



ATTITUDE IN ACTION: EXAMINING PUBLIC SCHOOL TEACHERS' TECHNOLOGY PERCEPTIONS AND ICT UTILIZATION IN SIBULAN DISTRICT II

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ABSTRACT

The study aimed to examine teachers' attitudes toward technology and their level of Information and Communication Technology (ICT) utilization in the classroom in Sibulan District II. Specifically, it sought to determine teachers' attitudes in terms of perceived usefulness, perceived ease of use, and confidence in using technology, as well as their level of ICT utilization in terms of frequency of use, types of technology tools used, and purpose of technology integration. The study also aimed to investigate the significant relationship between teachers' attitudes toward technology and their level of ICT utilization in the classroom. The researcher utilized the descriptive-correlational survey design. The respondents of the study were the teachers from Sibulan District II. A standardized questionnaire administered through Google Forms was used to gather data, and the weighted mean and Pearson Product-Moment Correlation Coefficient were employed in treating the data. The results revealed that the level of teachers' attitudes toward technology is "very high" in terms of perceived usefulness, perceived ease of use, and confidence in using technology. Similarly, the level of ICT utilization among teachers in the classroom is also "very high" in terms of frequency of use, types of technology tools used, and purpose of technology integration. The data further indicated that there is a significant relationship between teachers' attitudes toward technology and their level of ICT utilization in the classroom. These findings imply that more positive attitudes toward technology lead to higher levels of ICT integration in teaching practices. This highlights

the importance of strengthening teachers' technological competence, confidence, and positive perceptions to further enhance effective ICT utilization in the classroom.

Keywords: *Classroom Technology Integration, ICT Utilization, Perceived Usefulness, Teachers' Attitudes toward Technology, Technology Acceptance Model (TAM)*

INTRODUCTION

Globally, the integration of technology in education has become a central priority as schools responded to the demands of the digital age. Teachers' attitudes toward technology were widely recognized as a critical factor influencing the successful integration of digital tools in teaching and learning (Scherer *et al.*, 2019). In many educational systems, Information and Communication Technology (ICT) was promoted to enhance instructional delivery, increase student engagement, and support flexible and personalized learning environments (Bond *et al.*, 2021). For instance, studies showed that teachers who perceived technology as useful and easy to use were more likely to integrate ICT effectively into their instructional practices (Samuelsson *et al.*, 2021). However, despite the increasing availability of educational technologies, challenges persisted in achieving consistent and meaningful ICT integration, particularly when teachers experienced low confidence or limited digital competence (König *et al.*, 2020).

In the Philippine context, ICT integration in education was strongly supported through national policies and reform initiatives aimed at improving teaching quality and learner outcomes. The Department of Education implemented the Basic Education Development Plan 2030, which emphasized digital transformation and the integration of technology to support inclusive and flexible learning delivery (Department of Education, 2022). Studies conducted in the Philippines indicated that while teachers generally exhibited positive attitudes toward ICT, their actual level of classroom integration varied significantly depending on access to infrastructure, availability of training, and institutional support systems (Toquero, 2020). Moreover, evidence suggested that teachers often utilized technology primarily for basic instructional tasks such as presentations and content delivery, with limited engagement in more interactive and student-centered digital practices (Costa, 2022; OECD, 2021). These findings suggested that although teachers' attitudes toward technology were generally favorable, such perceptions did not always translate into effective and meaningful ICT integration in classroom practice, particularly in public school settings such as Sibulan District II.

Despite the increasing emphasis on digital transformation in education, there remains a gap in understanding how teachers' attitudes toward technology translate into actual ICT utilization in classroom practice. While existing studies have examined either teacher perceptions or ICT usage separately, fewer have explored the direct relationship between perceived usefulness, ease of use, confidence, and the frequency, type, and purpose of technology integration (Xiong *et al.*, 2022). This gap is particularly relevant in public school contexts where disparities in training and access to digital tools may influence implementation outcomes. At the same time, this study aligns with Sustainable

Development Goal (SDG) 4, which aims to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (United Nations, 2015). By examining teachers’ attitudes and ICT utilization, this study contributes to strengthening evidence on how digital readiness can support improved teaching practices and educational quality.

As researchers in the field of educational management, the proponents of this study are motivated to contribute meaningful insights into how teacher attitudes influence technology integration in classrooms. This study is not only conducted to fulfill academic requirements but also to provide empirical evidence that may guide school leaders, policymakers, and educators in strengthening ICT-related interventions. Ultimately, the findings are expected to support the enhancement of teachers’ digital competence, improve instructional practices, and promote more effective integration of technology in the teaching and learning process in Sibulan District II.

Research Questions

This study aimed to examine teachers’ attitudes toward technology and their level of ICT utilization in the classroom in Sibulan District II. Specifically, it sought to answer the following questions:

1. What is the level of teachers’ attitudes toward technology in terms of:
 - 1.1. perceived usefulness,
 - 1.2 perceived ease of use, and
 - 1.3 confidence in using technology?
2. What is the level of ICT utilization among teachers in the classroom in terms of:
 - 2.1 frequency of use,
 - 2.2 types of technology tools used, and
 - 2.3 purpose of technology integration?
3. Is there a significant relationship between teachers’ attitudes toward technology and their level of ICT utilization in the classroom?

METHODOLOGY

This section presents the methods and procedures used in conducting the study, including the research design, respondents, sampling technique, research instruments, data gathering, data analysis and ethical consideration to ensure the accuracy and reliability of the results.

Research Design

This study utilized a descriptive-correlational quantitative research design to examine teachers’ attitudes toward technology and their level of ICT utilization in the classroom in Sibulan District II. The design was chosen because it allowed the researchers to describe existing conditions and determine relationships among variables

without manipulating them. It provided a systematic and factual description of teachers' technology perceptions and their actual use of ICT in instructional practices.

The descriptive component of the study focused on determining the level of teachers' attitudes toward technology in terms of perceived usefulness, perceived ease of use, and confidence in using technology. It also described the level of ICT utilization among teachers in the classroom in terms of frequency of use, types of technology tools used, and purpose of technology integration. This component enabled the researchers to present a clear picture of how teachers perceive and utilize technology in their teaching within the context of Sibulan District II.

Meanwhile, the correlational component aimed to determine whether there is a significant relationship between teachers' attitudes toward technology and their level of ICT utilization in the classroom. Correlational analysis was appropriate for this study as it examined whether variations in teachers' attitudes are associated with variations in their ICT utilization practices. According to Creswell and Creswell (2023), correlational research is used to identify the degree and direction of relationships between variables. The researchers adopted this design to provide an objective understanding of how teachers' perceptions of technology influence their classroom practices, which may serve as a basis for improving ICT integration in Sibulan District II.

Respondents

The respondents of this study consisted of 115 teachers from Sibulan District II, including those from the elementary, secondary, and senior high school levels. These teachers were currently employed in public schools within the district and were actively engaged in classroom instruction during the conduct of the study. They were selected as respondents because they are directly involved in the integration of technology in teaching and are therefore capable of providing relevant data regarding their attitudes toward technology and their level of ICT utilization in the classroom.

The inclusion of teachers from different educational levels allowed the study to capture a broader perspective on technology use across various teaching contexts. Elementary teachers contributed insights into foundational instruction, while secondary and senior high school teachers provided perspectives on more specialized applications of ICT. This diversity ensured a comprehensive understanding of how technology is perceived and utilized across the educational system in Sibulan District II, making the respondents appropriate sources of data for examining the relationship between teachers' attitudes toward technology and their ICT utilization practices.

Sampling Technique

This study employed a simple random sampling technique in selecting the respondents from the population of teachers in Sibulan District II. Simple random sampling was used to ensure that every teacher, regardless of grade level or subject area, had an equal chance of being selected to participate in the study. This method helped

minimize selection bias and increased the representativeness of the sample, thereby enhancing the validity of the findings.

A complete list of teachers from the elementary, secondary, and senior high school levels served as the sampling frame. From this list, 115 teachers were randomly selected using an appropriate randomization method, such as a lottery technique or random number generator. According to Creswell and Creswell (2023), simple random sampling is an effective technique for quantitative studies as it allows for generalization of results to the target population. Thus, this sampling approach was deemed suitable for ensuring that the selected respondents adequately represented the teachers in Sibulan District II.

Research Instrument

The study utilized a self-made questionnaire to gather data on the two major variables: teachers' attitudes toward technology and ICT utilization in the classroom. The questionnaire consists of four (4) parts. Part I presents the disclosure statement, which informs the respondents about the purpose of the study, assures them of the confidentiality of their responses, and emphasizes that participation is voluntary. Part II covers the profile of the respondents. Part III measures teachers' attitudes toward technology, while Part IV assesses the level of ICT utilization in the classroom.

Parts III and IV were developed based on established studies and frameworks, particularly the Technology Acceptance Model (TAM) by Davis (1989), and further supported by Teo (2011) and Scherer *et al.* (2019). Part III includes indicators such as perceived usefulness, perceived ease of use, and confidence in using technology, which determine how teachers view and accept technology integration in their teaching practices. Part IV focuses on ICT utilization, including frequency of use, types of technological tools, and purpose of integration such as instruction, assessment, engagement, and collaboration. All items in Parts III and IV were measured using a 5-point Likert scale ranging from strongly disagree to strongly agree.

The questionnaire underwent a validation process to ensure its clarity, relevance, and alignment with the objectives of the study. It was evaluated by three (3) experts in the field of education and research. Two of the validators were Master Teachers with doctorate degrees and extensive experience in instructional supervision, while the third validator was a Research Coordinator and a PhD in Educational Management candidate. Their feedback led to revisions in wording, structure, and alignment of the items, after which the instrument was finalized.

A dry run was conducted to test the reliability of the instrument. A total of thirty (30) teachers who were not part of the actual respondents participated in the pilot testing. This process helped identify unclear items and ensured the consistency of the questionnaire. To further establish reliability, the Cronbach's Alpha Test was applied. This statistical test is appropriate for survey research where responses are measured on a scale rather than classified as right or wrong (Bujang *et al.*, 2018). The results yielded the following Cronbach's Alpha coefficients: 0.818 for perceived usefulness, 0.706 for perceived ease of use, and 0.724 for confidence in using technology. For ICT utilization part, 0.810 for

frequency of use, 0.739 for types of technological use and 0.782 for purpose of integration. These values indicate acceptable internal consistency, signifying that the items in each variable are reliable and suitable for data collection.

Data Gathering Procedure

The researcher followed a systematic process in gathering the data needed for the study. Initially, a formal request letter was prepared and submitted to the Schools Division Superintendent and the respective school heads to secure permission to conduct the study. Upon approval, coordination with school administrators was undertaken to facilitate the distribution of the research instrument to the selected respondents.

The primary data were collected through a structured questionnaire administered using Google Forms. The instrument was adapted from validated studies on clinical supervision and ICT utilization and was subjected to expert validation to ensure its clarity, relevance, and appropriateness. Prior to the actual data collection, a dry run (pilot testing) was conducted among a small group of teachers who were not part of the actual respondents. This process helped determine the reliability of the instrument and identify any ambiguous or unclear items.

After finalizing the questionnaire, the Google Form link was distributed to the selected teacher-respondents through official communication channels. The purpose of the study was clearly explained in the form, and respondents were assured of the confidentiality and anonymity of their responses. Participation was voluntary, and respondents were given sufficient time to complete the questionnaire.

Once the data collection period ended, responses were automatically recorded in the Google Forms database. The researcher then reviewed the responses for completeness and consistency. The collected data were subsequently downloaded, organized, and prepared for statistical analysis.

Data Analysis Procedure

The data gathered from the respondents were analyzed using appropriate statistical tools to answer the research questions of the study. Descriptive and inferential statistics were employed. To determine the level of clinical supervision and ICT utilization, the weighted mean was used. This statistical measure provided the average responses of the participants for each indicator as well as for the overall variables. The computed means were interpreted using a Likert scale with corresponding descriptive equivalents.

To determine the relationship between clinical supervision and ICT utilization, the Pearson Product-Moment Correlation Coefficient (r) was utilized. This statistical test measured the strength and direction of the relationship between the variables. All data were encoded and analyzed using appropriate statistical software. The results were presented in tabular form and interpreted in accordance with the objectives of the study.

RESULTS

Table 1.1 Level of teachers' attitudes toward technology in terms of perceived usefulness (n=115)

Teachers' Attitude toward Technology in terms of Perceived Usefulness		Weighted Mean	VD	LoA
1. Using technology improves my teaching performance.		4.72	SA	VH
2. Technology helps me deliver lessons more effectively.		4.68	SA	VH
3. Using ICT enhances students' understanding of the lesson.		4.65	SA	VH
4. Technology makes my teaching tasks more efficient.		4.70	SA	VH
5. ICT integration improves students' engagement in class.		4.69	SA	VH
Composite		4.69	SA	VH
Legend:				
	Scale	Verbal Description (VD)		Level of Attitude (LoA)
	4.21 – 5.00	Strongly Agree (SA)		Very High (VH)
	3.41 – 4.20	Agree (A)		High (H)
	2.61 – 3.40	Moderately Agree (MO)		Moderately (M)
	1.81 – 2.60	Disagree (D)		Low (L)
	1.00 – 1.80	Strongly Disagree (SD)		Very Low (VL)

Table 1.1 shows the level of teachers' attitudes toward technology in terms of perceived usefulness among the teachers of Sibulan District II. The composite mean of 4.69, interpreted as *strongly agree* with a *very high* level of attitude, indicates that teachers strongly perceive technology as beneficial in their teaching practices. This demonstrates that teachers strongly perceive technology as an essential tool in enhancing teaching performance, improving efficiency, and supporting student learning. Teachers recognize that integrating ICT contributes positively to instructional delivery and classroom engagement. This finding is supported by Peng *et al.* (2024), who found that perceived usefulness significantly influences teachers' intention and actual integration of ICT in instructional practices, emphasizing its role as a key determinant of technology adoption. Similarly, Akram *et al.* (2022) highlighted that teachers who perceive technology as useful are more likely to integrate ICT effectively, as positive beliefs about its benefits enhance both motivation and instructional use. These findings align with the present results and reinforce the importance of strengthening teachers' positive perceptions of ICT.

Table 1.2 Level of teachers' attitudes toward technology in terms of perceived ease of use (n=115)

Teachers' Attitude toward Technology in terms of Perceived Ease of Use		Weighted Mean	VD	LoA
1. Learning to use technology for teaching is easy for me.		4.45	SA	VH
2. I find ICT tools easy to use in my classroom.		4.40	SA	VH

3. It is easy for me to integrate technology into my lessons.	4.35	SA	VH
4. I can quickly learn new educational technologies.	4.28	SA	VH
5. Using ICT does not require much mental effort.	3.78	A	H
Composite	4.25	SA	VH
Legend:	Scale	Verbal Description (VD)	Level of Attitude (LoA)
	4.21 – 5.00	Strongly Agree (SA)	Very High (VH)
	3.41 – 4.20	Agree (A)	High (H)
	2.61 – 3.40	Moderately Agree (MO)	Moderately (M)
	1.81 – 2.60	Disagree (D)	Low (L)
	1.00 – 1.80	Strongly Disagree (SD)	Very Low (VL)

Table 1.2 depicts the level of teachers' attitudes toward technology in terms of perceived ease of use among the teachers of Sibulan District II. The composite mean of 4.25, interpreted as *strongly agree* with a *very high* level, indicates that teachers generally find technology easy to use in their instructional activities. This suggests that teachers experience minimal difficulty in learning, operating, and integrating ICT tools into instruction. In the study, Xiao *et al.* (2024) found that perceived ease of use significantly influences teachers' acceptance and intention to use educational technology, highlighting that user-friendly systems encourage more consistent classroom integration. Similarly, Zhang and Zhu (2025) emphasized that teachers' attitudes toward ICT are strongly shaped by perceived ease of use, noting that when technologies are easy to operate, teachers are more confident and willing to integrate them effectively into teaching practices.

Table 1.3 Level of teachers' attitudes toward technology in terms of confidence in using technology (n=115)

Teachers' Attitude toward Technology in terms of Confidence in Using Technology	Weighted Mean	VD	LoA
1. I feel confident using technology in my teaching.	4.37	SA	VH
2. I can troubleshoot basic technical problems during class.	3.85	A	H
3. I am comfortable exploring new digital tools for teaching.	4.26	SA	VH
4. I can effectively manage a class while using technology.	4.35	SA	VH
5. I believe I have sufficient skills to integrate ICT in teaching.	4.19	A	H
Composite	4.20	A	H
Legend:	Scale	Verbal Description (VD)	Level of Attitude (LoA)
	4.21 – 5.00	Strongly Agree (SA)	Very High (VH)
	3.41 – 4.20	Agree (A)	High (H)
	2.61 – 3.40	Moderately Agree (MO)	Moderately (M)
	1.81 – 2.60	Disagree (D)	Low (L)
	1.00 – 1.80	Strongly Disagree (SD)	Very Low (VL)

Table 1.3 also points out the level of teachers' attitudes toward technology in terms of confidence among the teachers of Sibulan District II. The composite mean of 4.20, interpreted as *agree* with a *high* level, indicates that teachers are generally confident in their ability to use technology in teaching. This suggests that while teachers are capable and comfortable using technology, there are still areas where confidence can be further strengthened, particularly in more complex or technical aspects of ICT integration. Teacher confidence, often linked to self-efficacy, plays a crucial role in determining how effectively technology is used in instructional settings. Studies have shown that teachers' digital self-efficacy significantly influences their ability to integrate technology meaningfully in the classroom (Blannin *et al.*, 2025; Bueno-Baquero *et al.*, 2026).

Table 2.1 Level of ICT Utilization among teachers in the classroom in terms of frequency of use (n=115)

Teachers ICT Utilization in the Classroom in terms of Frequency of Use		Weighted Mean	VD	LoU
1. I use technology in my teaching regularly.		4.37	SA	VH
2. I use ICT tools during lesson presentations.		4.46	SA	VH
3. I integrate digital tools in classroom activities.		4.20	A	H
4. I use technology in assessing student learning.		4.13	A	H
5. I incorporate ICT in most of my lessons.		4.23	SA	VH
Composite		4.28	SA	VH
Legend:	Scale	Verbal Description (VD)		Level of Utilization (LoU)
	4.21 – 5.00	Strongly Agree (SA)		Very High (VH)
	3.41 – 4.20	Agree (A)		High (H)
	2.61 – 3.40	Moderately Agree (MO)		Moderately (M)
	1.81 – 2.60	Disagree (D)		Low (L)
	1.00 – 1.80	Strongly Disagree (SD)		Very Low (VL)

Table 2.1 shows the level of ICT utilization in terms of frequency of use among the teachers of Sibulan District II. The composite mean of 4.28, interpreted as *strongly agree* with a *very high* level of utilization, indicates that teachers frequently use technology in their teaching. This suggests that technology has become a regular and essential component of instruction, reflecting teachers' readiness and willingness to incorporate digital tools in delivering lessons, facilitating activities, and assessing student learning. A very high level of ICT utilization implies that teachers recognize the value of technology in enhancing teaching effectiveness and student engagement. This finding is supported by Timotheou *et al.* (2022) found that teachers who frequently integrate ICT demonstrate stronger instructional adaptability and are more likely to implement student-centered and technology-enhanced teaching strategies. Likewise, Aznar-Díaz *et al.* (2025) emphasized that sustained and frequent use of digital tools in teaching contributes to improved instructional quality, particularly in enhancing lesson delivery, engagement, and formative assessment practices.

Table 2.2 Level of ICT Utilization among teachers in the classroom in terms of types of technology tools used (n=115)

Teachers ICT Utilization in the Classroom in terms of Types of Technology Used		Weighted Mean	VD	LoU
1. I use computers/laptops in teaching.		4.68	SA	VH
2. I use multimedia projectors or presentations (e.g., PowerPoint).		4.57	SA	VH
3. I use mobile devices or tablets for instruction.		3.96	A	H
4. I use online platforms (e.g., Google Classroom, LMS).		3.89	A	H
5. I use educational apps or digital learning tools.		4.02	A	H
Composite		4.22	SA	VH
Legend:	Scale	Verbal Description (VD)		Level of Utilization (LoU)
	4.21 – 5.00	Strongly Agree (SA)		Very High (VH)
	3.41 – 4.20	Agree (A)		High (H)
	2.61 – 3.40	Moderately Agree (MO)		Moderately (M)
	1.81 – 2.60	Disagree (D)		Low (L)
	1.00 – 1.80	Strongly Disagree (SD)		Very Low (VL)

Table 2.2 also indicates the level of ICT utilization based on the types of technology tools used among the teachers of Sibulan District II. The composite mean of 4.22, interpreted as *strongly agree* with a *very high* level, indicates that teachers use a variety of technological tools in their teaching. Such findings supported by the study of Mayantao and Tantiado (2024), who found that teachers' confidence in using various digital tools significantly influences their level of ICT utilization, with higher confidence leading to more frequent and effective integration of technology in instruction. Similarly, Zhang and Zhu (2025) emphasized that teachers' digital competence and ease of using technological tools enhance their ability to integrate ICT effectively, enabling them to adapt different technologies in diverse teaching and learning contexts. These findings confirm that familiarity and ease of use of ICT tools play a crucial role in facilitating high levels of technology integration in the classroom.

Table 2.3 Level of ICT Utilization among teachers in the classroom in terms of purpose of technology integration (n=115)

Teachers ICT Utilization in the Classroom in terms of purpose of technology integration		Weighted Mean	VD	LoU
1. I use computers/laptops in teaching.		4.45	SA	VH
2. I use multimedia projectors or presentations (e.g., PowerPoint).		4.37	SA	VH
3. I use mobile devices or tablets for instruction.		4.19	A	H
4. I use online platforms (e.g., Google Classroom, LMS).		4.26	SA	VH
5. I use educational apps or digital learning tools.		4.51	SA	VH
Composite		4.36	SA	VH
Legend:	Scale	Verbal Description (VD)		Level of Utilization (LoU)
	4.21 – 5.00	Strongly Agree (SA)		Very High (VH)

3.41 – 4.20	Agree (A)	High (H)
2.61 – 3.40	Moderately Agree (MO)	Moderately (M)
1.81 – 2.60	Disagree (D)	Low (L)
1.00 – 1.80	Strongly Disagree (SD)	Very Low (VL)

Table 2.3 reveals the level of ICT utilization in the classroom based on its purpose of technology integration among the teachers of Sibulan District II. The composite mean of 4.36, interpreted as *strongly agree* with a *very high* level, indicates that teachers use ICT for various instructional purposes. This suggests that educators are highly motivated to integrate digital technologies and are willing to continuously incorporate them into their instructional strategies. This finding is supported by Peng *et al.* (2024), who found that teachers' attitudes, motivation, and digital competence significantly influence their level of ICT integration in instructional practices. Similarly, Warsi and Rani (2024) highlighted that teachers' willingness and motivation to adopt digital tools strongly contribute to meaningful and sustained ICT integration in educational settings. These findings reinforce that teachers' motivation and positive perception toward technology play a crucial role in achieving high levels of ICT utilization.

Table 3. Relationship between teachers' attitudes toward technology and their level of ICT utilization in the classroom

		Teachers' Attitudes Toward Technology	Teachers Level of ICT Utilization in the Classroom
Teachers' Attitudes Toward Technology	Pearson's r	—	
	Df	—	
	p-value	—	
Teachers Level of ICT utilization in the Classroom	Pearson's r	0.673	—
	Df	113	—
	p-value	<.001	—

Table 3 shows the relationship between teachers' attitudes toward technology and their level of ICT utilization in the classroom. The correlation coefficient ($r = 0.673$) indicates a strong positive relationship between teachers' attitudes toward technology and their level of ICT utilization. This means that as teachers' attitudes toward technology become more positive, their level of ICT utilization in the classroom also tends to increase, and vice versa. The $p\text{-value} = <.001$, which is less than 0.05, tells us that the correlation is statistically significant. Therefore, the null hypothesis is rejected.

DISCUSSION

Level of teachers' attitudes toward technology in terms of perceived usefulness

The highest-rated item in the perceived usefulness is the statement *"Using technology improves my teaching performance,"* which received a weighted mean of 4.72, indicating "very high". The result indicates that teachers experience improved lesson delivery, better organization of content, and more effective communication of ideas when using ICT. When teachers perceive technology as performance-enhancing, they are more likely to integrate it consistently in their teaching practices. This is consistent with the study of Ghimire and Edwards (2024) they found that perceived usefulness significantly influences educators' acceptance and continuous integration of digital tools in instructional practice, highlighting that teachers are more likely to adopt technologies they believe improve their teaching effectiveness. Similarly, Guo *et al.* (2026) emphasized that perceived usefulness is a core dimension of teachers' technology acceptance and is strongly associated with higher levels of ICT integration and instructional improvement.

The next highest result is the statement *"Technology makes my teaching tasks more efficient,"* with a weighted mean of 4.70, also classified as "very high". This demonstrates that teachers strongly agree that technology simplifies instructional tasks such as lesson preparation, presentation, and assessment. Efficiency gained through ICT allows teachers to maximize instructional time and focus more on student learning. This finding implies the importance of continuing to provide teachers with access to reliable technological tools and resources that streamline their work. Feng *et al.* (2025) found that efficiency-related factors are among the key determinants influencing educational technology adoption, as teachers are more likely to integrate tools that improve workflow and reduce workload. Similarly, Peng *et al.* (2023) highlighted that positive ICT attitudes and actual use of technology are associated with improved learning outcomes and more effective instructional processes in blended learning environments.

Similarly, the item *"ICT integration improves students' engagement in class."* also garnered a "very high" rating of 4.69. This indicates that teachers strongly agree that technology increases student participation and interest during lessons. Engaging digital tools such as videos, simulations, and interactive activities capture students' attention and encourage active learning. However, while the rating remains very high, continuous efforts may be made to further diversify the use of interactive technologies to sustain engagement. Similarly, Su *et al.* (2023) emphasized that technology-enhanced learning environments promote higher levels of student engagement by fostering active participation, interaction, and sustained attention during instructional activities. In addition, Peng *et al.* (2023) highlighted that ICT integration positively influences behavioral, emotional, and cognitive engagement, as digital tools make learning more interactive and responsive to students' needs.

Following this, the statement *"Technology helps me deliver lessons more effectively."* received a weighted mean of 4.68, interpreted as "very high". Teachers perceive technology as a means of enhancing clarity, engagement, and organization in

lesson delivery. The use of multimedia presentations, interactive tools, and digital resources allows teachers to present concepts more dynamically and understandably. This aligns with Msafiri *et al.* (2023) found that ICT integration in classrooms strengthens instructional effectiveness by enabling teachers to deliver lessons in more organized and learner-centered ways. Similarly, Ramnarain *et al.* (2023) emphasized that teachers' use of digital technologies supports more meaningful pedagogy and improves the overall quality of classroom instruction.

Lastly, the statement *"Using ICT enhances students' understanding of the lesson."* received the lowest mean score of 4.65, still described as "very high". This suggests that teachers believe technology contributes significantly to student comprehension by making lessons more interactive and accessible. ICT tools help present abstract concepts through visual and interactive formats, which supports different learning styles. For instance, Tenzin *et al.* (2022) found that ICT-based instruction helps students better understand abstract science concepts by using visual and interactive tools, making lessons more engaging and comprehensible compared to traditional methods. Similarly, Teplá *et al.* (2022) emphasized that dynamic visualizations such as 3D models and animations in ICT-supported learning significantly enhance students' understanding of complex concepts by allowing them to visualize and manipulate information in more meaningful ways.

Level of teachers' attitudes toward technology in terms of perceived ease of use

The highest-rated items in the perceived ease of use is the statement *"Learning to use technology for teaching is easy for me."* receiving weighted mean of 4.45, interpreted as "very high". This indicates that teachers strongly feel confident in their ability to learn how to use educational technologies. It reflects that teachers possess foundational digital skills and are capable of adapting to technological demands in education. For instance, Chen *et al.* (2024) found that teachers with higher ICT competence demonstrate greater confidence and effectiveness in using technology, indicating that familiarity and skill development make it easier for them to learn and adapt to new digital tools. Similarly, Gui *et al.* (2026) emphasized that teachers who receive ICT training become more confident and less anxious in using technology, suggesting that ease in learning technological tools strengthens teachers' self-efficacy and readiness to integrate ICT in instruction.

The next highly rated statement is *"I find ICT tools easy to use in my classroom,"* which obtained a "very high" weighted mean of 4.40. This suggests that teachers perceive actual classroom use of ICT tools as manageable and practical. It indicates that the available technologies are user-friendly and compatible with classroom needs. This finding is supported by the study of Aurangzeb *et al.* (2024) found that perceived ease of use plays a significant role in teachers' adoption of technology, emphasizing that when ICT tools are easy to operate, teachers are more likely to integrate them effectively into their instructional practices. Similarly, Bancoro (2024) reported that teachers generally demonstrate high agreement that technology is easy to use in teaching, highlighting that commonly used tools such as learning management systems and digital platforms are considered practical and compatible with classroom needs.

Following this is the item *"It is easy for me to integrate technology into my lessons,"* with a weighted mean of 4.35, still interpreted as "very high". This indicates that teachers find it relatively simple to incorporate ICT into their teaching strategies and lesson delivery. It reflects that technology integration has become a routine part of instructional planning rather than an added burden. This finding is supported by the study of Zaman *et al.* (2025) found that teachers who perceive ICT as easy to use are more likely to integrate it consistently into classroom instruction, as ease of use reduces effort and supports regular lesson planning. Similarly, Bancoro (2024) reported that teachers generally show high agreement that integrating technology into teaching is manageable, indicating that ICT has become a practical and compatible component of instructional delivery rather than an added burden.

Next is the statement *"I can quickly learn new educational technologies"* with a weighted mean of 4.28, still interpreted as "very high". This suggests that teachers are adaptable and open to continuous learning of emerging technologies. It highlights their readiness to engage in professional growth and respond to the evolving demands of digital education. This aligns with the findings of Althubyani (2024) found that teachers' digital competence is strongly linked to their ability to continuously learn and adapt to new digital tools, highlighting that digital transformation in education encourages ongoing skill development and flexibility in technology use. Similarly, Usman *et al.* (2022) emphasized that teachers with higher digital competence and positive perceptions of ICT are more likely to quickly adopt and integrate new technologies, reflecting their readiness to respond to the evolving demands of digital education.

The lowest-rated item, rated "high", is the statement *"Using ICT does not require much mental effort,"* which received a weighted mean of 3.78. Although still positive, this indicates that some teachers perceive ICT use as requiring a certain level of mental effort or cognitive demand. This may be due to the complexity of some digital tools or the need to simultaneously manage technology and pedagogy during instruction. This finding is supported in the study of Maričić *et al.* (2025) they found that perceived usability of emerging technologies is significantly associated with teachers' cognitive load, suggesting that even user-friendly systems still require mental effort when integrated into teaching tasks such as planning and classroom management. Similarly, Fan *et al.* (2024) emphasized that technology-supported instruction can increase cognitive load due to the simultaneous processing of instructional content and digital tool operation, which requires teachers to divide attention between pedagogy and technology use.

Level of teachers' attitudes toward technology in terms of confidence in using technology

The highest-rated indicator in the confidence in using technology is the perception that *"I feel confident using technology in my teaching"*, with a weighted mean of 4.37, interpreted as "very high". This indicates that teachers strongly believe in their capability to use ICT tools during instruction. It reflects a positive level of technological self-efficacy, which is essential for effective classroom integration. Teachers who are confident in their technological abilities are more likely to implement innovative teaching strategies and utilize digital tools effectively. This finding is supported by Mayantao and Tantiado (2024),

who found that teachers' confidence in using digital tools is significantly associated with their level of ICT utilization in the classroom.

The next highest result shows that *"I can effectively manage a class while using technology"*, reflected in a weighted mean of 4.35 and a "very high" level of confidence. This suggests that teachers are not only confident in using ICT but are also able to maintain classroom control and ensure effective learning while integrating technology. It highlights teachers' ability to balance pedagogical strategies with technological tools, which is a key component of effective teaching in digital environments. This aligns with the findings of Panakaje *et al.* (2024), who emphasized that successful technology integration enhances teaching practices, classroom management, and student engagement when teachers possess adequate competence and confidence.

The indicator showing that *"I am comfortable exploring new digital tools for teaching"* obtained a weighted mean of 4.26, also interpreted as "very high". This indicates that teachers are open to innovation and willing to experiment with new technologies to improve their teaching practices. Such openness is essential in adapting to the rapidly evolving digital landscape in education. This finding is consistent with Shi *et al.* (2025), who highlighted that continuous professional development in digital pedagogy enhances teachers' willingness to explore and adopt new technologies in teaching.

Similarly, teachers agree in the statement that *"I believe I have sufficient skills to integrate ICT in teaching"* earning a weighted mean of 4.19 and a "high" level of confidence. Indicating that teachers perceive themselves as adequately equipped with the necessary skills for ICT integration. This reflects the importance of digital competence in shaping teachers' confidence and effectiveness. Supporting this, studies have shown that digital competence is a strong predictor of teaching effectiveness and successful ICT integration (Kumar & Sharma, 2024; Msambwa *et al.*, 2024).

Lastly, is the item that *"I can troubleshoot basic technical problems during class"*, with a weighted mean of 3.85, interpreted as "high". This suggests that while teachers are generally confident in using technology, they may experience some challenges when dealing with technical issues during instruction. Troubleshooting requires a deeper level of technical knowledge and problem-solving skills, which may not be equally developed among all teachers. This finding is supported by Theodorio *et al.* (2024), who noted that challenges in technology integration often stem from limited technical skills and difficulties in addressing technical problems in real-time classroom situations.

Level of ICT utilization among teachers in the classroom in terms of frequency of use

The highest-rated indicator, with a weighted mean of 4.46 interpreted as "very high", shows that teachers consistently *"use ICT tools during lesson presentations"*. This indicates that teachers consistently utilize digital tools such as presentations, multimedia, and visual aids to support lesson delivery. The frequent use of ICT in presentations enhances clarity, captures students' attention, and improves content understanding. This

reflects the increasing reliance on technology to make instruction more engaging and interactive. This finding aligns with Abatayo (2024), who found that the use of PowerPoint presentations significantly improved students' academic performance and engagement, highlighting the effectiveness of ICT tools in instructional delivery. Likewise, Akram *et al.* (2022) highlighted that teachers often begin technology integration through lesson delivery and presentation tools, as these are the most accessible and commonly adopted forms of ICT use in classroom instruction.

The next highest mean of 4.37, also interpreted as “very high”, reflects that teachers consistently “*use technology in my teaching regularly.*” This suggests that ICT integration is not occasional but a routine part of teachers' instructional practices. Regular use of technology indicates sustained engagement with digital tools and reflects teachers' confidence and familiarity with ICT. This consistency is crucial for maximizing the benefits of technology in education. Supporting this, Abella and Dela Rosa (2023) found that teachers with higher levels of digital competence are more likely to consistently integrate technology into their teaching practices, resulting in more effective and flexible instructional delivery. Similarly, Belisario (2023) reported that regular utilization of digital tools significantly enhances teachers' ability to design interactive and student-centered learning activities, highlighting the role of habitual ICT use in improving classroom engagement.

Another highly rated indicator, with a weighted mean of 4.23 and a “very high” level of performance, shows that teachers “*incorporate ICT in most of my lessons*”. This suggests that ICT is widely embedded in instructional practices and is no longer treated as an occasional teaching aid but as an integral component of lesson delivery. The consistent integration of ICT reflects teachers' growing competence, confidence, and positive disposition toward technology-enhanced teaching. This finding is supported by Portugues (2026), who found that teachers demonstrate high levels of technology integration in instructional planning and lesson delivery, indicating that ICT has become a regular feature of classroom practice due to its contribution to improved engagement and learning outcomes. Similarly, Durante (2025) emphasized that strong 21st-century teaching skills significantly predict the extent of ICT integration in classroom instruction, reinforcing the idea that competent teachers are more likely to embed technology consistently in their lessons.

The indicator showing that teachers “*I integrate digital tools in classroom activities*” has a weighted mean of 4.20, interpreted as “high”. This indicates that while teachers frequently use ICT, its integration into interactive classroom activities is slightly less consistent. This may suggest that teachers are still developing strategies for embedding technology in collaborative and student-centered tasks. Effective integration requires not only technical skills but also pedagogical knowledge on how to use ICT meaningfully. This finding is consistent with Sosa-Díaz *et al.* (2022), who emphasized that effective technology integration in classrooms depends on teachers' pedagogical readiness, training, and ability to align digital tools with instructional goals rather than merely using them operationally. Similarly, Cheng (2024) found that although ICT tools are widely available and used in schools, deeper integration into interactive and learner-centered

activities remains limited and is strongly influenced by teachers' instructional design skills and institutional support.

The lowest indicator, though still “high”, is *“I use technology in assessing student learning”* with a weighted mean of 4.13. This suggests that ICT is utilized in assessment practices, but not as extensively as in lesson delivery. The use of technology in assessment may require additional skills, such as familiarity with digital assessment tools and platforms, which could explain the slightly lower rating. This finding aligns with Bearman *et al.* (2022), who emphasized that digital assessment remains one of the more complex areas of ICT integration for teachers due to the need for both pedagogical and technical competence. Furthermore, OECD (2023) highlighted that while digital technologies are increasingly integrated into teaching and learning, assessment practices remain less consistently digitized due to challenges in implementation, teacher readiness, and system-level support.

Level of ICT utilization among teachers in the classroom in terms of types of technology tools used

The highest-rated indicator, with a weighted mean of 4.68, interpreted as “very high”, shows that teachers consistently *“use computers/laptops in teaching”*. This indicates that computers and laptops have become essential tools in classroom instruction, supporting lesson delivery, content preparation, and interactive learning activities. The frequent use of these devices reflects the strong integration of basic ICT tools in everyday teaching practices. This finding is supported by Abedi (2023), who found that teachers' use of computer-based technologies significantly enhances instructional delivery and supports more efficient teaching practices, particularly in organizing lessons, presenting content, and facilitating classroom interaction. Similarly, Timotheou *et al.* (2022) emphasized that computer use remains one of the most fundamental and widely adopted forms of educational technology, as it directly supports teachers in planning, delivering, and managing instruction.

The next highest indicator, with a weighted mean of 4.57, also classified as “very high”, reveals that teachers consistently *“use multimedia projectors or presentations (e.g., PowerPoint)”*. This suggests that teachers frequently rely on presentation tools and multimedia projectors to enhance lesson delivery, improve visual representation of concepts, and increase student engagement. The regular use of these tools reflects how presentation-based ICT remains a core strategy in modern classroom instruction. This finding is supported by Durante (2025), who emphasized that teachers' strong 21st-century skills are closely associated with the effective and consistent use of presentation technologies in teaching. Similarly, Portugues (2026) found that multimedia presentations, particularly PowerPoint-based instruction, remain one of the most commonly used ICT tools due to their accessibility and effectiveness in improving instructional delivery and learner comprehension.

Another strong indicator, with a weighted mean of 4.02, shows that teachers *“use educational apps or digital learning tools”*. This implies that teachers are increasingly integrating mobile applications, online platforms, and digital learning systems to support

instruction and enhance student engagement. The use of educational apps reflects the shift toward more flexible, interactive, and student-centered learning environments, where digital tools complement traditional teaching strategies. This finding is supported by Badmus *et al.* (2026), who found that ICT integration in classroom instruction is strongly influenced by teachers' adoption of digital tools and simulation-based applications, which enhance engagement and instructional effectiveness. Similarly, Guo *et al.* (2026) emphasized that the integration of digital learning tools is closely linked to teachers' technological pedagogical knowledge, enabling more effective lesson planning and delivery through technology-enhanced environments.

Next item is that teachers “*use mobile devices or tablets for instruction*”, with a weighted mean of 3.96. This indicates that mobile technologies such as tablets and smartphones are moderately integrated into classroom teaching, supporting instruction through interactive activities, digital resources, and flexible learning applications. The use of mobile devices enhances student engagement and allows teachers to present content in more dynamic and accessible ways. This finding is supported by Krokhina *et al.* (2024), who found that mobile learning tools significantly enhance instructional delivery and learner engagement when teachers perceive them as useful and easy to integrate into classroom practices. Similarly, Muchnik-Rozanov *et al.* (2022) emphasized that mobile learning adoption in education is strongly influenced by teachers' readiness, attitudes, and perceived usefulness of mobile devices, which directly affect how frequently these tools are used in instruction.

The lowest mean, though still “high” is when teachers “*use online platforms (e.g., Google Classroom, LMS)*”, rated at 3.89. This suggests that while teachers are utilizing online platforms, their use is less frequent compared to other ICT tools such as presentations and computers. The relatively lower rating may be attributed to challenges such as limited internet connectivity, lack of training, or unfamiliarity with learning management systems. This finding is supported by Nolasco and Hernandez (2023), who found that the effective use of Learning Management Systems (LMS) such as Google Classroom depends heavily on teachers' digital literacy, institutional support, and access to stable technological infrastructure, which influence the consistency of LMS integration in teaching and learning practices. Similarly, Chen *et al.* (2023) emphasized that the integration of online platforms requires strong technological pedagogical knowledge, as teachers need to manage digital environments, organize content, and facilitate interaction in virtual or blended learning settings.

Level of ICT utilization among teachers in the classroom in terms of purpose of technology integration

The highest-rated indicator, with a weighted mean of 4.51, interpreted as “very high”, shows that teachers consistently “*use technology to provide additional learning resources*”. This indicates that teachers actively utilize digital platforms, online materials, and multimedia resources to supplement classroom instruction and extend students' learning beyond traditional textbooks. The integration of additional digital resources supports differentiated instruction and promotes independent learning among students. This finding is supported by Cabellos *et al.* (2023), who found that teachers extensively

use digital resources to enhance instructional delivery and support more student-centered and multimodal learning experiences. Their study emphasized that digital materials such as online content, multimedia, and interactive platforms play a crucial role in enriching teaching practices and improving student engagement in modern classrooms. Similarly, Uzorka and Odebiyi (2025) emphasized that the use of technology-based learning resources significantly improves students' engagement and access to diverse learning materials, enabling more personalized and effective instruction.

The next highly rated indicator, with a weighted mean of 4.45, reflects teachers' ability to *"use ICT for lesson presentation"*. This indicates that teachers effectively utilize digital tools such as presentation software, multimedia, and visual technologies to enhance lesson delivery and facilitate clearer understanding of concepts. The consistent use of ICT for presentations highlights its role as one of the most practical and accessible forms of technology integration in the classroom. This finding is supported by Shah (2022), who found that ICT integration significantly enhances teaching effectiveness, particularly through the use of digital tools for lesson delivery and presentation, making instruction more engaging and efficient. Similarly, Nettey *et al.* (2024) emphasized that teachers' use of ICT in lesson presentation improves instructional practices, although its effectiveness depends on teachers' skills, training, and access to technological resources.

Another strong indicator, with a weighted mean of 4.37, shows that teachers *"use ICT to engage students in interactive activities"*. This suggests that teachers actively utilize digital tools such as interactive applications, collaborative platforms, and game-based technologies to promote student participation and engagement during lessons. The use of ICT for interactive activities enhances students' behavioral, cognitive, and emotional involvement, making learning more dynamic and participatory. This finding is supported by Heilporn *et al.* (2025), who found that the use of technology, particularly through interactive and game-based activities, significantly promotes student engagement and participation in classroom settings. Similarly, Zafeer *et al.* (2025) emphasized that the effective use of digital tools enables teachers to create more engaging and exploratory learning environments, thereby increasing students' active involvement in learning tasks.

The ability to *"use ICT to facilitate collaboration among students"* received a weighted mean of 4.26, still classified as "very high". This indicates that teachers effectively utilize digital tools such as collaborative platforms, shared documents, and communication technologies to promote teamwork, peer interaction, and cooperative learning. The integration of ICT in collaborative activities enables students to exchange ideas, co-construct knowledge, and engage in meaningful learning experiences beyond traditional classroom boundaries. This finding is supported by Akram *et al.* (2024), who found that ICT-supported collaborative learning significantly enhances student engagement and interaction by enabling real-time communication and resource sharing among learners. Similarly, Timotheou *et al.* (2022) emphasized that ICT integration fosters collaborative learning environments by supporting communication, teamwork, and active participation, which are essential components of effective technology-enhanced instruction.

The lowest indicator, though still “high” is “*I use technology for assessment and evaluation*”, with a weighted mean of 4.19. This suggests that while teachers are capable of integrating ICT in assessment practices, its application remains less frequent compared to its use in instruction and presentation. The lower extent of utilization may be attributed to the complexity of digital assessment design, which requires both pedagogical and technological competence, as well as familiarity with assessment platforms and tools. This finding is supported by Schooner *et al.* (2022), who emphasized that teachers’ use of digital tools in assessment is influenced by their cognitive beliefs and confidence in evaluating student learning through technology, highlighting assessment as a more demanding aspect of ICT integration. Likewise, Chen *et al.* (2023) found that although technology-based assessment systems improve efficiency and feedback delivery, their adoption among teachers remains uneven due to challenges in usability, training, and system complexity.

Relationship between teachers’ attitudes toward technology and their level of ICT utilization in the classroom

The result of Table 3 suggest that teachers who have more positive attitudes toward technology are more likely to utilize ICT in their teaching. The result implies that improving teachers’ perceptions, confidence, and comfort with technology can significantly enhance their level of ICT integration. Therefore, fostering positive attitudes toward technology is essential in promoting effective and meaningful use of ICT in education. This finding is supported by Peng *et al.* (2024), who found that teachers’ attitudes toward ICT significantly predict the extent of their ICT integration in instructional practices, highlighting attitude as a key determinant of technology use in teaching. Their study emphasizes that positive perceptions toward technology, along with digital competence and self-efficacy, contribute to higher levels of ICT adoption in the classroom. Similarly, Salele and Khan (2022) emphasized that teachers who demonstrate favorable attitudes toward technology are more likely to integrate ICT tools effectively in pedagogical practices, reinforcing the importance of attitudinal readiness in technology adoption.

In addition, Akram *et al.* (2022) noted that teachers’ perceptions and attitudes toward technology consistently serve as one of the strongest predictors of successful ICT integration in teaching and learning environments. Their findings suggest that when teachers view technology as useful and manageable, they are more inclined to incorporate it into instruction, leading to improved teaching effectiveness and learner engagement. Overall, these studies collectively affirm that teachers’ attitudes toward technology play a crucial role in determining the extent and quality of ICT utilization in education.

Conclusions

This study provides empirical evidence that teachers’ attitudes toward technology play a crucial role in shaping the extent of ICT utilization in classroom instruction within Sibulan District II. The findings highlight that when teachers possess positive perceptions of technology, particularly in terms of usefulness, ease of use, and confidence, these

attitudes translate into more meaningful and consistent integration of ICT in teaching practices.

Moreover, the study establishes that ICT utilization among teachers is not merely a matter of access to tools but is strongly influenced by psychological and perceptual factors. This underscores the importance of fostering supportive conditions that enhance teachers' readiness and willingness to engage with technology as part of instructional delivery.

It can be concluded that teachers generally hold favorable attitudes toward technology, actively integrate ICT in their classroom practices, and that a significant positive relationship exists between these two variables. Therefore, strengthening teachers' positive attitudes toward technology is essential in sustaining and further improving effective ICT utilization in education.

Recommendations

Based on the conclusions drawn from the study, the following recommendations are proposed:

For Teachers

1. Teachers are encouraged to continuously enhance their digital literacy skills by actively participating in ICT-related trainings, webinars, and professional development programs to further strengthen their confidence in using educational technologies.
2. Teachers should consistently integrate a wider variety of ICT tools in daily instruction, such as interactive presentations, learning management systems, and educational applications, to maximize student engagement and learning outcomes.
3. Teachers are advised to reflect regularly on their technology integration practices by assessing which ICT tools are most effective for specific lessons and adjusting their strategies to improve instructional delivery.

For School Heads

1. School heads should initiate and sustain regular school-based ICT training programs that are aligned with teachers' needs, particularly focusing on enhancing perceived ease of use and confidence in technology integration.
2. Administrators are encouraged to strengthen ICT infrastructure and ensure the availability of reliable internet connection, updated devices, and adequate digital resources to support effective classroom implementation.
3. School heads should establish a monitoring and mentoring system that promotes instructional supervision focused on ICT integration, including classroom observations and coaching sessions that support teachers' technology use.

For Future Researchers

1. Future researchers are encouraged to conduct similar studies in other districts or regions to compare findings and strengthen the generalizability of results regarding teachers' attitudes and ICT utilization.

2. It is recommended that future studies explore additional variables such as teachers' age, years of teaching experience, and availability of ICT resources to further explain factors influencing technology integration.
3. Researchers may also consider using qualitative or mixed-method approaches to gain deeper insights into teachers' lived experiences, challenges, and strategies in integrating ICT in classroom instruction.

Compliance with Ethical Standards

This study observed ethical standards to ensure the protection of the rights and welfare of all respondents. Approval was secured from the Schools Division Superintendent of Negros Oriental and proper endorsements were obtained from concerned educational authorities before data collection. Informed consent was obtained from all participants, who were assured of the voluntary nature of their participation and their right to withdraw at any time without penalty. A consent statement was included in the questionnaire. Confidentiality and anonymity were strictly maintained, and all data were used solely for academic purposes. No personal identifiers were collected, and responses were handled with strict security. The study also ensured that participation posed no harm or risk to respondents, and all procedures were conducted in line with accepted ethical research guidelines.

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