompasses continuous professional learning through trainings, seminars, research, collaboration with colleagues, and self-directed study. A high level of capability in knowledge acquisition enables elementary school teachers to apply newly learned concepts and skills

in classroom instruction, adapt to changing educational demands, and respond effectively to the diverse learning needs of pupils, thereby improving overall teaching competence and instructional performance.

Table 11 indicates that elementary school teachers demonstrated a developed level of learning capability in terms of knowledge acquisition, as reflected by an overall mean of 4.11 (SD = 0.70), corresponding to a very satisfactory level. This finding suggests that teachers consistently engage in purposeful learning behaviors that support professional growth and instructional improvement.

High mean scores across all indicators show that teachers actively seek new knowledge, apply learning to improve instruction, and regularly update themselves on emerging teaching strategies and curriculum developments. These behaviors reflect characteristics of self directed and reflective practitioners, which are essential for effective teaching in dynamic educational contexts (Darling Hammond *et al.*, 2019; Schunk, 2020). The strong rating for reflection on teaching experiences further highlights

Table 11: Level of Learning Capabilities of Elementary School Teachers in Terms of Knowledge Acquisition

Indicators	Mean	SD	Verbal Description
I actively seek new knowledge and skills relevant to teaching.	4.17	0.67	Developed
I can apply newly acquired knowledge to improve my instructional practices.	4.14	0.73	Developed
I regularly update myself on new teaching strategies and curriculum changes.	4.13	0.70	Developed
I can learn to use new educational technologies quickly.	3.96	0.73	Developed
I reflect on my teaching experiences to enhance my professional growth.	4.16	0.69	Developed
Mean	4.11	0.70	Developed

teachers' capacity to evaluate practice and translate experience into meaningful learning, a key element of continuous professional development (Kolb, 2018). Although slightly lower, the ability to quickly learn new educational technologies still falls within the developed range, indicating adaptability and openness to innovation. Research suggests that such learning agility strengthens teachers' capacity to respond to curricular reforms, technological change, and evolving learner needs (OECD, 2019, 2026). Overall, the results affirm that elementary school teachers possess robust learning capabilities, positioning them well to sustain effective and responsive teaching practices

Capability Level of Elementary School Teachers in Terms Adaptability to Digital Learning

The capability level of elementary school teachers in terms of adaptability to digital learning reflects their ability to effectively use digital tools in instructional and administrative tasks. This adaptability is essential in supporting data management, lesson planning, and performance monitoring in a technology-driven educational environment. Teachers who demonstrate

higher adaptability can more easily integrate digital platforms into their daily work, enhancing efficiency and accuracy.

Table 12 shows that elementary school teachers demonstrated a Developed level of learning capability in terms of adaptability to digital learning, with an overall mean of 3.78 (SD = 0.60). This overall result implies that teachers are generally capable of adjusting their instructional practices to meet the demands of online and blended learning environments and are functionally prepared to teach in technologically enhanced contexts. Among the indicators, the highest mean rating was recorded for "I can adjust my teaching methods to suit online or blended learning" (\bar{x} = 3.96), suggesting that teachers are most confident in modifying pedagogical approaches to ensure instructional continuity and learner engagement across different modalities. This reflects pedagogical flexibility, which is recognized as a key requirement for effective teaching in digital and blended environments.

Conversely, the lowest mean score was observed for "I can troubleshoot minor technical issues during digital instruction" (\bar{x} = 3.66), although it still falls

Table 12: Level of Learning Capabilities of Elementary School Teachers in Terms of Adaptability to Digital Learning

Indicators	Mean	SD	Verbal Description
I can adjust my teaching methods to suit online or blended learning.	3.96	0.80	Developed
I can troubleshoot minor technical issues during digital instruction.	3.66	0.83	Developed
I can integrate digital tools effectively into my lessons.	3.78	0.79	Developed
I can modify instructional materials to fit different learning platforms.	3.72	0.78	Developed
I embrace changes in technology to enhance student learning outcomes.	3.80	0.80	Developed
Mean	3.78	0.60	Developed

within the developed range. This indicates that while teachers possess basic technical problem solving skills, technical troubleshooting remains a relative area of weakness compared to instructional adaptation and tool integration. Overall, the consistent developed ratings across all indicators suggest that teachers are adaptable, open to technological change, and capable of integrating digital tools into instruction, but they may benefit from further support and training in strengthening technical confidence and resilience.

These findings align with literature emphasizing that adaptability to digital learning depends not only on access to technology but also on teachers' pedagogical flexibility, continuous learning, and support systems (Darling Hammond *et al.*, 2020; OECD, 2019; Trust *et al.*, 2022).

Capability Level of Elementary School Teachers in Terms of Collaboration and Communication Skills

The capability level of elementary school teachers in terms of collaboration and communication skills refers to their ability to work effectively with colleagues, school leaders, parents, and other stakeholders. It includes sharing ideas, coordinating tasks, and participating in teamwork to

support teaching and school activities. Communication skills involve clearly conveying information, instructions, and feedback through oral and written means. This capability is important for building positive professional relationships and ensuring smooth coordination within the school community.

Table 13 reflects a consistently developed level of collaboration and communication skills among elementary school teachers, as shown by an overall mean of 4.08 (SD = 0.70). Rather than demonstrating isolated strengths, the close clustering of mean scores across all indicators suggests that these competencies are well balanced and embedded in teachers' professional practice.

The results point to a strong collaborative culture within the school context, where teachers routinely engage in team planning, share instructional resources, and participate in professional learning communities. This pattern indicates that collaboration is not treated as an isolated activity, but as a regular and valued component of teaching practice. Research consistently highlights that sustained collaboration among teachers supports instructional coherence, collective responsibility, and continuous improvement in teaching quality (Darling-

Table 13: Level of Learning Capabilities of Elementary School Teachers in Terms of Collaboration and Communication Skills

Indicators	Mean	SD	Verbal Description
I actively participate in team planning and collaborative activities with colleagues.	4.02	0.70	Developed
I communicate effectively with students, parents, and colleagues.	4.10	0.72	Developed
I provide constructive feedback to students and peers.	4.09	0.68	Developed
I share teaching resources and best practices with colleagues.	4.05	0.70	Developed
I engage in professional learning communities to improve my teaching.	4.11	0.69	Developed
Mean	4.08	0.70	Developed

Hammond *et al.*, 2020).

High ratings in communication-related indicators further suggest that teachers are effective in maintaining clear and constructive interactions with students, parents, and colleagues. Effective communication strengthens classroom relationships, supports student learning through timely feedback, and reinforces productive partnerships with parents. Studies have shown that clear feedback and open communication channels are among the most influential factors in improving learner

engagement and academic outcomes (Hattie, 2019).

The strong engagement in professional learning communities reflects teachers' willingness to learn from peers, reflect on practice, and adapt instructional strategies collaboratively. Such engagement is a hallmark of professional maturity, as it demonstrates an understanding that teaching quality improves when educators collectively examine evidence, exchange best practices, and pursue shared goals (OECD, 2021).

Overall, the table suggests that teachers possess well-

developed interpersonal and professional learning capabilities, enabling them to collaborate effectively, communicate purposefully, and contribute meaningfully to shared instructional improvement. These competencies form a critical foundation for sustained school development, as effective collaboration and communication enhance not only individual teaching performance but also the collective capacity of the school community.

Capability Level of Elementary School Teachers in Terms Instructional Material Preparation

The capability level of elementary school teachers in terms of instructional material preparation refers to their ability to plan, design, and develop appropriate teaching materials that support lesson objectives and learners' needs. This includes selecting accurate and engaging content, organizing activities, and aligning materials with curriculum standards. It also involves the ability to adjust and improve materials based on learners' progress and classroom situations to support effective and meaningful instruction. Such capability enhances student engagement,

facilitates smoother lesson delivery, and contributes to improved learning outcomes.

Table 14 presents the level of learning capabilities of elementary school teachers in terms of instructional material preparation. The overall weighted mean of 3.95 with a standard deviation of 0.82, verbally interpreted as Developed, indicates that teachers generally possess adequate skills in planning, designing, and refining instructional materials to support effective classroom instruction. This suggests that instructional material preparation is already a well-established competency among elementary school teachers.

The indicators on aligning instructional materials with learning objectives (M = 4.02) and preparing materials that address diverse student needs (M = 4.06) both received high mean scores and were interpreted as Developed. These findings indicate that teachers can design materials that are purposeful and responsive to learner differences, which is essential in differentiated instruction. Research has shown that instructional materials tailored to students' varied abilities and learning needs contribute positively to

Table 14: Level of Learning Capabilities of Elementary School Teachers in Terms of Instructional Material Preparation

Indicators	Mean	SD	Verbal Description
I can design and organize instructional materials that align with learning objectives.	4.02	0.72	Developed
I use multimedia and interactive elements to enhance lesson quality.	4.02	0.84	Developed
I prepare materials that cater to the diverse needs of students.	4.06	0.79	Developed
I integrate Microsoft 365 tools in creating instructional resources.	3.70	0.95	Developed
I continuously improve my instructional materials based on student feedback and learning outcomes.	3.91	0.82	Developed
Mean	3.95	0.82	Developed

engagement and academic achievement (Smale-Jacobse *et al.*, 2019).

The use of multimedia and interactive elements to enhance lesson quality also obtained a developed rating (M = 4.02). This implies that teachers are able to enrich instructional materials by incorporating diverse modes of presentation to support understanding and engagement. Studies have emphasized that interactive and multimedia-based instructional materials help improve student motivation and learning outcomes when effectively integrated into teaching (Sihotang *et al.*, 2018).

Although slightly lower, the indicators on integrating digital tools in material preparation (M = 3.70) and continuously improving materials based on student feedback (M = 3.91) were still rated as Developed. This reflects teachers' engagement in reflective practice and gradual integration of technology and feedback in improving instructional resources. Continuous improvement supported by feedback and evaluation is recognized as a key practice in enhancing the quality and effectiveness of instructional materials over time (Shakman *et al.*, 2020).

Table 15 presents a summary of the learning capabilities

of elementary school teachers across four indicators: knowledge acquisition, adaptability to digital learning, collaboration and communication skills, and instructional material preparation. The overall mean score of 3.98 with a standard deviation of 0.69, verbally interpreted as Developed, indicates that teachers generally demonstrate adequate and consistent learning capabilities necessary for effective teaching and professional practice. This suggests that teachers are able to engage in continuous learning, adapt to instructional demands, and apply reflective practices in their work (Shakman *et al.*, 2020).

Among the indicators, Knowledge Acquisition obtained the highest mean score (M = 4.11, SD = 0.61), indicating that teachers are capable of continuously acquiring and applying new knowledge. This aligns with the concept of continuous improvement in education, where ongoing learning and reflection enable teachers to refine instructional practices and respond effectively to classroom challenges (Shakman *et al.*, 2020). A strong foundation in knowledge acquisition supports informed decision making and sustains instructional improvement. Collaboration and Communication Skills also yielded

Table 15: Summary of the Level of Learning Capabilities of Elementary School Teachers

Indicators	Mean	SD	Verbal Description
Knowledge Acquisition	4.11	0.61	Developed
Adaptability to Digital Learning	3.96	0.80	Developed
Collaboration and Communication Skills	4.08	0.63	Developed
Instructional Material Preparation	3.95	0.72	Developed
Overall Mean	3.98	0.69	Developed

a high mean score ($M = 4.08$, $SD = 0.63$), reflecting teachers' ability to work effectively with colleagues and communicate instructional goals and practices. Effective collaboration supports the sharing of strategies and collective problem solving, which is particularly important when addressing diverse learner needs. Research emphasizes that collaborative practices among teachers enhance instructional quality and support differentiated approaches to learning (Smale Jacobse *et al.*, 2019).

The indicator Adaptability to Digital Learning obtained a mean score of 3.96 ($SD = 0.80$), interpreted as Developed, suggesting that teachers are generally able to adjust to digital and technology supported learning environments. Adaptability to digital tools enables teachers to integrate interactive and multimedia resources that enhance student engagement. Studies have shown that the effective use of interactive and multimedia materials contribute positively to student motivation and learning experiences (Sihotang *et al.*, 2018).

Lastly, Instructional Material Preparation recorded a mean score of 3.95 ($SD = 0.72$), which, although the lowest among the indicators, still falls within the Developed level. This indicates that teachers can prepare instructional materials that support learning objectives while also engaging in reflective improvement. The ability to refine instructional materials based on feedback and classroom outcomes is a key aspect of continuous improvement and effective differentiated instruction (Smale Jacobse *et al.*,

2019; Shakman *et al.*, 2020).

Overall, the results imply that elementary school teachers possess a developed level of learning capabilities across all indicators, supporting effective instruction, responsiveness to learner diversity, and continuous professional growth.

Table 16 presents the results of a multiple regression analysis examining the extent to which teachers' proficiency in Microsoft 365 productivity tools predicts their level of knowledge acquisition. The overall regression model was statistically significant, $F(6, 218) = 31$, $p < .001$, with an R^2 of .461 and an adjusted R^2 of .446, indicating that approximately 46.1% of the variance in teachers' knowledge acquisition is explained by their proficiency in the selected MS 365 tools. This finding highlights the substantial role of digital productivity skills in supporting teachers' continuous learning and professional growth, consistent with the principles of continuous improvement in education that emphasize systematic reflection and skill development (Shakman *et al.*, 2020). It suggests that digital competence is an important factor in strengthening teachers' ability to build and expand professional knowledge. The strength of the model also indicates that technology-related skills meaningfully contribute to teachers' learning processes. This emphasizes the value of integrating technology into professional learning initiatives. Overall, the findings reflect the growing role of digital tools in supporting

Table 16: Multiple Regression Analysis Predicting Teachers' Knowledge Acquisition from Their Proficiency in MS 365 Productivity Tools

Predictor	Estimate	SE	95% Confidence Interval		t	p
			Lower	Upper		
Intercept	1.6832	0.1909	1.3069	2.0595	8.816	<.001
MS Word	0.2821	0.0796	0.1252	0.4391	3.543	<.001
MS Excel	0.0500	0.0865	-0.1206	0.2205	0.577	0.564
MS PowerPoint	0.2650	0.0878	0.0920	0.4380	3.019	0.003
MS Outlook	0.1314	0.0745	-0.0153	0.2782	1.765	0.079
MS OneDrive	-0.0766	0.0755	-0.2253	0.0721	-1.015	0.311
MS Teams	-0.0376	0.0736	-0.1827	0.1075	-0.511	0.610

Note: $a = 0.05$, $R^2 = .461$, $Adjusted R^2 = .446$, $F(6, 218) = 31$, $p < .001$.

teachers' lifelong learning and instructional development. Among the predictors, proficiency in MS Word ($\beta = 0.2821$, $p < .001$) and MS PowerPoint ($\beta = 0.2650$, $p = .003$) emerged as statistically significant contributors

to teachers' knowledge acquisition. This indicates that teachers who are more skilled in tools used for document preparation and lesson presentation tend to demonstrate higher levels of professional learning. Such tools directly

support instructional planning, organization of content, and reflective practice, which are central to effective professional development and continuous improvement (Shakman *et al.*, 2020). Additionally, tools that support structured presentation of ideas and information can enhance understanding and engagement, echoing findings that interactive and multimedia supported environments promote deeper learning processes (Sihotang *et al.*, 2018). In contrast, MS Excel, MS Outlook, MS OneDrive, and MS Teams did not show significant predictive effects on knowledge acquisition. Although these tools are valuable for data management, communication, collaboration, and file storage, their weaker influence may be attributed to their more indirect connection to instructional planning and pedagogical reflection. This suggests that not all digital tools contribute equally to teachers' learning; rather, those most closely aligned with instructional preparation and content delivery have a stronger impact. The findings underscore the importance of aligning technology use with pedagogical purposes, as instructional practices that directly support lesson design and differentiation are more likely to enhance teacher learning and effectiveness (Smale Jacobse *et al.*, 2019; Shakman *et al.*, 2020).

Table 17 presents the results of a multiple regression analysis examining the extent to which teachers' proficiency in Microsoft 365 productivity tools predicts their adaptability to digital learning. The regression model was statistically significant, $F(6, 218) = 31.60$, $p < .001$, indicating that the combined set of predictors significantly explains variation in teachers' adaptability to digital learning environments. The model accounted for 46.5% of the variance ($R^2 = .465$), with an adjusted R^2 of .450, suggesting a strong explanatory power and good model fit.

Among the predictors, Microsoft PowerPoint proficiency emerged as the strongest and most significant predictor of teachers' adaptability to digital learning ($\beta = 0.3242$, $t = 3.238$, $p = .001$). This finding suggests that teachers who are more proficient in using PowerPoint—particularly in designing, organizing, and presenting instructional content—are better able to adjust their teaching strategies to technology-enhanced and digital learning environments. This highlights the importance of presentation and content-creation tools in supporting flexible instructional practices.

Microsoft Outlook proficiency was also found to be a

Table 17: Multiple Regression Analysis Predicting Teachers' Adaptability to Digital Learning from Their Proficiency in MS 365 Productivity Tools

Predictor	Estimate	SE	95% Confidence Interval		t	p
			Lower	Upper		
Intercept	1.1846	0.2178	0.7554	1.6138	5.440	< .001
MS Word	0.1702	0.0908	-0.00886	0.3492	1.873	0.062
MS Excel	0.0781	0.0987	-0.11644	0.2726	0.791	0.430
MS PowerPoint	0.3242	0.1001	0.12685	0.5215	3.238	0.001
MS Outlook	0.1916	0.0849	0.02428	0.359	2.257	0.025
MS OneDrive	-0.0977	0.0861	-0.26729	0.072	-1.135	0.258
MS Teams	0.0189	0.084	-0.14666	0.1844	0.225	0.822

Note: $\alpha = 0.05$, $R^2 = .465$, Adjusted $R^2 = .450$, $F(6, 218) = 31.6$, $p < .001$.

significant positive predictor ($\beta = 0.1916$, $t = 2.257$, $p = .025$). This result indicates that teachers who effectively use Outlook for communication, scheduling, and coordination tend to demonstrate higher adaptability to digital learning. Efficient communication and time management appear to support teachers' ability to navigate changing instructional demands and digital workflows.

In contrast, Microsoft Word proficiency showed a positive but marginally non-significant relationship with adaptability ($\beta = 0.1702$, $p = .062$). While Word may contribute to instructional preparation and professional documentation, its influence on adaptability to digital learning does not reach statistical significance in this model. Similarly, Microsoft Excel was not a significant predictor ($\beta = 0.0781$, $p = .430$), suggesting that spreadsheet-related skills are less directly associated with teachers' ability to adjust teaching practices in digital contexts.

Microsoft OneDrive ($\beta = -0.0977$, $p = .258$) and Microsoft Teams ($\beta = 0.0189$, $p = .822$) were also non-significant predictors of adaptability to digital learning. These findings indicate that while cloud storage and collaboration platforms facilitate access, communication, and coordination, their use alone does not necessarily translate into higher instructional adaptability. This may reflect that adaptability depends more on instructional design and communication competencies than on access or collaboration tools per se.

Overall, the results suggest that instruction-oriented and communication tools, particularly Microsoft PowerPoint and Outlook, play a more substantial role in predicting teachers' adaptability to digital learning than data management or collaboration platforms. The findings underscore the importance of developing teachers' proficiency in tools that directly support instructional delivery and instructional organization to enhance their capacity to navigate and sustain effective teaching in

digitally mediated learning environments.

Table 18 demonstrates that teachers' proficiency in Microsoft 365 productivity tools collectively contributes to their collaboration and communication skills. The multiple regression model was statistically significant, $F(6, 218) = 23.50, p < .001$, indicating that the set of predictors meaningfully explains variation in teachers' collaborative and communicative competencies. The model accounted for 39.3% of the variance ($R^2 = .393$), with an Adjusted R^2 of .376, suggesting a moderately strong explanatory capacity even after controlling for the number of predictors included in the model.

An examination of the overall pattern of results shows that content creation tools play a more influential role than coordination focused platforms. Proficiency in Microsoft PowerPoint emerged as the strongest contributor to collaboration and communication, followed by Microsoft Word. These tools support teachers in structuring ideas, documenting shared plans, and presenting information clearly—processes that are central to effective professional communication and collaborative work. Research indicates that communication quality improves when teachers rely on shared artifacts such as documents and presentations that promote clarity, common

Table 18: Multiple Regression Analysis Predicting Teachers' Collaboration and Communication Skills from Their Proficiency in MS 365 Productivity Tools

Predictor	Estimate	SE	95% Confidence Interval		t	p
			Lower	Upper		
Intercept	1.8963	0.2098	1.4829	2.30975	9.040	< .001
MS Word	0.2430	0.0875	0.0705	0.41544	2.777	0.006
MS Excel	-0.0621	0.0951	-0.2495	0.12531	-0.653	0.514
MS PowerPoint	0.3239	0.0964	0.1338	0.51399	3.358	< .001
MS Outlook	0.1369	0.0818	-0.0244	0.2981	1.673	0.096
MS OneDrive	0.0643	0.0829	-0.0991	0.22775	0.776	0.439
MS Teams	-0.1582	0.0809	-0.3177	0.00127	-1.955	0.052

Note: $a = 0.05, R^2 = .393, Adjusted R^2 = .376, F(6,218) = 23.5, p < .001$.

understanding, and instructional alignment (Darling-Hammond *et al.*, 2020; Hattie, 2019).

In contrast, tools designed mainly for data handling, file storage, or administrative coordination—such as Excel, OneDrive, and Outlook—showed weaker relationships with collaboration and communication skills. This pattern suggests that while these tools enhance efficiency and organization, they do not directly strengthen interpersonal interaction or collaborative dialogue unless intentionally embedded within pedagogical and professional collaboration practices (OECD, 2021).

Notably, Microsoft Teams displayed a near-significant negative trend ($p = .052$), suggesting variability in how effectively teachers leverage digital collaboration platforms. Prior research has emphasized that online collaboration tools require advanced facilitation skills, pedagogical confidence, and experience in managing virtual interactions; without these, digital platforms may increase complexity rather than enhance collaboration (Voogt *et al.*, 2018; OECD, 2026).

Overall, the regression results indicate that while Microsoft 365 tools collectively explain a substantial portion of teachers' collaboration and communication skills ($R^2 = .393$), the strongest contributions come from tools that support instructional expression and shared meaning-making, rather than from tools focused primarily on logistical coordination. These findings reinforce the need for professional development that emphasizes pedagogically driven communication and collaborative design, enabling teachers to use digital tools

more strategically to strengthen professional interaction and collective learning.

Table 19 illustrates how teachers' proficiency in Microsoft 365 productivity tools influences their instructional materials preparation. The regression model demonstrates strong explanatory capacity, accounting for 48.4% of the variance in instructional materials preparation ($R^2 = .484$), with an Adjusted R^2 of .470. The overall model was statistically significant, $F(6, 218) = 34.10, p < .001$, indicating that proficiency in MS 365 tools plays a substantial role in shaping teachers' ability to design and enhance instructional materials.

The pattern of findings suggests that instruction focused and expressive tools have greater relevance for instructional material preparation than tools geared toward organization or coordination. Microsoft PowerPoint emerges as the most influential contributor. This result indicates that teachers who are proficient in creating presentations are more capable of developing structured, visually engaging, and pedagogically aligned instructional resources. Presentation tools support teachers in translating content knowledge into teachable forms, a process essential for effective learning design (Mayer, 2020).

Other tools such as Microsoft Word and Microsoft Outlook show positive but non significant trends. This implies that while document creation and communication tools support instructional planning and information exchange, they are not primary drivers of instructional material quality when considered alongside other

Table 19: Multiple Regression Analysis Predicting Teachers’ Instructional Materials Preparation from Their Proficiency in MS 365 Productivity Tools

Predictor	Estimate	SE	95% Confidence Interval		t	p
			Lower	Upper		
Intercept	1.3321	0.2157	0.9070	1.7572	6.176	< .001
MS Word	0.1608	0.0900	-0.0166	0.3381	1.787	0.075
MS Excel	0.0755	0.0978	-0.1172	0.2682	0.772	0.441
MS PowerPoint	0.3405	0.0992	0.1451	0.5360	3.434	< .001
MS Outlook	0.1418	0.0841	-0.024	0.3076	1.686	0.093
MS OneDrive	0.0618	0.0853	-0.1062	0.2298	0.725	0.469
MS Teams	-0.1010	0.0832	-0.2650	0.0630	-1.214	0.226

Note: $\alpha = 0.05$, $R^2 = .484$, Adjusted $R^2 = .470$, $F(6,218) = 34.1$, $p < .001$.

tools. Research on digital pedagogy emphasizes that instructional quality is most strongly influenced by how effectively teachers design and represent content rather than by administrative or communication efficiency alone (Darling Hammond *et al.*, 2020).

Meanwhile, Microsoft Excel, OneDrive, and Microsoft Teams contribute minimally to instructional material preparation. These tools primarily support data handling, file storage, and collaboration, which facilitate access and coordination but do not directly influence the creative and pedagogical processes involved in instructional design. Studies on teacher digital competence note that collaborative and storage platforms enhance productivity only when paired with strong instructional design skills (Voogt *et al.*, 2018).

Overall, the findings indicate that while Microsoft 365 tools collectively explain a substantial proportion of teachers’ instructional material preparation skills ($R^2 = .484$), the strongest influence comes from tools that support content organization, visual design, and instructional representation. This highlights the importance of professional development efforts that prioritize instructional design and pedagogical use of digital tools, ensuring that teachers can transform technological proficiency into high quality learning resources.

Table 20 presents a summary of the multiple regression

analyses examining the influence of teachers’ proficiency in MS 365 productivity tools on their overall learning capabilities. The regression model was statistically significant, $F(6, 218) = 34.1$, $p < .001$, with an R^2 of .542 and an adjusted R^2 of .529. This indicates that approximately 54.2% of the variance in teachers’ learning capabilities is explained by their proficiency in the selected MS 365 tools. The result underscores the substantial role of digital productivity tools in enhancing teachers’ learning-related competencies and supports the view that technology use is an important enabler of continuous professional growth and improvement (Shakman *et al.*, 2020).

Among the predictors, proficiency in MS Word, MS PowerPoint, and MS Outlook emerged as statistically significant contributors to teachers’ learning capabilities. MS Word ($\beta = 0.2161$, $p = .003$) and MS PowerPoint ($\beta = 0.3135$, $p < .001$) showed strong positive effects, indicating that tools directly associated with lesson preparation, content organization, and instructional presentation play a critical role in strengthening teachers’ learning capabilities. These tools support structured thinking, reflective practice, and effective communication of ideas, which are essential for professional learning and instructional improvement (Shakman *et al.*, 2020). Additionally, PowerPoint’s strong predictive influence aligns with research highlighting the role of interactive

Table 20: Summary of Multiple Regression Analyses on the Influence of Microsoft 365 Productivity Tools on Teachers’ Learning Capabilities

Predictor	Estimate	SE	95% Confidence Interval		t	p
			Lower	Upper		
Intercept	1.5147	0.1732	1.1734	1.8561	8.745	< .001
MS Word	0.2161	0.0722	0.0737	0.3585	2.992	0.003
MS Excel	0.0356	0.0785	-0.1191	0.1904	0.454	0.651
MS PowerPoint	0.3135	0.0796	0.1565	0.4705	3.937	< .001
MS Outlook	0.1510	0.0675	0.0179	0.2841	2.236	0.026
MS OneDrive	-0.0127	0.0685	-0.1476	0.1223	-0.185	0.854
MS Teams	-0.0697	0.0668	-0.2014	0.0620	-1.044	0.298

Note: $\alpha = 0.05$, $R^2 = .542$, Adjusted $R^2 = .529$, $F(6,218) = 34.1$, $p < .001$.

and visually supported tools in enhancing understanding, engagement, and learning processes (Sihotang *et al.*, 2018). MS Outlook ($\beta = 0.1510$, $p = .026$) also contributed significantly, suggesting that tools supporting professional communication and coordination can aid teachers' learning by facilitating information exchange and planning.

In contrast, MS Excel, MS OneDrive, and MS Teams did not show statistically significant effects on teachers' learning capabilities. While these tools are essential for data handling, file management, and collaboration, their limited predictive influence may be due to their more indirect connection to instructional planning and pedagogical reflection. This finding suggests that digital tools most closely linked to instructional design and teaching tasks have greater impact on teachers' learning compared to tools primarily used for administrative or organizational purposes. Consistent with this perspective, instructional practices that emphasize lesson design, differentiation, and reflective use of resources are more likely to enhance teacher learning and effectiveness (Smale Jacobse *et al.*, 2019; Shakman *et al.*, 2020). Overall, the results imply that professional development initiatives should focus not only on improving teachers' technical proficiency but also on promoting the pedagogically meaningful use of digital productivity tools to support continuous learning.

CONCLUSION

Based on the findings of the study, it can be concluded that elementary school teachers in Sto. Niño District demonstrate a proficient level of competence in Microsoft 365 productivity tools, particularly in Microsoft Word, Excel, and PowerPoint, which effectively support essential instructional and administrative tasks. However, teachers exhibit only moderate proficiency in Microsoft Outlook, OneDrive, and Microsoft Teams, indicating limited utilization of communication, cloud based storage, and collaborative technologies. Despite these variations in digital tool proficiency, teachers possess a very satisfactory level of learning capabilities, reflecting strong adaptability, collaboration, and instructional material preparation skills. These findings suggest that while teachers are digitally capable overall, certain aspects of Microsoft 365 integration remain underutilized.

Furthermore, the study confirms that proficiency in Microsoft 365 tools significantly influences teachers' learning capabilities, underscoring the important role of digital competence in professional development. Specifically, Microsoft Word, PowerPoint, and Outlook significantly contribute to teachers' learning capabilities, while Excel, OneDrive, and Teams do not exhibit a significant influence, revealing gaps in the effective use of advanced and collaborative tools. These results indicate the need to strengthen teachers' competencies in cloud based and collaborative platforms to fully maximize Microsoft 365 integration in teaching and learning. Consequently, a structured and needs based training design entitled

"Digital Instructional Innovation through Microsoft 365 Integration: A Capacity Building Training for Teachers on Instructional Design, Data Analysis, Multimedia Presentation, and Cloud Based Collaboration" is essential to address the identified gaps and enhance teachers' digital and instructional competencies.

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