



Research Article

## Teacher Preparedness and Level of Technology Integration in Teaching among High School Teachers in Private Schools

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### Abstract

This quantitative correlational study examined the relationship between teacher preparedness and technology integration among 31 private high school teachers. Despite measuring high levels of preparedness ( $\bar{x} = 4.11$ ) and integration ( $\bar{x} = 4.15$ ) across seven domains, no statistically significant relationship was found, likely due to a ceiling effect reducing data variability. These findings suggest that digital competence alone does not guarantee effective classroom usage, emphasising the need for schools to prioritise systemic supports—such as infrastructure and administrative backing—over basic skills training.

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**KEYWORDS:** Teacher Preparedness, Technology Integration, Private Schools, Educational Technology, Digital Competence

## 1. INTRODUCTION

### 1.1 Overview and Problem of the Study

Recent studies in the Philippines show teachers struggle with technology due to old curricula and inadequate training (Diano *et al.*, 2023). Many feel unprepared for new teaching demands because their training and 21st-century skills do not align with existing curricula. Practical challenges like unreliable internet in remote areas and limited resources worsen these issues (Paran *et al.*, 2024). Research further suggests that simply increasing technology use in the classroom does not guarantee better student outcomes (Kaminskienè *et al.*, 2022). This correlational study investigates private high school teachers, analysing the significant relationship between their preparedness—defined by their proficiency in digital learning technology, awareness of limitations and assistance, perceived usefulness and efficiency, pedagogical potential, social influence and support, and intention to use—and the level of technology integration in their instructional practices.

Globally, teacher preparedness for technology integration continues to be a key issue as secondary educators in cities such as Los Angeles, California, and London, United Kingdom, still face barriers like insufficient training, limited access to digital infrastructure, and inconsistent institutional support despite major EdTech investments (Akram *et al.*, 2022; UNESCO, 2023). These challenges mirror trends across developing and developed nations, showing that access alone does not guarantee effective integration without proper pedagogical guidance (Chiu, 2022). Nationally, in the Philippines, especially in Metro Manila, government initiatives such as the DepEd Computerization Program and the Digital Rise Program aim to modernize K–12 education; however, studies indicate that many Filipino high school teachers remain underprepared to incorporate technology effectively due to training gaps.

Outdated curricula, and inequitable access between urban and provincial schools (Gardoque & Israel, 2025; Villaseñor, 2025). In Mindanao, these gaps are more evident, where educators from Davao del Norte to Bukidnon often struggle with unstable internet connections and limited institutional support despite positive attitudes toward technology integration (Pamor *et al.*, 2024). Locally, in the Talomo District of Davao City, high school teachers in private schools experience similar conditions—exhibiting competence and willingness to use digital tools yet constrained by resource availability, professional development limitations, and infrastructure reliability (Septimo & Cancio, 2024).

Although the literature on educational technology in the Philippines is growing, the lack of empirical research in the Mindanao context remains considerably prominent. There is little research that analyses teacher preparedness and the degree of technology integration through the major indicators of digital competence, social influence, intention to use, awareness of limitations, perceived usefulness, available support, and pedagogical potential. The majority of existing research focuses on the results of students, the preparedness of institutions, or the overall ICT performance, which is primarily qualitative, not quantitative (Cahapay, 2020; Javier, 2022). Based on studies reporting moderate levels of preparedness and ICT competence in areas such as Surigao del Sur and Butuan City, there is a lack of concrete empirical connections between teacher preparedness and actual technology implementation in the classroom (Patan *et al.*, 2023). This gap indicates the need for localised quantitative research in private high schools in Mindanao. Such research would provide evidence to inform professional development, curriculum revisions, and institutional policies aimed at achieving meaningful technology integration.

### 1.2. Conceptual Framework

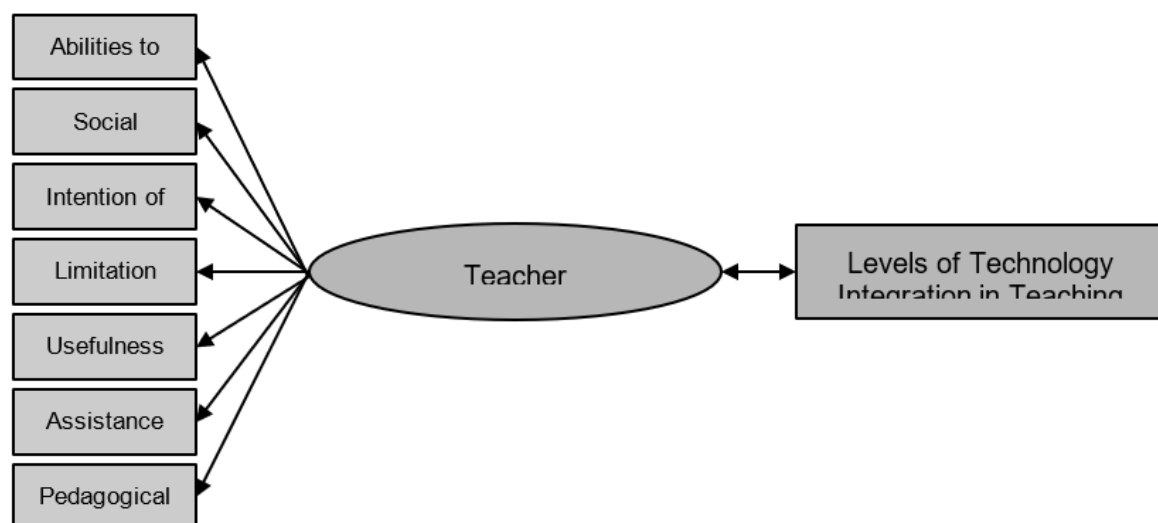


Figure 1. Conceptual Framework of the Study

### 1.3 Objectives and Hypothesis

The main objective of this research is to examine the relationship between teacher preparedness and the level of technology integration in teaching among high school teachers in private schools. Specifically, the study aims to:

1. To assess the level of teacher preparedness in terms of ability to use digital learning technology, social influence and support, intention of use, limitation awareness, usefulness and efficiency, assistance awareness, and pedagogical potential.
2. To determine the level of technology integration in teaching among high school teachers in private schools.
3. To test the significant relationship between teacher preparedness and the level of technology integration in teaching.

**This study also hypothesises that:**

**H<sub>0</sub>:** There is no significant relationship between teacher preparedness and the technology integration in teaching.

### 1.4 Significance of the Study

This study is significant because it explicitly found no statistically significant relationship between teacher preparedness and technology integration, demonstrating that high digital competence does not automatically translate into actual classroom usage. The findings benefit Teachers by validating their current standing; the high preparedness scores ( $\bar{x} = 4.11$ ) confirm they are already skilled, clarifying that the lack of correlation points to systemic barriers rather than personal deficits. Administrators also benefit, as the results reveal that investing in basic skills training is no longer the priority; instead, resources should be reallocated toward infrastructure and pedagogical support to bridge the gap between potential and practice. Policy Makers gain insights into the need for institutional readiness, as the data shows that mandates focused on teacher training are insufficient without parallel improvements in connectivity and technical support. Students indirectly benefit when the focus shifts to fixing the school environment, allowing the latent potential of these prepared educators to be fully realised. Finally, future researchers may use this study's acceptance of the null hypothesis as a critical baseline to investigate other variables, such as institutional culture or time constraints, which may better explain why skilled teachers still face challenges in integration. Overall, the study emphasises that since teacher preparedness is already high, the path to meaningful integration lies in strengthening institutional support systems.

### 1.5 Limitations of the Study

The study was limited to selected teachers from a single private high school due to strict time constraints, which prevented the researchers from expanding data collection to multiple institutions. These limitations were further intensified by the occurrence of an earthquake that led to the temporary suspension of classes, disrupting planned schedules and reducing opportunities to gather a more diverse set of

responses. Because the study was confined to one institution, differences in policies, resources, technological infrastructure, and class sizes present in other schools were not considered, limiting the generalizability of the findings. The use of adapted questionnaires as the primary data-gathering tool also introduced potential biases, including social desirability and inaccurate self-reporting, which may have impacted the reliability of the responses. Moreover, the study focused solely on pedagogical challenges and the use of educational technology, excluding factors such as institutional culture, student digital literacy, and subject-specific differences, thereby narrowing the scope of interpretation.

## 2. LITERATURE REVIEW

### 2.1 Theories and Related Literature

#### 2.1.1 Unified Theory of Acceptance

The Unified Theory of Acceptance and Use of Technology (UTAUT), developed by Venkatesh, Morris, Davis, and Davis (2003), proposes four key constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions. Performance expectancy represents the extent to which the use of technology would enhance performance, and effort expectancy determines how easy to use the technology. Social influence is the strength of how people think significant others want them to use the system, and enabling conditions are the organisational and technical aids that can be used. UTAUT has been widely applied in education, healthcare, and business to predict user behaviour toward adopting digital systems, showing a strong predictive power in explaining variance in technology usage [Venkatesh *et al.*, 2003].

The theory is of great interest to the current study because it highlights perceptions of teachers as well as the institutional and social conditions that affect their educational technology usage. Examples of challenges that teachers in private schools could experience include lack of training (effort expectancy), curriculum alignment (performance expectancy), or unclear administrative support (facilitating conditions). In addition, support or disregard by co-workers and supervisors (social influence) influences how they become ready to embrace EdTech. Using UTAUT, the research will be able to grasp the multi-factorial aspects of teachers' use of technology in the classroom, enabling a comprehensive account of how pedagogical peculiarities are linked to technology application.

#### 2.1.2 Use of Technology and Technological Pedagogical Content Knowledge

The Technological Pedagogical Content Knowledge (TPACK) framework, established by Mishra and Koehler (2006), describes how three types of teacher knowledge—content knowledge (CK), pedagogical knowledge (PK), and technological knowledge (TK)—interact to facilitate technology integration in the classroom [Kurt, 2018]. The framework builds on Shulman's concept of pedagogical content knowledge (PCK) by illustrating the intersections of technology, pedagogy, and content. TPACK asserts that technology is most effective when integrated with appropriate subject matter

and instructional strategies, providing a comprehensive understanding of how new technologies integrate with existing teaching practices. This research uses TPACK to study how educators in private institutions design and implement technology-enhanced lessons. Classroom technology must fit both the subject and the teaching method. TPACK helps understand how teachers use subject, teaching, and technology skills to support student learning, highlighting knowledge gaps and areas for improvement.

### 2.1.3 Self-Efficacy Theory

Self-Efficacy Theory, developed by Bandura (1977), focuses on the belief that individuals have in their ability to succeed in specific tasks. Bandura asserts that self-efficacy affects behaviour, motivation, and performance in various fields, including education. In teaching, self-efficacy refers to a teacher's confidence in applying instructional strategies, classroom management, and innovations like technology. Research indicates that teachers with high self-efficacy are more likely to experiment with technology and integrate it effectively into their lessons [Tschannen-Moran and Hoy, 2001]. This theory is highly applicable because teacher confidence complements skills and training in technology use. Teachers with high self-efficacy incorporate educational technology more regularly and creatively, whereas those with low self-efficacy may act reluctantly, even with access to resources. Professional development programs that enhance competence and confidence are, therefore, critical.

## 2.2 Related Literature

### 2.2.1 Ability to Use Digital Learning Technology

Research shows that teacher digital competence underpins successful technology integration. In Mindanao K-12 settings, teachers reported high levels of technological pedagogical knowledge (TPK) self-efficacy during the pandemic [Cahapay and Anoba, 2020]. A survey of 184 teachers in Davao de Oro found high digital competence across domains, significantly associated with greater learner engagement. Focused professional development and resources are crucial, as well-designed training can convert readiness into sustained technology integration [Leonardo, 2021] [Masangcay, 2025].

### 2.2.2 Social Influence & Support

Social influence and institutional support—including normative pressure, peer encouragement, administrative leadership, and organisational resources—strongly predict technology adoption. Leadership, peer role models, and ICT coordinators increase the probability of teacher integration of technology [Tondeur *et al.*, 2017] [Teo, 2011]. In the Philippines, gaps in leadership and professional development hinder purposeful use, necessitating local empirical research to measure these effects [Cahapay, 2020].

### 2.2.3 Intention of Use

After COVID-19, digital learning technologies (DLT) became more common, providing teachers with tools and sparking

interest in digital instruction [Javier, 2022] [Nueva, 2019]. While attitudes toward DLT are favourable, actual classroom use is inconsistent, context-dependent, and limited by infrastructure and support [David and Aruta, 2022][Javier, 2022]. Targeted ICT training enhances confidence and commitment, whereas a lack of support reduces adoption.

### 2.2.4 Limitation Awareness

Awareness of barriers such as insufficient training, curriculum integration issues, and infrastructure inadequacies is essential. Studies indicate that awareness enables teachers to seek solutions and prevent burnout, although most connections have been established qualitatively [Chai *et al.*, 2020] [Tondeur *et al.*, 2017]. Local programs to raise awareness and provide training are recommended.

### 2.2.5 Usefulness and Efficiency

Teacher preparedness is connected to technology integration. Exposure alone does not guarantee improved instructional outcomes or student engagement; training, curriculum alignment, and ongoing support are critical [Abella and Rosa, 2023] [Lucero *et al.*, 2022]. Less-prepared educators often use technology superficially, highlighting the need for interventions to improve pedagogical preparedness [Hew and Brush, 2017].

### 2.2.6 Assistance Awareness

Access to support resources strongly relates to better technology use. Studies in Asia and the Philippines show that teachers with access to training, peer collaboration, and technical support demonstrate higher digital skill levels [Wong *et al.*, 2025] [Chiu, 2022a]. Awareness of support structures affects teacher readiness, and this study examines the impact of assistance awareness on technology integration.

### 2.2.7 Pedagogical Potential

Effective integration requires proper training to achieve pedagogical benefits. Teachers who are confident in using digital resources enhance creativity and student-centred learning [Chai *et al.*, 2020]. Technology impacts outcomes positively when used strategically, highlighting the importance of pedagogical potential in private high schools.

### 2.2.8 Bridging Teacher Preparedness and Technology Integration

Skills alone do not guarantee effective technology integration. Technology alignment, pedagogical relevance, and facilitating conditions determine whether digital competencies translate into meaningful instructional use [Gokda, *s et al.*, 2024] [Liu *et al.*, 2025] [Akram *et al.*, 2022]. Stable infrastructure, access to devices, technical support, and professional development are crucial for sustaining technology use in classrooms.

## 3. MATERIALS & METHODS

### 3.1 Research Design

This study employed a correlational quantitative research design to examine relationships between variables without direct manipulation. Correlational research quantified the

strength of these relationships and helped identify trends (Creswell & Creswell, 2018). The design evaluated how teacher preparedness—defined by seven indicators: ability to use digital learning technology, social influence and support, intention of use, limitation awareness, usefulness and efficiency, assistance awareness, and pedagogical potential—related to technology integration among high school teachers in private institutions. This approach provided empirical evidence on how preparedness indicators affected the use of educational technology in classroom instruction.

### 3.2 Sampling Design, Respondents, and Locale

This study utilised purposive sampling, a non-probability sampling technique where participants were selected based on specific criteria relevant to the research objectives. Purposive sampling was often used in educational research because it ensured that respondents were directly aligned with the study's focus (Etikan & Bala, 2017). The respondents of this study were selected high school private school teachers, chosen because they directly experienced the pedagogical challenges and educational technology integration under investigation. Criteria for inclusion were: (1) being a current full-time or part-time high school teacher in a private institution, (2) having at least one year of teaching experience, and (3) having prior exposure to using educational technology in classroom instruction. The final number of respondents depended on the total population of teachers available, but the sample ensured sufficient representation of the target group to establish reliable correlations.

### 3.3 Instrument and Procedures

The primary data-gathering tool was a structured survey questionnaire adapted from validated instruments, primarily from Viberg et al. (2020) to gauge teachers' self-perceived preparedness, and Hosseini and Kamal (2012) to specifically measure Technology Knowledge using the Perceived Technology Integration Knowledge (TPCK) scale. The original instrument by Viberg et al. reported Cronbach's alpha values between .64 and .87. By using a structured questionnaire, all teachers received the same questions with identical wording (Bhandari, 2021), facilitating efficient, standardised data collection. Our adapted survey included items on topics such as adequacy of training, curriculum alignment with technology, lesson preparation, and frequency of using technology in instruction.

- **Before distribution:** Experts in educational technology and pedagogy reviewed the questionnaire for content validity and clarity. A pilot test was conducted to compute reliability (Cronbach's  $\alpha$ ), aiming for  $\alpha \geq .70$  to ensure internal consistency.
- **During administration:** Approval was first obtained from the administration of the selected private senior high school. Then, the validated questionnaire was administered to participating teachers in both printed and electronic form. All participants were informed about the study's

purpose and assured that their responses would remain confidential.

- **After collection:** Completed questionnaires were gathered and the responses encoded into a database. The reliability of the adapted instrument (Cronbach's alpha) was calculated, and the data were prepared for statistical analysis.

### 3.4 Data Analysis and Statistical Treatment

The collected data were analysed using both descriptive and inferential statistics. Statistical software such as SPSS, MS Excel 2021, and Jamovi were used to ensure accurate computation. A significance level of  $p < 0.05$  was applied for all inferential analyses.

Descriptive Statistics summarised teachers' responses on preparedness and technology integration. The following measures were computed:

$$1. \text{ Frequency and Percentage: } p = \frac{f}{n} \times 100$$

Where,

$P$  = percentage

$f$  = frequency

$n$  = total respondents

$$2. \text{ Mean: } \bar{x} = \frac{\sum_{i=1}^n x_i}{n}$$

Where,

$\bar{x}$  = mean

$\sum x_i$  = summation of individual scores

$n$  = number of observations

$$3. \text{ Standard Deviation: } s^2 = \frac{\sum (x_i - \bar{x})^2}{n-1}$$

Where,

$s$  = standard deviation

$\sum (x_i - \bar{x})^2$  = summation of the square difference between the mean and the individual scores

$n$  = number of observations

Inferential Statistics will examine the relationship between teacher preparedness and technology integration:

$$4. \text{ Shapiro-Wilk test: } W = \frac{(\sum_{i=1}^n a_i x_i)^2}{\sum_{i=1}^n (x_i - \bar{x})^2}$$

Where,

$n$  = number of observations

$x_i$  = values of the ordered sample

$a_i$  = tabulated coefficients

$$5. \text{ Spearman's Correlation Coefficient: } \rho = 1 - \frac{6\sum d_i^2}{n(n^2-1)}$$

Where,

$\rho$  = Spearman's rank correlation coefficient

$d_i$  = difference between the two ranks of each observation

$n$  = number of observations

$$6. \text{ Pearson Correlation: } r = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2 \sum (y_i - \bar{y})^2}}$$

Where,

- $x_i$  and  $y_i$  = individual scores for teacher preparedness and technology integration.
- $\bar{x}$  and  $\bar{y}$  = means of the respective variables.

This approach clearly defines the statistical techniques, formulas, and software used to analyse the data. The results of these computations (mean, standard deviation, correlation

coefficients, p-values) are presented in Chapter 4: Results and Discussion.

#### 4. RESULTS AND DISCUSSION

##### 4.1 Objective 1

This section presents the demographic profile of the respondents, highlighting their age, gender, and teaching experience.

Table 1: Demographic Profile

Profile	Categories	Frequency	Percentage
1. Age	20-29	18	58.1
	30-39	8	25.8
	40 and above	5	16.1
2. Gender	Male	13	41.9
	Female	16	51.6
	Prefer not to say	2	6.5
3. Teaching Experience	0 - 5 years	17	54.8
	6 - 10 years	7	22.6
	11 - 15 years	4	12.9
	16 - 20 years	1	3.2
	21 or more years	2	6.5

The respondents consisted of 31 high school teachers from private schools. The majority were aged 20-29 years (58.1%), followed by 30-39 years (25.8%), and 40 years and above (16.1%), suggesting that most of the teachers are relatively young and belong to the digital-native generation. In terms of gender, females (51.6%) slightly outnumbered males (41.9%), with a small proportion preferring not to disclose (6.5%). Regarding teaching experience, over half (54.8%) had 0–5 years of experience, while only 6.5% had more than 20 years. This demographic pattern implies that the respondents are predominantly novice to mid-career teachers, which may

influence their familiarity and comfort with educational technologies. The youthful composition of the teaching force suggests an openness to digital tools.

##### 4.2 Objective 2

This section presents teachers’ preparedness in using digital learning technologies, highlighting their abilities, support systems, intentions, awareness of limitations, perceived usefulness, access to assistance, and recognition of pedagogical potential.

Table 2: Teachers’ Abilities to Use Digital Learning Technology

Abilities to use Digital Learning Technology	Mean	SD	Interpretation
1. My use of digital technology does not require much effort.	3.52	1.313	Agree
2. It is easy for me to learn how to use digital technology.	3.94	0.929	Agree
3. It would be easy for me to become adept at using digital technology.	4.23	0.762	Strongly Agree
4. I find digital technology easy to use for my purposes.	4.32	0.832	Strongly Agree
5. I have sufficient knowledge to be able to use digital technology.	4.03	0.836	Agree
6. I can use these digital tools in my teaching.	4.45	0.675	Strongly Agree
7. I have sufficient skills to teach my learners to use digital technology as a tool for knowledge search, communication, creativity, and learning.	4.29	0.643	Strongly Agree
8. I feel comfortable using digital technology in education.	4.42	0.672	Strongly Agree
9. Colleagues who affect my work think I should use digital technology.	3.77	0.884	Agree
<b>Overall</b>	<b>4.11</b>	<b>0.633</b>	<b>Agree</b>

Note: Mean ( $\bar{x}$ ); Standard Deviation (s); Strongly Disagree (1.00-1.79), Disagree (1.80-2.59), Neutral (2.60-3.39), Agree (3.40-4.19), and Strongly Agree (4.20-5.00)

Teachers generally agreed ( $\bar{x}$ =4.11,  $s$ =0.633) that they possess the ability to use digital learning technologies effectively. The highest-rated indicators were “I can use these digital tools in my teaching” ( $\bar{x}$ =4.45,  $s$ =0.675) and “I feel comfortable using digital technology in education” ( $\bar{x}$ =4.42,  $s$ =0.672), both rated strongly agree, indicating high digital confidence and ease of use. The lowest item mean, “My use of digital technology does not require much effort” ( $\bar{x}$ =3.52,  $s$ =1.313), though still in the

agree range, shows that while teachers are competent, they still exert effort in adapting to digital tools. The composite mean of 4.11 ( $s$ =0.633) signifies that respondents are well-prepared to operate and apply digital platforms in instruction. This reflects the high level of technological knowledge and self-efficacy, consistent with the TPACK and Self-Efficacy theories cited in the study.

**Table 3:** Teachers' Preparedness in terms of Social Influence and Support

Social Influence and Support	Mean	SD	Interpretation
10. The conduit (e.g., school authorities) has, generally, supported the use of digital technology.	4.00	0.775	Agree
11. The organization (school) has supported the use of digital technology.	4.26	0.729	Strongly Agree
12. I intend to use digital technology in the coming year.	4.42	0.564	Strongly Agree
<b>Overall</b>	<b>4.23</b>	<b>0.573</b>	<b>Strongly Agree</b>

**Note:** Mean ( $\bar{x}$ ); Standard Deviation (s); Strongly Disagree (1.00-1.79), Disagree (1.80-2.59), Neutral (2.60-3.39), Agree (3.40-4.19), and Strongly Agree (4.20-5.00) perception of support suggests a favourable environment for continued technology use.

Teachers strongly agreed that their institutions and peers encourage technology use. The item "The organisation (school) has supported the use of digital technology" ( $\bar{x}=4.26$ ,  $s=0.729$ ) received the highest mean, followed closely by "I intend to use digital technology in the coming year" ( $\bar{x}=4.42$ ,  $s=0.564$ ). These results reveal a strong organisational culture of support, in which teachers perceive backing from administration and colleagues. The overall mean ( $\bar{x}=4.23$ ,  $s=0.573$ ) highlights the importance of facilitating conditions and social influence as motivators of digital adoption. The strong positive

The moderate mean indicates a balanced awareness. The teachers are neither overly optimistic nor dismissive about technology's scope. This awareness is critical, as it reflects reflective practice and critical evaluation, which are hallmarks of pedagogical maturity. The findings suggest that while teachers are generally positive, they remain mindful of contextual barriers such as curriculum fit or infrastructure.

**Table 4:** Teachers' Preparedness in terms of Intention of Use

Intention of Use	Mean	SD	Interpretation
13. I expect that I will use digital technology in the coming year.	4.58	0.672	Strongly Agree
14. I plan to use digital technology in the coming year.	4.52	0.626	Strongly Agree
15. I believe that the available supply of digital technology supports my teaching.	4.52	0.677	Strongly Agree
16. I believe that there are limitations to what the available digital technology can be used to teach in certain areas of my subjects.	3.48	1.313	Agree
<b>Overall</b>	<b>4.27</b>	<b>0.497</b>	<b>Strongly Agree</b>

**Note:** Mean ( $\bar{x}$ ); Standard Deviation (s); Strongly Disagree (1.00-1.79), Disagree (1.80-2.59), Neutral (2.60-3.39), Agree (3.40-4.19), and Strongly Agree (4.20-5.00).

The results demonstrate that teachers have a very high ( $\bar{x}=4.27$ ,  $s=0.497$ ) intention to continue integrating technology in their teaching. The items "I expect that I will use digital technology in the coming year" ( $\bar{x}=4.58$ ,  $s=0.672$ ) and "I plan to use digital technology in the coming year" ( $\bar{x}=4.52$ ,  $s=0.626$ ) both fall

under strongly agree, implying strong motivation and willingness to adopt digital tools. Even the acknowledgement of technology's limitations in some subjects ( $\bar{x}=3.48$ ,  $s=1.1313$ ) indicates realistic awareness rather than resistance.

**Table 5:** Teachers' Preparedness in terms of Limitation Awareness

Limitation Awareness	Mean	SD	Interpretation
17. I believe that some choices of knowledge content can limit the type of digital technology I can use.	3.45	1.287	Agree
18. I believe that digital technology can limit representations of knowledge content.	2.90	1.399	Neutral
19. I have found digital technology that is useful in my work.	4.32	0.791	Strongly Agree
<b>Overall</b>	<b>3.56</b>	<b>0.814</b>	<b>Agree</b>

**Note:** Mean ( $\bar{x}$ ); Standard Deviation (s); Strongly Disagree (1.00-1.79), Disagree (1.80-2.59), Neutral (2.60-3.39), Agree (3.40-4.19), and Strongly Agree (4.20-5.00)

Respondents agreed ( $\bar{x}=3.56$ ,  $s=0.814$ ) that certain constraints affect their ability to apply technology comprehensively in teaching. They strongly acknowledged that they have found

digital technology useful in their work ( $\bar{x}=4.32$ ,  $s=0.791$ ), yet also recognised some limitations in content representation and suitability across subjects ( $\bar{x}=3.45$ ,  $s=1.287$ ;  $\bar{x}=2.90$ ,  $s=1.399$ ).

**Table 6:** Teachers' Preparedness in terms of Usefulness and Efficiency

Usefulness and Efficiency	Mean	SD	Interpretation
20. Digital technology means that I can do my work faster.	4.35	0.709	Strongly Agree
21. Digital technology increases my productivity.	4.23	0.717	Strongly Agree
22. I believe that digital technology may enable a new and more diversified production of knowledge content.	4.48	0.626	Strongly Agree
23. I believe that digital technology can increase flexibility in choosing between these representations.	4.45	0.675	Strongly Agree
24. The digital tools in teaching help students achieve their learning goals.	4.35	0.661	Strongly Agree
25. The digital tools facilitate your way to assess the pupils' learning.	4.35	0.661	Strongly Agree
26. The digital tools facilitate the pupils' learning.	4.23	0.617	Strongly Agree
27. I think the digital tools that I have found, or been introduced to, support my pedagogical ideas.	4.35	0.661	Strongly Agree
28. I have access to the necessary resources to be able to use digital technology.	4.39	0.558	Strongly Agree
<b>Overall</b>	<b>4.35</b>	<b>0.515</b>	<b>Strongly Agree</b>

**Note:** Mean ( $\bar{x}$ ); Standard Deviation (s); Strongly Disagree (1.00-1.79), Disagree (1.80-2.59), Neutral (2.60-3.39), Agree (3.40-4.19), and Strongly Agree (4.20-5.00)

Teachers strongly agreed ( $\bar{x}=4.35$ ,  $s=0.515$ ) that digital technology is both useful and efficient for their instructional practices. All items had mean scores above  $\bar{x}=4.20$ , indicating consistent, strong perceptions across different aspects of usefulness. The highest-rated statement, “Digital technology may enable a new and more diversified production of knowledge content” ( $\bar{x}=4.48$ ,  $s=0.626$ ), emphasises that teachers perceive technology as an enabler of creative and flexible learning environments. Likewise, high agreement with items such as

“Digital tools in teaching help students achieve their learning goals” ( $\bar{x}=4.35$ ,  $s=0.661$ ) and “The digital tools facilitate the pupils’ learning” ( $\bar{x}=4.23$ ,  $s=0.617$ ) suggests that teachers view technology not only as a tool for productivity but also as a direct contributor to student learning outcomes. The uniform positivity implies a solid belief in the performance expectancy of technology, a component of the UTAUT model.

Table 7: Teachers’ Preparedness in terms of Assistance Awareness

Assistance Awareness	Mean	SD	Interpretation
29. I know where I can get help if I encounter a problem with digital technology.	3.94	0.892	Agree
30. If I run into problems with digital technology, I get help within a reasonable time.	4.23	0.617	Strongly Agree
31. I can find useful digital tools that can be easily integrated into my teaching.	4.52	0.626	Strongly Agree
32. I can influence which digital tools I use in my teaching.	4.42	0.620	Strongly Agree
33. I understand the potential of digital technology and how it can be used differently. Depending on the purpose and course content.	4.32	0.653	Strongly Agree
<b>Overall</b>	<b>4.28</b>	<b>0.548</b>	<b>Strongly Agree</b>

Note: Mean ( $\bar{x}$ ); Standard Deviation ( $s$ ); Strongly Disagree (1.00-1.79), Disagree (1.80-2.59), Neutral (2.60-3.39), Agree (3.40-4.19), and Strongly Agree (4.20-5.00)

Respondents expressed a high level of awareness ( $\bar{x}=4.28$ ,  $s=0.548$ ) of available assistance and support mechanisms when using digital technology. They strongly agreed with items such as “I can find useful digital tools that can be easily integrated into my teaching” ( $\bar{x}=4.52$ ,  $s=0.626$ ) and “I can influence which digital tools I use in my teaching” ( $\bar{x}=4.42$ ,  $s=0.620$ ), indicating a sense of autonomy and access to support resources.

The lowest-rated yet still high item was “I know where I can get help if I encounter a problem with digital technology” ( $\bar{x}=3.94$ ,  $s=0.892$ ), which suggests that while teachers are aware of help resources, access to immediate assistance might still vary. This high awareness is consistent with the facilitating conditions dimension of UTAUT, reflecting that teachers perceive their institutional environment as supportive of technology use.

Table 8: Teachers’ Preparedness in terms of Pedagogical Potential

Pedagogical Potential	Mean	SD	Interpretation
34. I’m actively looking for digital technology that I can use to facilitate student learning.	4.32	0.653	Strongly Agree
35. I am aware of the possibilities and limitations of digital technology in my teaching and how it may affect the pedagogical design of my topic.	4.23	0.762	Strongly Agree
<b>Overall</b>	<b>4.27</b>	<b>0.656</b>	<b>Strongly Agree</b>

Note: Mean ( $\bar{x}$ ); Standard Deviation ( $s$ ); Strongly Disagree (1.00-1.79), Disagree (1.80-2.59), Neutral (2.60-3.39), Agree (3.40-4.19), and Strongly Agree (4.20-5.00)

Teachers strongly agreed that technology holds great pedagogical potential ( $\bar{x}=4.27$ ,  $s=0.656$ ) to enhance teaching and learning. They actively look for digital tools to facilitate student learning ( $\bar{x}=4.32$ ,  $s=0.653$ ) and are aware of how technology affects the design of instruction ( $\bar{x}=4.23$ ,  $s=0.762$ ). The high scores reflect teachers’ recognition of technology as a pedagogical enabler, aligning with the TPACK framework. This shows that respondents are not just technically capable but are also pedagogically reflective in using digital tools. The results

indicate that teachers are conceptually ready to integrate technology to improve learning outcomes.

### 3.1 Objective 3

This section presents the analysis of teachers’ level of technology integration in teaching and examines its relationship with their preparedness indicators using descriptive and inferential statistics.

Table 9: Teachers' Level of Technology Integration in Teaching

Level of Technology Integration in Teaching	Mean	SD	Interpretation
1. I know how to solve my own technical problems.	3.84	0.934	Agree
2. I can learn technology easily	4.16	1.003	Agree
3. I keep up with important new technologies.	4.13	0.763	Agree
4. I frequently experiment with different technologies.	4.13	0.846	Agree
5. I know about a lot of different technologies.	3.81	0.873	Agree
6. I have the technical skills needed to use technology effectively.	4.13	0.718	Agree
7. I have had sufficient opportunities to work with various technologies.	4.03	0.706	Agree
8. I can use technology tools to process data and generate reports.	4.23	0.560	Strongly Agree
9. I can use technology to develop strategies for solving real-world problems.	4.26	0.682	Strongly Agree
10. I can design webpages and use authoring software.	3.35	0.915	Neutral
11. I understand the legal, ethical, cultural, and societal issues related to technology.	4.58	0.672	Strongly Agree
12. I know about technologies that I can use to enhance my understanding of the subject content.	4.42	0.620	Strongly Agree
13. I know how to use specific software and websites related to the subject content.	4.03	1.080	Agree
14. I can find and evaluate digital resources relevant to the subject content.	4.39	0.715	Strongly Agree
15. I can use technology to present the subject content effectively.	4.48	0.570	Strongly Agree
16. I can use technology tools and resources to manage and communicate information related to the subject content.	4.48	0.570	Strongly Agree
<b>Overall</b>	<b>4.15</b>	<b>0.463</b>	<b>Agree</b>

Note: Mean ( $\bar{x}$ ); Standard Deviation ( $s$ ); Strongly Disagree (1.00-1.79), Disagree (1.80-2.59), Neutral (2.60-3.39), Agree (3.40-4.19), and Strongly Agree (4.20-5.00)

Teachers agreed that they integrate technology at a relatively high level in their teaching, with several items reaching the strongly agree range. The highest-rated statements were “I understand the legal, ethical, cultural, and societal issues related to technology” ( $\bar{x}=4.58, s=0.672$ ), “I can use technology to present the subject content effectively” ( $\bar{x}=4.48, s=0.570$ ), and “I can use technology tools to manage and communicate information related to the subject content” ( $\bar{x}=4.48, s=0.570$ ). These results indicate strong competence in content-related technology application and responsible use.

However, moderate means for “I know how to solve my own technical problems” ( $\bar{x}=3.84, s=0.934$ ) and “I can design webpages and use authoring software” ( $\bar{x}=3.35, s=0.915$ ) suggest that teachers’ skills are primarily centred on instructional applications rather than advanced or creative uses of technology. The overall mean of 4.15 ( $s=0.463$ ) reflects a high but not extensive level of integration. This implies that teachers regularly use digital tools for teaching and assessment but may not yet employ them for more complex instructional innovations.

Table 10: Shapiro–Wilk Test for Bivariate Normality between Teacher Preparedness Indicators and Level of Technology Integration

Level of Technology Integration in Teaching	W	p-value	Distribution	Correlation
1. Ability to use Digital Learning Technology	0.927	0.011	Not Normal	Spearman's rho
2. Social Influence and Support	0.940	0.041	Not Normal	Spearman's rho
3. Intention of Use	0.952	0.130	Normal	Pearson's r
4. Limitation Awareness	0.954	0.155	Normal	Pearson's r
5. Usefulness and Efficiency	0.949	0.102	Normal	Pearson's r
6. Assistance Awareness	0.948	0.087	Normal	Pearson's r
7. Pedagogical Potential	0.920	0.005	Not Normal	Spearman's rho

Note: Significant at  $p<.05$ , which indicates a violation of the assumption of normality

This test examined whether the data distributions for each preparedness variable were normal to determine whether Pearson’s r or Spearman’s rho should be used in correlation analysis. The results show that some variables were normally distributed, while others were not. Specifically, Intention of Use ( $W=0.952, p=0.130$ ), Limitation Awareness ( $W=0.954, p=0.155$ ), Usefulness and Efficiency ( $W=0.949, p=0.102$ ), and Assistance Awareness ( $W=0.948, p=0.087$ ) were normally distributed ( $p>0.05$ ), hence analysed using Pearson’s r.

Meanwhile, Ability to Use Digital Learning Technology ( $W=0.927, p=0.011$ ), Social Influence and Support ( $W=0.940, p=0.041$ ), and Pedagogical Potential ( $W=0.920, p=0.005$ ) deviated from normality ( $p<0.05$ ), requiring Spearman’s rho. These results confirm that the data are mixed in distribution, typical of social science datasets where perceptions and attitudes vary widely among respondents. This ensures that the chosen correlation tests were appropriate and that the subsequent relationship results (Table 11) are statistically valid.

**Table 11:** Test of Relationship between Teacher Preparedness and Level of Technology Integration in Teaching

Level of Technology Integration in Teaching	r/p	Association	p	Conclusion
1. Ability to use Digital Learning Technology	-0.257	weak negative	0.163	Not Significant
2. Social Influence and Support	0.051	weak positive	0.783	Not Significant
3. Intention of Use	0.018	weak positive	0.924	Not Significant
4. Limitation Awareness	0.132	weak positive	0.478	Not Significant
5. Usefulness and Efficiency	-0.139	weak negative	0.457	Not Significant
6. Assistance Awareness	0.048	weak positive	0.796	Not Significant
7. Pedagogical Potential	-0.093	weak negative	0.617	Not Significant

**Note:** Significant at  $p < .05$ , which indicates a violation of the assumption of normality

The analysis reveals that none of the seven preparedness indicators: ability to use digital technology, social influence and support, intention of use, limitation awareness, usefulness and efficiency, assistance awareness, and pedagogical potential showed a statistically significant relationship with the level of technology integration. All correlation coefficients ( $r/p$ ) were weak, ranging from  $-0.257$  to  $+0.132$ , indicating minimal association.

The strongest (though weak) negative correlation was between *Ability to Use Digital Learning Technology* and *Technology Integration* ( $r = -0.257$ ,  $p = 0.163$ ), suggesting that higher self-rated ability did not necessarily correspond with higher integration levels. The highest positive correlation appeared with *Limitation Awareness* ( $r = 0.132$ ,  $p = 0.478$ ), implying that teachers' awareness of constraints had a slight positive relationship with integration, but not enough to be statistically meaningful. The remaining variables, such as *Social Influence and Support* ( $p = 0.051$ ), *Intention of Use* ( $r = 0.018$ ), *Usefulness and Efficiency* ( $r = -0.139$ ), *Assistance Awareness* ( $r = 0.048$ ), and *Pedagogical Potential* ( $p = -0.093$ ), all showed weak and nonsignificant associations.

Overall, these findings indicate that while teachers exhibit high preparedness across multiple dimensions, such preparedness does not significantly translate into actual technology integration in teaching. This outcome fails to reject the null hypothesis ( $H_0$ ).

## 5. CONCLUSION

This study examined the relationship between teacher preparedness and the level of technology integration among private high school teachers. The findings showed that teachers demonstrated a high level of preparedness across all measured indicators, reflecting strong digital competence, confidence, and positive attitudes toward educational technology. Results also indicated a high level of technology integration, suggesting that teachers regularly incorporate digital tools into instruction, although the depth of integration may vary across specific practices. Despite these positive levels, statistical analysis revealed no significant relationship between teacher preparedness and technology integration. This result supports the null hypothesis and suggests that individual capability alone does not necessarily lead to greater or more meaningful use of technology in the classroom. This implies that systemic and institutional conditions—such as infrastructure quality, administrative support, workload, and opportunities to apply technology—play a more influential role in shaping actual integration, emphasising the need to strengthen these external

factors to translate teacher readiness into sustained and effective technology-enhanced teaching.

## 6. Recommendations

Based on the findings showing consistently high teacher preparedness and high technology integration scores but no significant relationship between the two variables, this study recommends that schools and policymakers shift their focus from further increasing teacher preparedness to addressing systemic and contextual barriers that may hinder deeper or more frequent technology integration. Although teachers demonstrated strong digital competence (Means  $> 4.0$ ), limitations such as internet speed and reliability, availability of devices, institutional policies, time constraints, curriculum demands, administrative workload, and concerns regarding student misuse or academic dishonesty may function as bottlenecks. The absence of a significant correlation may also be attributed to a ceiling effect, as respondents rated themselves highly across both preparedness and integration indicators, limiting statistical variability and reducing the likelihood of detecting meaningful relationships. Thus, rather than emphasizing additional basic or advanced skills training alone, administrators should strengthen institutional support by improving infrastructure reliability, ensuring stable internet and device access, reducing non-teaching tasks, and creating structured opportunities for applied integration. Furthermore, future studies are advised to conduct pilot testing of research instruments prior to full implementation to ensure clarity, reliability, and appropriate difficulty of survey items, thereby minimizing response bias and reducing the likelihood of ceiling effects. In addition, future researchers are encouraged to involve a larger and more diverse sample across multiple schools and employ qualitative or mixed-method approaches, such as interviews and classroom observations, to better explain why highly prepared teachers do not necessarily demonstrate increased technology integration—an issue that this study, due to its limited sample size and quantitative design, was unable to fully capture.

## 7. Acknowledgement

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### Ethical Considerations

This study strictly adhered to established ethical standards in quantitative research by upholding academic integrity throughout the entire process. The researchers ensured that no form of plagiarism, data fabrication, falsification, or duplicate publication was committed, and all data presented were accurate, original, and free from manipulation. Participation in the study was voluntary, and informed consent was obtained from all respondents before data collection, ensuring that they were fully aware of the purpose, procedures, and their rights, including the option to withdraw at any time without consequence. The privacy and confidentiality of participants were protected by anonymising all responses and securely handling collected data, which were used solely for research purposes. Any potential conflicts of interest or sources of funding were transparently disclosed to maintain credibility and objectivity. Furthermore, the study ensured that no harm, risk, or discomfort was imposed on participants and that all findings were reported honestly and responsibly to contribute meaningful and trustworthy insights.

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## APPENDIX A

## Letter of Informed Consent



October 29, 2025

Dear Respondents:

Greetings!

We, Grade 12-Knuth researchers from Mapúa Malayan Colleges Mindanao, are conducting a study entitled "Teacher Preparedness and Level of Technology Integration in Teaching among High School Teachers in Private Schools". This study seeks to examine the significant relationship between teacher preparedness and technology integration in classroom teaching, focusing on teachers' ability to use digital tools, awareness of limitations and assistance needs, perceived usefulness and efficiency, pedagogical potential, social influence and support, and intention to use technology. Your participation will provide valuable insights that will deepen our understanding of technology integration in education.

Please be assured that your privacy and confidentiality are of utmost importance. All information collected will be treated with strict confidentiality, ensuring that your identity remains completely anonymous. No personal identifying information will be shared or disclosed without your explicit consent.

As a participant, you can expect the following:

1. Participation is voluntary, and you may withdraw at any time without penalty.
2. Your identity will remain confidential throughout the study.
3. All data will be securely stored and used only for research purposes.
4. Findings may be published or presented, but without personally identifiable information.
5. You may request a summary of the final results after the study's completion.

If you agree to participate, kindly tick the box below and provide your full name and signature. Should you have any questions or concerns, feel free to reach out for clarification.


We sincerely thank you for your time and contribution. Your participation will play an essential role in advancing knowledge on teacher preparedness and technology integration in education.

Thank you very much.


Respectfully,


Abellon, Riza Mae R.  
Abjelina, Kirby Anne D.  
Abuloc, Rio Vienne U.

Casimiro, Zowie Ann Marie J.  
Fernandez, James Adrian J.



Noted by:

  
Ramcel Pearl D. Pacarat, LPT  
Research Teacher

  
April Luz G. Vete, LPT  
Research Adviser

---

<input type="checkbox"/>	I accept to become one of the respondents.
<input type="checkbox"/>	I reject becoming one of your respondents because _____

---

\_\_\_\_\_  
Name and Signature of the Respondent

\_\_\_\_\_  
Date

APPENDIX C

Questionnaires

Part I. Demographic Information

- Age: \_\_\_\_\_
- Gender:  Male  Female  non-binary  Prefer not to say
- Years of Teaching Experience (total years in the profession)
  - 0 – 5 years
  - 6 – 10 years
  - 11 – 15 years
  - 16 – 20 years
  - 21 – more

**Part II. Teachers' Preparedness to Use ICT in Education**

**Instructions:** Please indicate your level of agreement with the following statements by selecting the option that best reflects your perspective.

**Scale:** 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

	1 = Strongly Disagree	2 = Disagree	3 = Neutral	4 = Agree	5 = Strongly Agree
• My use of digital technology does not require much effort.					
• It is easy for me to learn how to use digital technology.					
• It would be easy for me to become adept at using digital technology.					
• I find digital technology easy to use for my purposes.					
• I have sufficient knowledge to be able to use digital technology.					
• I can use these digital tools in my teaching.					
• I have sufficient skills to teach my learners to use digital technology as a tool for knowledge search, communication, creativity, and learning.					
• I feel comfortable using digital technology in education.					
• Colleagues who affect my work think I should use digital technology.					
• The conduit (e.g., school authorities) has, generally, supported the use of digital technology.					
• The organisation (school) has supported the use of digital technology.					
• I intend to use digital technology in the coming year.					
• I expect that I will use digital technology in the coming year.					
• I plan to use digital technology in the coming year.					
• I believe that the available supply of digital technology supports my teaching.					
• I believe that there are limitations to what the available digital technology can be used to teach in certain areas of my subjects.					
• I believe that some choices of knowledge content can limit the type of digital technology I can use.					
• I believe that digital technology can limit representations of knowledge content.					
• I have found digital technology that is useful in my work.					
• Digital technology means that I can do my work faster.					
• Digital technology increases my productivity.					
• I believe that digital technology may enable a new and more diversified production of knowledge content.					
• I believe that digital technology can increase flexibility in choosing between these representations.					
• The digital tools in teaching help students achieve their learning goals.					
• The digital tools facilitate your way to assess the learners.					
• The digital tools facilitate the learners.					
• I think the digital tools that I have found, or been introduced to, support my pedagogical ideas.					
• I have access to the necessary resources to be able to use digital technology.					
• I know where I can get help if I encounter a problem with digital technology.					
• If I run into problems with digital technology, I get help within a reasonable time.					
• I can find useful digital tools that can be easily integrated into my teaching.					
• I can influence which digital tools I use in my teaching.					
• I understand the potential of digital technology and how it can be used differently. Depending on the purpose and course content.					
• I'm actively looking for digital technology that I can use to facilitate student learning.					
• I am aware of the possibilities and limitations of digital technology in my teaching and how it may affect the pedagogical design of my topic.					

**Part III. Item for Measuring Technology Knowledge**

Instructions: Please indicate your level of agreement with the following statements by selecting the option that best reflects your perspective.

**Scale:** 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

	1 = Strongly Disagree	2 = Disagree	3 = Neutral	4 = Agree	5 = Strongly Agree
• I know how to solve my own technical problems.					
• I can learn technology easily					
• I keep up with important new technologies.					
• I frequently experiment with different technologies.					
• I know about a lot of different technologies.					
• I have the technical skills needed to use technology effectively.					
• I have had sufficient opportunities to work with various technologies.					
• I can use technology tools to process data and generate reports.					
• I can use technology to develop strategies for solving real-world problems.					
• I can design webpages and use authoring software.					
• I understand the legal, ethical, cultural, and societal issues related to technology.					

**Part IV. Item for measuring Technological Content Knowledge**

Instructions: Please indicate your level of agreement with the following statements by selecting the option that best reflects your perspective.

**Scale:** 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

	1 = Strongly Disagree	2 = Disagree	3 = Neutral	4 = Agree	5 = Strongly Agree
• I know about technologies that I can use to enhance my understanding of the subject content.					
• I know how to use specific software and websites related to the subject content.					
• I can find and evaluate digital resources relevant to the subject content.					
• I can use technology to present the subject content effectively.					
• I can use technology tools and resources to manage and communicate information related to the subject content.					