



INFORMATION AND COMMUNICATION TECHNOLOGY COMPETENCIES OF TEACHERS: BASIS FOR TEACHER DEVELOPMENT PLAN

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ABSTRACT

The integration of Information and Communication Technology (ICT) has become essential in enhancing instructional effectiveness and promoting quality education in the digital era. This study assessed the Information and Communication Technology (ICT) competencies of Music, Arts, Physical Education, and Health (MAPEH) teachers at San Basilio National High School, Sta. Rita, Pampanga, during the School Year 2024–2025. Specifically, the study determined the teachers' level of ICT competencies in terms of technology operations and concepts and pedagogical competency, identified the problems encountered in the use of ICT in teaching MAPEH, and proposed a Teacher Development Plan based on the findings. The study employed a quantitative descriptive research design using a researcher-constructed questionnaire adapted from the National ICT Competency Standards (NICS) for Teachers. Weighted mean was used to analyze the data. The findings revealed that the respondents demonstrated an Advanced level of competency in technology operations and concepts (WM = 2.51) but only a Basic level of pedagogical competency (WM = 2.34). The teachers likewise encountered Very Serious problems (WM = 3.67), particularly the lack of software, insufficient ICT training, and inadequate learning equipment and resources. Based on these findings, a Teacher Development Plan was developed to enhance teachers' ICT knowledge and pedagogical skills, strengthen technology integration in MAPEH instruction, and address the identified barriers to effective ICT implementation. The study concludes that while MAPEH teachers possess satisfactory operational ICT skills, continuous professional development and institutional support are necessary to improve pedagogical ICT integration and promote meaningful technology-enhanced teaching and learning.

Keywords: *Information and Communication Technology (ICT), ICT competencies, MAPEH teachers, technology integration, pedagogical competency, teacher development plan, digital competence*

INTRODUCTION

Information and Communication Technology (ICT) has transformed the way people communicate, access information, work, and learn, making it one of the most influential drivers of educational change in the twenty-first century. The rapid advancement of digital technologies has reshaped educational systems by providing innovative approaches to teaching, learning, assessment, and school management. As societies become increasingly dependent on technology, educational institutions are expected to equip learners with the digital knowledge, skills, and competencies necessary to become productive members of the global community. Consequently, teachers play a critical role in integrating ICT into classroom instruction to create meaningful learning experiences that promote critical thinking, creativity, collaboration, and lifelong learning. UNESCO (2018) emphasized that teachers' ICT competencies are fundamental in improving the quality of education because teachers serve as facilitators who transform technology into effective instructional tools. Likewise, the Organisation for Economic Co-operation and Development (OECD, 2023) recognized that teachers' digital competence has become an essential professional competency for improving instructional quality and preparing learners for the demands of the digital society.

Educational institutions continuously adapt to technological developments to remain responsive to the changing needs of learners and society. In today's knowledge-based economy, schools are expected not only to provide learners with access to digital technologies but also to develop their ability to analyze information critically, solve problems, communicate effectively, and collaborate through digital platforms. Research has consistently demonstrated that ICT integration enhances learner engagement, academic achievement, digital literacy, and higher-order thinking skills while enabling teachers to implement innovative instructional strategies and authentic assessment practices (Falloon, 2020; OECD, 2023). Furthermore, technology-supported instruction provides teachers with greater access to educational resources, facilitates differentiated instruction, and promotes inclusive learning environments for students with diverse learning needs (UNESCO, 2023). These developments underscore the importance of continuously strengthening teachers' ICT competencies to ensure that technology is utilized effectively in improving teaching and learning outcomes.

Recognizing the importance of digital transformation in education, the Department of Education (DepEd) has continuously strengthened the integration of ICT in the Philippine basic education system through various initiatives, including the DepEd Computerization Program (DCP), the Basic Education Development Plan (BEDP) 2030, and the MATATAG Agenda. These initiatives aim to improve teachers' digital competencies, enhance learners' digital literacy, modernize instructional delivery, and increase access to technology-enhanced learning resources (Department of Education, 2023, 2024). The

integration of ICT into the curriculum enables teachers to enrich classroom instruction through interactive learning materials, online educational resources, multimedia applications, and digital assessment tools. Previous studies have likewise reported that ICT integration improves classroom engagement, supports active learning, and enhances teachers' instructional effectiveness when accompanied by adequate technological knowledge, continuous professional development, and institutional support (Adlawan & Quirap, 2022; Rodrigo, 2021). Despite these initiatives, the successful implementation of ICT in schools largely depends on teachers' competencies in utilizing technology effectively and appropriately within their respective subject areas.

Among the different learning areas in the K–12 curriculum, Music, Arts, Physical Education, and Health (MAPEH) occupies a unique position because it promotes the holistic development of learners through artistic expression, physical fitness, creativity, health awareness, and performance-based learning experiences. Traditionally, MAPEH instruction has relied heavily on demonstrations, practical activities, and authentic performance tasks. However, the increasing availability of digital technologies has created opportunities to enrich MAPEH instruction through multimedia presentations, instructional videos, music applications, virtual art resources, fitness applications, online collaboration, and technology-assisted assessment. Integrating ICT into MAPEH enables teachers to provide more engaging, interactive, and learner-centered instruction while developing students' digital literacy alongside psychomotor, cognitive, and affective competencies (Ponsaran, 2024). As education continues to evolve in response to technological advancement, MAPEH teachers are expected not only to possess content expertise but also to demonstrate the ICT competencies necessary to design innovative instructional experiences that support twenty-first-century learning.

Despite the increasing investment in educational technology, the successful integration of Information and Communication Technology (ICT) in education remains largely dependent on teachers' competencies in effectively utilizing digital tools to support meaningful learning. Teachers are expected to possess not only technical knowledge but also the pedagogical competencies necessary to integrate ICT into lesson planning, instructional delivery, assessment, communication, and professional practice. This expectation is particularly important for Music, Arts, Physical Education, and Health (MAPEH) teachers, whose subject requires the use of multimedia resources, digital content, performance-based assessment, movement analysis, interactive applications, and creative learning experiences. Studies have consistently shown that teachers' digital competencies significantly influence instructional effectiveness, learner engagement, academic achievement, and the development of twenty-first-century skills (Falloon, 2020; UNESCO, 2018). Nevertheless, many schools continue to encounter challenges such as inadequate ICT infrastructure, limited access to digital resources, insufficient professional development opportunities, and varying levels of teachers' digital competence (OECD, 2023; UNESCO, 2023). These concerns emphasize the importance of assessing teachers' ICT competencies to identify existing competency gaps and formulate appropriate professional development interventions.

This study is anchored on the UNESCO ICT Competency Framework for Teachers (ICT-CFT) Version 3, which provides a comprehensive and internationally recognized framework for developing and assessing teachers' digital competencies in the twenty-first century (UNESCO, 2018). The framework emphasizes that teachers should demonstrate competence not only in operating digital technologies but also in integrating ICT into pedagogy, curriculum implementation, assessment, professional learning, and educational management to improve student learning outcomes. It further identifies three progressive stages of teacher competency—Knowledge Acquisition, Knowledge Deepening, and Knowledge Creation—that guide teachers in effectively using technology to foster critical thinking, creativity, collaboration, communication, and lifelong learning among students. In the Philippine context, the UNESCO ICT-CFT complements the Department of Education's Basic Education Development Plan (BEDP) 2030 and the MATATAG Agenda, both of which recognize teacher digital competence and technology integration as essential components of quality basic education (Department of Education, 2023, 2024). Guided by this framework, the present study assessed the ICT competencies of MAPEH teachers, particularly in the areas of technology operations and pedagogical integration, to provide evidence-based recommendations for professional development.

At San Basilio National High School, Sta. Rita, Pampanga, MAPEH teachers continuously strive to integrate ICT into classroom instruction despite challenges related to technology access, digital resources, and instructional implementation. As the demand for technology-enhanced and learner-centered education continues to increase, it is essential to determine the extent of teachers' ICT competencies and the challenges they encounter in integrating technology into MAPEH instruction. Although numerous studies have explored teachers' digital competence and ICT integration in education, limited research has specifically examined the ICT competencies of MAPEH teachers within the local public-school context using the UNESCO ICT Competency Framework for Teachers as the guiding framework. This gap provided the rationale for conducting the present study. Hence, this research assessed the Information and Communication Technology (ICT) competencies of MAPEH teachers at San Basilio National High School during the School Year 2024–2025 and utilized the findings as the basis for developing a Teacher Development Plan that will strengthen teachers' digital competencies, enhance instructional effectiveness, and support the sustainable integration of ICT in MAPEH education.

Research Questions

This study aimed to assess the level of Information and Communication Technology (ICT) competencies of teachers teaching Music, Arts, Physical Education and Health (MAPEH) in San Basilio National High School in Sta. Rita, Pampanga during the school year 2024–2025. Specifically, it sought to answer the following research question:

1. How is the level of ICT competencies of MAPEH teachers described in terms of the following:
 - 1.1. Technology operations and concepts; and

- 1.2. Pedagogical competency?
2. What problems are met by teachers relative to the use of information and Communication Technology in teaching MAPEH and how serious are they?
3. What Development Plan can be proposed for the teachers to address the problems met relative to the use of ICT in teaching?

METHODOLOGY

This study employed a quantitative descriptive research design to assess the Information and Communication Technology (ICT) competencies of Music, Arts, Physical Education, and Health (MAPEH) teachers at San Basilio National High School, Sta. Rita, Pampanga, during the School Year 2024–2025. The descriptive approach was deemed appropriate because it systematically described the respondents' ICT competencies in terms of Technology Operations and Concepts and Pedagogical Competency, as well as the problems they encountered in the utilization of ICT in teaching MAPEH. The findings of the study served as the basis for the formulation of a Teacher Development Plan designed to enhance the ICT competencies of MAPEH teachers.

The respondents of the study consisted of all MAPEH teachers assigned at San Basilio National High School during the conduct of the research. A researcher-constructed questionnaire served as the primary data-gathering instrument. The instrument consisted of two parts: Part I assessed the respondents' ICT competencies based on the National ICT Competency Standards (NICS) for Teachers, focusing on the domains of Technology Operations and Concepts and Pedagogical Competency, while Part II determined the problems encountered by the teachers in utilizing ICT in teaching MAPEH and the degree of seriousness of these problems. Prior to data collection, the questionnaire was reviewed by the research adviser, and the recommendations provided were incorporated to improve the content, clarity, and organization of the instrument.

After securing the necessary approval from the school authorities, the researcher personally administered the questionnaires to the respondents to facilitate efficient distribution and retrieval of the accomplished instruments. The purpose of the study was explained to the participants, and their participation was entirely voluntary. The researcher ensured that the responses were treated with strict confidentiality and used solely for research purposes. Upon retrieval, the completed questionnaires were checked for completeness, organized, coded, and prepared for statistical analysis.

The collected data were analyzed using the weighted mean to determine the level of ICT competencies of the respondents and the seriousness of the problems encountered in utilizing ICT in teaching MAPEH. The weighted mean was computed using the formula ($WM = \frac{\sum fx}{N}$), where WM represents the weighted mean, $\sum fx$ denotes the sum of the weighted scores, and N refers to the total number of responses. The computed mean scores were interpreted using established descriptive scales for ICT competencies, namely No Competency, Basic Level, Advanced Level, and Expert Level, and for the seriousness of problems encountered, namely Not a Problem, Slightly Serious,

Moderately Serious, Very Serious, and Highly Serious. The results of the statistical analysis provided the basis for describing the ICT competencies of MAPEH teachers, identifying the challenges they encountered in ICT integration, and developing an evidence-based Teacher Development Plan.

RESULTS AND DISCUSSION

This section presents the results of data gathered and discussion of their analysis and interpretation to answer the research question raised in the study.

This part presents the level of Information and Communication Technology (ICT) competencies of the teachers teaching Music, Arts, Physical Education and Health (MAPEH) in terms of technology operations and concepts and pedagogical competency to answer specific question number 1.

Tables 1A, 1B, 1C, and 1D present the level of ICT competencies of the teachers in terms of technology operations and concepts

Technology Operations and Concepts

TABLE 1A
Knowledge and Skills in Basic Computer Operations
and Other Information Devices

Indicators	WM	Descriptive Equivalent
Identify and define the functions of the main components (i.e. monitor, CPU, keyboard, mouse) of the computer	3.33	Advanced
Identify and define the functions of the computer peripherals (i.e. printer, scanner, modem, digital camera, speaker, etc.)	3.00	Advanced
Properly connect main components, configure peripherals and install drivers when required	3.00	Advanced
Configure computer settings of various software and hardware	2.67	Advanced
Understand the basic functions of the operating system	2.67	Advanced
Organize and manage computer files, folders and directories	2.67	Advanced

Use storage devices (i.e. hard disk, diskette, CD, flash memory, etc.) for storing and sharing computer files. Create back-ups for important files	2.67	Advanced
Protect the computer from virus, spyware, adware, malware, hackers, etc.	2.00	Basic
Use online and offline help facilities for troubleshooting, maintenance and update of applications	1.67	Basic
Average WM	2.63	Advanced
Legend: Point Value Statistical Limit Descriptive Equivalent (DE)		
4	3.50-4.00	Expert Level
3	2.50-3.49	Advanced Level
2	1.50-2.49	Basic Level
1	1.00-1.49	No Competency

Table 1A presents the level of ICT competency of MAPEH teachers in terms of knowledge and skills in basic computer operations and other information devices. The results revealed an overall weighted mean of 2.63, which corresponds to an Advanced Level, indicating that the teachers generally possess the necessary knowledge and skills to perform most basic computer operations and frequently utilize ICT as a tool for teaching. The highest-rated indicator was identifying and defining the functions of the main computer components (WM = 3.33), followed by identifying computer peripherals and properly connecting computer components and installing drivers (WM = 3.00), suggesting that the respondents are proficient in fundamental computer operations. Likewise, the teachers demonstrated advanced competencies in configuring computer settings, managing files and folders, understanding operating system functions, and utilizing storage devices (WM = 2.67). However, lower ratings were obtained in protecting computers from viruses, malware, and other cyber threats (WM = 2.00) and using online and offline help facilities for troubleshooting, maintenance, and software updates (WM = 1.67), both interpreted as Basic Level. These findings indicate that while the respondents exhibit satisfactory operational ICT competencies, there remains a need to strengthen their technical troubleshooting and cybersecurity skills through targeted professional development and ICT capability-building programs.

TABLE 1B
Appropriate Office and Teaching
Productivity Tools

Indicators	WM	Descriptive Equivalent
• Use a word processor to enter and edit text and images	3.33	Advanced

• Format text, control margins, layout, and tables	3.33	Advanced
• Print, store and retrieve text documents from a word processor	3.33	Advanced
• Use a calculation spreadsheet to enter data, sort data and format cells into Tables	3.00	Advanced
• Make computation, use formula and create graphs using spreadsheets	3.00	Advanced
• Print and store data tables using a spreadsheet application	3.00	Advanced
• Use a presentation package to add text and sequence a presentation	3.00	Advanced
• Enhance slide presentations by adding sound, customizing animation and inserting images	3.00	Advanced
• Print presentation handouts and store slide presentations	2.33	Basic
• Make effective class presentations using the slides and LCD projector	2.33	Basic
• To acquire digital images and other media from web sites, CD, flash drives, etc.	2.00	Basic
• Crop, scale, color correct and enhance digital images	2.33	Basic
• Play various media files using appropriate media players	2.00	Basic
• Stitch together video footages and soundtracks and add simple enhancements – transitions, titles, etc.	1.67	Basic
• Attach and configure scanners, cameras, cell phones to acquire digital images	2.33	Basic
• Store digital images using optical media (CD, DVD, flash disk) and online repositories	2.00	Basic
Average WM	2.62	Advanced
Legend: Point Value Statistical Limit Descriptive Equivalent (DE)		
4	3.50-4.00	Expert Level
3	2.50-3.49	Advanced Level
2	1.50-2.49	Basic Level
1	1.00-1.49	No Competency

Table 1B presents the level of ICT competency of MAPEH teachers in terms of appropriate office and teaching productivity tools. The findings revealed an overall weighted mean of 2.62, interpreted as Advanced Level, indicating that the respondents are generally proficient in utilizing common office and instructional productivity applications to support teaching and learning. The highest-rated indicators were using a word processor to enter and edit text and images, formatting text and documents, and printing, storing, and retrieving text documents (WM = 3.33), demonstrating strong competency in word processing applications. Similarly, the teachers exhibited an

Advanced Level in using spreadsheets for data management and computation, as well as presentation software for developing instructional materials (WM = 3.00). However, competencies related to printing presentation handouts, delivering presentations using LCD projectors, acquiring and enhancing digital images, playing multimedia files, configuring digital devices, storing digital media, and video editing obtained weighted means ranging from 1.67 to 2.33, all interpreted as Basic Level. Notably, stitching together video footages and soundtracks with simple enhancements received the lowest mean (WM = 1.67), indicating limited competency in multimedia production. These findings suggest that while the respondents are competent in using essential office productivity applications for instructional purposes, they require further training in multimedia development, digital content creation, and the effective integration of audio-visual technologies to enrich MAPEH instruction and support more engaging, technology-enhanced learning experiences.

TABLE 1C
Internet and Network Applications and
Resources

Indicators	WM	Descriptive Equivalent
• Connect to the internet via dial-up or LAN	3.33	Advanced
• Configure and use Web browsers and Help applications	3.00	Advanced
• Send and receive emails with attachments, manage emails and use LAN and Web-based mail servers	3.00	Advanced
• Effectively use synchronous and asynchronous web-based communication tools like instant messengers, voice and teleconferencing	2.00	Basic
• Connect and use shared printers, shared folders and other devices within a network	1.67	Basic
• Effectively use search engines, web directories and bookmarks	3.00	Advanced
• Download and install relevant applications including freeware, shareware, updates, patches, viewers, and support applications	2.67	Advanced
Average WM	2.67	Advanced
Legend: Point Value Statistical Limit Descriptive Equivalent (DE)		
4	3.50-4.00	Expert Level
3	2.50-3.49	Advanced Level
2	1.50-2.49	Basic Level
1	1.00-1.49	No Competency

Table 1C presents the level of ICT competency of MAPEH teachers in terms of Internet and Network Applications and Resources. The results revealed an overall weighted mean of 2.67, interpreted as Advanced Level, indicating that the respondents are generally proficient in utilizing internet and network resources to support teaching and learning. The

highest-rated indicator was connecting to the internet via dial-up or LAN (WM = 3.33), followed by configuring and using web browsers, managing emails with attachments, utilizing web-based mail services, effectively using search engines and web directories (WM = 3.00), and downloading and installing relevant applications and software updates (WM = 2.67), all of which were interpreted as Advanced Level. These findings suggest that the teachers possess adequate competencies in internet access, online information retrieval, email communication, and software management for instructional purposes. However, using synchronous and asynchronous web-based communication tools, such as instant messaging, voice conferencing, and teleconferencing (WM = 2.00), as well as connecting and utilizing shared printers, shared folders, and other network resources (WM = 1.67), were rated at the Basic Level. These results indicate that while the respondents are competent in fundamental internet applications, they require further enhancement in digital collaboration, online communication platforms, and network resource management to maximize the effective integration of ICT in MAPEH instruction and collaborative professional practice.

TABLE 1D
Knowledge and Skills in Information and Data Management

Indicators		WM	Descriptive Equivalent
• Effectively use search engines, directories, crawlers and agents to locate information sources		2.33	Basic
• Search and collect textual and non-textual information from online and offline sources		2.33	Basic
• Efficiently store and organize collected information using directories, drives or databases		2.00	Basic
• Distribute, share, publish and print information via print or web		2.00	Basic
• Properly acknowledge information sources online and offline		2.00	Basic
Average WM		2.13	Basic
Legend: Point Value	Statistical Limit	Descriptive Equivalent (DE)	
4	3.50-4.00	Expert Level	
3	2.50-3.49	Advanced Level	
2	1.50-2.49	Basic Level	
1	1.00-1.49	No Competency	

Table 1D presents the level of ICT competency of MAPEH teachers in terms of Knowledge and Skills in Information and Data Management. The findings revealed an overall weighted mean of 2.13, interpreted as Basic Level, indicating that the respondents possess only fundamental competencies in managing digital information and data. The highest-rated indicators were effectively using search engines, directories, crawlers, and agents to locate information sources and searching and collecting textual and non-textual information from online and offline sources (WM = 2.33), both interpreted as Basic Level, suggesting that the teachers have a limited ability to locate and retrieve relevant digital

resources. Meanwhile, efficiently storing and organizing collected information using directories, drives, or databases, distributing, sharing, publishing, and printing information via print or web, and properly acknowledging information sources online and offline all obtained a weighted mean of 2.00, likewise interpreted as Basic Level. These findings indicate that although the respondents demonstrate basic information retrieval skills, they require further enhancement in information organization, digital data management, ethical use of information, and proper citation of digital resources. Strengthening these competencies through targeted professional development programs on information literacy, digital resource management, and responsible use of information technology would enable MAPEH teachers to utilize digital information more effectively in planning, delivering, and evaluating instruction.

SUMMARY TABLE

Indicators	WM	Descriptive Equivalent
Standard 1: Demonstrate knowledge and skills in basic computer operations and other information devices, including basic troubleshooting and maintenance	2.63	Advanced
Standard 2: Use appropriate office and teaching productivity tools	2.62	Advanced
Standard 3: Understand and effectively use the internet and network applications and resources	2.67	Advanced
Standard 4: Demonstrate knowledge and skills in information and data management	2.13	Basic
Overall Weighted Mean	2.51	Advanced

The summary table presents the overall level of ICT competency of MAPEH teachers in terms of Technology Operations and Concepts, yielding an overall weighted mean of 2.51, interpreted as Advanced Level. Among the four competency standards, Standard 3: Understanding and Effectively Using Internet and Network Applications and Resources obtained the highest weighted mean (WM = 2.67), indicating that the respondents are generally proficient in utilizing internet-based resources, online communication, and network applications to support teaching and learning. This was followed by Standard 1: Knowledge and Skills in Basic Computer Operations and Other Information Devices (WM = 2.63) and Standard 2: Use of Appropriate Office and Teaching Productivity Tools (WM = 2.62), both likewise interpreted as Advanced Level, demonstrating that the teachers possess satisfactory competencies in basic computer operations and the use of common productivity software for instructional purposes. In contrast, Standard 4: Knowledge and Skills in Information and Data Management received the lowest weighted mean (WM = 2.13), interpreted as Basic Level, suggesting that the respondents have limited competencies in organizing, managing, sharing, and ethically utilizing digital information. Overall, these findings indicate that while MAPEH teachers demonstrate advanced competencies in fundamental ICT operations and instructional technology use, there

remains a need to strengthen their information and data management skills through targeted professional development programs focusing on information literacy, digital resource management, and responsible use of digital information to further enhance technology integration in MAPEH instruction.

Pedagogical Competency

TABLE 2A
Students' Higher Order Thinking
Skills and Creativity

Indicators	WM	Descriptive Equivalent
• Make students use databases, spreadsheets, concept mapping tools and communication tools, etc.	1.67	Basic
• Encourage students to do data analysis, problem solving, decision making and exchange of ideas	2.00	Basic
Average WM	1.84	Basic
Legend: WM=Weighted Mean Point Value Statistical Limits Descriptive Equivalent (DE)		
4	3.50-4.00	Expert Level
3	2.50-3.49	Advanced Level
2	1.50-2.49	Basic Level
1	1.00-1.49	No Competency

Table 2A presents the level of ICT competency of MAPEH teachers in promoting students' higher-order thinking skills and creativity through technology integration. The findings revealed an overall weighted mean of 1.84, interpreted as Basic Level, indicating that the respondents demonstrate only fundamental competencies in utilizing ICT to develop learners' higher-order thinking skills. Among the indicators, encouraging students to perform data analysis, problem-solving, decision-making, and the exchange of ideas using ICT obtained the highest weighted mean (WM = 2.00), while making students use databases, spreadsheets, concept mapping tools, and communication tools received a weighted mean of 1.67, both interpreted as Basic Level. These results suggest that although the teachers occasionally incorporate ICT to promote critical thinking and collaborative learning, they have limited proficiency in integrating technology-rich activities that foster higher-order cognitive skills and creativity. Therefore, there is a need for targeted professional development programs that will enhance MAPEH teachers' competencies in designing technology-enhanced learning experiences that promote critical thinking, problem-solving, creativity, and active student engagement.

TABLE 2B
Information and Media to Communicate
Results

Indicators	WM	Descriptive Equivalent
• Use appropriately slide presentations, videos, audio and other media in the classroom	2.00	Basic

• Teach students to use various multimedia materials for the reports and class presentations	2.00	Basic
Average WM	2.00	Basic
Legend: Point Value	Statistical Limit	Descriptive Equivalent (DE)
4	3.50-4.00	Expert Level
3	2.50-3.49	Advanced Level
2	1.50-2.49	Basic Level
1	1.00-1.49	No Competency

Table 2B presents the level of ICT competency of MAPEH teachers in utilizing information and media to communicate results. The findings revealed an overall weighted mean of 2.00, interpreted as Basic Level, indicating that the respondents demonstrate only fundamental competencies in integrating multimedia resources for instructional communication and classroom presentations. Both indicators—using slide presentations, videos, audio, and other media appropriately in the classroom and teaching students to use various multimedia materials for reports and class presentations—obtained an identical weighted mean of 2.00, which is likewise interpreted as Basic Level. These findings suggest that while the teachers are able to use basic multimedia tools to support instruction, they have not yet fully maximized ICT to enhance students' communication, presentation, and digital literacy skills. The results underscore the need for continuous professional development focused on multimedia integration, digital presentation strategies, and technology-enhanced instructional practices to enable MAPEH teachers to deliver more interactive, engaging, and learner-centered classroom experiences.

TABLE 2D
Usage of ICT Integration in the Teaching and Learning Process

Indicators	WM	Descriptive Equivalent
• Design rubrics for assessing student performance in the use of various technologies	3.33	Advanced
• Use electronic means of administering quizzes and examinations	3.00	Advanced
• Analyze assessment data using spreadsheets and statistical applications	2.67	Advanced
Average WM	3.00	Advanced
Legend: Point Value	Statistical Limit	Descriptive Equivalent (DE)
4	3.50-4.00	Expert Level
3	2.50-3.49	Advanced Level
2	1.50-2.49	Basic Level
1	1.00-1.49	No Competency

Table 2D presents the level of ICT competency of MAPEH teachers in terms of the usage of ICT integration in the teaching and learning process. The findings revealed an overall weighted mean of 3.00, interpreted as Advanced Level, indicating that the respondents are generally proficient in integrating ICT into assessment and instructional practices. Among the indicators, designing rubrics for assessing student performance in the use of various technologies obtained the highest weighted mean (WM = 3.33), followed by using electronic means of administering quizzes and examinations (WM = 3.00) and analyzing

assessment data using spreadsheets and statistical applications (WM = 2.67), all of which were interpreted as Advanced Level. These findings suggest that the teachers possess strong competencies in utilizing digital technologies to design assessment tools, administer technology-assisted evaluations, and analyze student performance data. Overall, the results indicate that MAPEH teachers have effectively integrated ICT into the assessment component of the teaching-learning process; however, continuous professional development on emerging digital assessment tools and data analytics may further strengthen their instructional practices and support evidence-based decision-making in classroom assessment.

TABLE 2E
Use of Computers and Other Technologies
for Information to Students

Indicators		WM	Descriptive Equivalent
Use emails, group sites, blogs, etc. for disseminating information directly to students, colleagues and parents		3.00	Advanced
Use emails, group sites, blogs, etc. to collect information directly from students, colleagues and parents		3.00	Advanced
Average WM		3.00	Advanced
Legend: Point Value Statistical Limit Descriptive Equivalent (DE)			
4	3.50-4.00	Expert Level	
3	2.50-3.49	Advanced Level	
2	1.50-2.49	Basic Level	
1	1.00-1.49	No Competency	

Table 2E presents the level of ICT competency of MAPEH teachers in terms of the use of computers and other technologies for communicating information to students. The findings revealed an overall weighted mean of 3.00, interpreted as Advanced Level, indicating that the respondents are generally proficient in utilizing digital communication platforms to facilitate information exchange with students, colleagues, and parents. Both indicators—using emails, group sites, blogs, and similar online platforms to disseminate information and using these technologies to collect information and feedback from students, colleagues, and parents—obtained identical weighted means of 3.00, both interpreted as Advanced Level. These results suggest that the teachers effectively employ digital communication tools to support instructional management, collaboration, and stakeholder engagement. Overall, the findings indicate that MAPEH teachers have successfully integrated ICT into communication practices, thereby promoting timely information dissemination, efficient collaboration, and stronger school-home partnerships. Continued exposure to emerging digital communication platforms and collaborative technologies may further enhance their ability to support interactive and technology-enabled learning environments.

TABLE 2F
Appropriate Assessment and Evaluation
Strategies

Indicators	WM	Descriptive Equivalent
Explore the use of electronic assessment tools like online testing, submission of projects via email or online facilities	2.33	Basic
Set up online databases or repositories of student works	1.67	Basic
Average	2.00	Basic
Legend: Point Value Statistical Limit Descriptive Equivalent (DE) 4 3.50-4.00 Expert Level 3 2.50-3.49 Advanced Level 2 1.50-2.49 Basic Level 1 1.00-1.49 No Competency		

Table 2F presents the level of ICT competency of MAPEH teachers in terms of appropriate assessment and evaluation strategies. The findings revealed an overall weighted mean of 2.00, interpreted as Basic Level, indicating that the respondents possess only fundamental competencies in utilizing ICT for assessment and evaluation. Among the indicators, exploring the use of electronic assessment tools, such as online testing and the submission of projects through email or online platforms, obtained the highest weighted mean (WM = 2.33), while setting up online databases or repositories of student works received the lowest weighted mean (WM = 1.67), with both indicators interpreted as Basic Level. These findings suggest that although the teachers have begun incorporating digital tools into assessment practices, their use of technology for managing, storing, and evaluating student outputs remains limited. Overall, the results highlight the need for continuous professional development on digital assessment strategies, learning management systems, online portfolio development, and electronic record management to strengthen MAPEH teachers' competencies in implementing efficient, technology-enhanced assessment and evaluation practices.

SUMMARY TABLE

Indicators	WM	Descriptive Equivalent
Standard 1: Apply technology to develop students' higher order thinking skills and creativity	1.84	Basic
Standard 2: Provide performance tasks that require students to locate and analyze information and use a variety of media to communicate results	2.00	Basic
Standard 3: Conduct open and flexible learning environments where technology is used to	2.23	Basic

support a variety of interactions among students, cooperative learning and peer instruction		
Standard 4: Evaluate the usage of ICT integration in the teaching-learning process and use the results to refine the design of learning activities	3.00	Advanced
Standard 5: Use computers and other technologies to collect and communicate information to students, colleagues, parents, and others	3.00	Advanced
Standard 6: Apply technology to facilitate a variety of appropriate assessment and evaluation strategies recognizing the diversity of learners	2.00	Basic
Overall Weighted Mean	2.34	Basic

The summary table shows that MAPEH teachers obtained an overall weighted mean of 2.34, interpreted as Basic Level, in terms of Pedagogical Competency. The highest-rated standards were evaluating ICT integration in the teaching-learning process and using technology to communicate with students, colleagues, and parents (WM = 3.00), both interpreted as Advanced Level. Meanwhile, the remaining standards on developing higher-order thinking skills, providing technology-based performance tasks, creating collaborative learning environments, and applying ICT in assessment were all rated at the Basic Level (WM = 1.84–2.23). These findings indicate that while teachers are competent in ICT-supported assessment and communication, they need further enhancement in integrating technology into learner-centered and interactive instructional practices.

Problems Met by Teachers on the Use of Information and Communication Technology in Teaching

TABLE 3
Problems Met By Teachers on the
Use of ICT in Teaching

PROBLEMS	WM	DE
• Lack of software	4.67	HS
• Lack of sufficient training in ICT integration	4.67	HS
• Lack of learning equipment tools and resources	4.67	HS
• Teachers' resistance to new technology	3.33	MS
• Lack of skilled support personnel	3.00	MS

• Time limitation to develop and implement ICT activities	4.00	VS
• Lack of confidence	2.00	SS
• Lack of appropriate technical knowledge	4.00	VS
• Lack of the required ICT-related skills	4.33	VS
• Failure of personalized teaching	2.00	SS
OVERALL WM	3.67	VS
Legend: WM=Weighted Mean Point Values Statistical Limits Descriptive Equivalent (DE) 5 4.50-5.00 Highly Serious (HS) 4 3.50-4.49 Very Serious (VS) 3 2.50-3.49 Moderately Serious (MS) 2 1.50-2.49 Slightly Serious (SS) 1 1.00-1.49 Not a Problem (NP)		

Table 3 presents the problems encountered by MAPEH teachers in the use of ICT in teaching, with an overall weighted mean of 3.67, interpreted as Very Serious. The most serious concerns identified were the lack of software, lack of sufficient training in ICT integration, and lack of learning equipment, tools, and resources (WM = 4.67), all interpreted as Highly Serious. Other major concerns included the lack of ICT-related skills (WM = 4.33), time limitations in developing and implementing ICT activities and lack of appropriate technical knowledge (WM = 4.00), both interpreted as Very Serious. Meanwhile, teachers' resistance to new technology and lack of skilled support personnel were rated as Moderately Serious (WM = 3.33 and 3.00, respectively), while lack of confidence and failure of personalized teaching were considered Slightly Serious (WM = 2.00). These findings indicate that inadequate ICT resources, insufficient training, and limited technical competencies remain the primary barriers to the effective integration of ICT in MAPEH instruction, highlighting the need for sustained capacity-building programs and improved technological support.

Conclusions

Based on the findings of the study, the following conclusions were drawn:

1. Generally, the MAPEH teachers are advanced in terms of technology operations and concepts which indicates they perform most of the basic ICT operations and use ICT frequently as tool for teaching. They are generally on the basic level in terms of pedagogical competency where they perform some of the basic ICT operations and use ICT sometimes as tool for teaching.
2. Problems met by teachers on the use of Information and Communication Technology (ICT) in teaching are lack of software, lack of sufficient training in ICT integration and lack of learning equipment tools and resources.
3. The proposed Teacher Development Plan focused on the use of technology to achieve the school's goals which includes objectives, strategies and resources.

Recommendations

On the basis of the conclusions drawn, the following recommendations were offered:

1. The proposed Teacher Development Plan should be considered for implementation by concerned school authorities to enhance the level of ICT competencies of the teachers.
2. After the initial implementation, there should be regular evaluation of the Teacher Development Plan for further improvement.
3. There should be regular in-service trainings relative to the use of Information and Communication Technology (ICT) for the teachers to keep abreast of current ICT developments.
4. Other researchers may conduct a similar study on a wider scope to validate the findings of the study.

Compliance with Ethical Standards

The researcher adhered to the ethical principles governing the conduct of educational research throughout the study. Prior to data collection, permission to conduct the study was obtained from the appropriate school authorities, and informed consent was secured from all participants. The respondents were informed of the purpose of the study, the voluntary nature of their participation, and their right to decline or withdraw from the study at any time without any consequences. The confidentiality, anonymity, and privacy of the participants were strictly protected by ensuring that no personally identifiable information was disclosed and that all data collected were used solely for academic and research purposes. The researcher likewise ensured that the study complied with the principles of respect for persons, beneficence, and justice in accordance with established ethical standards for educational research.

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