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Challenges and Implementation of Technology Integration: Basis for Enhanced Instructional Program

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ABSTRACT

This study focused on examining the challenges and implementation of technology in schools within the Baungon Districts, Division of Bukidnon, during the School Year 2023-2024. A validated questionnaire was administered to 289 respondents, and data analysis involved statistical tools and triangulation methods. The findings revealed diverse challenges, with Equity and Access being the highest and Infrastructure and Resources being the lowest. Despite these challenges, technology integration was observed, particularly in Communication and Instructional Integration. Significant relationships were identified between challenges and implementation, emphasizing the need for targeted interventions. In-depth interviews highlighted educators' innovative strategies and commitment to delivering quality education through technology. Strategic interventions are necessary to address obstacles and enhance technology integration. Offering continuous professional development opportunities for teachers is crucial. The study provides insights for educational leaders to develop interventions and enhance technology integration, ultimately improving the educational experience for students.

INTRODUCTION

Background of the Study

In the educational landscape today, technology integration is a trend that incorporates technology resources and tools into the teaching and learning process. It involves using technology to enhance and support educational objectives and improve the educational experience. Technology integration can take many forms and be applied in various educational settings, including K-12 schools, higher education, and corporate training. This study explores the technology integration landscape within the educational domain of the Districts of Baungon, Division of Bukidnon. It is premised on the intriguing notion that, notwithstanding the formidable challenges encountered by educators in this municipality, these challenges may be manageable obstacles to successfully implementing technology integration practices. It lays a profound recognition of the indomitable spirit and adaptability that educators in Baungon exhibit when confronted with the hurdles associated with the effective infusion of technology into their teaching methodologies. This adaptability is reflected in their ability to innovate, persevere, and find creative solutions in adversity. Despite the challenges, schools in the Philippines, including municipalities like Baungon, are earnestly trying to incorporate technology into their educational practices. Recognizing the transformative potential of technology, educators and administrators are working diligently to overcome obstacles such as limited infrastructure, connectivity issues, and digital literacy gaps. Through various initiatives, such as technology-driven lesson plans and digital literacy programs, schools in the Philippines are taking significant steps to harness the power of

technology in education and contribute to a more digitally inclusive society (Itao, 2020).

Meanwhile, the Department of Education (DepEd) recognized the transformative potential of technology in education and took a significant step forward. DepEd Order 78, a series of 2010, paved the way for implementing the DepEd Computerization Program (DCP). This program, driven by a visionary perspective, aims to revolutionize education by strategically deploying appropriate technologies that enhance the teaching and learning processes. The objectives of the DCP encompass the provision of computer laboratory packages to secondary schools, the establishment of e-classrooms in elementary schools, the distribution of laptops to mobile teachers, the integration of ICT into the school system, the elevation of ICT literacy among learners, educators, and school administrators, and the critical reduction of the computer backlog in public schools across the country.

However, alongside these promising benefits of technology integration in education, researchers have acknowledged the challenges of integrating technology in educational contexts. In the study of Domingo and Merillo (2019), barriers to technology integration in the classroom encompass challenges such as limited access to technology, inadequate teacher training, and concerns about digital equity. Accordingly, teachers need help adapting their teaching methods to incorporate technology, often due to a lack of training or confidence in using these tools. In the context of this dissertation, the researcher, being a teacher in the Municipality of Baungon, brings a wealth of experience and a deep understanding of the local educational landscape. The

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role as an educator has provided the researcher with firsthand insights into the complexities of technology integration within the District's elementary schools. Thus, the researcher has collaborated with fellow educators to explore practical strategies for overcoming the hurdles associated with technology integration. This research is undertaken with a commitment to improving the educational experiences of both students and educators in the municipality through evidence-based insights and actionable recommendations.

LITERATURE REVIEW

Technology Integration

Technology provides teachers with powerful tools to engage students through interactive lessons, multimedia resources, and real-time assessments. Also, technology offers teachers a wealth of resources and tools to enhance their teaching methods. It enables them to access a wide range of educational materials, multimedia resources, and interactive platforms, enriching their lessons and making them more engaging (Haleem *et al.*, 2022). It also gives personalized learning pathways, allowing educators to cater to diverse student needs and learning styles (American University, 2020).

Also, integrating technology in the teaching and learning process has been seen to be very beneficial to the learners as well. Accordingly, integrating technology in teaching enhances students' cognitive engagement, promotes collaboration between students, and allows students to conduct research online (Consoli *et al.*, 2023). Also, it has been confirmed by Forsythe (2021) that technology integration improves motivation and enhances student engagement, promotes self-regulated and collaborated learning, and lastly enforce challenge-driven and human-centered learning. Notably, studies have examined the role of technology in fostering active and engaging learning environments (Martin & Bolliger, 2018), enhancing students' critical thinking and problem-solving skills (Saal *et al.*, 2022), and promoting digital literacy, which is crucial for the future success and teaching literacy skills among teachers (Yildirim *et al.*, 2021).

Furthermore, technology serves as a gateway to an expansive realm of resources and information, placing a wealth of knowledge within students' immediate reach. This accessibility empowers learners by granting them the ability to tap into a vast repository of information at their fingertips. Technology's prowess lies in its capacity to catalyze active engagement among students, inviting them to immerse themselves in educational content through interactive multimedia and immersive simulations. In this dynamic learning landscape, concepts come to life, leaving indelible imprints in the memory of students (D'Mello, 2021).

Infrastructure and Resources

This transformation also comes with challenges. A study entitled Prospective Teachers' Perceptions of Barriers to Technology Integration in Education cited different

internal and external barriers to implementing technology integration which includes lack of funding or budget, lack of equipment, lack of ability, and time (DOI.ORG, 2019). This claim is also supported by Adarkwah (2020). In his study, results revealed that the students cited a lack of ICT tools, internet, and electricity as some of the barriers to online learning.

In addition, as highlighted by Dublar (2023), the integration of technology in classrooms brings to the forefront a host of challenges related to infrastructure and resources. These challenges manifest as formidable barriers, encompassing issues such as the scarcity of essential hardware, software, and reliable internet connectivity. The inadequacy of these foundational components not only hampers the effective utilization of technology but also impedes the seamless integration of digital tools into the educational landscape. Also, as observed by Samed *et al.*, (2022), educators have pinpointed a range of primary obstacles that act as formidable barriers to the successful integration of ICT into their instructional practices. These challenges encompass various facets, notably including sluggish internet connectivity, the disruptive effects of power outages (commonly referred to as load shedding), infrastructure shortcomings, a paucity of prior experience in online teaching, and the pressing requirement for more comprehensive training initiatives.

Training and Professional Development of Teachers

UNESCO's recent findings in 2023 emphasize another significant barrier to technology integration in classrooms: the challenge of ICT and Teacher Professional Development. This study concurs with UNESCO's assessment and underscores the critical need for tailored professional development opportunities for teachers to enhance their proficiency in utilizing ICT within their classrooms effectively. Also, as noted by Cebi (2019), educators exhibited a favorable disposition toward the integration of technology into language teaching. However, the respondents underscored several challenges, including a dearth of expertise in incorporating technology effectively into language instruction, limited access to necessary resources and equipment within their teaching environments, inadequate support structures, and a deficiency in training opportunities. These factors collectively hindered their capacity to harness technology for enhancing language teaching practices.

Consequently, as emphasized by Rosales (2021), the imperative of professional development in the realm of technology integration cannot be overstated. It stands as an indispensable requirement for educators seeking to navigate the ever-evolving landscape of educational technology. To surmount the persistent barriers posed by the digital divide, a continuous commitment to ongoing professional development becomes paramount. Such initiatives serve as a dynamic learning journey for teachers, equipping them with the knowledge and skills needed to successfully incorporate technology into their classrooms. In this context, training assumes a pivotal role, serving

as the linchpin of continual and pertinent professional growth. Its significance cannot be overstated, as it profoundly influences the overall success of technology integration endeavors, fostering an environment where both educators and students can thrive.

Additionally, Hero (2019) concluded that integrating technology into teaching yielded positive outcomes. The study demonstrated that technology integration had a notable and constructive influence on teaching performance. However, the research also underscored the imperative of continuous learning for educators. Given the rapid evolution of technology, it is essential for teachers to engage in ongoing professional development, allowing them to remain abreast of emerging tools and trends. This commitment to lifelong learning is pivotal in ensuring that technology continues to enhance teaching effectively.

Equity and Access

In addition to the aforementioned considerations, a comprehensive study conducted by Tomaro (2018) underscored the profound challenges associated with integrating Information and Communication Technology (ICT) within the educational landscape, particularly emphasizing issues of equity and access. This conducted research shed light on the intricate hurdles encountered during the adoption of technology, especially in the realm of online education. The findings of the study showed challenges on technical resources and network connectivity. These critical limitations collectively hamper the widespread and effective utilization of ICT tools.

In line with the discussion of equity and access, it is crucial to further expound on Rombaoa's (2019) findings regarding the cost of technology integration on Filipino families, particularly those with children enrolled in public schools. Rombaoa's study sheds light on a critical dimension of the challenges related to technology integration. Accordingly, integration might involve investing in training programs to acquire the necessary skills for effective technology integration. Moreover, teachers may need to purchase or upgrade hardware and software to ensure that they can provide a seamless learning experience for the students.

On the other hand, for students and their families, the financial burden can be substantial. Access to technology and the internet is not uniform across all socioeconomic groups. Some students may lack the necessary devices and reliable internet connections at home, placing them at a disadvantage when technology is integrated into their education. This digital divide exacerbates existing inequalities in educational opportunities, potentially hindering students' ability to access and benefit from technology-rich learning experiences (Rombaoa, 2019).

Pedagogical Integration

Regarding the pedagogical integration of technology, extensive research has underscored the various challenges that impact this crucial aspect of education. A notable

study conducted by Nisa *et al.*, (2020) shed light on one such challenge, revealing that educators often face difficulties aligning technology with precise learning objectives and outcomes. This intricate alignment process is essential to ensure that the integration of technology effectively enhances the attainment of educational goals. However, it is not a straightforward task, as the suitability and effectiveness of technology tools can vary significantly across diverse educational contexts, making the achievement of these objectives a multifaceted challenge.

Moreover, Rebusas and Dizon (2020) highlighted the considerable challenges educators face when attempting to integrate technology seamlessly into their pedagogical practices. Their findings underscored the difficulties teachers encounter in striking a balance between technology and traditional teaching methods, a task that often proves intricate. Moreover, their research suggested that an excessive reliance on technology can potentially erode fundamental pedagogical principles, emphasizing the need for a delicate equilibrium between the two approaches.

Despite these challenges presented, studies also proved that there are significant advantages of ICT integration to the schools especially on the teaching and learning process. In fact, a relevant study conducted by Anderson *et al.*, (2021) demonstrates the positive impact of ICT integration on student engagement. This research, conducted in a secondary school, highlights the strategic incorporation of Information and Communication Technology (ICT) tools in the curriculum that does not only enhances student participation but also fosters a more interactive and dynamic learning environment. The study found that ICT integration allowed for personalized learning experiences, accommodating diverse learning styles and preferences, ultimately contributing to increased student engagement and a deeper sense of ownership over their education.

Instruction

Technology integration in the instructional aspects of education is paramount, offering a multitude of advantages that significantly impact teaching and learning. This integration provides diverse learning resources, accommodating various learning styles and enabling educators to provide a rich array of materials tailored to individual needs. Moreover, interactive elements in instructional technology captivate student interest and sustain engagement, utilizing simulations, videos, and educational games to create enjoyable and interactive learning experiences (Baht, 2023).

A particularly noteworthy benefit is the facilitation of personalized learning through technology integration Educator (Australia, 2021). This approach allows students to chart their educational journey at their own pace, offering them the flexibility to navigate through content as per their individual needs. Also, technology empowers immediate feedback mechanisms, enabling students to

receive real-time insights into their progress and areas of improvement. This personalized feedback loop not only nurtures a growth mindset but also allows for more targeted and effective instruction. Furthermore, the incorporation of adaptive learning platforms stands out as a game-changer, as they dynamically customize content to address the unique strengths and weaknesses of each student, culminating in a more tailored and impactful educational experience.

As outlined in the comprehensive study conducted by Cortazar *et al.*, (2021), the integration of technology opens the gateway to an unparalleled wealth of information, fostering an environment where students are empowered to take charge of their learning. This newfound access encourages independent research and sharpens critical thinking skills, enabling students to delve deeper into subjects of interest and curiosity. Technology therefore acts as a catalyst for self-directed exploration, instilling a sense of intellectual curiosity and resourcefulness.

Organization

The organizational use of technology integration in education refers to the systematic approach of managing and presenting pupil data while also developing and structuring lesson plans for classroom instruction. This approach has revolutionized the way educational institutions operate, enhancing efficiency, data-driven decision-making, and the overall quality of teaching and learning (Tomaro, 2018).

Harell and Bynum (2018) assert that technology integration plays a pivotal role in facilitating effective data management within educational institutions. It provides a systematic and streamlined approach to managing and organizing pupil data, thereby contributing to the overall efficiency and effectiveness of educational processes. Central to this functionality are Student Information Systems (SIS), which have emerged as essential tools in modern education. This comprehensive data management system offers educators invaluable insights into the academic journey of each student. It empowers teachers and administrators to monitor student progress, identify areas of improvement, and tailor instruction to meet individual needs.

As a result, schools can better address the unique learning requirements of each student, ultimately enhancing the quality and effectiveness of classroom instruction. Harrell and Bynum's research underscores the significance of technology integration as a catalyst for improved data management and, subsequently, educational outcomes.

Communication

Technology integration has had a profound impact on the communicative aspects of education. With its power to facilitate interaction, collaboration, and the exchange of information, it has transformed how students, teachers, and educational stakeholders communicate and engage within the educational ecosystem (Josue *et al.*, 2023). Similarly, Wang (2021) added that technology integration

enhances collaboration and Interaction. Technology integration provides a platform for seamless collaboration among students, teachers, and educational stakeholders. Digital tools such as online discussion forums, video conferencing, and collaborative software enable real-time communication, breaking down geographical barriers. This enhanced interaction allows for active participation, group projects, and peer-to-peer learning, fostering a more dynamic and engaging educational environment.

Moreover, in a study conducted by Gilmore and Deos (2021), it was underscored that the integration of technology in education plays a pivotal role in extending the reach of education to a global scale. This transformative power of technology enables students and educators to transcend geographical boundaries, effectively broadening their communicative horizons. Through the utilization of technology, students from different corners of the world can engage in a rich tapestry of communicative interactions. Virtual exchanges, online classrooms, and collaborative platforms serve as the conduits for learners to connect with peers and subject matter experts hailing from diverse cultural backgrounds. This not only fosters a deeper understanding of different cultures but also nurtures global perspectives.

Furthermore, the incorporation of technology within educational settings has demonstrated a remarkable capacity to elevate the effectiveness of stakeholder engagement. In a compelling study by Ley *et al.*, (2021) titled "Adopting Technology in Schools: Modeling, Measuring, and Supporting Knowledge Appropriation," the profound impact of technology integration on educational stakeholders, which includes parents and administrators, is evident. Through technology, these vital partners in the education process can maintain active involvement in students' academic progress. Leveraging the capabilities of learning management systems, parents are provided with dedicated portals that grant them direct access to their child's performance data. This accessibility serves as a conduit for streamlined communication with teachers, allowing for more informed and constructive dialogues. Consequently, parents are better equipped to actively support their child's learning journey, fostering a collaborative and more informed approach.

Creation

Technology plays a crucial role in education by boosting creativity. When technology is seamlessly integrated into teaching and learning, it opens up innovative possibilities and inspires creative thinking in students. In the study conducted by Ghavifekr and Rosdy (2018), a compelling discovery was made. The researchers found that the integration of technology in education has the potential to significantly enhance creativity. By equipping educators with a wealth of tools and resources, technology empowers them to craft interactive and personalized learning experiences. As a result, teachers who adeptly incorporated technology into their teaching methods reported remarkable outcomes, including heightened

student engagement, increased collaboration, and the freedom to experiment with a wide array of teaching approaches.

Moreover, in a comprehensive study conducted by Herodotou *et al.*, (2019), the research illuminated the transformative power of technology integration in education. The findings of the research underscored the fact that technology empowers educators to embrace innovative pedagogical approaches. Accordingly, teachers who wholeheartedly incorporated technology into their teaching methods reported significant enhancements in student problem-solving abilities, critical thinking skills, and heightened levels of creativity throughout the learning process. This underscores the profound impact of technology on pedagogical innovation and student development.

Consequently, a study by Hartman and Townsend (2019) observed that educators who integrated technology creatively were more likely to provide students with opportunities for self-expression and exploration. Additionally, students in such classrooms demonstrated higher levels of motivation, enthusiasm, and creative thinking. In another noteworthy study, the pivotal role of technology in empowering teachers to cater to diverse learning styles and abilities was underscored. The findings of this study revealed that educators who skillfully integrated technology into their teaching methods experienced a remarkable boost in their flexibility to tailor lessons to the unique needs of individual students. This adaptability, in turn, fostered the creation of more creative and inclusive learning environments, (Henebery, 2022).

These studies collectively highlight the positive impact of technology integration in education on fostering creativity among educators and students. These studies emphasize that technology serves as a catalyst for innovative and engaging teaching and learning experiences, ultimately enhancing creative abilities in the educational context.

Statement of the Problem

This study had primarily examined how technology is used in schools in Baungon Districts in the Division of Bukidnon for the School Year 2023-2024, focusing on the challenges and implementation of technology integration. Specifically, this study sought to address the following questions:

1. What is the respondents' level of challenges in technology integration in terms of infrastructure and resources, training and professional development of teachers, equity and access, and pedagogical integration?
2. What is the respondents' level of implementation on technology integration considering instruction, organization, communication, and creation?
3. Is there a significant relationship between the respondents' extent of challenges and level of implementation on technology integration?
4. Based on the findings, what instructional program can be designed?

Conceptual Framework

This study is anchored on DepEd Order No.78, S. 2010 known as the DepEd Computerization Program. The DepEd Computerization Program (DCP), released in 2010, stands as a tangible testament to the unwavering commitment of the Philippine government towards infusing technology into the nation's education system. Through this pioneering initiative, public schools across the Philippines have been outfitted with computer laboratories, essential hardware, and innovative software solutions. These resources are essential for modernizing teaching methods and moving education into the digital era. (DepEd, 2010). The overarching goal of the DCP is to orchestrate a profound metamorphosis in the educational landscape by harnessing the immense potential of technology integration (DepEd, 2020). It envisions a scholastic realm where educators are empowered to redefine the boundaries of pedagogy, where classroom activities are imbued with a newfound dynamism, and where the act of seamlessly integrating technology into everyday teaching practices is no longer a mere aspiration but an accomplished reality.

Moreover, the Department of Education (2021) emphasized the alignment with this vision. It is anticipated that the DCP, by supplying elementary schools with the essential technological infrastructure, will be a catalytic force propelling educators towards a paradigm shift. This shift includes an augmented appreciation for the utility of technology in elevating pedagogy and classroom activities to new heights. Furthermore, it is expected to imbue educators with a heightened sense of ease and confidence in the art of infusing technology seamlessly into their teaching practices. In essence, the DCP represents a transformative wave that is poised to revolutionize the educational landscape, empowering educators to embrace technology not as a mere tool but as a cornerstone for the future of learning. This initiative holds the promise of fostering a generation of digitally literate learners and educators who are poised to thrive in an ever-evolving global knowledge ecosystem (Umali, 2019).

The assumption suggests that as educators adapt and develop resilience in response to the challenges posed by technology integration, the positive impact of the DepEd Computerization Program will be reflected in the implementation of technology integration at various levels-instructional, organizational, communicative, and creative. The improved infrastructure, coupled with training and development initiatives, is expected to empower educators to integrate technology seamlessly into their instructional practices, fostering a more dynamic and innovative learning environment.

This assumption proposes that the success of the DepEd Computerization Program, aimed at enhancing instructional programs through technology integration, depends on the careful consideration and strategic alignment of infrastructure, training, equity, and pedagogical integration. By understanding and addressing

these variables, educational institutions can navigate the challenges associated with technology integration and optimize the benefits for an enhanced instructional program.

Scope and Limitations

The primary objective of this study was to assess and analyze the challenges faced and the extent of technology integration implementation in both elementary and secondary schools situated in the Baungon District. To achieve this, teachers from Baungon 1 and 2 Districts who were actively teaching during the school year 2023-2024 were engaged as respondents. In the first district, a comprehensive sample size of 160 respondents was drawn, representing educators from both elementary and secondary schools. Similarly, the second district included 129 teachers from both elementary and secondary schools as participants in this research endeavor. The study's focus was clearly delimited to two fundamental areas. Firstly, it sought to identify and understand the various challenges educators encountered in integrating technology into their instructional practices. Secondly, it aimed to evaluate the current level of technology integration implementation within the elementary and secondary educational institutions located in the Baungon 1 and 2 Districts. By concentrating on these specific facets, the study intended to provide valuable insights and recommendations that could contribute to the enhancement of technology-driven teaching and learning experiences in this region.

METHODOLOGY

Research Design

This study employed a mixed-method approach, combining qualitative and quantitative research methods. In this case, the quantitative aspect involves the use of a survey questionnaire to collect structured numerical data from the teacher participants. This questionnaire consists of closed-ended questions that allow for statistical analysis to measure and quantify specific aspects of the research topic. On the other hand, the qualitative aspect involves conducting an in-depth interview. This qualitative method seeks to gather in-depth, open-ended insights from participants in a group setting. During the interview, participants are encouraged to share their thoughts, experiences, and perspectives on the research topic. This approach helps researchers gain a deeper understanding of the participants' viewpoints, attitudes, and experiences related to technology integration in education. By employing both quantitative and qualitative methods, the study aims to provide a comprehensive and well-rounded examination of the research topic. The quantitative data from the survey questionnaire will offer statistical evidence and trends, while the qualitative data from the focus group discussion will provide rich contextual information and personal narratives. Combining these two approaches allows researchers to triangulate findings, enhancing the validity and depth of the study's conclusions (Comon & Corpuz, 2024).

Study Setting

The study was conducted in Baungon 1 and Baungon 2 Districts of the Division of Bukidnon. These districts are located approximately 30 kilometers apart, comprehensively representing the Division's diverse educational environments. The municipality is nestled in the heart of the island of Mindanao, within the Northern Mindanao region. It is bordered by the municipalities of Talakag, Malitbog, Sumilao, and the city of Malaybalay. The whole municipality comprises of eighteen (18) barangays and is currently led by the Municipal Mayor Rogelio D. Jaraula. The Municipality of Baungon is characterized by a predominantly agrarian economy, with a substantial portion of its population engaged in farming activities, particularly in the cultivation of crops like rice, corn, and vegetables. While agriculture remains a significant source of livelihood, the municipality has witnessed gradual economic diversification in recent years, with small-scale trading and commerce gaining prominence. Despite these economic activities, it faces challenges related limited access to advanced infrastructure and a varying quality of public services. The socioeconomic status of the community reflects a mix of traditional agrarian practices and improvements in economic development.

Baungon 1 District primarily encompasses urban and semi-urban settings with higher population density and relatively advanced technological infrastructure. In contrast, Baungon 2 District comprises more rural and semi-rural areas, where access to modern technological resources is limited. The demographic profile of these districts includes a mix of students from various socioeconomic backgrounds, reflecting the broader diversity prevalent in the Division of Bukidnon. This diversity is expected to offer a rich pool of perspectives on integrating ICT in educational settings.

Study Population and Sampling Technique

The study involved the entire population of teachers within the Baungon 1 and Baungon 2 Districts, located within the Division of Bukidnon, during the academic calendar of the year 2023-2024. This research employed a universal sampling whereby every teacher within the specified districts and timeframe are included as participants in the study. The table below shows the distribution of respondents by school. The information is likely to be relevant for educational planning, decision-making, and analysis within the context of the Districts of Baungon 1 and Baungon 2. In this research, all teachers at both elementary and secondary education levels in the two districts are the study's participants. This inclusive approach allows for a comprehensive exploration of the educational landscape, ensuring that the perspectives and experiences of these dedicated educators are central to the investigation. By involving teachers across these academic tiers in both districts, the study aims to provide a holistic understanding of the educational dynamics within the Baungon Districts. This, in turn, contributes to the research's ability to offer insights grounded in

the firsthand experiences of those actively shaping the educational environment in this specific municipality.

Table A: Distribution of Respondents

Baungon District I	Respondents
Balintad Elementary School	7
Imbatug Central Elementary School	35
Kalanganan Elementary School	7
Liboran Elementary School	16
Mabunga Elementary School	8
Salimbalan Integrated School	10
San Vicente Elementary School	10
Patpat Elementary School	11
Baungon National High School	56
Baungon District II	Respondents
Buenavista Elementary School	5
Danatag Elementary School	13
Kalilangan Elementary School	5
Lacolac Elementary School	5
Langaon Elementary School	8
Lingating Integrated School	27
Mabuhay Elementary School	15
Nicdao Elementary School	13
Pualas Elementary School	12
San Miguel Elementary School	9
Danatag National High School	16
Total	289

Research Instruments

In this research, data collection was facilitated through a survey questionnaire and a conduct of an in-depth interview. The study utilized the researcher-made questionnaire as a tool that focuses on exploring the implementation and the challenges associated with integrating Information and Communication Technology (ICT) in educational settings. The questionnaire, consisting of forty (40) items, is structured to represent four subtopics addressing challenges stemming from technology integration. The first part of the questionnaire focuses on gauging the perceived challenges associated with ICT integration. This section is thoughtfully organized into four distinct subtopics, each designed to explore challenges in specific areas. These subtopics encompass Infrastructure and Resources, Training and Professional Development of Teachers, Equity and Access, and Pedagogical Integration. Each subtopic serves as a lens through which the researcher aims to gain a comprehensive understanding of the multifaceted challenges that teachers encounter when incorporating ICT into their instructional practices. On the other hand, Part II of the survey delves into the implementation of technology integration within the classroom setting. This section is structured around four key subtopics,

each of which plays a vital role in the overall integration process. These subtopics encompass Organization, Creation, Instruction, and Communication dimensions. The questionnaire for this section comprises 40 items, is patterned from the survey tools of Valverde-Berrococo (2021) on his study on the educational integration of digital technologies preCovid-19: Lessons for teacher education. The researcher aims to capture valuable insights into the specific facets of technology integration pertinent to our research context.

Statistical Treatment of Data

The study employed descriptive statistics to analyze the quantitative data, including measures of central tendency such as the mean (average) and standard deviation. These statistical tools provided a clear picture of the distribution of responses and unveiled any discernible patterns or trends in participants' perceptions, aligning with the approach advocated by Bhandari (2020). Moreover, the research employed inferential statistics, specifically the Pearson correlation coefficient (Pearson-r), to further investigate the relationship between the challenges reported by respondents and the degree of technology integration implementation. By utilizing this analytical tool, the study aimed to delve deeper into the potential correlations and dependencies that may exist between these pivotal factors. This method provided a nuanced understanding of the intricate interplay between challenges and the achievement of successful technology integration within the educational context, offering valuable insights into the dynamics of this complex relationship.

Ethical Consideration

In the pursuit of conducting research on technology integration within the educational context of Baungon, Bukidnon, several ethical considerations were diligently observed to ensure the highest standards of research integrity. Foremost among these is the principle of informed consent. All participants of the study, including educators and other stakeholders, were provided consent willingly and with full awareness of the study's purpose, the role, and the use of the personal data. Prior to participant's involvement, a clear and comprehensive informed consent form was presented, outlining the research objectives, data collection methods, and the purpose for which their data will be used. Moreover, obtaining permission from the division office of the Division of Bukidnon, which oversees educational matters within the specified research setting, is a vital step to ensure compliance with institutional guidelines and regulations, as well as to respect the jurisdiction of educational authorities.

Furthermore, the utmost care was taken to safeguard the privacy and confidentiality of participants. This entails using pseudonyms or codes when reporting responses or experiences and storing all data securely to prevent any unintended disclosure of identities. Adherence to data

protection regulations and guidelines is imperative, and participants were explicitly informed about the collection, storage, and use of their data, assuring them that it will be used exclusively for research purposes and not for any commercial or exploitative purposes.

In addition, maintaining objectivity and neutrality in the research is crucial. Researcher of this study diligently avoids favoritism or promotion of any particular technology or approach, ensuring that findings are presented transparently and accurately, free from bias. Also, research participants had the opportunity to receive feedback on study results, and the findings will be shared with the community in a clear and understandable manner, contributing to a collaborative and informed educational environment once available.

Seeking ethical approval from the institution's ethics review board or committee is essential to ensure compliance with ethical guidelines and principles. This process helps to validate the ethical integrity of the

research, thereby assuring both participants and the broader academic community of the research's ethical rigor and validity.

Finally, proper acknowledgment and citation of the work of others, including previous research, must be meticulously observed, and any potential conflicts of interest or sources of funding should be transparently disclosed to maintain the highest ethical standards in academic inquiry. These ethical considerations collectively underpin the responsible and ethical conduct of research, respecting the rights and well-being of all participants and contributing valuable insights to the field of education.

RESULTS AND DISCUSSIONS

Problem 1. What is the Respondents' Extent of Challenges in Technology Integration in Terms of Infrastructure and Resources, Training and Professional Development of Teachers, Equity and Access, and Pedagogical Integration?

Table 1: Teachers' Extent of Challenges in Technology Integration in Terms of Infrastructure and Resources

Indicator	Mean	SD	Description
We have sufficient technological resources such as computers, tablets, and other devices.	2.93	0.77	Agree
I can use technology effectively because of the stable internet connection.	3.00	0.74	Agree
There is a technology support staff that is available to assist with technical issues and maintenance.	2.62	0.79	Agree
There is a budget allocation specifically designated for the improvement and upkeep of technology resources.	2.48	0.84	Disagree
The computer laboratories or technology-equipped spaces for educational activities are sufficient.	2.58	0.86	Agree
The physical infrastructure , such as power outlets and seating arrangements, adequately supports technology use in educational activities.	2.57	0.81	Agree
The computer laboratories or technology-equipped spaces are accessible for educational activities	2.55	0.86	Agree
Technical support is provided in tasks such as researching, working on projects, and collaborating with others.	2.55	0.82	Agree
There are plenty of software applications and digital learning materials that are readily accessible for teaching and learning purposes.	2.30	0.93	Disagree
The technical support system addresses issues related to technology resources and infrastructure.	2.42	0.94	Disagree
Overall	2.60	0.76	Agree

Legend:

1.00-1.75 Strongly Disagree (To a great extent)

1.76-2.50 Disagree (To some extent)

2.51-3.25 Agree (Very Little Extent)

3.26-4.00 Strongly Agree (Not at All)

Table 1 illustrates the distribution of respondents' perceptions regarding the extent of their challenges in technology integration in terms of Infrastructure and Resources. The overall mean score of 2.60 (SD=0.76) suggests a consensus among respondents that they encounter challenges to a very little extent in this domain. The implication of this finding is that whatever measures or systems are in place in this domain seem to be working well in minimizing challenges for the respondents. An

insight that can be drawn from this is that there may be effective strategies, resources, or practices in place that are helping to mitigate challenges. Kennedy (2023) identifies several challenges hindering the integration of ICT into teachers' education. These include the lack of ICT infrastructures and equipment such as computers, institutional internet facilities, projectors, lack of support for teachers, inadequate experience in teaching with ICT, and insufficient ICT training.

Moreover, the indicator I can use technology effectively because of the stable internet connection got the highest mean score of 3.0 (SD=0.74) with an interpretation of Very Little Extent. The implication of this finding is

that there could be other barriers or challenges that are hindering the effective use of technology. These could include lack of necessary hardware, lack of technical skills, or lack of familiarity with certain technologies or applications. The study of Samed *et al.*, (2022) closely aligns with the findings of the present study. Samed's research reveals educators facing significant challenges in successfully integrating ICT, including issues like slow internet connectivity, disruptions due to power outages (load shedding), infrastructure limitations, limited prior experience in online teaching, and the need for more comprehensive training. On the other hand, the indicator pertaining to the availability of software applications and digital learning materials for teaching and learning purposes received the lowest mean score of 2.30

(SD=0.93), indicating a perception of availability only to some extent. This implies that the limited availability of software applications and digital learning materials may hinder teachers' ability to effectively integrate technology into their teaching practices. An insight that can be drawn from this is the importance of ensuring a sufficient and diverse range of software applications and digital learning materials for teachers to access. This finding resonates with existing literature, as highlighted by Dublar (2023), who emphasizes the hurdles associated with technology integration in classrooms. These challenges include the scarcity of essential hardware, software, and reliable internet connectivity, which often hinder the seamless adoption and utilization of digital resources for educational purposes.

Table 2: Teachers' Extent of Challenges in Technology Integration in Terms of Training and Professional Development of Teachers

Indicator	Mean	SD	Description
I have received several formal training sessions on effectively integrating technology into my teaching practices.	2.93	0.80	Agree
I incorporate technology into a wide range of teaching activities.	2.79	0.77	Agree
Training sessions were given to address specific classroom needs and challenges in technology integration.	2.90	0.79	Agree
I am confident in my ability to effectively incorporate technology into a variety of teaching methods.	2.62	0.78	Agree
I believe I possess sufficient readiness to effectively incorporate technology into a variety of teaching activities.	2.70	0.71	Agree
Training sessions that focus on integrating technology into teaching practices are conducted.	2.74	0.72	Agree
There are enough continuous professional development opportunities to improve teachers' technological proficiency.	2.73	0.79	Agree
The trainings prepared me with the necessary skills and confidence to utilize technology tools in my classroom.	2.72	0.72	Agree
I received support and encouragement to explore technology-based teaching methods.	2.83	0.76	Agree
The professional development program addresses my diverse needs and skills on technology integration.	2.71	0.71	Agree
Overall	2.77	0.76	Agree

Legend:

- 1.00-1.75 *Strongly Disagree (To a great extent)*
- 1.76-2.50 *Disagree (To some extent)*
- 2.51-3.25 *Agree (Very Little Extent)*
- 3.26-4.00 *Strongly Agree (Not at All)*

Table 2 presents the distribution of the respondents' extent of challenges in technology integration in terms of Training and Professional Development of Teachers. The overall mean of 2.77 (SD=0.76) with the description of Agree indicates that the respondents have perceived Very Little Extent in the challenges in terms of relevant Training and Professional Development of Teachers. This implies that the respondents perceived that the existing training and professional development programs for teachers are effective and relevant. It suggests that the educational institutions or organizations responsible

for providing training and professional development opportunities have been successful in addressing the needs of teachers and offering programs that are aligned with their requirements. As highlighted in the study of Rosales (2021), it is really important for teachers to keep learning about technology. Learning about technology helps the teachers overcome problems and use it better in teaching. This is crucial to deal with challenges like not having enough access to technology. In addition, the indicator I have received several formal training sessions on effectively integrating technology into my teaching practices got the highest mean score of 2.93 (SD=0.80) with a description of Agree. The result reveals that the respondents have perceived Very Little Extent towards the challenges on their attendance

to relevant technology integration. This implies that the respondents perceive that they have had sufficient opportunities to attend formal training sessions focused on technology integration. This suggests that the educational institutions or organizations responsible for providing these training sessions have been successful in addressing the needs of the teachers and offering relevant and valuable training opportunities. The results of this study are supported by the study of Sara (2022) which emphasized the importance of providing technology training to educators. Sara’s research highlights a notable tendency among teachers to stick with familiar teaching methods when faced with challenges in technology integration.

On the other hand, the indicator I am confident in my ability to effectively incorporate technology into a variety of teaching methods obtained the lowest mean score of 2.62 (SD=0.78) with a description of Agree. The result implies that the respondents have perceived Very Little Extent of challenge in their ability to effectively

incorporate technology into a variety of teaching methods. This further implies that there may be a need for additional support and training to enhance teachers’ confidence and competence in incorporating technology into various teaching methods. It suggests that the respondents may require further guidance and resources to effectively integrate technology into their instructional practices, especially when using different pedagogical approaches. An insight that can be drawn from this is the importance of providing targeted professional development opportunities that focus on building teachers’ confidence in using technology across diverse teaching methods. These results are aligned with UNESCO’s (2023) recent findings, emphasizing ICT and Teacher Professional Development as a substantial barrier to technology integration in classrooms. The current study concurs with UNESCO’s assessment, highlighting the critical necessity for tailored professional development opportunities to enhance teachers’ proficiency in effectively utilizing ICT within their classrooms.

Table 3: Teachers’ Extent of Challenges in Technology Integration in terms of Equity and Access

Indicator	Mean	SD	Description
All students have equal access to technology resources for learning.	3.09	0.93	Agree
We provide additional support or resources specifically tailored to learners who have limited access to technology outside of the school.	2.67	0.93	Agree
The accessibility of technology has a significant impact on the overall educational experience of learners.	2.91	0.89	Agree
There is adequate level of support to students who encounter obstacles in effectively using technology.	2.86	0.87	Agree
The current curriculum incorporates technology in a way that is inclusive and accessible to all learners.	2.93	0.72	Agree
Support and training to learners who are new to using technology tools for learning are provided.	2.89	0.79	Agree
The educational resources, including digital content and tools, ensure equal accessibility for all learners, regardless of their background or circumstances.	2.91	0.75	Agree
Teachers are equipped with the necessary training and support to integrate technology into their classroom.	2.93	0.72	Agree
We actively identify and address barriers to access technology resources for learners with disabilities and special educational needs.	2.87	0.77	Agree
There is accessibility to technology tools and resources for learners from underserved communities.	2.86	0.78	Agree
Overall	2.89	0.82	Agree

Legend:

1.00-1.75 *Strongly Disagree (To a great extent)*

1.76-2.50 *Disagree (To some extent)*

2.51-3.25 *Agree (Very Little Extent)*

3.26-4.00 *Strongly Agree (Not at All)*

Table 3 shows the distribution of the respondents’ extent of challenges in technology integration in terms of Equity and Access. The overall mean of 2.89 (SD=0.82) with the description Agree indicates that the respondents have perceived Very Little Extent in their challenges in Equity and Access. This implies that the respondents perceive that there is a relatively equitable

and accessible environment for technology integration. It suggests that efforts have been made to ensure that all individuals have equal opportunities to access and utilize technology for educational purposes. This could include providing necessary resources, such as devices and internet connectivity, to ensure equitable access for all students and teachers. An insight that can be drawn from this is the importance of fostering an inclusive and equitable environment in technology integration. Moreover, a comprehensive study conducted by Reyes *et al.*, (2021) aligns with these considerations, emphasizing

the profound challenges linked to the integration of Information and Communication Technology (ICT) in education, particularly focusing on issues of equity and access.

Meanwhile, the indicator All students have equal access to technology resources for learning got the highest mean score of 3.09 (SD=0.93) with a description of Agree. The result means that the respondents have perceived Very Little Extent in their challenges when it comes to their access to technology resources for learning. This implies that the respondents perceive that efforts have been successful in ensuring equitable access to technology resources for learning. It suggests that educational institutions or organizations responsible for providing these resources have made significant strides in creating an environment where students have equal access to technology tools and resources. Furthermore, the results of this study can be associated to the study of Rombaoa (2019). Accordingly, the financial burden for students and their families can be significant, as highlighted by the study. Access to technology and the internet is not the same for everyone, especially across different socioeconomic groups. Some students may lack the necessary devices and reliable internet connections at home, putting them at a disadvantage when technology is used in their education.

On the other hand, the indicator Learners who have limited technology access outside of school are catered obtained the lowest mean score of 2.67 (SD=0.93) with a description of Disagree. The result reflects that the respondents have perceived To Some Extent of their challenges on the learners' access to technology outside of the school environment. This implies that there is a recognition among the respondents that learners who have limited technology access outside of school face challenges in accessing and utilizing technology for learning purposes. It suggests that efforts may be needed to address this disparity and ensure that all learners have equitable opportunities to engage with technology both inside and outside the school environment. The findings of the current study are aligned with Tosun *et al.*, (2021) as cited by Agayon *et al.*, (2022). The study emphasizes issues such as the lack of internet access and infrastructure inadequacies in rural areas that hinder effective learning delivery. In the context of the present study, the challenges perceived by respondents regarding learners' access to technology outside of school, particularly in rural districts like Baungon 1 and 2, resonate with the broader issues highlighted by Agayon *et al.* and Tosun *et al.* The digital divide, evident in limited technology access, reflects a larger problem of infrastructure inadequacies, particularly in rural settings, impacting the continuity and quality of education.

Table 4: Teachers' Extent of Challenges in terms of Pedagogical Integration

Indicator	Mean	SD	Description
I integrate technology tools and resources into my teaching methods	3.19	0.72	Agree
My ability to effectively integrate technology to enhance learners' learning experiences is adequate.	2.85	0.67	Agree
I regularly assess and adapt my use of technology tools and resources to optimize student engagement and learning outcomes.	2.72	0.73	Agree
The alignment between my teaching goals, curriculum requirements, and available technology resources is satisfactory.	2.67	0.76	Agree
The training opportunities I receive enhance my technology integration skills.	2.78	0.75	Agree
I design and implement technology-rich activities that promote critical thinking, problem-solving and creativity among students.	2.86	0.7	Agree
I am creating tangible connections and practical applications in the curriculum by effectively utilizing technology.	2.89	0.72	Agree
I encourage interactive and collaborative learning experiences through technology.	2.82	0.74	Agree
Technology-rich activities are aligned with the learning objectives of my curriculum.	2.89	0.72	Agree
The integration of technology effectively caters to the diverse learning styles and preferences of my students.	2.88	0.74	Agree
Overall	2.86	0.73	Agree

Legend:

- 1.00-1.75 Strongly Disagree (To a great extent)
- 1.76-2.50 Disagree (To some extent)
- 2.51-3.25 Agree (Very Little Extent)
- 3.26-4.00 Strongly Agree (Not at All)

Table 4 presents the distribution of the respondents' extent of challenges in technology integration in terms of Pedagogical Integration. The overall mean of 2.86 (SD=0.73) with the description Agree indicates that

the respondents have perceived Very Little Extent on their challenges in integrating technology to their teaching tasks. The implication of this result is that the respondents perceive that they are able to effectively integrate technology into their teaching tasks with relative ease. It suggests that they have a positive perception of their ability to incorporate technology in a way that aligns with their pedagogical approach and enhances

their teaching methods. An insight that can be drawn from this is the importance of providing ongoing support and professional development opportunities that focus on pedagogical integration of technology. The finding is aligned with the study conducted by Aquino *et al.*, (2021) which states the challenges educators face in aligning technology with precise learning objectives and outcomes. Targeted interventions and professional development initiatives can be informed by these studies to enhance educators' capacity to integrate technology effectively into their teaching practices. Understanding and addressing these challenges can contribute to creating a more effective and contextually appropriate integration of technology in teaching in Baungon 1 and 2.

Meanwhile, the indicator I integrate technology tools and resources into my teaching methods got the highest mean score of 3.19 (SD=0.72) with a description of Agree. The result means that the respondents have perceived Very Little Extent their challenges towards the integration of technology to their teaching strategies and methods. This implies that the respondents perceive that they are able to effectively integrate technology tools and resources into their teaching practices with relative ease. It suggests that they have a positive perception of their ability to leverage technology to enhance their teaching methods and engage students in meaningful ways. An insight that can be drawn from this is the importance of continuing to provide support and resources that facilitate the integration of technology into teaching strategies and methods. The study by Watterson and Zhao (2020) states the potential benefits of ICT integration in schools, aligning with the current findings from the study. Watterson and Zhao's research underscores the significant positive impact of

ICT integration, particularly in facilitating personalized teaching instruction within the modern educational landscape. The findings of their study emphasize that strategic incorporation of ICT tools and platforms empowers educators to effectively tailor instruction to individual student needs.

In addition, the indicator The alignment between my teaching goals, curriculum requirements, and available technology resources is satisfactory obtained the lowest mean score of 2.67 (SD=0.76) with a description of Agree. The result reflects that the respondents have perceived Very Little Extent of their challenges when it comes to the matching between pedagogical goals and related matters. This implies that the respondents perceive a need for improvement in the alignment between their teaching goals, curriculum requirements, and the available technology resources.

It suggests that there may be a mismatch or disconnect between their desired pedagogical outcomes and the resources they have access to, which can hinder their ability to effectively integrate technology into their teaching practices. An insight that can be drawn from this is the importance of providing support and resources that facilitate better alignment between teaching goals, curriculum requirements, and available technology resources. The results can be associated to the study of Eslit (2023). His research highlights the complexities of integrating technology, emphasizing the crucial role of pedagogical factors such as effective task design, clear instructions, scaffolding, and feedback mechanisms. Both studies emphasize that successful technology use requires more than just using devices and software – it involves thoughtful planning and ongoing support to maximize educational benefits.

Table 5: Summary Distribution of the Teachers' Extent of Challenges in Technology Integration

Indicator	Mean	SD	Interpretation
Infrastructure and Resources	2.60	0.76	Very Little Extent
Training and Professional Development of Teachers	2.77	0.76	Very Little Extent
Equity and Access	2.89	0.82	Very Little Extent
Pedagogical Integration	2.86	0.73	Very Little Extent
Overall	2.78	0.76	Very Little Extent

Legend:

1.00-1.75 Strongly Disagree (To a great extent)

1.76-2.50 Disagree (To some extent)

2.51-3.25 Agree (Very Little Extent)

3.26-4.00 Strongly Agree (Not at All)

Table 5 is a summary distribution of the variables on the teachers' extent of challenges in technology integration. The overall mean of 2.78 (SD=0.76) with a description of Agree indicates that the respondents have perceived Very Little Extent of their challenges in technology integration. This implies that the respondents perceive a favorable environment for technology integration. It suggests that efforts have been made to address potential challenges and provide teachers with the necessary resources, training, and support to integrate technology

into their instructional practices. An insight that can be drawn from this is the importance of maintaining and enhancing the positive perception of technology integration among teachers. One study, titled "Prospective Teachers' Perceptions of Barriers to Technology Integration in Education," identified internal and external obstacles, including lack of funding or budget, insufficient equipment, limited technological proficiency, and time constraints (DOI.ORG, 2019). These barriers resonate with the challenges perceived by teachers in the current study.

Specifically, Equity and Access obtained the highest mean of 2.89 (SD=0.82) with a description of Agree which means that they have perceived their challenges

Very Little Extent. This implies that the respondents perceive that efforts have been made to ensure equitable access to technology resources and opportunities for all students. It suggests that educational institutions or organizations responsible for providing these resources have been successful in creating an environment where students have equal opportunities to access and utilize technology for learning purposes. An insight that can be drawn from this is the importance of continuing to prioritize and invest in initiatives that promote equity and access in technology integration. The findings align with UNESCO's principles on inclusive education, specifically the principle of Equity and Equal Opportunities. UNESCO (2023) emphasizes that inclusive education aims to provide every student with equal access to education and the necessary support for success, focusing on eliminating barriers, whether physical or attitudinal, to create an inclusive and accessible learning environment. In the context of Baungon districts, the acknowledgment of challenges in providing equal opportunities for pupils to access technology underscores the importance of aligning local educational practices with UNESCO's principles.

In contrast, Infrastructure and Resources obtained the lowest mean of 2.60 (SD=0.76) which has a description of Agree. The result indicates that the respondents have perceived To Some Extent some challenges as regards

to infrastructure and resources. This implies that there may be areas for improvement in terms of the availability and adequacy of infrastructure and resources to support technology integration. It suggests that while efforts have been made, there are still perceived challenges in providing the necessary technological infrastructure and resources to effectively integrate technology into teaching practices. An insight that can be drawn from this is the importance of addressing the challenges related to infrastructure and resources in technology integration. In the Baungon districts, where challenges related to infrastructure and resources are recognized but not deemed severe, there exists a strategic opportunity to capitalize on this awareness for specific enhancements. This observation aligns with the insights from Singh's (2019) study, where EFL teachers, despite expressing eagerness to integrate technology into their teaching methods, faced hurdles due to external factors. These challenges encompassed insufficient ICT infrastructure, a lack of professional ICT training, time constraints, heavy workloads, and the presence of a digital divide.

Problem 2. What is the Respondents' Level of Implementation on Technology Integration Considering Instruction, Organization, Communication, and Creation?

Table 6: Teachers' Level of Implementation on Technology Integration Considering Instruction

Indicator	Mean	SD	Description
Use Web Quizzes in my lessons	2.55	1.14	Most of the Time
Use tutorials for self-training.	2.68	1.01	Most of the Time
Have students use tutorials for remediation (in class).	2.64	0.97	Most of the Time
Grasp complex concepts more easily for my classroom instruction.	2.92	0.96	Most of the Time
Conduct experiments or laboratory exercises (in class/school lab)	2.57	0.94	Most of the Time
Facilitate collaborative learning activities, such as group projects or online discussions among students.	3.23	0.81	Most of the Time
Provide technology-based activities and assignments.	3.00	0.92	Most of the Time
Provide real-time feedback and assessment opportunities for students during instructional activities.	3.00	0.86	Most of the Time
Enhance the overall learning experience of the learners	3.09	0.83	Most of the Time
Deliver content in a clear and organized manner.	3.14	0.8	Most of the Time
Overall	2.88	0.92	Most of the Time

Legend:

- 1.00-1.75 Strongly Disagree (To a great extent)
- 1.76-2.50 Disagree (To some extent)
- 2.51-3.25 Agree (Very Little Extent)
- 3.26-4.00 Strongly Agree (Not at All)

Table 6 illustrates the distribution of the respondents' level of implementation in technology integration considering Instruction. The overall mean of 2.88 (SD=0.92) with the description Most of the Time indicates that the respondents have a High level of implementation in integrating technology to instructions. This implies that the respondents have embraced technology integration and are actively incorporating it into their instructional

practices. It suggests that they have developed the necessary skills and knowledge to effectively leverage technology tools and resources to support teaching and learning. An insight that can be drawn from this is the importance of continuing to support and empower teachers in their technology integration efforts. This finding aligns with the insights shared by Angelo (2018), who emphasizes that the integration of technology acts as a fundamental bridge connecting classroom learning to the dynamic requirements of the contemporary digital workplace.

Meanwhile, the indicator Access resources for my lessons

got the highest mean score of 3.23 (SD=0.81) with a description of Most of the Time. The result means that the respondents have observed that teachers in their school have Highly implemented access to resources as regards to technology. This implies result is that teachers in the school have a strong availability and access to resources that support technology integration in their lessons. It indicates that efforts have been made to provide teachers with the necessary tools, materials, and digital resources to effectively incorporate technology into their instructional practices. An insight that can be drawn from this is the importance of ensuring ongoing access to resources for technology integration. The results reveal a commendable level of technology integration in instructional practices. This observation aligns with the educational benefits emphasized by Baht (2023), highlighting the diverse learning resources and

engaging elements that instructional technology brings to the classroom.

On the contrary, the indicator Use Web Quests in your lessons attained the lowest mean score of 2.55 (SD=1.14) with a description of Most of the Time. The result suggests that the use of Web Quests, which are online inquiry-based learning activities, is not as prevalent or frequently integrated into the respondents' instructional practices. It implies that there may be challenges or barriers that hinder the adoption and implementation of Web Quests in the classroom. The results of this study support the findings from Dublar (2023) which is a comprehensive study that shed light on the transformative potential of technology integration. The study underscores that technology serves as a gateway to an unparalleled wealth of information, creating an environment where students are empowered to take control of their learning journey.

Table 7: Teachers' Level of Implementation on Technology Integration Considering Organization

Indicator	Mean	SD	Description
Keep track of student grades or marks.	3.69	0.58	At All Times
Prepare handouts, tests/quizzes, and homework assignments for students.	3.61	0.59	At All Times
Create lesson plans.	3.58	0.68	At All Times
Create tests/quizzes, and homework assignments for students.	3.47	0.77	At All Times
Analyze data gathered for my action research.	3.08	0.97	Most of the Time
Utilize technology to streamline lesson planning, resource creation , and curriculum development.	3.00	0.98	Most of the Time
Create charts or graphs for my instructional materials.	3.00	0.99	Most of the Time
Create a class/school website or put student work online	2.58	1.13	Most of the Time
Maintain an online journal	2.35	1.15	Seldom
Test or Assess student learning	2.55	1.15	Most of the Time
Overall	3.09	0.90	Most of the Time

Legend:

1.00-1.75 Strongly Disagree (To a great extent)

1.76-2.50 Disagree (To some extent)

2.51-3.25 Agree (Very Little Extent)

3.26-4.00 Strongly Agree (Not at All)

Table 7 presents the distribution of the respondents' level of implementation in technology integration considering Organization. The overall mean of 3.09 (SD=0.90) with the description At All Times indicates that the respondents have a Very High level of implementation in integrating technology in their tasks and responsibilities in the organization aspects. This implies that the respondents have embraced technology as an integral part of their organizational practices. It suggests that the institution has successfully implemented technology in various aspects, enabling efficient workflows, effective communication, and streamlined processes. An insight that can be drawn from this is the importance of continued support and investment in technology integration at the organization level. The systematic approach to managing pupil data, developing lesson plans, and structuring classroom instruction through technology, as emphasized by Tomaro (2018), holds significant relevance for these districts.

Meanwhile, the indicator Keep track of student grades or marks got the highest mean score of 3.69 (SD=0.58) with a description of At All Times. The result means that the respondents have observed that teachers in their school have Very Highly implemented the use of technology in tracking their students' grades. The result suggests that teachers in the respondents' school have effectively integrated technology into their grading practices. It implies that technology tools and systems are widely utilized to efficiently and accurately record and manage student grades or marks. An insight that can be drawn from this is the recognition of the benefits and efficiency that technology brings to the process of tracking student grades. In line with these findings, the study by Harell and Bynum (2018) offers valuable insights into the transformative role of technology in effective data management within educational institutions. The study highlights the significance of Student Information Systems (SIS), emphasizing their role as essential tools that provide educators with comprehensive insights into the academic progress of each student. In the specific context of Baungon, the Very High level of technology

implementation in tracking student grades implies a commitment to data-driven practices.

On the other hand, the indicator Maintain an online journal obtained the lowest mean score of 2.35 (SD=1.15) with a description of Seldom. The result means that the respondents have a Low level of implementation as regards online journal writing. The result suggests that the practice of maintaining an online journal is not widely implemented among the respondents. It implies that there may be limited usage of online platforms or tools for journal writing purposes within the educational

context. Moreover, this infrequent utilization could be influenced by specific contextual factors or preferences within the educational landscape of the two districts. The study conducted by Costello *et al.*, (2021) sheds light on potential contributing factors. The research emphasizes three key factors influencing teachers' technology use: the experience of other teachers, the availability of technology in the classroom, and the availability of in-school training. The study highlights that some teachers lack confidence in using technology, and the need for in-school support is perceived as urgent.

Table 8: Teachers' Level of Implementation on Technology Integration Considering Organization

Indicator	Mean	SD	Description
Communicate with other teachers.	3.74	0.53	At All Times
Communicate with students.	3.62	0.62	At All Times
Communicate with parents.	3.56	0.73	At All Times
Use LCD projector in class to effectively communicate instructional content through multimedia presentations, visual aids , and interactive discussions.	2.62	1.00	Most of the Time
Create PowerPoint presentations to use in class.	2.95	0.92	Most of the Time
Create a class/school website or put student work online	2.55	1.05	Most of the Time
Give immediate feedback.	2.74	1.02	Most of the Time
Enhance pupil engagement in my class.	3.14	0.91	Most of the Time
Have flexible communication with fellow teachers.	3.38	0.81	At All Times
Capture learners' attention during class.	3.32	0.88	At All Times
Overall	3.16	0.85	Most of the Time

Legend:

- 1.00-1.75 Strongly Disagree (To a great extent)
- 1.76-2.50 Disagree (To some extent)
- 2.51-3.25 Agree (Very Little Extent)
- 3.26-4.00 Strongly Agree (Not at All)

Table 8 presents the distribution of the respondents' level of implementation in technology integration considering Communication. The overall mean of 3.16 (SD=0.85) with the description Most of the Time indicates that the respondents have a High level of implementation in integrating technology in their communication activities within or outside their organization. This implies that the respondents have embraced technology as a valuable tool for communication and have integrated it into their daily activities. It suggests that technology is effectively utilized to connect and collaborate with colleagues, students, parents, and other stakeholders. An insight that can be drawn from this is the importance of continuing to explore and leverage technology tools and platforms that enhance communication within and outside the organization. The findings align with the broader insights provided by Josue *et al.*, (2023). They emphasize the profound impact of technology integration on the communicative aspects of education.

The indicator Communicate with other teachers garnered the highest mean score of 3.74 (SD=0.53) with a description of At All Times. This result signifies that the respondents have consistently observed that teachers in their school exhibit a Very High level of implementation

in utilizing technology for communication. Specifically, this communication extends to interactions among fellow teachers, both within their respective schools and with other teachers affiliated with the Department of Education (DepED). This implies that technology plays a crucial role in facilitating communication and collaboration among teachers. It indicates that teachers have embraced technology tools and platforms to enhance their communication, share ideas, collaborate on projects, and support each other in their professional development. The findings resonate with the insights provided by UNESCO (2023). UNESCO emphasizes that technology integration in education has revolutionized the communicative aspects of learning, breaking down geographical barriers and fostering global communication. On the contrary, the indicator Create a class/school website or put student work online got the lowest mean score of 2.55 (SD=1.05) with a description of Most of the Time. The result indicates that the respondents have a High level of implementation with the use of technology in website making as well as in making students work online. The finding indicates that the use of technology for website creation and showcasing student work online is not as prevalent or frequently implemented among the respondents. It implies that there may be challenges or barriers that hinder the adoption and implementation of these practices.

An insight that can be drawn from this is the potential

opportunity for educators to explore and embrace the benefits of creating class/school websites and showcasing student work online. Moreover, the study by Ley *et al.*, (2021) emphasizes the positive impact of technology integration on educational stakeholders, including

parents and administrators. The study underscores the importance of technology in facilitating communication and active involvement of parents and administrators in students' academic progress.

Table 9 presents the distribution of the respondents' level

Table 9: Teachers' Level of Implementation on Technology Integration Considering Creation

Indicator	Mean	SD	Description
Create charts or graphs.	3.43	0.73	At All Times
Use drawing or paintings for my instructional materials.	3.27	0.75	At All Times
Scan pictures or images during classroom observations.	3.39	0.74	At All Times
Use digital video, digital cameras	3.36	0.78	At All Times
Create interactive games for my class instruction.	2.95	0.93	Most of the Time
Engage students in the creation of digital artifacts such as digital stories or blogs to demonstrate understanding of concepts and ideas.	2.82	0.94	Most of the Time
Create PowerPoint presentations to use in class.	2.83	0.97	Most of the Time
Have students use 3-D modeling software or simulations (in class/school lab)	2.36	1.04	Seldom
Create lesson plan through a word processor.	2.54	1.01	Most of the Time
Create instructional materials for my lessons.	3.32	0.82	At All Times
Overall	3.03	0.87	Most of the Time

Legend:

1.00-1.75 Strongly Disagree (To a great extent)

1.76-2.50 Disagree (To some extent)

2.51-3.25 Agree (Very Little Extent)

3.26-4.00 Strongly Agree (Not at All)

of implementation in technology integration considering Creation. The overall mean of 3.03 (SD=0.87) with the description Most of the Time indicates that the respondents have a High level of implementation of their ability to create something through the use of technology. This implies that the respondents have embraced technology as a tool for creativity and creation. It suggests that they have developed the necessary skills and knowledge to effectively use technology to generate new ideas, design products, develop multimedia content, or engage in other creative endeavors. An insight that can be drawn from this is the importance of fostering and supporting a culture of creativity and innovation within the educational context. In support of these findings, the study conducted by Herodotou *et al.*, (2019) emphasizes the transformative potential of technology integration in education. The research highlights that technology empowers educators to adopt innovative pedagogical approaches, leading to significant improvements in students' problem-solving abilities, critical thinking skills, and overall creativity.

Concurrently, the indicator Create charts or graphs got the highest mean score of 3.43 (SD=0.73) with a description of At All Times. The result means that the respondents have observed that teachers in their school have Very Highly implemented the use of technology

in creating materials that are useful in the teaching and learning process. This implies that technology is successfully employed to support the creation of visual aids that facilitate understanding and comprehension among students. Supporting this finding, the study by Ghavifekr and Rosdy (2018) highlights the potential of technology integration to significantly enhance creativity in education. The research underscores that technology equips educators with a diverse set of tools and resources, enabling them to design interactive and personalized learning experiences.

On the contrary, the indicator Have students use 3-D modeling software or simulations (in class/school lab) got the lowest mean score of 2.36 (SD=1.04) with a description of Seldom.

The result indicates that the respondents have a Low level of implementation when it comes to the creation of software in their computers. The finding indicates that the use of 3-D modeling software or simulations as part of the learning experience is not widely implemented among the respondents. It implies that there may be limited usage or availability of these technologies within the educational context. Relevant to this finding, the study by Hartman and Townsend (2019) observed that educators who creatively integrated technology were more likely to provide students with opportunities for self-expression and exploration. In classrooms where technology was creatively employed, students exhibited higher levels of motivation, enthusiasm, and creative thinking.

Table 10: Summary Distribution of the Teachers' Level of Implementation on Technology Integration

Indicator	Mean	SD	Interpretation
Instructional	2.88	0.92	High Level

Organizational	3.09	0.90	High Level
Communication	3.16	0.85	High Level
Creation	3.03	0.87	High Level
Overall	3.04	0.88	High Level

Legend:

1.00-1.75 Strongly Disagree (To a great extent)

1.76-2.50 Disagree (To some extent)

2.51-3.25 Agree (Very Little Extent)

3.26-4.00 Strongly Agree (Not at All)

Table 10 presents a summary distribution of the variables on the teachers' level of implementation on technology integration. The overall mean of 3.04 (SD=0.88) with a description of Most of the Time indicates that the respondents have Highly implemented technology Integration in their respective schools. This implies that the respondents have successfully integrated technology into their classrooms and other areas of their professional responsibilities. It indicates that they have developed the necessary skills, knowledge, and mindset to leverage technology tools and resources to support instruction, communication, collaboration, and other tasks. In line with this, the study by Branagh (2020) features the transformative potential of technology in education. It emphasizes that technology serves as a champion for personalized learning experiences, tailoring educational journeys to cater to diverse learning styles and paces of the students. The alignment of the study's overall findings with Branagh's research reinforces the notion that technology integration is contributing significantly to fostering inclusive and personalized educational environments in Baungon 1 and 2 districts.

Specifically, Communication obtained the highest mean of 3.16 (SD=0.85) with a description of Most of the Time. The high mean score indicates that teachers in Baungon 1 and 2 districts have a High level of implementation on integrating technology in their communication activities within or outside the organization. This implies that

the respondents have effectively integrated technology into their communication practices, such as email, video conferencing, instant messaging, or online collaboration platforms. It indicates that technology is widely utilized to connect and collaborate with colleagues, students, parents, and other stakeholders. This finding aligns with the transformative impact of technology on communicative aspects in education, breaking down geographical barriers and fostering global communication, as emphasized by UNESCO (2023). UNESCO's insights underscore that technology integration enhances interaction, collaboration, and personalized learning experiences. On the other hand, Instructional integration obtained the lowest mean of 2.88 (SD=0.92) which has a description of Most of the Time. The result indicates that the respondents have a High level of implementation on the integration of technology with their instructional tasks and responsibilities. This implies that the respondents have successfully integrated technology into their teaching methods and strategies. It indicates that they have developed the necessary skills, knowledge, and mindset to leverage technology tools and resources to support and enhance student learning experiences. The disparity in scores might be attributed to factors discussed by Boonmoh *et al.*, (2021). The study highlights that the educational value of technology tools depends on how teachers integrate them into the learning and teaching process.

Problem 3. Is there a Significant Relationship between the Respondents' Extent of Challenges and Level of Implementation of Technology Integration?

Table 11: Results of the Test of Significant Relationship between Teachers' Extent of Challenges and Level of Implementation on Technology Integration

Challenges of Technology Integration	Implementation of Technology Integration in terms of Instruction		
	R	p-value	Interpretation
Infrastructure and Resources	-0.057	0.351	Not Significant
Training and Professional Development of Teachers	0.171	0.005	Significant
Equity and Access	0.046	0.449	Not Significant
Pedagogical Integration	0.304	0.000	Significant
Overall	0.130	0.031	Significant

Legend: Significant if p-value < 0.05

Table 11 presents the results of the statistical test of significant relationship between the respondents' extent of challenges and their level of implementation on technology integration in terms of Instruction. On the overall, it was found that there is a significant relationship

between the respondents' challenges and their level of implementation on technology integration. This implies that addressing the challenges faced by teachers in technology integration is crucial for promoting successful implementation. The findings resonate with the study by

Mittha (2021), which emphasizes the efficiency gained in teaching through technology integration, streamlining administrative tasks and providing more time for instruction.

On the other hand, the study reveals a significant relationship between challenges in Training and Professional Development of Teachers, as well as Pedagogical Integration, and the level of implementation in Instructional integration. This indicates that obstacles in providing adequate training and professional development opportunities for teachers, as well as challenges in aligning technology with pedagogical strategies, are influential factors affecting the integration of technology into instructional tasks among the teachers. Therefore, the null hypothesis is rejected, wherefore it suggests that addressing these challenges is crucial for enhancing the successful implementation of technology in instructional practices.

This result is supported by the study of Rosales (2021).

The study emphasizes the crucial role of ongoing professional development, especially in the context of technology integration, which remains indispensable for educators. The challenges identified in the Baungon districts, specifically in providing adequate training and professional development opportunities; resonate with Rosales's emphasis on the need for educators to navigate the dynamic landscape of educational technology continually. Furthermore, Rosales emphasizes that professional development serves as a key strategy to overcome persistent barriers such as the digital divide. The Baungon districts' situation, where challenges in training and professional development are found to have a significant impact on instructional technology integration, reinforces the importance of addressing these barriers. The study's findings underscore the imperative of ongoing commitment and investment in professional development initiatives tailored to the specific needs and challenges faced by teachers.

Table 12: Results of the Test of Significant Relationship between Teachers' Extent of Challenges and Level of Implementation on Technology Integration

Challenges of Technology Integration	Implementation of Technology Integration in terms of Organization		
	R	p-value	Interpretation
Infrastructure and resources	0.005	0.411	Not Significant
Training and professional development of teachers	0.157	0.009	Significant
Equity and Access	0.162	0.007	Significant
Pedagogical integration	0.194	0.001	Significant
Overall	0.174	0.004	Significant

Legend: Significant if $p\text{-value} < 0.05$

Table 12 presents the results of the statistical test of significant relationship between the respondents' extent of challenges and their level of implementation on technology integration in terms of Organization. On the overall, it was found that there is a significant relationship between the respondents' challenges and their level of implementation on technology integration in terms of organizational integration. This implies that addressing the challenges faced by educators in organizational integration is crucial for promoting successful implementation. Conversely, challenges related to Training and Professional Development of Teachers, Equity and Access, and Pedagogical Integration demonstrate a significant relationship with the level of implementation in Organizational integration. Hence, the null hypothesis is rejected in these cases. This indicates that challenges in these areas are associated with variations in the level of technology integration within the organizational framework. The findings of this study can be attributed to Tomaro's (2018) investigation which identified key policy actions necessary for the comprehensive integration of ICT in the educational landscape of the Philippines. Accordingly, these actions encompassed intensified training programs for educators,

the provision of essential computer infrastructures, strategic integration of ICT into the curriculum, and the imperative of strong leadership. In the context of the current study's findings, Tomaro's insights highlight the importance of strategic actions and policy measures to address challenges in technology integration. The emphasis on teacher training, infrastructure support, curriculum alignment, and leadership resonates with the different approach required to overcome challenges, as revealed in the Baungon districts' experience in terms of organizational integration.

Within the specific challenges examined, the data revealed that challenges related to Infrastructure and Resources do not exhibit a significant relationship with the level of implementation in Organizational Integration. Consequently, the null hypothesis is accepted in this regard, suggesting that challenges in infrastructure and resources may not be significant hindrances to the overall organizational integration of technology. Moreover, the finding of this study is supported by the study of Tamim *et al.* (2015), as cited by Sobrino *et al.* (2022), which states that statistically there is a low significant effect of using tablets and other smart devices in educational settings on students' academic achievements. Despite the low

statistical impact on achievement outcomes, the study highlighted additional advantages that tablets offered to students. These benefits included reported improvements

in students' notetaking abilities, organizational and communication skills, and creativity.

Table 13 presents the results of the statistical test of

Table 13: Results of the Test of Significant Relationship between Teachers' Extent of Challenges and Level of Implementation on Technology Integration

Challenges of Technology Integration	Implementation of Technology Integration in terms of Communication		
	R	p-value	Interpretation
Infrastructure and Resources	-0.055	0.365	Significant
Training and Professional Development of Teachers	0.065	0.282	Significant
Equity and Access	0.109	0.073	Significant
Pedagogical Integration	0.082	0.178	Significant
Overall	0.006	0.321	Significant

Legend: Significant if $p\text{-value} < 0.05$

significant relationship between the respondents' extent of challenges and their level of implementation on technology integration in terms of Communication. On the overall, it was found that there is a significant relationship between the respondents' challenges and their level of implementation on technology integration in terms of communication. The data revealed that there is a significant relationship between the respondents' challenges on all the four variables and their level of implementation in Communication. Hence, the null hypothesis is rejected. In the context of Baungon 1 and 2 Districts, these results suggest that challenges experienced by teachers in terms of infrastructure, training, equity, and pedagogical integration have a discernible impact on how technology is integrated into communication practices. The rejection of the null hypothesis implies that these challenges are significant; they influence the extent to which technology is effectively utilized for communication purposes. This implies that addressing the challenges faced in communication is crucial for promoting successful implementation of technology integration. In connection, these results are supported by the study of Wijayasundara (2020) which identified three

main factors contributing to challenges in information and communication technology (ICT) adoption. These factors encompass challenges faced by teachers, schools, and the overall educational system. Among the challenges highlighted for teachers are insufficient training and a lack of knowledge in information technology (IT).

Consequently, the findings of the study align with the insights provided by Wijayasundara (2020), as it both emphasizes the intricate relationship between challenges and the implementation of technology in education. In the context of the study, which focuses on Communication, the significant relationship identified between respondents' challenges and their level of implementation suggests that barriers in areas such as infrastructure, training, equity, and pedagogical integration play a role in shaping the effectiveness of communication-related technology integration. The rejection of the null hypothesis implies that these challenges have a tangible impact on the extent to which technology is integrated into communication activities within the educational setting, emphasizing the need for targeted interventions and strategies to overcome these hurdles and enhance communication through technology in Baungon districts.

Table 14: Results of the Test of Significant Relationship between Teachers' Extent of Challenges and Level of Implementation on Technology Integration

Challenges of Technology Integration	Implementation of Technology Integration in terms of Communication		
	R	p-value	Interpretation
Infrastructure and resources	-0.07	0.245	Not Significant
Training and professional development of teachers	0.114	0.168	Not Significant
Equity and Access	0.108	0.076	Not Significant
Pedagogical integration	0.127	0.036	Not Significant
Overall	0.108	0.073	Not Significant

Legend: Significant if $p\text{-value} < 0.05$

Table 14 presents the results of the statistical test of significant relationship between the respondents' extent of challenges and their level of implementation on

technology integration in terms of Creation. On the overall, it was found that there is no significant relationship between the respondents' challenges and their level of

implementation on technology integration in terms of Creation. Specifically, the data revealed that there is no significant relationship between the respondents' challenges on all the four variables and their level of implementation in Creation. In a more detailed analysis, the data specify that there is no significant relationship between challenges related to infrastructure, training and professional development, equity and access, and pedagogical integration, and the level of implementation in Creation.

Therefore, the null hypothesis is accepted, suggesting that these challenges, while acknowledged, do not exert a statistically significant impact on the overall integration of technology in creation aspects. This implies that, in the aspect of Creation, the challenges identified may not pose

substantial barriers, and teachers in the Baungon districts might be adept at incorporating technology creatively despite these challenges. In the study conducted by Ghavifekr and Rosdy (2018), a compelling discovery was made. The researchers found that the integration of technology in education has the potential to significantly enhance creativity. By equipping educators with a wealth of tools and resources, technology empowers them to craft interactive and personalized learning experiences. Moreover, in a comprehensive study conducted by Herodotou *et al.*, (2019), the research illuminated the transformative power of technology integration in education. The findings of the research underscored the fact that technology empowers educators to embrace innovative pedagogical approaches.

Table 15: Summary of the Test Results on the Significant Relationship Between the Teachers' Challenges and Implementation of Technology Integration

Challenges of Technology Integration	Implementation of Technology Integration											
	Instructional			Organizational			Communication			Creation		
	R	p-value	Interpretation	R	p-value	Interpretation	R	p-value	Interpretation	r	p-value	Interpretation
Infrastructure and resources	-0.057	0.351	NS	0.05	0.411	NS	-0.055	0.365	NS	-0.07	0.245	NS
Training and professional development of teachers	.171**	0.005	S	.157**	0.009	S	0.065	0.282	NS	0.114	0.168	NS
Equity and Access	0.046	0.449	NS	.162**	0.007	S	0.109	0.073	NS	0.108	0.076	NS
Pedagogical integration	.304**	0	S	.194**	0.001	S	0.082	0.178	NS	.127*	0.036	S
Overall	.130*	0.031	S	.174**	0.004	S	0.06	0.321	NS	0.108	0.073	NS

Legend: Significant if p-value < 0.05, S – Significant, NS – Not Significant

Table 15 shows the summary of the statistical results on the significant relationship between the respondents' challenges and implementation of technology integration. The overall p-values indicate that there is a significant relationship between the respondents' extent of challenges and level of implementation of technology integration in terms of Instructional and Organizational Integration. However, it has no significant relationship with the level of implementation in terms of Communication and Creation. Next, the respondents' challenges on Training and Professional Development of Teachers have a significant relationship with their level of implementation on two variables namely, Instruction and Organization. However, it has no significant relationship with their level of implementation in terms of Communication and Creation. Moreover, Equity and Access has a significant relationship only with Organization while it has no significant relationship with Instruction, Communication and Creation. In like manner, Pedagogical Integration has a significant relationship with Instruction, Organization, and Creation, while it has no significant relationship with Communication.

The data further revealed that there is no significant relationship between Infrastructure and Resources and the level of implementation of Technology Integration in all variables. Hence, the null hypothesis is accepted. In the specific context of Baungon 1 and 2 districts, these results suggest that focused initiatives aimed at overcoming challenges in training, equity, and pedagogical integration have the potential to enhance the effectiveness of technology implementation, particularly in instruction and organization dimensions. Consequently, the study's emphasis on the importance of training and the pedagogical integration of teachers in implementing technology integration aligns with the findings of Haleem *et al.* (2022). The research highlights that integrating technology into instruction provides educators with valuable insights, enabling them to make informed decisions about instructional strategies. This, in turn, empowers teachers to customize teaching methods to address the unique needs of each student, offering additional support, introducing new challenges, or adopting alternative approaches to enhance comprehension. As a result, this integration contributes

to an improved, student-focused teaching process, ultimately enhancing the overall quality of education and fostering a supportive learning environment.

Problem 4. Based on the Findings, What Enhanced Instructional Program Can be Designed?

Table 16: Instructional and Organizational Technology Integration Program

Proposed Programs	Specific Objectives	Strategies/ Activities	Time Frame	Person/s Involved	Source of Fund	Estimated Budget	Expected Outcome
Implement WebQuests	Use WebQuests in my lessons.	Research best practices in WebQuest design and develop a template for WebQuests.	April 2024 1 day	Division ICT Coordinator School ICT Coordinators	Division MOOE/ SEF	P 12,000	Familiarity with Web Quest design principles.
		Pilot WebQuests in select lessons.	June 2024 5 days	Division ICT Coordinator School ICT Coordinators Invited Trainers and Guests	Division MOOE/ SEF	P 80,000	Increased engagement and active learning.
		Gather feedback from teachers and students.	July 2024 1 day	Division ICT Coordinator School ICT Coordinators	Division MOOE/ SEF	P 12,000	Insights for refinement and improvement.
		Revise WebQuest template based on feedback.	September 2024 2 days	Division ICT Coordinator School ICT Coordinators Invited Trainers and Guests	Division MOOE/ SEF	P 24,000	Improved usability and effectiveness.
		Train teachers on integrating WebQuests.	December 2024 5 days	Division ICT Coordinator School ICT Coordinators Invited Trainers and Guests	Division MOOE/ SEF	P 80,000	Increased adoption of WebQuests in lessons.
Enhanced Online Journaling	Maintain an online journal.	Select suitable online journal platform.	January 2025 2 days	Division ICT Coordinator School ICT Coordinators	Division MOOE/ SEF	P 24,000	Identification and setup of appropriate platform.
		Develop guidelines for journaling.	March 2025 2 days	Division ICT Coordinator School ICT Coordinators Division Personnel	Division MOOE/ SEF	P 24,000	Clear expectations for journaling process.
		Conduct training sessions for staff on using the online journal platform.	May 2025 5 days	Division ICT Coordinator School ICT Coordinators Invited Trainers and Guests	Division MOOE/ SEF	P 80,000	Proficiency in online journaling procedures.

		Encourage regular journal entries by staff.	August 2025 Monthly	Division ICT Coordinator School ICT Coordinators Division Personnel	N/A	N/A	Increased utilization of online journal.
Monitoring and Evaluation	Continuous Improvement	Review and refine Web Quest template.	February 2026 2 days	Division ICT Coordinator School ICT Coordinators Invited Trainers and Guests	Division MOOE/SEF	P 24,000	Enhanced effectiveness of WebQuests.
		Analyze usage and feedback on online journaling.	April 2026 2 days	Division ICT Coordinator School ICT Coordinators Division Personnel	Division MOOE/SEF	P 24,000	Insights for further improvements.
		Provide advanced training on WebQuests.	June 2026 5 days	Division ICT Coordinator School ICT Coordinators Invited Trainers and Guests	Division MOOE/SEF	P 80,000	Deeper integration of WebQuests into curriculum.
		Celebrate successes and share best practices.	August 2026 1 day	Division ICT Coordinator School ICT Coordinators Division Personnel	Division MOOE/SEF	P 80,000	Fostering a culture of innovation and learning.

CONCLUSIONS

This study provides insights into how technology is used in Baungon 1 and 2 districts' education. While educators encounter challenges, particularly in equity and access, the findings underscore their commitment to overcoming obstacles. The observed high level of technology implementation, especially in communication activities, highlights technology's integral role in the schools. Furthermore, the significant relationship between challenges and the level of implementation in instructional and organizational aspects emphasizes the need for targeted efforts in addressing challenges for more effective integration. The in-depth interviews provide a deeper understanding of how teachers creatively leverage technology despite challenges, demonstrating their resilience and dedication to enhancing the learning experience. These findings collectively emphasize the importance of continued support, professional development, and infrastructure improvement to foster a more seamless and impactful integration of technology in Baungon's educational landscape.

RECOMMENDATIONS

Based on conclusions of the study, the following recommendations are hereby forwarded:

1. School Administrators should prioritize improving their infrastructure and allocating resources to tackle the most pressing challenges. This includes guaranteeing consistent internet connectivity, supplying the latest hardware and software, and establishing a robust support system for technical issues.
2. Teachers in the Division of Bukidnon should undergo specialized training programs and receive dedicated resources aimed at boosting their confidence and skills in effectively incorporating technology into their instructional tasks. Practical initiatives such as hands-on workshops and mentorship programs should be implemented to provide real-world applications, ultimately raising the overall proficiency of technology integration in classroom instruction.
3. Schools should actively offer sustained professional development opportunities for teachers. This commitment

involves organizing regular training sessions, workshops, and mentorship programs specifically designed to enhance their skills and knowledge in technology integration.

4. Parents and other stakeholders should tap with teachers in regular professional development initiatives. This collaborative effort should include joint training sessions, collaborative projects, and ongoing support from educational institutions.

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