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Educators' perception of technology integration in the classroom: Basis for the development of action plan

Dr. Rosemarie D Obispo

Assistant Professor, College of Education, University of Cabuyao (Pamantasan Ng Cabuyao), Philippines

* Corresponding Author: **Dr. Rosemarie D Obispo**

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Abstract

This study attempted to determine the educators' perception of technology integration in the classroom: basis for the development of action plan. Specifically, it investigated the respondents' educators' perception of technology integration in the classroom in terms of teaching strategies, experience with computer technologies, the confidence level in integrating technology, how technology contributed to student learning; and the value of technology integration, the technology-related support the educators receive from the university along with professional development and resources. Finally, it proved the significant relationship between the educator's perception of technology integration in the classroom and the technology-related support the educators receive from the university. The researcher utilized a descriptive-correlational method of research with the help of a survey questionnaire as the main source of data.

The study findings showed that educators' perception of technology integration in the classroom obtained an average weighted mean of 3.71 and was categorically interpreted as "strongly agree". On the other hand, the technology-related support the educators receive from the university got an average weighted mean of 3.35 and was categorically interpreted as "strongly agree". Consequently, a significant relationship was established between educators' perception of technology integration in the classroom and the technology-related support the educators receive from the university.

It was concluded Educators become aware of technology integration in the classroom, especially in their experiences in using technology. On the other hand, when it comes to the technology-related support from the university in terms of professional development, there is still a need to have sufficient webinars/seminars and workshops need to be conducted to enhance teachers' ability and attain their needs in utilizing ICT. As a result, it was recommended to organize regular webinars, seminars, and workshops focused on enhancing teachers' ICT skills and addressing their needs so that educational institutions can empower educators to effectively integrate technology into their instructional practices. Consequently, this study served as a basis for the development of an action plan.

Keywords: Educators' Perception, Technology Integration, Technology-Related Support

Introduction

The use of technology-aided education as a pedagogical method is not a modern phenomenon, and investigations into its utility have been studied for almost half a century (Hamilton *et al.*, 2020) ^[9]. This proves that technology, as emphasized by Torrato, Predente & Aguja (2020) ^[21], plays a crucial role in accessing the higher-order competencies referred to as transversal competencies, namely; critical and innovative thinking, interpersonal and interpersonal and intrapersonal skills, global citizenship, media, and information technology. These competencies are necessary to thrive and be productive in today's world. The use of technology-based teaching and learning tools and facilities further enables teachers to bridge the gap and strengthen the shortcomings of conventional teaching techniques (Hero, 2019) ^[10]. The use of educational technology is stated to depend on what instructors do with it and how it meets the needs of their pupils.

Despite previous observations, Mercader and Gairin (2020) revealed that recent studies continue to show a lack of utilization on the side of teaching staff for refining their teaching practices, particularly at the university level. Teachers recognized and embraced the affordances of digital technologies in their own lives, yet they failed to see their significance in language teaching and learning (Sofia, 2019). Moreover, in designing instructional methods and strategies with technology integration, teachers struggle to plan blended activities over blended assessments (De Vera *et al.*, 2021) ^[7]. Considering thereof, Spiteri & Rundgren (2020) ^[20] explained further that teachers' attitudes toward the use of digital technology were found to be related to teachers' confidence, beliefs, and self-efficacy, and with a significant relation to school culture. Therefore, it indicates a need for a recent study since technology is increasingly evolving and requires a deeper understanding to cope with the challenges that technology brings to educators. Also, no or insufficient studies have yet been conducted regarding educators' perception of technology integration in the classroom at the University of Cabuyao (Pamantasan ng Cabuyao). Thus, this study determined the educators' perception of technology integration in the classroom and served as the basis for a proposed action plan to improve educators' skills and competence related to technology integration in education.

Literature Review

There were studies and literature relevant to the research activity that aided in shaping the key points of the research. To obtain data, the researcher used books, contemporary articles, journals, publications, and other electronic sources. According to Silin and Kwok (2018) ^[19] when used effectively, technology in teaching and learning may have a significant impact on students' and teachers' adoption of technology. According to the study, teachers may ensure that the lesson can be delivered effectively by making early preparations before the session by looking for acceptable teaching materials and interesting teaching strategies. In addition, Watson and Rockinson-Szapkiw (2021) ^[23] noted that technology-integrated instructional methods raise teachers' pedagogical and technological skills and improve instruction quality. In contrast to the benefits, the technological incompetence of teachers emerged as the most frequently reported challenge in light of the reviewed studies. In addition, informative information assets are critical as means to perform organizational activities such as operations, which are dependent on IS activities and have an impact on the performance of the organization. The importance of informative information in an organization is also stressed by Evans and Price (Yılmaz, 2020) who believe that information is managed by everyone in the organization and that it has an important role to play in the success of the organization. They hold that information should be managed through reporting, writing, reviewing, researching, and during meetings. Likewise, a survey of four schools found moderate use of numerous well-known digital tools, including word processing, presentation software, and quizzes. Although production activities were deemed to be enjoyable by students, many expressed outright dislike for teacher-directed PowerPoint-supported lectures, which were the most common technology activity they encountered (Hughes & Read, 2018) ^[13]. The models created in this research show that teachers' perceptions of their technological proficiency in using instructional and application software had a direct

and favorable impact on their beliefs about the usefulness of the program (Dogan, S., Dogan, N.A., & Celiks, 2020). Thus, Rao & Jalajakshi (2021) ^[17] stated that in the modern classroom, teachers must understand how technology can be used to enhance learning. When designing lessons and delivering learning experiences, they should be aware of how to appropriately incorporate the appropriate technology into their subject matter. (Bala 2018) ^[2] concurred that teachers can help students become the most productive learners, and because modern education centers on technology-enhanced learning.

Additionally, Ismail I. and Ahmed Y. (2021) ^[12] have that technology, particularly for students who are interested in it, has a significant influence on the learning-teaching process in terms of motivation and engagement. Hence, several studies also emphasized the importance of ICT-integrated instructional approaches in addressing learners' educational needs by fostering more thoughtfulness and sustaining students' motivation, which is seen as a key indicator of students' educational development (Xu *et al.*, 2021) ^[24]. Technology-integrated learning improves student accomplishment in learning and cognitive understanding, Liu *et al.* (2022).

Demir & Akpınar (2018) ^[6], claimed that using digital technology in the classroom allows teachers and students to obtain new knowledge, abilities, and experiences, supporting the study's findings. In contrast to how technological growth has affected society and people's social life outside of the classroom, the transformation of learning by technology integration has gained traction (Ilomäki & Lakkala 2018) ^[11]. Therefore, according to Cheung *et al.* (2021), digital technology makes personalized learning possible. Additionally, because of technological advancements and their efficient application, students can participate in technologically sophisticated learning environments and access a range of materials via tools (Yılmaz, 2021). Students can acquire knowledge and useful abilities, such as flexibility, adaptability, creativity, and critical thinking, through technological technologies.

Nevertheless, Alda, Boholano, and Dayagbil (2020) ^[1], found that faculty members believed they were prepared in terms of their abilities to choose and integrate digital resources for teaching and learning because they were also allowed to develop their capacities through seminars and conferences on technological literacy. Similar findings were made by Hero (2020), who discovered that instructors were ready for ICT integration, accepted the concepts and principles of ICT integration in teaching, and were knowledgeable about or had significant experience with ICT integration in teaching.

Furthermore, Moluayonge & Lyonga (2021) ^[15] found in a study that teachers feel prepared to use technology because they had previously had access to and opportunities to use technology in their classrooms; the availability of technology was influenced by the administration, and the administration thought technology was important because their teachers said it was making a difference (teacher beliefs); As a result, teachers were able to use it more frequently, which ultimately raised their level of readiness. These technologies comprise a variety of hardware and software products, including smart mobile phones, personal digital assistants, computers, radios, televisions, network communication devices, satellite systems, and other services and applications.

Moreso, Dogan, Dogan, and Celiks (2020) found that instructors' perceptions of their technological proficiency

play a major role in how they choose to employ instructional and application software. Similarly, several studies have shown how crucial professional development (PD) is for enhancing teachers' ICT abilities and fostering favorable attitudes toward technology integration (Chandra & Lloyd, 2020). Teachers can use this professional development to assess the learning results of their students by reflecting on their educational techniques. Because of this, having access to top-notch professional development programs can encourage teachers to make adjustments to their methods that will raise student accomplishment and engagement.

According to Ricardo-Barreto C., D. J. Universities should give teachers the technical tools and appropriate connectivity they need to innovate in education by the year 2020. The rapid growth of technology has also made it possible to offer learning content digitally or create multimedia learning resources like digital texts or audio-visually. Alternative representations of learning materials are employed to account for the diverse learning preferences of teachers (Bragg *et al.*, 2021) [3].

Consequently, Washington G.Y.'s (2019) study stated that instructors must comprehend digital resources because of the way that the nature of instruction delivery is evolving. Professional growth is advantageous in technology domains in the twenty-first century. The webinars have the highest mean, with 3.06 indicating the highest frequency, according to a different study by Rahayu & Suprina (2021) that included a list of personal, one-on-one, group, and institutional Professional Development (PD) listed in five Likert Scale with the degree of frequency stating (1) never to (5) always. It means that institutional PD, such as webinars and online workshops, is the best method of professional development. It supported the contention made by instructors that professional development is only a required institutional program.

Research Methodology

The following discussed the research design and methodology of the study. It showed how the procedural operations of the research problem of this study were answered.

Research Design

The researcher utilized a descriptive-correlational method of research with the help of a researcher-made survey questionnaire as the main source of data. This study described the educators' perception of technology integration in the classroom and the technology-related support the educators receive from the university. Likewise, it probed the significant relationship, through correlation, between educators' perception of technology integration in the classroom and the technology-related support the educators receive from the University of Cabuyao (PnC).

Respondents of the Study

The total population of twenty-nine (29) full-time and forty-eight (48) part-time, with a total of seventy-five (75) professors came from the College Education in the University

of Cabuyao (PnC) of the Second Semester of the Academic Year 2022-2023. The actual sample of 63 was computed using the Raosoft Calculator and chosen through the random sampling method. Hence, the sample size of respondents arrived from twenty-five (25) full-time CoEd Faculty and thirty-eight (38) part-time CoEd Faculty.

Instruments

A researcher-made questionnaire was utilized to acquire the necessary primary data for the study. The instrument was divided into two (2 parts) parts. Part 1 dealt with the educator's perception of technology integration in the classroom. Part 2 pertained to the technology-related support the educators receive from the university.

The questionnaire was submitted for face validation to a panel of experts consisting of a researcher, a statistician, and a specialist in the field. The suggestions and recommendations of the panel were incorporated into the draft of the questionnaire. Moreso, it underwent a reliability test using Cronbach's Alpha with the following result: 0.967 for educators' perception of technology integration in the classroom and 0.867 for technology-related support the educators receive from the university.

Data Collection

The survey questionnaire was considered the most appropriate data-gathering tool because it entails collecting data via surveys.

Before the data gathering, the researcher asked permission from the administration of the University of Cabuyao (PnC) for the distribution of the research instrument. Afterward, the researcher informed the dean of the College of Education to conduct the study and get the total number of teachers for the second semester of the academic year 2022-2023.

The questionnaires were sent to the respondents online with the use of Google Forms. The respondents were assured of their privacy and confidentiality of information about their identities. The respondents filled out the questionnaire forms voluntarily and privately. The information gathered was tallied and statistically treated.

Data Analysis

Since the study is a descriptive-correlational type of research, the descriptive statistics used Weighted Mean to determine the educators' perception of technology integration in the classroom and the technology-related support the educators receive from the University. Moreso, Pearson *r* was utilized to determine the significant relationship between the educators' perception of technology integration in the classroom and the technology-related support the educators receive from the University. The survey utilized a four-point Likert scale, with responses ranging from 1.00 to 5.00.

Results and Discussions

Table 1 focuses on presents the educators' perception of technology integration in the classroom in terms of teaching strategies. The analysis of the administered four-point Likert Scale questionnaire involved calculating the means of each indicator.

Table 1: Educators' Perception of Technology Integration in the Classroom: Teaching Strategies

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Using technology, the teaching style was able to elevate the learning of the students which facilitates higher-order thinking skills	3.71	Strongly Agree	3
2. Develops and utilize interactive activities or games using ICT as part of teaching innovations	3.68	Strongly Agree	4
3. Explores educational websites and others for curriculum-relevant content to inform the lesson	3.76	Strongly Agree	2
4. Enhances slide presentations by adding sound, customizing animation, and inserting images	3.67	Strongly Agree	5
5. Uses basic creation, storage, and retrieval of teaching-learning resources	3.84	Strongly Agree	1
Average Weighted Mean	3.73	Strongly Agree	

As seen in the table, indicator 5 "Uses basic creation, storage, and retrieval of teaching-learning resources" with a weighted mean of 3.84 was ranked 1, verbally interpreted as "strongly agree" while indicator 4 "Enhances slide presentations by adding sound, customizing animation, and inserting images" was ranked 5 with a weighted mean of 3.67 and was verbally interpreted as "strongly agree".

To sum up, the educators' perception of technology integration in the classroom in terms of teaching strategies got an average weighted mean of 3.73 with a verbal interpretation of "strongly agree". This implies that technology integration in the classroom is vital in teaching strategies such as the use of basic creation, storage, and retrieval of teaching-learning resources and exploring educational websites and others for curriculum-relevant content to inform the lesson.

To a certain extent, the study results confirm the assertion of According to Silin and Kwok (2018) when used effectively,

technology in teaching and learning may have a significant impact on students' and teachers' adoption of technology. According to the study, teachers may ensure that the lesson can be delivered effectively by making early preparations before the session by looking for acceptable teaching materials and interesting teaching strategies. In addition, Watson and Rockinson-Szapkiw (2021) ^[23] noted that technology-integrated instructional methods raise teachers' pedagogical and technological skills in addition to improving the quality of instruction. In contrast to the benefits, the technological incompetence of teachers emerged as the most frequently reported challenge in light of the reviewed studies. The main focus of Table 2 is the perception of educators regarding technology integration in the classroom, specifically related to their experience with computer technologies. The analysis of the administered four-point Likert Scale questionnaire involved the calculation of the means for each indicator.

Table 2: Educators' Perception of Technology Integration in the Classroom: Experience with Computer Technologies

Indicators I can...	Weighted Mean	Verbal Interpretation	Rank
1. Use computer applications such as MS Word, Excel, PowerPoint, and others (i.e., activity sheets or worksheets, written works, or performance tasks) to enhance my effectiveness in assessing/evaluating learning	3.87	Strongly Agree	1
2. Expand my communication with students, parents, colleagues, and management	3.78	Strongly Agree	4
3. Utilize computer applications to exhibit various skills such as MS Word, Excel, PowerPoint, and others (e.g., record-keeping, learners' profiles, or learners' self-monitoring tools) in reporting/teaching	3.81	Strongly Agree	3
4. Apply online software or apps like Facebook, Google Meet, or Zoom to facilitate the teaching and learning process	3.83	Strongly Agree	2
5. Manage my digital teaching-learning resources by creating, storing, and retrieving them with ease	3.75	Strongly Agree	5
Average Weighted Mean	3.81	Strongly Agree	

As indicated in the table, indicator 1 "Use the computer applications such as MS Word, Excel, PowerPoint, and others (i.e., activity sheets or worksheets, written works, or performance tasks) enhance my effectiveness in assessing/evaluating learning" with a weighted mean of 3.87 was ranked 1, verbally interpreted as "strongly agree. On the other hand, indicator 5 "Manage my digital teaching-learning resources by creating, storing, and retrieving them with ease" was ranked 5 with a weighted mean of 3.675 and was verbally interpreted as "strongly agree".

To sum up, the educators' perception of technology integration in the classroom in terms of experience with computer technologies got an average weighted mean of 3.81 with a verbal interpretation of "strongly agree". This implies that teachers are more inclined to use computer applications such as MS Word, Excel, PowerPoint, and others (i.e., activity sheets or worksheets, written works, or performance tasks) to enhance the effectiveness in assessing/evaluating learning as their main technology integration in the classroom.

The study's findings support a survey of four schools that found moderate use of numerous well-known digital tools, including word processing, presentation software, and quizzes. Although production activities were deemed to be enjoyable by students, many expressed outright dislike for teacher-directed PowerPoint-supported lectures, which were the most common technology activity they encountered (Hughes & Read, 2018). The models created in this research show that teachers' perceptions of their technological proficiency in using instructional and application software had a direct and favorable impact on their beliefs about the usefulness of the program (Dogan, S., Dogan, N.A., & Celik, 2020).

The primary focus of Table 3 revolves around educators' perception of technology integration in the classroom, specifically their confidence levels in integrating technology. The analysis of the administered four-point Likert Scale questionnaire entailed the calculation of the means for each indicator.

Table 3: Educators' Perception of Technology Integration in the Classroom: Confidence Level in Integrating Technology

Indicators	Weighted	Verbal	Rank
	Mean	Interpretation	
1. Decide which educational websites to use for curriculum-relevant content to inform the lesson	3.63	Strongly Agree	3
2. Apply technology to develop students' higher-order thinking skills and creativity	3.73	Strongly Agree	2
3. Use computers and other technologies to collect and communicate information to students' colleagues, and others	3.79	Strongly Agree	1
4. Conduct open and flexible learning environments where technology is used to support a variety of interactions among students, cooperative learning, and peer instruction	3.57	Strongly Agree	5
5. Evaluate the usage of technology integration in the teaching-learning process and use results to refine the design of learning activities	3.62	Strongly Agree	4
Average Weighted Mean	3.67	Strongly Agree	

According to Table 3, indicator 3 "Use computers and other technologies to collect and communicate information to students' colleagues, and others" with a weighted mean of 3.79 was ranked 1, verbally interpreted as "strongly agree". Meanwhile, indicator 4 "Conduct open and flexible learning environments where technology is used to support a variety of interactions among students, cooperative learning, and peer instruction" was ranked 5 with a weighted mean of 3.62 and was verbally interpreted as "strongly agree". To sum up, the educators' perception of technology integration in the classroom in terms of confidence level in integrating technology got an average weighted mean of 3.67 with a verbal interpretation of "strongly agree". This implies educators are confident in integrating technology in the classroom, especially with the use of computers and other technologies to collect and communicate information to

students' colleagues, and others.

The findings are consistent with the study of Rao & Jalajakshi (2021) stated that in the modern classroom, teachers must understand how technology can be used to enhance learning. When designing lessons and delivering learning experiences, they should be aware of how to appropriately incorporate the appropriate technology into their subject matter. (Bala 2018) [2] concurred that teachers can help students become the most productive learners, and because modern education centers on technology-enhanced learning.

Table 4 presents the educators' perception of technology integration in the classroom in terms of how technology contributed to student learning. The analysis of the administered four-point Likert Scale questionnaire involved calculating the means of each indicator.

Table 4: Educators' Perception of Technology Integration in the Classroom: How Technology Contributed to Student Learning

Indicators	Weighted	Verbal	Rank
	Mean	Interpretation	
1. Use Web-conferencing or video chat to communicate/collaborate with other students in the course	3.76	Strongly Agree	1
2. Use a personal dashboard on the university's private network to access all your academic information related to courses, grades, and others.	3.70	Strongly Agree	3
3. Use the Web to share digital files related to your course (e.g., sharing photos, audio files, movies, digital documents, websites, etc.)	3.62	Strongly Agree	4
4. Receive alerts about course information (e.g., timetable changes, the release of new learning resources, changes in assessment)	3.59	Strongly Agree	5
5. Download or access online audio/video recordings of supplementary content material	3.73	Strongly Agree	2
Average Weighted Mean	3.68	Strongly Agree	

As shown in Table 4, indicator 1 "Use Web-conferencing or video chat to communicate/collaborate with other students in the course" with a weighted mean of 3.76 was ranked 1, verbally interpreted as "strongly agree". On the other hand, indicator 4 "Receive alerts about course information (e.g., timetable changes, the release of new learning resources, changes in assessment)" got the lowest weighted mean of 3.62 and was verbally interpreted as "strongly agree". To sum up, the educators' perception of technology integration in the classroom in terms of how technology contributed to student learning got an average weighted mean of 3.68 with a verbal interpretation of "strongly agree". This implies that technology integration contributes to student learning specifically when using web-conferencing or video chat to communicate/collaborate with other students in the course.

To a certain extent, the study results agreed with Ismail I. and

Ahmed Y. (2021) [12] that technology, particularly for students who are interested in it, has a significant influence on the learning-teaching process in terms of motivation and engagement. Hence, several studies also emphasized the importance of ICT-integrated instructional approaches in addressing learners' educational needs by fostering more thoughtfulness and sustaining students' motivation, which is seen as a key indicator of students' educational development (Xu *et al.*, 2021) [24]. Technology-integrated learning improves student accomplishment in learning and cognitive understanding, Liu *et al.* (2022).

Table 5 examines how educators perceive the value of teaching integration regarding technology in the classroom. To analyze the data obtained from the administered four-point Likert Scale questionnaire, the means of each indicator were calculated.

Table 5: Educators' Perception of Technology Integration in the Classroom: Value of Technology Integration

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Technology integration support activities that facilitate higher-order thinking ex: collaborative problem-based activities, and activities that require analysis and synthesis of information	3.73	Strongly Agree	1
2. Technology integration support learning styles such as the use of media for auditory and visual learners	3.68	Strongly Agree	3
3. Technology facilitates specific concepts like computer-based courseware, tutorials	3.62	Strongly Agree	4
4. Integrating technology improves instructional performances	3.70	Strongly Agree	2
5. Integrating technology is completely compatible with all aspects of academic work	3.54	Strongly Agree	5
Average Weighted Mean	3.65	Strongly Agree	

As seen in Table 5, indicator 1 "Technology integration support activities that facilitate higher-order thinking ex: collaborative problem-based activities and activities that require analysis and synthesis of information" with a weighted mean of 3.73 was ranked 1, verbally interpreted as "strongly agree" while indicator 5 "Integrating technology is completely compatible with all aspects of academic work" was ranked 5 with a weighted mean of 3.54 and was verbally interpreted as "strongly agree".

To sum up, the educators' perception of technology integration in the classroom in terms of the value of technology integration got an average weighted mean of 3.65 with a verbal interpretation of "strongly agree". This implies that technology integration has its value to support activities that facilitate higher-order thinking and improves instructional performances.

The study by Demir & Akpınar (2018) [6], which claimed that using digital technology in the classroom allows teachers and students to obtain new knowledge, abilities, and experiences,

supports the study's findings. In contrast to how technological growth has affected society and people's social life outside of the classroom, the transformation of learning by technology integration has gained traction (Ilomäki & Lakkala 2018). Therefore, according to Cheung *et al.* (2021), digital technology makes personalized learning possible. Additionally, because of technological advancements and their efficient application, students can participate in technologically sophisticated learning environments and access a range of materials via tools (Yilmaz, 2021). Students can acquire knowledge and useful abilities, such as flexibility, adaptability, creativity, and critical thinking, through technological technologies.

Table 6 provides the composite table of educators' perceptions of technology integration in the classroom. This allows for a clear presentation of the indicators under the educators' perception of technology integration in the classroom.

Table 6: The Composite Table of Educators' Perception of Technology Integration in the Classroom

Indicators	Weighted Mean	Verbal Interpretation	Rank
Teaching Strategies	3.73	Strongly Agree	2
Experience with Computer Technologies	3.81	Strongly Agree	1
Level in Integrating Technology	3.67	Strongly Agree	4
How Technology Contributed to Student Learning	3.68	Strongly Agree	3
Value of Integration	3.65	Strongly Agree	5
Average Weighted Mean	3.71	Strongly Agree	

As indicated in Table 6", Experience with computer Technologies" with a weighted mean of 3.81 was ranked 1, verbally interpreted as "strongly agree". On the other hand, "Value of integration" was ranked 5 with a weighted mean of 3.65 and was verbally interpreted as "strongly agree".

To sum up, the educators' perception of technology integration in the classroom got an average weighted mean of 3.71 with a verbal interpretation of "strongly agree". This implies that technology integration in the classroom is being experienced in the university as perceived by the respondents. The study's findings support the claims made by Alda, Boholano, and Dayagbil (2020) [1], who found that faculty members believed they were prepared in terms of their abilities to choose and integrate digital resources for teaching and learning because they were also allowed to develop their capacities through seminars and conferences on

technological literacy. Similar findings were made by Hero (2020), who discovered that instructors were ready for ICT integration, accepted the concepts and principles of ICT integration in teaching, and were knowledgeable about or had significant experience with ICT integration in teaching.

This section focuses on the technology-related support the educators receive from the university. The analysis of the administered four-point Likert Scale questionnaire involved calculating the means of each indicator.

Table 7 is primarily centered around the technology-related support that educators receive from the university, particularly concerning professional development. The analysis of the administered four-point Likert Scale questionnaire involved calculating the means for each indicator.

Table 7: Technology-related Support the Educators Receive from the University: Professional Development

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. There are sufficient webinars/seminars to enhance teachers' ability in utilizing ICT	3.24	Agree	4.5
2. Workshops conducted about ICT attain the needs of teachers regarding technology usage	3.24	Agree	4.5
3. Professional development is a school-based activity conducted by a qualified resource speaker	3.44	Strongly Agree	1
4. Professional development given is for effective learning assessment	3.33	Strongly Agree	3
5. Professional development given is on pedagogical approaches to learning	3.37	Strongly Agree	2
Average Weighted Mean	3.32	Strongly Agree	

According to Table 7, indicator 3 "Professional development is a school-based activity conducted by a qualified resource speaker" with a weighted mean of 3.44 was ranked 1, verbally interpreted as "strongly agree. On the other hand, indicators 1 and 2 "There are sufficient webinars/seminars to enhance teachers' ability in utilizing ICT" and "Workshops conducted about ICT attain the needs of teachers regarding technology usage" were ranked 4.5 and obtained the weighted mean of 3.24 and was verbally interpreted as "agree".

To sum up, the technology-related support the educators receive from the university in terms of professional development got an average weighted mean of 3.32 with a verbal interpretation of "strongly agree". This implies that professional development is a school-based activity conducted by a qualified resource speaker and given a pedagogical approach to learning.

The study's findings partially support Dogan, Dogan, and Celik's (2020) finding that instructors' perceptions of their

technological proficiency play a major role in how they choose to employ instructional and application software. Similarly, several studies have shown how crucial professional development (PD) is for enhancing teachers' ICT abilities and fostering favorable attitudes toward technology integration (Chandra & Lloyd, 2020). Teachers can use this professional development to assess the learning results of their students by reflecting on their educational techniques. Because of this, having access to top-notch professional development programs can encourage teachers to make adjustments to their methods that will raise student accomplishment and engagement.

Table 8 is primarily focused on the technology-related support provided to educators by the university, specifically in terms of resources. The analysis of the administered four-point Likert Scale questionnaire involved calculating the means for each indicator to assess educators' perceptions of the available resources.

Table 8: Technology-Related Support the Educators Receive from the University: Resources

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Keep abreast of emerging trends in technology and provide technical resources to support continued technological integration	3.48	Strongly Agree	1
2. Ensure that teachers are making full use of the resources at their disposal by driving technological solutions, strategic integration, and improvement measures.	3.33	Strongly Agree	4.5
3. Employ diverse methods to assess the utilization of technological resources, to improve educational and operational productivity	3.33	Strongly Agree	4.5
4. Ensure that technology resources are allocated fairly and to the needs of students and teachers.	3.35	Strongly Agree	3
5. Utilize technological resources to support continued professional development	3.40	Strongly Agree	2
Average Weighted Mean	3.38	Strongly Agree	

As seen in Table 8, indicator 1 "Keep abreast of emerging trends in technology and provide technical resources to support continued technological integration" with a weighted mean of 3.48 was ranked 1, verbally interpreted as "strongly agree while indicator 2, and 3 "Ensure that teachers are making full use of the resources at their disposal by driving technological solutions, strategic integration, and improvement measures." and "Employ diverse methods to assess the utilization of technological resources, to improve educational and operational productivity" were ranked 4.5 and obtained the weighted mean of 3.33 and was verbally interpreted as "strongly agree".

To sum up, the technology-related support the educators receive from the university in terms of resources got an average weighted mean of 3.38 with a verbal interpretation of "strongly agree". This implies that technology-related resource support should be kept abreast of emerging trends and provide technical resources to support continued technological integration.

These results back up the research done by Ricardo-Barreto C., D. J. Universities should give teachers the technical tools

and appropriate connectivity they need to innovate in education by the year 2020. The rapid growth of technology has also made it possible to offer learning content digitally or create multimedia learning resources like digital texts or audio-visually. Alternative representations of learning materials are employed to account for the diverse learning preferences of teachers (Bragg *et al.*, 2021) ^[3].

Table 9 provides a composite table of technology-related support the educators receive from the university. This allows for a clear presentation of the indicators under technology-related support the educators receive from the university.

Table 9: The Composite Table of Technology-Related Support the Educators Receive from the University

Indicators	Weighted Mean	Verbal Interpretation	Rank
Professional Development	3.32	Strongly Agree	2
Resources	3.38	Strongly Agree	1
Average Weighted Mean	3.35	Strongly Agree	

According to Table 9," resources" with a weighted mean of

3.38 was ranked 1, verbally interpreted as “strongly agree”, and “Professional Development” was ranked 2 with a weighted mean of 3.32, verbally interpreted as “strongly agree”.

To sum up, the composite table of technology-related support the educators receive from the university got an average weighted mean of 3.35 and was verbally interpreted as “strongly agree”. This implies that resources and professional development are being practiced and provided in the university as part of the support to the educators.

The study's findings support the 2019 Washington G.Y.'s study, instructors must comprehend digital resources because of the way that the nature of instruction delivery is evolving. Professional growth is advantageous in technology domains in the twenty-first century. The webinars have the highest mean, with 3.06 indicating the highest frequency, according

to a different study by Rahayu & Suprina (2021) that included a list of personal, one-on-one, group, and institutional Professional Development (PD) listed in five Likert Scale with the degree of frequency stating (1) never to (5) always. It means that institutional PD, such as webinars and online workshops, is the best method of professional development. It supported the contention made by instructors that professional development is only a required institutional program.

Unraveling cause-and-effect relationships is a key goal of the research, involving the examination of relationships between variables to determine whether changes in one variable caused changes in another. Consequently, Table 10 displays the correlation between educators' perceptions of technology integration in the classroom and the technology-related support they receive from the university.

Table 10: Relationship between the Educators' Perception of Technology Integration in the Classroom and the Technology-Related Support the Educators Receive from the University

Educator's Perception of Technology Integration in the Classroom	Technology-Related Support the Educators Receive from the University
Significant @ 0.01	r=0.604 high positive correlation p=0.000

As indicated in Table 10, educators' perceptions of technology integration in the classroom and the technology-related support the educators receive from the university have a significant relationship having a Pearson r value of 0.604 and a probability value of 0.000 lower to the level of significance of 0.01.

The result affirms Moluayonge et.al (2021). They found in a study that teachers feel prepared to use technology because they previously had access to and opportunities to use technology in their classrooms; the availability of technology was influenced by the administration, and the administration thought technology was important because their teachers said it was making a difference (teacher beliefs); As a result, teachers were able to use it more frequently, which ultimately raised their level of readiness. These technologies comprise a variety of hardware and software products, including smart mobile phones, personal digital assistants, computers, radios, televisions, network communication devices, satellite systems, and other services and applications.

Conclusions and Recommendations

The study's findings shed light on educators' perceptions of technology integration in the classroom and the university's technology-related support they receive. Hence, conclusions and recommendations were crafted.

Educators become aware of technology integration in the classroom, especially in their experiences in using technology. Thus, utilizing interactive multimedia, educational software, and online platforms positively impacted student learning outcomes and engagement through assessment and evaluation. However, when it comes to the technology-related support from the university in terms of professional development, there is still a need to have sufficient webinars/seminars and workshops need to be conducted to enhance teachers' ability and attain their needs

in utilizing ICT. To deal with this issue, by organizing regular webinars, seminars, and workshops focused on enhancing teachers' ICT skills and addressing their needs, educational institutions can empower educators to effectively integrate technology into their instructional practices. This will ultimately be the driving force to help improve students' engagement, learning outcomes, and preparation for a technology-driven world.

The aforementioned results served as a basis for developing an action plan which focused on the identified needs of educators when it comes to technology integration in the classroom and the technology-related support they receive from the university. Hence, the proposed strategic plan comprises the implementation of specific professional development aimed at involving qualified technology experts in the delivery of regular workshops on how to incorporate ICT in the classroom. In addition, educators should attend professional development and training- workshops intensified on technology integration in the classroom. Lastly, the purchase of ICT media materials, including laptops for teachers, televisions for classrooms, and enough computer laboratory facilities for students, are of paramount importance in education. It enhances teaching and learning, promotes digital literacy, facilitates research, fosters creativity and critical thinking, prepares students for the digital age workforce, and bridges the digital divide. By investing in these resources, educational institutions can create a dynamic and inclusive learning environment that prepares students for success in the 21st century.

Implications / Action Plan

Action Plan for improving educators' skills and competence related to technology integration in the classroom called Project TECHIE (TECHnology Integration in Education) which focused on the following activities:

Table 11

Proposed Action Plan	Person/Department Responsible	Resources	Timeframe	Success Indicator	Monitoring and Evaluation Scheme
Invite reliable resource speakers to conduct professional development and training- workshops engrossed on technology integration such as collaborative tools for students, Canva, and video editing.	Resource Dean Department Chairs Teachers	Professional Fee Speaker Letter of invitation	August- Decem-ber 2023	Be able to get reliable resource speakers to conduct professional development and training- workshops engrossed on technology integration such as collaborative tools for students, Canva, and video editing.	Approved acceptance letter from the speaker.
Attend professional development and training- workshops intensified on technology integration such as collaborative tools for students, Canva, and video editing.	Resource Dean Department Chairs Teachers	Professional Fee Speaker Training/ Workshop Paraphernalia Evaluation and feedback form	December 2023	95% of the people involved attended the professional development and training workshops intensified on technology integration such as collaborative tools for students, Canva, and video editing.	Monitoring and Evaluation Feedback form
Purchase some ICT media materials such as laptops for teachers, televisions for classrooms, and complete computer laboratory facilities	University Finance Admin	Laptops, televisions computer lab facilities	Year Round	60% completed	Secured checklist Tool for the things to purchase

References

- Alda R, Boholano H, Dayagbil F. Teacher education institutions in the Philippines towards education 4.0. *International Journal of Learning, Teaching and Educational Research*. 2020; 19(8):137-154.
- Bala P, Tao I. An examination of techno-pedagogical competence and anxiety towards the use of instructional aids in teaching among senior secondary school teachers. *International Educational Journal Chetana*. 2018; 3(3):95-114.
- Bragg LA, Walsh C, Heyeres M. Successful design and delivery of online professional development for teachers: A systematic review of the literature. *Computers & Education*. 2021; 166:104158.
- Chandra V, Llord M. Teaching coding and computational thinking in primary classrooms: Perceptions of Australian preservice teachers. *Curriculum Perspectives*. 2020; 40(2):189-201.
- Cheung WM, Schaefer D. Smart packaging: Opportunities and challenges. *Procedia Cirp*. 2018; 72:1022-1027.
- Demir K, Akpinar E. The Effect of Mobile Learning Applications on Students' Academic Achievement and Attitudes toward Mobile Learning. *Malaysian Online Journal of Educational Technology*. 2018; 6(2):48-59.
- De Vera JL, Andrada MD, Bello A, De Vera MG. Teachers' competencies in educational technology integration on instructional methodologies in the new normal. *Lukad: An Online Journal of Pedagogy*. 2021; 1(1):61-80.
- Dogan S, Dogan NA, Celiks I. Teachers' skills to integrate technology in education: Two path models explaining instructional and application software use. *Education and Information Technologies*. 2021; 26:1311-1332.
- Hamilton M, Clarke-Midura J, Shumway JF, Lee VR. An emerging technology report on computational toys in early childhood. *Technology, Knowledge and Learning*. 2020; 25(1):213-224.
- Hero JL. The Impact of Technology Integration in Teaching Performance. Online Submission. 2019; 48(1):101-114.
- Ilomäki Lakkala, Theodorio A. Online Learning Experiences During Schools Lockdown Case Of Students In A Nigerian Higher Education Institution, 2018.
- Ismail I, Ahmed Y, Mokh AJA, Shayeb SJ, Badah A, Dawoud LK, *et al.* Levels of technostress resulting from online learning among language teachers in Palestine during Covid-19 pandemic. *American Journal of Educational Research*. 2021; 9(5):243-254.
- Hughes JE, Read MF. Student Experiences of Technology Integration in School Subjects: A Comparison across Four Middle Schools. *ERIC, Middle Grades Review*, 2018.
- Mercader C, Gairín J. University teachers' perception of barriers to the use of digital technologies: the importance of the academic discipline. *International Journal of Educational Technology in Higher Education*. 2020; 17(1):4.
- Moluayonge GE, Lyonga NAN, Nkeng AJ. A study of techno-pedagogical skills and teachers' performance in HTTTC Kumba, Cameroon. *European Journal of Education and Pedagogy*. 2021; 2(1):46-50.
- Rahayu N, Suprina R. EFL teacher professional development in the pandemic era of COVID-19. In K. A. Putra & N. A. Drahati (Eds), *Post Pandemic L2. Pedagogy* (pp). London: Taylor Francis Group, 2021. DOI 10.1201/9781003199267-7
- Rao S, Jalajakshi BN. Techno-Pedagogical Skill; An Indispensable Skill for A 21st Century Classroom Teacher. *International Journal of Creative Research Thoughts*. 2021; 9(3):1264-1267.
- Santiago CJ, Ulanday ML, Centeno ZJ, Bayla MC, Callanta J. Flexible Learning Adaptabilities in the New Normal: E-Learning Resources, Digital Meeting Platforms, Online Learning Systems, and Learning Engagement. *Asian Journal of Distance Education*,

- 2021, 16(2).
19. Silin Kwok, Soni S, Dubey S. Towards systematic literature review learning. *International Journal of Scientific Research in Computer Science, Engineering and Information*. 2018; 3(3):1389-1396.
 20. Spiteri M, Chang Rundgren SN. Literature review on the factors affecting primary teachers' use of digital technology. *Technology, Knowledge and Learning*. 2020; 25:115-128.
 21. Torrato JB, Prudente MS, Aguja SE. Technology integration, proficiency and attitude: Perspectives from grade school teachers. In *Proceedings of the 2020 11th International Conference on E-Education, E-Business, E-Management, and E-Learning*, 2020, 70-75.
 22. Washington GY. The learning management system matters in face-to-face higher education courses. *Journal of Educational Technology Systems*. 2019; 48(2):255-275.
 23. Watson JH, Rockinson-Szapkiw A. Predicting preservice teachers' intention to use technology-enabled learning. *Computers & Education*. 2021; 168:104207
 24. Xu W, Linton JD. Research on science and technological entrepreneurship education: What needs to happen next? *The Journal of Technology Transfer*. 2021; 46:393-406.
 25. Yildiz A, Baltaci RGA. Technological Pedagogical Content Knowledge (TPACK) Craft: Utilization of the TPACK When Designing the GeoGebra Activities. *Acta Didactica Napocensia*. 2018; 11(1):101-116.