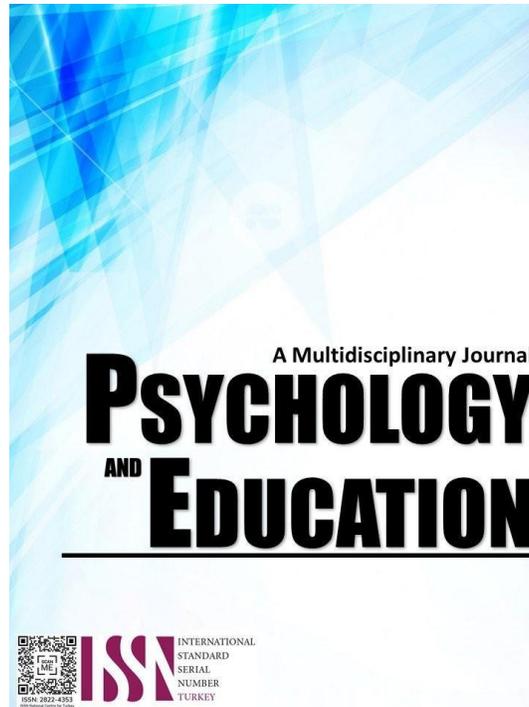# INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) SKILLS AMONG TEACHERS IN THE DIVISION OF LANAO DEL NORTE

Information and Communication Technology (ICT) Skills Among Teachers in the Division of Lanao Del Norte

Lae Ann B. Limpangog,*Ian G. Caliba
For affiliations and correspondence, see the last page.

Abstract

This study Information and Communication Technology (ICT) Skills Among Secondary Teachers in the Division of Lanao Del Norte with respondents of one hundred twenty (120) teachers and was conducted in the 2nd quarter of the School Year 2022-2023. The study used the descriptive-correlational research design. Descriptive research was used in describing the demographic profile in terms of age, gender, marital status, educational attainment, length of service and hours of ICT training; and the Information and Communication Skills (ICT) level competency of teachers in terms of their setup, maintenance, and troubleshooting skills, word processing skills, spreadsheet skills, telecommunications skills, basic programming, video editing, and graphics design. It was also correlation research since the demographic profile of the respondents will be correlated to the Information and Communication Skills (ICT). The data collected were subjected to analysis, the mean and standard deviation were used to answer the research questions while the hypotheses were tested with an F-value of 9.799 with a corresponding p-value of 0.000 level of significance. Based on the results of the study, most of the teachers were of millennial age, female, married, with Master's Units, have 6-10 years length of service, and 8 hours and below ICT hours of training. It was recommended that teachers should have high confidence and competency in using ICT in the classroom since ICT is a tool that could help in the learning process, especially with real-life practices and they can facilitate instruction without losing time and energy in achieving the learning outcomes.

Keywords: *ICT Skills, technology, demographic profile, descriptive-correlation, Division of Lanao del Norte*

Introduction

Technologies are evolving quickly, generating numerous practical advanced devices. It leads to an explosion of rapidly developing technologies, which transforms the world. The use of Information and Communication Technology (ICT) in the classroom is crucial for giving students the chance to learn how to function in the digital age. ICT use has the potential to support and improve teachers' efforts by expanding access to high-quality learning resources, reducing administrative burdens, and providing more useful tools for both summative and formative assessments. This includes engaging with students, especially those with specific educational needs, are being taught in novel methods. Teacher preparing and progressing, suitable proficient advancement for instructors will be significant in case the returns on ICT speculations are to be maximized. It will be applied to shift from teaching/learning about technology (computer literacy) to teaching/learning with technology (integration of ICT in teaching/learning across all subject areas). This means that the school's principal must ensure that all teachers and students have unrestrained access to the computer lab, which serves as the school's centralized multimedia learning resource facility (Deped Order No. 23, s. 2004).

The Department of Education (DepEd), through the Information and Communications Technology Service (ICTS), reported the milestones of its Digital Rise Program during the 2022 World Book and Copyright Day Celebration as part of its commitment to addressing the challenges in digital learning and education technology. The report given by ICTS Director Abram Y.C. Abanil outlines three main parts of the Digital Rise Program. The K–12 curricula are modified to include productivity tools like word processing, spreadsheets, and presentations as part of the first of these components, digital literacy.

The accomplishment combination of technology and the efficient usage of technology relies on the adoption readiness of teachers, but teachers cannot function effectively since there are barriers that cut this channel. One example is a lack of genuine software, insufficient computers in the classroom, unstable internet connectivity, a lack of motivation on the part of the teacher and students to use ICT, a lack of proper training skills, a lack of the most up-to-date ICT equipment, an absence of expert technical staff, poor administrative support, and a weak curriculum. Slowly but surely, teachers must rapidly transition to digitalization in any section. The changes or era have compelled it and demanded by today's digital students. Whenever technology is employed by the teacher to impart knowledge, students may use it. Teachers can deliver using a projector to deliver lessons and students may take advantage of computer-aided learning programs like drills and training, guides, and simulations. Given the actuality of the ICT method of instruction and learning, this study will seek to develop an integration of ICT to look into the challenges of using ICT by teachers, which later can be used to determine the answer to resolving the students' challenges.

Product and stock showcase cost data and investigation, meteorological information collection, counseling administrations to ranchers for agrarian expansion, early caution frameworks for calamity avoidance and control, budgetary administrations, traceability of agrarian items, and rural factual information gathering as cited by Shahi (2022).

The foundation of any functioning society is its teachers. Technology is a key component of the teacher training program. Students use TV, digital media, cable networks, the Internet, and social media to gain knowledge and information. e.g. Facebook, Instagram,

TikTok,Snapchat, Twitter, LinkedIn, etc. In the 21st century, ICT is crucial for preservice teacher preparation programs. Without adequate ICT expertise, a teacher cannot function in the classroom, and it cannot be deemed complete. Teachers must engage in continual training if they want to confidently use ICT in the classroom. Teachers need to be aware of the advantages of digital literacy. ICT training must be acknowledged as necessary for teaching these abilities and as a facilitator of other methods of instruction and comprehension. To stay up with the quickly changing digital technology, schools must make long-term investments in continual training and continuous professional development. Teachers now require more advanced digital abilities than merely utilizing word processing and spreadsheet programs.

The study was to assess the Information and Communication Technology (ICT) Skills among Secondary Teachers of the Division of Lanao del Norte. The study was conducted in the 2nd quarter of 2022-2023. The researcher teaches Animation NC III, Plumbing NC II, Empowerment Technology, and Media Information and Literacy at Maigo National High School-Senior High School. She is also the ICT Coordinator for SHS and the LIS Coordinator for SHS.

Research Questions

The study aimed to assess teachers' information and communication skills (ICT) in the Division of Lanao del Norte and was conducted in the 2nd quarter of School Year 2022-2023. Specifically, it sought to answer the following questions:

1. What is the demographic profile of the teachers in terms of:
    1.1. age;
    1.2. gender;
    1.3. marital status;
    1.4. educational attainment;
    1.5. length of service; and
    1.6. hours of ict training?
2. What is the level of competence in Information and Communication Skills (ICT) integration of the respondents as to;
    2.1. setup, maintenance, and troubleshooting;
    2.2. word processing;
    2.3. spreadsheet;
    2.4. telecommunications;
    2.5. basic programming;
    2.6. video editing; and
    2.7. graphics design?
3. Is there a significant relationship between the demographic profile and the level of Information and Communication Skills (ICT) skills of respondents?
4. Which demographic profile variable best predict Information and Communication Skills (ICT) skills?

Methodology

This section deals with the methods and procedures in gathering data for the study. This includes the research design, research environment, respondents and sampling procedure, research instrument and its validity, data gathering procedures and statistical tools to be used.

Research Design

The descriptive-correlational research design was employed in the study. Descriptive research was used to describe the demographic profile in terms of age, gender, marital status, educational level, number of years of service, and hours of ICT training, as well as the Information and Communication Skills (ICT) level competency of teachers in terms of their setup, maintenance, and troubleshooting skills, word processing, spreadsheet, telecommunications, basic programming, video editing, and graphics design. It was also a correlation research since the demographic profile of the respondents was correlated to the Information and Communication Skills (ICT) of teachers in the Division of Lanao del Norte.

Participants

The respondents of the study were the public secondary school teachers of the Division of Lanao del Norte. Multi-stage sampling method was employed to determine the 120 public high school teachers rated themselves in their Information and Communication Skills (ICT) level competency of teachers in terms of their setup, maintenance, and troubleshooting skills, word processing skills, spreadsheet skills, telecommunications skills, basic programming, video editing and graphics design. Multi-stage sampling method is a sampling technique where any combination of random sampling techniques is used. It involved simple, stratified, systematic, or cluster it is any combination of these sampling techniques that can make up a multi-stage sampling technique. A sample is selected in different stages and each stage uses a different method of sampling.

Table 1. *Number of Teachers*

No.	Schools	Total
1	Bansarvil National High School	6
2	Binuni National High School	26
3	Lala National High School	2
4	Lala Proper Integrated School	2
5	Maigo National High School	55
6	Manga National High School	22
7	Pantar National High School	6
	Total Respondents	120

Multi-stage sampling, or multistage cluster sampling, drew a sample from a population using smaller and smaller groups (units) at each stage. It was used by collecting the data from the population, geographically spread group of people and the actual respondents were one hundred twenty (120).

Instruments

The study used an adapted questionnaire of Computer-Technology and Pedagogical Competencies among public secondary high school teachers of Lanao Del Norte. This questionnaire was adapted from Trozo (2022), "The New Normal Learning Landscape", with slight modifications in statements from e to f, to suit the statements to Information and Communication Skills, and this questionnaire undergone pilot testing to test the reliability of the questions. The first part dealt with the demographic economic profile of respondents in terms of age, gender, marital status, educational attainment, length of service, and hours of ICT training. The second part dealt with the computer technology competencies in ICT: as to; setup, maintenance, and troubleshooting, word processing, spreadsheet, telecommunications, basic programming, video editing and graphics design.

The statements of the questionnaire were measured a 4-point scale ranging from 1- never, 2-seldom 3-often, and 4-always. The researcher used multi-stage sampling, also known as multi-stage cluster sampling, in which a population is sampled using progressively smaller groups (units) at each stage. In national surveys, it's frequently employed to gather information from a sizable, geographically dispersed population.

Table 2 presents the reliability analysis of variables. The result shows that the questionnaire consisted of 70 questions with a Cronbach Alpha value of greater than 0.700, which indicated that all questions were reliable. The threshold value in the literature is much higher than 0.700. This implied that the participating respondents understood the research questions, and similar questions were answered in the same direction.

Table 2. *Reliability Analysis of Variables*

Variables	Number Of Questions	Cronbach Alpha	Interpretation
Information and Communications Technology Skills			
Set-up, maintenance, and troubleshooting	10	0.918	Reliable
Word processing	10	0.901	Reliable
Spreadsheet	10	0.978	Reliable
Telecommunications	10	0.954	Reliable
Basic programming	10	0.980	Reliable
Video editing	10	0.983	Reliable
Graphics design	10	0.959	Reliable

Reliability analysis of the research scale reliability analysis indicates the extent to which the questions asked in the questionnaire research relate to each other, their consistency, and the scale used reflects the problem of interest. The purpose of reliability analysis is to measure the randomness of the data. If the answers to the questionnaire are randomly distributed, it is decided that the survey results are reliable. Reliability analysis is used to test the reliability, coincidence, and consistency of the selected sample. It is decided according to Cronbach's Alpha (α) whether or not the result is reliable (Hasbay & Altındag, 2018).

Procedure

The researcher personally conducted and facilitated the gathering of data. The data gathering process was done in this manner. The data-gathering process starts with a letter that was made and subjected for approval from the Division of Lanao del Norte Superintendent to allow her to conduct among the teachers. When it was approved, the researcher collected contact details to reach out to the respondents to request to be part of the study. After given permission, the researcher explained the purpose of the study to the respondents. The researcher collected the data by means of a survey questionnaire. After the respondents have answered the survey

questionnaire; it was checked, tallied, interpreted, and analyzed based on the problem posited in the study.

Results and Discussion

The information acquired to address the study's issues is presented in this chapter. In order to address the problems in the study, it also examines and explains the information gathered by the researcher. Tables were used to support the presentation, interpretation, and analysis, and they were set up in the same way as the questions posed in the problem statement in Chapter 1 to match the questions.

Problem 1: What is the demographic profile of the respondents in terms of age, gender, marital status, educational attainment, length of service, and hours of ICT Training?

Table 3. *Age of the Respondents*

Age (in Years Old)	Frequency Count	Percentage (%)
20 – 25	3	2.5
26 – 33	24	20.0
34 – 41	38	31.7
42 – 49	28	23.3
50 and up	27	22.5
Total	120	100.0

Table 3 presents the age of the respondents. The result showed, the age ranged from 20-25 got the lowest count with 3 (2.5%) while 34-41 got the highest frequency count with 38 (31.7%). This implied that most of the respondents were adults and in the millennial generation. Similarly, as cited by Mahdi (2022) that most of the teachers felt that young teachers are more enthusiastic and more energetic than senior ones.

According to Kubiatko (2020), that millennials (born between 1981 and 1996) have grown up in an ever-evolving digital landscape. Most educators described Millennial Generation as confident with technology, and confident in their skill level. They are considered to be active, proficient in multitasking, and dependent on communication technologies for accessing information and for interacting with others. As this capacity increases with age, so does too has the abilities to scan information more quickly, apply strategies to transform it more rapidly, hold more information within memory, and move between tasks more easily. People belonging to the Millennial Generation are able to benefit from the kinds of information, which are in the electronic form they trust different kinds of information on the Internet and are able to perform other activities besides their work.

Table 4. *Gender of the Respondents*

Gender	Frequency Count	Percentage (%)
Male	25	20.8
Female	89	74.2
LGBTQIA+	6	5.0
Total	120	100.0

Table 4 displays the gender of the respondents. The result presented the LGBTQIA+ got the lowest count with 6 (5.0%) while the female gender got the highest frequency count with 89 (74.2%). This implied that the majority of the respondents were female. Female teachers are more experience than male teachers in using computers for teaching (Hillman, 2019), female see ICT as a means of pursuing their interests and furthering their learning and they see that the use of ICT is more productive in terms of learning gains (Becta, 2020).

Gebhardt (2019) posits that the successful adoption of new technologies is heavily dependent on the ideas and attitudes that instructors have regarding information and communications technology (ICT) in teaching and learning. While it is encouraged for teachers to incorporate ICT into their instruction, there is evidence that the success of this integration is largely dependent on the readiness of the teachers, which is directly related to their comfort level with and proficiency in using ICT as well as their opinions regarding the importance of ICT in education. Young women in the classroom are given a role model by female teachers who properly use technology. In order to assist and improve their instruction, female teachers frequently employ presentation slides, online video lectures, resources, bibliographic databases, communication tools, and social networking sites, according to Danko (2020).

Table 5. *Marital Status of the Respondents*

Marital Status	Frequency Count	Percentage (%)
Single	24	20.0
Married	92	76.7
Widowed	3	2.5
Separated	1	0.8
Total	120	100.0

Table 5 shows the marital status of the respondents. The result revealed the separated got the lowest count with 1 (0.8%), while married status of the respondents got the highest frequency count with 92 (76.7%). This implied that the majority of the respondents were married as cited by (Olodin, 2018) married teachers attempt to do more things in school, put more effort in their work, persevere longer in their duties and recover faster when they fail to meet set targets.

As stated by Sagnak (2022), the married-women teachers are better qualified to teach because of their family experiences which give them a better understanding of the problems of the students. Teachers working that are married are the ones who are willing to attend training activities, the effectiveness of training programs sustained with technology support may be related to the technological skills of the teachers. The increasing importance of technology integration in schools puts the development of the teachers' technological skills at the forefront. The importance of teachers' technology skills as "to train individuals who can reach and use information, teachers should first have these skills and use technological tools.

Table 6 presents the educational attainment of the respondents. The result showed the respondents with the lowest count are with Doctoral Units with 1 (0.8%) and Doctoral Degree, 1 (0.8%), while the Master's Units got the highest frequency count with 70 (58.3%). This implied that the majority of the respondents have Master's Units. Passinger (2022), the use of technology in schools has created a warp speed of change in the education system. To keep up with this change, teachers should continue to learn. When we experience professional growth and an expanse in knowledge, our students will benefit. We became teachers to inspire, grow, and expose our students to new experiences that will make them better thinkers and citizens.

Table 6. *Educational Attainment of the Respondents*

Educational Attainment	Frequency Count	Percentage (%)
Bachelor's Degree	34	28.3
With Master's Units	70	58.3
Master's Degree	14	11.7
With Doctoral Units	1	0.8
Doctoral Degree	1	0.8
Total	120	100.0

Table 7 presents the length of service of the respondents. The result showed the respondents with the lowest count is 21-25 years with 4 (3.3%), while the 6-10 years got the highest frequency count with 38 (31.7%). This implied that the majority of the respondents rendered 6-10 years in the service. Longer service usually results in higher competence and knowledge in the sector; they are frequently dedicated to developing their current abilities and experience as well as learning new ones; they also feel encouraged to cross-train by imparting new skills to colleagues, which allows them to develop more confidence.

According to Podolsky (2019), the relationship between experience and teacher effectiveness is most pronounced in the first few years of teaching, but it remains important when teachers enter their second and frequently third decades of employment. In addition to learning more as evidenced by standardized tests, kids of more experienced teachers are also more likely to perform better on other success indicators, such as attendance at school.

Table 8. *ICT Hours of Training of the Respondents*

ICT Hours of Training	Frequency Count	Percentage (%)
8 hour and below	35	29.2
9 – 16 hours	21	17.5
17 – 24 hours	15	12.5
25 – 32 hours	10	8.3
33 hours and above	18	15.0
No Answer	21	17.5
Total	120	100.0

Table 8 presents the ICT hours of training of the respondents. The result showed the lowest count is 25-32 hours (8.3%), while the highest mean is 8 hour and below with a frequency count of 35 (29.2%). This implied that teachers need more training programs that embrace ICT integration educational practices and strategies to address their skills and knowledge to improve. To stay up with the evolving demands of teaching and the shifting learning preferences of the students, teachers must constantly improve their ICT skills.

Ghavifekr (2019) that since ICT professional development equips teachers with the information and abilities needed to integrate ICT in the classroom, it enhances communication and collaboration between teachers and their students. Teachers can readily communicate with their students using technology by using email, messaging services, and online discussion forums. As a result, their pupils may be able to ask questions and get answers in real time, making the learning environment more participatory and interesting. In the modern educational system, ICT (information and communication technology) has become a vital instrument for teachers. The number of ICT training hours instructors receive can have a big impact on how successfully they can use technology in their classrooms. Teachers that have received ICT training can use technology to improve their lesson plans, involve students in interactive learning, and offer individualized learning opportunities. Through various technological platforms like email, video conferencing, and online forums, improved communication enables teachers to interact with students, parents, and other educators more

effectively. They can also access a wealth of information and resources that can improve their instruction and the academic results of their students.

Problem 2: What is the level of competence in Information and Communications Technology (ICT) skills integration of the respondents as to set-up, maintenance, and troubleshooting; word processing; spreadsheet; telecommunications; basic programming; video editing; and graphics design?

Table 9. *Level of Competency in ICT Skills integration as to Set-up, Maintenance, and Troubleshooting*

Indicators	Mean	±	SD	Description
1. I set up the computer system (i.e., System Unit, monitor; keyboard; mouse, UPS, AVR).	2.89	±	0.99	Often
2. I connect and install peripheral devices (i.e., Printers, CD-ROM, external drives, router, printer)	2.93	±	0.98	Often
3. I protect and scan flash drives.	3.08	±	0.95	Often
4. I clean computer components and printers.	2.77	±	0.94	Often
5. I ensure the security of data, including regular back-ups and virus checks are implemented in accordance with standard operating procedures.	2.81	±	0.98	Often
6. I use self-help resources to diagnose and correct common hardware/software problems.	2.44	±	1.01	Seldom
7. I install and upgrade an application.	2.61	±	0.96	Often
8. I properly operate the environment for computers and peripherals.	2.77	±	0.90	Often
9. I protect myself against computer viruses.	2.98	±	0.88	Often
10. I reformat and reset (desktop computer and laptop).	2.22	±	1.09	Seldom
Weighted Mean	2.75	±	0.77	Often

Note: 3.25-4.00 Always 1.75-2.49 Seldom 2.50-3.24 Often 1.00-1.74 Never

Table 9 presents the level of competency in ICT skills integration as to set-up, maintenance and troubleshooting of the respondents. The result showed, "I reformat and reset (desktop computer and laptop)" got the lowest mean (2.22), while "I protect and scan flash drives" got the highest mean (3.08). This means that the level of competency of the teachers in ICT skills integration as to set-up, maintenance, and troubleshooting is on track with securing and keeping the flash drive away from viruses, yet not that familiar with the procedures in reformatting and resetting the system units.

DepEd Order No. 78, s.2010 states that the purpose of the DepEd computerization program (DCP) is to equip public schools with the right technological tools to improve the teaching-learning process and prepare them for the challenges of the twenty-first century. By giving them hardware, software, and troubleshooting instructions, this program will address the computer backlog in public schools.

Table 10 presents the respondents' level of competence in Information and Communications Technology (ICT) skills integration of the respondents as to word processing. The result showed the "I create a footnote" got the lowest mean of 2.84, while "change text format and style (change the actual size of the text and choose the type and special effects such as bold, italic, underlined subscript, and superscript) and I check spelling, grammar, and word usage" got the highest mean of 3.53. The goals of this initiative are to supply secondary schools with computer lab packages, give mobile teachers laptops, integrate ICT into the educational system, and increase teacher ICT literacy. These goals are mandated by Deped Order No. 78, s.2010. With the help of technology, the Technical Service Information and Communication Technology (TS-ICTU) will develop a configuration procedure to improve teaching and learning.

Table 10. *Level of Competency in ICT Skills integration as to Word Processing*

Indicators	Mean	±	SD	Description
1. I enter, copy, and edit text.	3.48	±	0.80	Always
2. I insert page breaks/section breaks (column, continuous, even, and odd page).	3.18	±	0.90	Often
3. I change text format and style (change the actual size of the text and choose the type and special effects such as bold, italic, underlined subscript, and superscript).	3.53	±	0.74	Always
4. I use page setup (amount of white space on the top, bottom, left, and right edges of the page)	3.41	±	0.73	Always
5. I use insert and tab stop (align/justify to left, right, center, and decimal tab).	3.49	±	0.71	Always
6. I check spelling, grammar, and word usage.	3.53	±	0.70	Always
7. I create a footnote.	2.84	±	0.98	Often
8. I insert a text box, shapes, symbols, equations, dates, time, and the page number.	3.36	±	0.77	Always
9. I insert borders and shading into a document.	3.34	±	0.79	Always
10. I format a picture into the document. (crop, wrap text, word art, picture styles, and color corrections).	3.30	±	0.87	Always
Weighted Mean	3.35	±	0.65	Always

Note: 3.25-4.00 Always 1.75-2.49 Seldom 2.50-3.24 Often 1.00-1.74 Never

Table 11. *Level of Competency in ICT Skills integration as to Spreadsheet*

Indicators	Mean	±	SD	Description
1. I am familiar with the concept of a spreadsheet and can distinguish between an electronic and a printed one.	2.53	±	0.96	Often
2. I understand the possibilities of spreadsheet calculations.	2.47	±	0.97	Seldom
3. I interpret the information from a spreadsheet and communicate the data in a graphical format.	2.36	±	0.97	Seldom
4. I enter and sort data in an existing spreadsheet.	2.48	±	0.99	Seldom
5. I create a spreadsheet with rows, columns, and headings.	2.54	±	0.98	Often

	Mean	±	SD	Description
6. I insert a formula in the insert function button.	2.37	±	0.98	Seldom
7. I create a formula using functions (add, average, IF function, count, max, range).	2.22	±	1.00	Seldom
8. I copy values using fill down and fill across	2.37	±	0.99	Seldom
9. I change the appearance of a spreadsheet by inserting columns and rows.	2.38	±	0.98	Seldom
10. I create a graph or chart from spreadsheet data.	2.39	±	0.97	Seldom
Weighted Mean	2.41	±	0.87	Seldom

Note: 3.25-4.00 Always 1.75-2.49 Seldom 2.50-3.24 Often 1.00-1.74 Never

Table 11 presents the respondents' level of competence in Information and Communications Technology (ICT) skills integration of the respondents as to spreadsheet. The result showed the "I created a spreadsheet with rows, columns and headings" got the lowest mean of 2.54, while, "I create a formula using functions (add, average, IF function, count, max, range)" got the lowest mean of 2.22.

All public-school teachers may use these Electronic Class Record (ECR) Templates without charge thanks to the Department of Education (DepEd). The templates enable calculation of grades in accordance with Section 8 of DepEd Order No. 8. 2015, also known as the K–12 Basic Education Program Policy Guidelines on Classroom Assessment. The created templates were streamlined using fundamental elements found in a spreadsheet file in order to ensure sustainability and reduce technical difficulty. Teachers can also find user instructions to help them use the ECR templates. The design was made simpler by utilizing fundamental functions in a spreadsheet file in order to ensure sustainability and reduce technical difficulty.

Table 12 presents the respondents' level of competence in Information and Communications Technology (ICT) skills integration of the respondents as to telecommunications. The result showed the "I know and use filters (software-driven, server-based, search engine inclusive)" got the lowest mean of 2.17, while the "I connect to the Internet via an Internet Service Provider (ISP) with a user ID and password" got the highest mean (2.69).

ICT is undoubtedly a useful instrument that allows us to connect multiple learning groups in fresh and novel ways (Tailor, 2000). It offers excellent opportunities for teachers and students to communicate effectively in a variety of creative ways. Teachers serve as knowledge providers and learning facilitators. Students benefit from relevant learning experiences thanks to teachers who use ICT in the classroom. Regular ICT users also look for opportunities to improve their ICT knowledge and abilities, exchange their experiences, and foster a collaborative environment so that they may help one another.

It is essential that teachers serve as outstanding role models while putting the ICT integration program into practice. They must demonstrate that they are skilled ICT users and instructors. ICT use in the classroom encourages pupils to pay attention and participate. Without wasting time or effort, teachers assist education to ensure that learning objectives are met. Teachers who participated in interviews said that when their pupils used computers and other multimedia, they actively participated in class discussions.

Through a student-centered classroom, ICT integration offers meaningful and productive learning experiences. In their lessons, students displayed strong academic performance. The educators also mentioned the abundance of websites that have been developed that are simple to download for no cost. Because teachers can easily get current material on many websites, internet sources are helpful. If sources are cited, one might simply "copy and paste" the information. Even libraries cannot contain the huge and varied knowledge that is available online. The teachers added that using computers helped them create lesson plans more quickly and choose the right visual aids more easily. For their lessons, they might also access or create PowerPoint presentations.

The use of ICT in the classroom requires teachers who are receptive to using the technology and enough access to ICT tools. ICT integration in schools may be made easier with strong ties to non-governmental organizations and other stakeholders. ICT integration in schools must be fully implemented in order to enable instructors to adapt to the K–12 global education standard (Moreno, 2018).

Table 12. *Level of Competency in ICT Skills integration as to Telecommunications*

Indicators	Mean	±	SD	Description
1. I connect to the Internet via an Internet Service Provider (ISP) with a user ID and password.	2.69	±	1.09	Often
2. I compose a new email (address and subject; explanation of address domains) and I send an e-mail (concepts of carbon copy(cc) and blind carbon copy (bcc).	2.64	±	0.99	Often
3. I use google drive to back up and access all my files from any device.	2.66	±	1.07	Often
4. I can share screens (MS teams, zoom, google meet, discord, slack, drovio, skype and facebook).	2.59	±	1.05	Often
5. I am familiar with fourth-generation (4g) and fifth-generation (5g) mobile networks.	2.42	±	1.10	Seldom
6. I find a search engine sites and perform a specific web search (list of search engines)	2.47	±	1.09	Seldom
7. I know and use filters (software-driven, server-based, search engine inclusive)	2.17	±	1.02	Seldom
8. I obtain/maintain an account or postpaid plan on the Internet service that provides Internet access (globe, smart, PLDT, DITO, converge, one sky).	2.45	±	1.14	Seldom
9. I am aware of online conferences relevant to professional information.	2.64	±	1.08	Often
10. I upload a pdf file and send it as electronic mail or as a link in gdrive.	2.47	±	1.08	Seldom
Weighted Mean	2.52	±	0.89	Often

Note: 3.25-4.00 Always 1.75-2.49 Seldom 2.50-3.24 Often 1.00-1.74 Never

Table 13 presents the respondents' level of competence in Information and Communications Technology (ICT) skills integration of

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the respondents as to basic programming. The result showed, "I can debug a program" got the lowest mean (1.28), while "I am familiar with object-oriented programming principles" got the highest mean (1.68). This implied that understanding the use of basic programming can improve computational concepts and practices in the classroom, teachers can introduce computational practices and create their own content related to curricular areas, given the characteristics of the visual content.

In agreement with Becta (2020), Since it's crucial to take into account a number of factors to ensure training effectiveness, the subject of training is undoubtedly complicated. These included time for pedagogical training, skill-building, and ICT use in beginning teacher preparation. Accordingly, recent research by Gomes (2018) on a variety of topics came to the conclusion that barriers to implementing new technologies in the classroom practice included a lack of training in digital literacy, a lack of pedagogic and didactic training on how to use ICT in the classroom, and a lack of training regarding technology use in particular subject areas. Alhamd, Alotaibi, Motwaly, and Zyadah (2017) reported using a "delivery" teaching style rather than investing in modern technology, and Sager (2017) cited a lack of teachers qualified to use the technology confidently as other Saudi Arabian studies reported similar reasons for failures in using educational technology.

Alhamd, Alotaibi, Motwaly, and Zyadah (2017) reported using a "delivery" teaching style rather than investing in modern technology, and Sager (2017) cited a lack of teachers qualified to use the technology confidently as other Saudi Arabian studies reported similar reasons for failures in using educational technology.

Table 14 presents the respondents' level of competence in Information and Communications Technology (ICT) skills integration of the respondents as to video editing. The result showed that the "I can export project in (h.264, mpeg2, avi, mp3, mp4, quicktime)" got the lowest mean (1.73), while, "I can add text to video" showed (2.08) got the highest mean. This implied that by having a piece of knowledge in video editing and using video instructions teachers can have a significant impact on teaching and learning by keeping students interested in fresh and creative ways.

A major advantage of using digital materials such as digital video clips is that thecan be stored and reused in a range of ways. Video can be stored in a CD/DVD, computer hard disk, internet or in a mobile phone for subsequent use. Digital video can be exported to other files and programs using the export/import command(s). There are several advantages to using video in a teaching and learning setting. The complexity of classroom interactions can be captured on video, and replaying the events will help students see key details they might have missed the first time around. With the use of pictures and music, video captures the immediate nature of a real classroom, allowing all students to use it as a common model of an authentic learning experience.

Teachers say that employing digital video in the classroom offers a lot of advantages for both teaching and learning. The professors said that working in teams or collaboration, the students employ and improve problem-solving skills. They also said that preparing and editing a video might enhance students' better grasp of story. Digital video can be used in the classroom to show students how to perform a practical task or understand a theoretical idea, like how to install software or set together a computer system step-by-step. According to Nwangwu (2023), using this method helps pupils get the knowledge and abilities they need to carry out the tasks in question.

The requirement to incorporate video into computer education stems from the fact that this field of study places a strong emphasis on application. Computer education is the study of computers and its applications, which includes understanding how computers operate and how to use them to address various issues. Digital video aids in the efficient delivery of instruction when used in computer instruction. Lecturers can create instructional videos to show students how to do the practical actions needed to complete tasks effectively. The created video can be utilized by the lecturer to instruct in the lab or classroom, or it might be posted online (on YouTube or the school's intranet) for students to view and download. Additionally, students can download and use the digital resource on their smartphones whenever and wherever they like. The pupils can use the digital resource at their own pace and convenience if it has been recorded on CD or DVD and shared with them.

It is crucial to have the capacity to create, develop, and use video courseware using computer technology in order to give instruction effectively. In order to use video in teaching specific concepts in computer education, lecturers should be able to possess the skills needed to capture, embed, edit and produce instructional digital videos. The processes involved in the production of instructional videos are referred to as video editing. The technology for creating digital video is becoming ever more affordable and the software to manipulate footage is becoming ever easier to use. Professional programs, such as Adobe Premiere, Final Cut Pro, Camtasia Studio, Windows Movie Maker, Camstudio, Corel Ulead video Editor, Media cope and other video editing software, provide users with features needed to edit and produce instructional digital video clips. According to Nwangwu, 2023, editing includes any of the following: rearranging, adding, and/or eliminating segments of audio and/or video clips, performing color correction and other enhancements, and generating transitions between pieces.

Table 14. *Level of Competency in ICT Skills integration as to Video Editing*

Indicators	Mean	±	SD	Description
1. I can import footages.	1.91	±	1.02	*Seldom*
2. I know how to unlink video track from audio track.	1.77	±	0.98	*Seldom*
3.I use video recorder and copy the videos from a video recorder.	1.96	±	1.07	*Seldom*
4.I can add text to video.	2.08	±	1.08	*Seldom*

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5.I use the right effects and transition.	1.93	+	1.00	*Seldom*
6. I can use a green screen and properly edit the clips in video editing applications.	1.74	+	0.99	*Never*
7.I know the recommended resolution and aspect ratio (360p: 640x360, 720p: 1280x720, 1080p: 1920x1080, 1440p: 2560x1440, 2160p (4K): 3840x2160).	1.79	+	1.01	*Seldom*
8. I am familiar with video editing software (adobe premiere pro, adobe premiere rush, apple imovie, movavie, lightworks, filmora, pinnacle studio, animaker, corel video studio, sony vegas pro, cyberlink powerdirectos, blender).	1.86	+	0.97	*Seldom*
9.I am familiar with fixing audio drift, multiple compressors, master bus effects and loudness normalization.	1.65	+	0.92	*Never*
10.I can export project in (h.264, mpeg2, avi, mp3, mp4, quicktime)	1.73	+	0.99	*Never*
Weighted Mean	1.84	+	0.92	*Seldom*

Note: 3.25-4.00 Always 1.75-2.49 Seldom 2.50-3.24 Often 1.00-1.74 Never

Table 15 presents the respondents' level of competence in Information and Communications Technology (ICT) skills integration of the respondents as to graphic design. The result showed the "I can provide appealing UX design" got the lowest mean of 1.37, while, "I am aware of the graphics designing software (photoshop, illustrator, indesign, premiere pro, animate, adobe xd, coreldraw, pagemaker, gimp, adobe xd, coreldraw graphics suite, inkscape)" got the highest mean of 1.76. This implied that when chosen and applied carefully, graphics can add valuable context and information, and teachers can use graphic elements to illustrate their educational materials in addition to text and tables. However, when chosen poorly, graphics can confound students and hinder their understanding of important concepts.

On the side of Davis (2022), graphic design aids educators in communicating, teaching, and making more engaging presentations. In addition to understanding successful graphic design, educators also need to know how to teach it. Many teachers (Valli, 2018) employ graphic components in addition to text and tables to show their educational content. When chosen and used with care, graphics can contribute important context and information. The issue should be discussed less and the graphic's relationship to it should be discussed more.

Teachers and educators need to know how to use images to improve instruction and learning. When texts and pictures work together to convey the instructional content, learning is facilitated. Visual aids are effective teaching tools. The term "pictorial expressions of information" is sometimes used to describe them. According to Dincer (2020), visuals are crucial for educational purposes because they help convey meaning by simplifying the complex and giving concrete form to the abstract.

Table 15. *Level of Competency in ICT Skills integration as to Graphic Design*

Indicators	Mean	+	SD	Description
1. I am aware of the graphics designing software (photoshop, illustrator, indesign, premiere pro, animate, adobe xd, coreldraw, pagemaker, gimp, adobe xd, coreldraw graphics suite, inkscape).	1.76	+	0.95	Seldom
2.I am aware of the different graphic design styles.	1.62	+	0.83	Never
3.I am familiar with the basic principles of design like CRAP (contrast, repetition, alignment, proximity).	1.56	+	0.83	Never
4.I can apply bleed style in printing.	1.38	+	0.74	Never
5.I can make 3d graphic art.	1.44	+	0.80	Never
6.I create print-based products (e.g., brochures, posters, books, magazines, flyers, tarpaulin, yearbooks, school paper, certificates, calendar, stickers, tshirt design).	1.69	+	0.98	Never
7.I am familiar with InDesign, Photoshop, Illustrator and Corel Draw.	1.64	+	0.89	Never
8.I can use color schemes or print palettes and color combinations are experimented to compliment concept designs.	1.58	+	0.84	Never
9. I am familiar with the parameters of the design brief.	1.44	+	0.77	Never
10. I can provide appealing UX design.	1.37	+	0.71	Never
Weighted Mean	1.55	+	0.74	*Never*

Note: 3.25-4.00 Always 1.75-2.49 Seldom 2.50-3.24 Often 1.00-1.74 Never

Problem 3: Is there a significant relationship between the respondents' level of competence in Information and Communications Technology (ICT) skills and demographic profile?

Table 16. *Relationship1 Respondents' Level of competence in ICT Skills and Demographic Profile*

Variables	Level of Competence in ICT Skills		Remarks	Decision
	X^2 (df)	p-value		
Age	27.583*** (4)	0.000	Significant	Reject H$_o$
Gender	94.550*** (2)	0.000	Significant	Reject H$_o$
Marital status	181.667*** (3)	0.000	Significant	Reject H$_o$
Educational Attainment	140.583*** (4)	0.000	Significant	Reject H$_o$
Length of service	42.500*** (5)	0.000	Significant	Reject H$_o$
ICT Hours of training	12.900*** (5)	0.024	Significant	Reject H$_o$

Note: 3.25-4.00 Always 1.75-2.49 Seldom 2.50-3.24 Often 1.00-1.74 Never

Table 16 displays the relationship between the respondents' level of competence in Information and Communications Technology (ICT) skills and demographic profile. The result showed that the respondents' level of competence in Information and Communications Technology (ICT) skills have a highly significant relationship with their demographic profile. Thus, the null hypothesis, which states no significant relationship between the respondents' level of competence in Information and Communications Technology (ICT) skills and demographic profile, was rejected.

According to Gaboy (2020), the respondents were aged from 20 to 63 years, coping with the new norm: ICT-pedagogy integration awareness and competencies, these results show significant data regarding respondents' knowledge on using various ICT devices in classroom teaching. Though teachers use various ICT devices in classroom instruction, the use of each ICT equipment is very limited. Teachers tend to use computer and projector most of the time during classroom instruction. This reflects that they still prefer the use of these devices that they are familiar with in handling their classes. On the other hand, respondents used web-based application software for personal use accounting for an average of 3.23 hours. In terms of instructional usage, the most commonly used application software were presentation and word processing applications with an average usage of 4.41 hours and 3.01 hours respectively. When asked about the factors affecting their instructional use of ICT, a majority of the respondents considers convenience in instructional planning and delivery.

The importance of ICT in respondents' education and daily lives was also established. The majority of them stated that ICT enables teachers to deliver lessons effectively and efficiently. According to one of the interviewees, "ICT is useful for instruction because it can reduce teaching time. Even students can learn from a variety of sources. ICT is also regarded as important by the respondents due to its application in communication. "Connecting with others becomes easier" thanks to ICT. ICT skill development As seen in Table 5, the vast majority of respondents (94.00%) stated that they self-taught themselves how to acquire basic ICT abilities. However, a small percentage of responders (6.00%) have taken private courses that were certified. In order to keep their abilities current, nearly all of the respondents (98.00%) engaged in self-learning. Nevertheless, the majority of respondents (86.00%) did not go to ICT-related trainings to keep their skills and knowledge current. Marcial (2018) explained that despite the challenges that are always present in any technology integration in the classroom, educators are frequently expected to incorporate ICT into their instruction without the right training. Nevertheless, they manage to do so. Therefore, this self-learning process of acquiring fundamental ICT abilities and maintaining ICT skills could limit teachers' ability to integrate ICT in their lessons. The study by Figg and Jaipal-Jamani (2017), which discovered that insufficient technology training poses a barrier for instructors when implementing technological resources, supports this.

Problem 4: *Which of the demographic profile best predict the level of competence in ICT Skills of the respondents?*

Table 17 presents the variables that best predict respondents' level of competence in ICT Skills. The respondents' level of competence in ICT Skills was affected by the age with $\beta = -0.217$, t=-3.655, (p<0.000) and ICT hours of training with $\beta = 0.078$, t=2.981, (p <0.004). This implied that age and ICT hours were the predictors that affected the respondents' level of competence in ICT Skills.

Table 17. *Variables that best predict Respondents' Level of competence in ICT Skills of the respondents*

Indicator	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	2.969	0.318		9.344	0.000
Age	-0.217	0.059	-0.424	-3.655	0.000
Gender	-0.105	0.093	-0.089	-1.137	0.258
Marital Status	-0.097	0.099	-0.082	-0.976	0.331
Educational Attainment	0.089	0.063	0.109	1.405	0.163
Length of Service	0.001	0.039	0.003	0.025	0.980
ICT Hours of Training	0.078	0.026	0.235	2.981	0.004
R = 0.585	R^2 =0.342	F = 9.799	Sig. = 0.000		

The regression analysis is significant, with an F-value of 9.799 with a corresponding p-value of 0.000. Therefore, the null hypothesis stating that "there is no variable/s best predict the level of competence in ICT skills of the respondents in terms of demographic profile was rejected in terms of age and ICT hours of training, was rejected.

This further showed that there is/are variable/s that best predict the level of competence in ICT skills of the respondents in terms of the demographic profile particularly in age and in the ICT Hours of Training, thus manifesting that people belonging to the Millennial Generation are able to benefit from the kinds of information, which are in the electronic form they trust different kinds of information on the internet and are able to perform other activities besides their work.

The human component is recognized as the most significant determinant for the success or failure of ICT adoption, despite the fact that ICT usage has been shown to be able to increase organizational performance and productivity (Wahdain & Ahmad, 2014). Aside from teacher ICT proficiency, another crucial component is teacher adoption and usage of ICT (Ministry of Education Malaysia, 2010). Despite the important role that information systems have played in managing education, public school teachers around the world

continue to be very resistant to using them (Hu, Clark, & Ma, 2003).

According to Liew's 2007 research, the reason why the majority of teachers may not support the ICT program is that they are not proficient in using it. Is this the primary reason why instructors use ICT at such a low rate? ICT competency standards adoption and sufficient training, according to Hamsha (2011), will assist instructors in successfully integrating ICT into the classroom. ICT is also widely acknowledged to be growing quickly; if teachers are not prepared with the necessary and most recent knowledge and skills, they will be unable to keep up with the always evolving technology and will definitely fall behind and be prevented from mastering new ICT competencies (Mas Nida, Wong, & Ayub, 2011). Therefore, a paradigm shift is highly anticipated in the minds of the instructors and the responsible authority that is in responsibility of assisting the teachers in keeping up with the rapid development of ICT (Sathiamoorthy et al., 2011).

Conclusion

Based on the results of the study, the following conclusions are drawn: Most of the teachers in the Division of Lanao del Norte were in millennials age, female, married, with Master's Units, have 6-10 years length of service and 8 hour and below ICT hours of training. In the level of competency in ICT skills integration as to set-up, maintenance & troubleshooting, the indicator, "I protect myself against computer viruses", obtained the highest mean of 2.98, which can be interpreted in the often level while the level of competency in ICT skills integration s to word processing, the indicator "I change text format & style (change the actual size of the text and choose the type and special effects such as bold, italic, underlined, subscript, and superscript) & I check spelling, grammar, and word usage obtained the highest mean of 3.53, which can be interpreted in the always level. The level of competency in ICT skills integration as to spreadsheet, the indicator, "I create a spreadsheet with rows, columns, and headings", obtained the highest mean of 2.54, which can be interpreted in the often level.

In the level of competency in ICT skills integration as to Telecommunications, the indicator, "I connect to the internet via an Internet Service Provider (ISP) with a user ID and password", obtained the highest mean of 2.69, which can be interpreted in the often level. In addition, the level of competency in ICT skills integration as to Basic Programming, the indicator, "I am familiar with object-oriented programming principles" obtained the highest mean of 1.68, which can be interpreted in the never level. As well, the level of competency in ICT skills integration as to Video Editing, the indicator, "I can add text to video" obtained the highest mean of 2.08, which can be interpreted in the seldom level. On top of that, the level of competency in ICT skills integration as Graphic Design, the indicator, "I am aware of the graphics designing software (photoshop, illustrator, indesign, premiere pro, animate, adobe xd, coreldraw, pagemaker, gimp, adobe xd, coreldraw graphics suite, inkscape)", obtained the highest mean of 1.76, which can be interpreted in the seldom level.

The null hypothesis, which states no significant relationship between the respondents' level of competence in Information and Communications Technology (ICT) skills and demographic profile, was rejected. The regression analysis is significant, with an F-value of 9.799 with a corresponding p-value of 0.000. Therefore, the null hypothesis stating that "there is no variable/s best predict the level of competence in ICT skills of the respondents in terms of demographic profile was rejected in terms of age and ICT hours of training, was rejected.

The findings of the study supported the Experiential Learning Theory of John Dewey (1938), which states that the teacher's responsibility is to organize this material and to enable the actual experiences, provided support for the study's findings. The experiences are determined by the learners' aptitude and readiness. The main element of the theory is the caliber of the experience. After completing the experience, students have the knowledge and skills to use them in a variety of circumstances. As a result, individuals have produced new information and are at a distinct stage of preparation for the ongoing development of new knowledge.

In light of the findings, as mentioned above and conclusions, the following recommendations are offered: (1)Teachers may have high confidence and competency in using ICT in the classroom since ICT is a tool that could help in the learning process, especially with real-life practices and they can facilitate instruction without losing time and energy in achieving the learning outcomes. (2)Teachers may adopt and integrate the use of ICT applications in the classroom especially in the preparation of the visual aids for a better understanding of learning contents and may attend seminars/training and workshops to update their knowledge and usage of the latest trends in technology particularly in ICT applications. (3)The School Administrator may play a significant role in providing teachers with the technical aspects as these are essential for teachers in the integration of ICT. (4)The community this study may embrace great change to the community in the generation of new avenues for job creation that could help tackle global unemployment and connect people to access work opportunities worldwide, mainly for smaller employers. (5)ICT Coordinator may serve as an inspiration to working ICT staff and personnel to help them become familiar, knowledgeable, and skilled in the applications of technology and enable them to adapt to rapid technological change. (6)For future researchers, this study may be served as a basis and benchmark for further similar studies undertaken along the integration of ICT skills to teachers and this will also serve as a guide to them on other suggested recommendations to go on further studies in some other institutions.

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Affiliations and Corresponding Information

Lae Ann B. Limpangog
Maigo National High School
Department of Education - Philippines
St. Peter's College – Philippines

Ian G. Caliba, PhD
St. Peter's College – Philippines