



INFORMATION COMMUNICATION TECHNOLOGY COMPETENCIES OF CENTRAL AND NON CENTRAL SCHOOLS TUMAUNI DISTRICTS: AS BASIS FOR LEARNING INTERVENTION PLAN

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ABSTRACT

This study assessed the information and communication technology (ICT) competencies of Grade 6 learners in central and non-central schools in Tumauni North and South Districts during School Year 2020–2021 as basis for a learning intervention plan. The study employed a descriptive survey design involving 516 learners from three central and 31 non-central schools. Data were gathered on internet access, available ICT gadgets, and competencies in responsible ICT use, gathering and organizing information, analyzing information, communicating and collaborating, and creating knowledge products. Frequency counts, percentages, weighted means, and F-tests were used. Findings showed that 57.56% of respondents had strong internet connectivity, while smartphones were the most available home gadget at 86.63%. Central school learners obtained an overall weighted mean of 3.46, interpreted as Very Good, whereas non-central school learners obtained 3.35, interpreted as Good. Both groups performed strongly in responsible ICT use, communication and collaboration, and creation of knowledge products. However, lower competency levels were recorded in gathering, organizing, and analyzing information, particularly in creating online surveys, using spreadsheet formulas, processing numerical data, and generating graphs. Significant differences were found in all five competency areas when learners were grouped according to internet connectivity, available ICT gadgets, and school classification at the 0.05 significance level. Central school learners generally demonstrated higher competencies, although non-central school learners performed better in analyzing information. The findings support a learning intervention plan emphasizing hands-on activities, spreadsheet skills, online data gathering, equitable technology access,

responsible ICT use, and sustained collaboration among schools, families, communities, and local government units.

Keywords: *central and non-central schools, Grade 6 learners, ICT competencies, learning intervention plan, technology access*

INTRODUCTION

Transformation in the system of education is needed in every country to meet the challenges of the changing time. The pandemic which brought massive change especially in the field of education requires technological advancement and transformation. Adoption of different modalities are being addressed by schools to cater the needs of their learners. On the other hand, ICT plays a vital role for both teachers and learners as it is used in all fields of life especially education. Many teachers are striving to prepare learners to cope with the 21st century demands. The migration of the traditional face to face learning set-up was changed to online learning which brought a lot of challenges on the part of teachers. Learners, too, are hard-up in coping up with the new set-up of learning.

The transition from traditional teaching approaches to technology-supported instruction presents significant challenges, particularly for learners who have limited experience using computers and other modern technologies. Information and communication technologies (ICT) have transformed conventional teaching and learning practices by creating new learning environments, instructional approaches, and opportunities for collaboration. However, the effectiveness of technology in education depends not only on access to digital devices but also on how appropriately these technologies are integrated into teaching and learning activities (Timotheou et al., 2023; Valverde-Berrocoso et al., 2022).

The Department of Education (DepEd) is mandated to ensure that all learners have continued access to quality basic education. During the COVID-19 pandemic, DepEd developed and implemented alternative learning delivery modalities to maintain learning continuity while protecting the health, safety, and well-being of learners, teachers, non-teaching personnel, and other education stakeholders. These measures were institutionalized through the Basic Education Learning Continuity Plan, which emphasized curriculum adjustments, appropriate learning resources, teacher training, and multiple learning delivery modalities. To support these initiatives, DepEd recognized the importance of strengthening its ICT infrastructure and accelerating the implementation and proper utilization of the DepEd Computerization Program or DCP (Department of Education, 2020, 2023).

One of the primary concerns of the educational system is to improve the delivery of quality education. ICT plays a significant role in society because it facilitates the transfer of information, expands access to learning resources, and prepares learners for participation in a technology-driven world. Through mobile phones, computers, and other digital devices, learners can communicate with others, access current information through

the internet, and develop relevant digital competencies. When meaningfully integrated into instruction, digital technologies can make learning more engaging, interactive, and responsive to learners' needs. Therefore, learners must develop appropriate ICT knowledge and skills that will prepare them for lifelong learning and future participation in the world of work (UNESCO, 2018; Zuhri et al., 2024).

Teachers must also possess the necessary ICT competencies to respond effectively to the learning needs of 21st-century learners. Teachers' digital competence enables them to select appropriate technological tools, design meaningful learning activities, improve classroom instruction, and guide learners in using information responsibly. ICT integration can provide learners with access to diverse information, learning opportunities, and educational resources while developing critical thinking, collaboration, communication, creativity, and problem-solving skills. Given society's increasing demand for digitally competent individuals, it is essential to assess the ICT skills of learners, determine the importance they assign to specific competencies, identify the knowledge and skills they already possess, and establish their ICT training needs (UNESCO, 2018; Timotheou et al., 2023).

Students develop and apply ICT skills across different learning areas by accessing data and information from various sources, creating solutions to challenges and problems, and communicating ideas to others. An effective ICT curriculum introduces students to a wide range of digital tools, applications, information sources, and learning resources that can broaden their knowledge and help them make informed decisions about their future careers. It also motivates learners to explore, create, communicate, and participate actively in technology-supported learning activities. Through carefully designed and adequately supervised hands-on experiences, learners can develop the technical and interpersonal competencies needed to use ICT productively, responsibly, and independently (UNESCO, 2018; Zuhri et al., 2024).

In the district where the researcher is assigned, school heads, teachers and learners work hand in hand in dealing with the changing environment in the new normal. Education leaders and teachers are now preparing new set up of learning through online, modular and other learning resources to cater the different needs and situations of the learners. They ensure that no one will be left behind in terms of education as the country continues to face crisis in pandemic. The frame of the new normal in education laid out preparations to ensure the learning continuity of our learners.

Inspired by these concepts and observations, the researcher sought to find out the ICT competencies of elementary learners which will be the basis of learning intervention plan. This also includes the plans and strategies to mold learners in preparing them to life and work in the 21st century.

Research Questions

This study endeavored to assess the ICT competencies of grade 6 learners in Central and Non Central Schools in Tumauni North and South districts for school year 2020-2021.

Specifically, it sought to answer following specific problems:

1. What is the ICT profile of respondents in terms of:
 - a. Access to Internet Connection
 - b. ICT gadgets available at home
2. What are the ICT competencies for grade 6 learners in central and non-central schools in terms of?
 - a. Safe and Responsible use of ICT
 - b. Gathering and Organizing information using ICT
 - c. Analyzing Information using ICT
 - d. Communicating and collaborating using ICT
 - e. Creating Knowledge Products
3. Is there a significant difference in the ICT competencies of pupils when grouped according to their ICT profile?
4. Is there a significant difference in the ICT competencies of pupils from central and non-central schools?

METHODOLOGY

Research Design

The study made use of the descriptive survey method to achieve the objective of the research. Descriptive research can be explained as a statement of affairs as they are at present with the researcher having no control over variable. Moreover, “descriptive studies may be characterized as simply the attempt to determine, describe or identify what is, while analytical research attempts to establish why it is that way or how it came to be.” (Ethrige, 2004)

Descriptive research is “aimed at casting light on current issues or problems through a process of data collection that enables them to describe the situation more completely than was possible without employing this method.” (Fox and Bayat, 2007) This method is appropriate for this study to seek the ICT competencies of Grade 6 elementary learners in central and non-central schools in Tumauni Districts. This method will give precise information concerning the present condition.

Locale of the Study

The study was conducted in Central and Non –Central Schools of Tumauni District, Tumauni Isabela. The Central schools are situated in urban places having big numbers of learners while the Non-Central schools are located in rural areas with less number of learners.

Selection and Description of Respondents

The researcher conducted the study among 516 Grade 6 learners from three Central schools and 31 Non-Central schools of Tumauni South and North districts. One

hundred twenty eight of these came from central schools and 388 from non- central schools.

The respondents were chosen purposively based on the availability of gadgets. From the population of learners with gadgets, the Slovin's formula was employed to get the sample size. Table 1 shows the distribution of respondents according to school classification.

Table 1
Distribution of Respondents

District	Population of Learners with Gadget	Sample Size
Central (3 schools)	358	128
Non-Central (31 schools)	1089	388
Total	1447	516

Data Gathering Procedure

The researcher asked permission from the Assistant Schools Division Superintendent to conduct of the study in central and non-central schools in the two districts of Tumauni. Upon approval the researcher immediately communicated to the District Supervisor of both Districts. The researcher sought the assistance of the ICT coordinator of both District and discussed about the conduct of survey and informed them how to administer it. The purpose of the study was well explained using online platform. Confidentiality of the learners' response was taken into consideration that no identifying information would be compromised.

Statistical Treatment of Data

The following tools were used in the treatment of the data:

Percentage and Frequency Distribution. This was used used to establish the ICT profile of the respondents in access to internet connection and ICT gadgets available at home.

Weighted Mean. This was employed used to provide description of the collective assessment of the respondents' ICT competencies. The weighted mean competency scores are presented according to ICT learning competencies.

F-Test. This was used to test the null hypotheses that there is no significant difference in ICT competencies of the respondents when grouped according to central and non-central schools and according to their ICT profile.

RESULTS AND DISCUSSION

1. What is the ICT profile of the respondents in terms of:

a. Access to Internet Connection

Table 2
Frequency and Percentage Distribution of Respondents According to Access to Internet Connection

Access to Internet Connection	Tumauini South District		Tumauini North District		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Very Strong Signal (11 mbps and above)	26	10.08	11	4.26	37	7.17
Strong Signal (7-10mbps)	177	68.60	120	46.51	297	57.56
Weak Signal (2-5 mbps)	50	19.38	78	30.23	128	24.81
Very Weak Signal (0-1mbps)	5	1.94	49	18.99	54	10.46
Total	258	100	258	100	516	100

Table 2 shows the frequency and percentage distribution of respondents. Out of 516 respondents, there are 37 or 7.17 percent who have very strong signal, 297 or 57.56 percent have strong signal, 128 or 24.81 percent have weak signal, 54 or 10.46 percent have very weak signal. Majority of the respondents have a strong access to internet connection. This is a good sign for an online option.

This result opposes the findings of Chung et al. (2020) wherein internet connection is one of the great challenges of learning online among students. With this situation, he recommended the use of blended learning strategy seems to be effective to accommodate the learning needs of the students.

b. ICT Gadgets Available at Home

Table 3
Frequency and Percentage Distribution of Respondents According to ICT Gadgets Available at Home

ICT Gadgets Available at Home	Tumauini South District		Tumauini North District		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Desktop computer	2	0.77	2	0.77	4	0.77
Laptop	11	4.26	13	5.04	24	4.65
Smartphone	233	90.31	214	82.95	447	86.63
Tablet device (e.g. iPad)	12	4.65	29	11.24	41	7.95
Total	258	100	258	100	516	100

Table 3 shows the frequency and percentage distribution of respondents according to the ICT gadgets available at home. There are 447 or 86.63 percent of the respondents who have smartphone gadgets available at home, 41 or 7.95 percent have tablet device,

24 or 4.65 percent have laptop and four or 0.77 percent have desktop computer available at home. This shows that the respondents have available gadgets at home.

This provides opportunity for learners to learn on an online basis. Mobile devices such as smartphones are a great help because of their multiple functions especially in learning nowadays.

2. What are the ICT competencies for grade 6 elementary learners in terms of?

a. Safe and Responsible use of ICT

Table 4
ICT Learning Competencies of Respondents According to Safe and Responsible Use of ICT

Safe and Responsible use of ICT	Weighted Mean/Description			
	Central	Description	Non Central	Description
1. I do not share my personal information or other people's (home address, phone number etc.)	3.93	Very Good	3.52	Very Good
2. I am wary of emails that ask me for any personal information.	3.72	Very Good	3.52	Very Good
3. I check with an adult about anything I see that concerns me or report it to a teacher	4.08	Very Good	3.86	Very Good
4. I do not put any personal details about other people into emails, posts, comments or updates.	4.09	Very Good	3.77	Very Good
5. I never meet up with anyone offline that I have only met online without a parent/ trusted adult.	4.03	Very Good	3.85	Very Good
6. I think carefully about the places I go online and keep focused when on learning tasks.	4.38	Excellent	4.18	Very Good
7. I take good care of the ICT equipment I use. I understand that if I am irresponsible in my use of ICT, I may lose my access to it.	4.45	Excellent	4.21	Excellent
8. I understand that I may be able to use my own device or mobile phone in school only at agreed times. If I use it in class without permission, my device may be temporarily confiscated and my parent are informed about it.	3.77	Very Good	3.67	Very Good
9. I am able to posts and shares on wikis and blogs in a safe and responsible manner	3.38	Good	3.38	Good
10. I am able to participate in video and audio conferences in a safe and responsible manner	3.38	Good	3.43	Very Good
Total	3.92	Very Good	3.74	Very Good

Table 4 reveals the respondents' competence in terms of safe and responsible use of ICT. Data shows that majority of the respondents are *very good* in terms of safe and responsible use of ICT. These is evidenced by the total weighted mean of 3.92 for the central school learners and 3.74 for the non-central school learners. As reflected in the table, learners of central and non-central schools have the ability to demonstrate an understanding of the relevant issues available to support the safe and responsible use of ICT.

Learners are able to fully engage themselves in safe and responsible use of ICT. They are equipped with the tools to ensure legal, safe and ethical behavior when using ICT in school, at home and even within the community.

b. Gathering and Organizing Information using ICT

Table 5
ICT Competencies of Respondents in Gathering and Organizing Information Using ICT

Gathering and Organizing Information Using ICT	Weighted Mean			
	Central	Description	Non Central	Description
1. I understand the advantages and disadvantages of using online tools to gather data	3.36	Good	3.39	Good
2. I can create an online survey form or poll	2.80	Good	2.62	Good
3. I can disseminate an online survey form	2.77	Good	2.63	Good
4. I am able to process an online survey form	2.81	Good	2.62	Good
Total	2.93	Good	2.82	Good

The ICT competencies of respondents in gathering and organizing information using ICT are shown in Table 5. It reveals that the respondents are *good* in understanding the advantages and disadvantages of using online tools to gather data. This is proven by the total weighted mean of 2.93 for central school learners and 2.82 for the non-central school learners.

The data reveals that the learners in central and non-central schools need to enhance more their ICT competency in understanding the advantages and disadvantages of using online tools to gather data, creating, disseminating and processing an online survey. The result also reveals that the central school learners have advantage over the non-central schools in ICT. This, really pictures the situation of the DepEd Schools in non-central schools having limited access to technological facility.

This confirms the study of Nuncio et al, (2020) which demonstrate several important patterns concerning ICT competencies in Philippine elementary education. First, actual exposure and practice are important in developing ICT skills. Nuncio et al. (2020) demonstrated that a structured e-learning program improved pupils' computer and Internet knowledge and skills. This suggests that ICT competencies can be strengthened when learners are given systematic opportunities to interact with technology.

Second, the availability and utilization of ICT resources are important components of the learning environment. Gelacio and Comighud (2020) reported high utilization of ICT equipment and facilities in public elementary schools in Bayawan City. Similarly, Alcantara (2019) found that technology-aided instructional materials could support pupils' learning and performance.

The study shows that ICT competencies can be developed through hands-on practice, computer and Internet literacy programs, access to ICT facilities, technology-supported instruction, and effective teacher integration of ICT.

c. Analyzing Information Using ICT

Table 6
ICT Learning Competencies of Respondents In Terms of Analyzing Information Using ICT

Analyzing information using ICT	Weighted Mean			
	Central	Description	Non Central	Description
1. I am able to enter data into an existing spread sheet	3.34	Good	3.29	Good
2. I am able to create a new spread sheet	2.95	Good	3.07	Good
3. I am able to create charts and graphs from a spread sheet	2.98	Good	3.07	Good
4. I can make computation, use formula and create graphs	2.42	Fair	2.61	Good
5. I can use a calculation spreadsheet to enter data, sort data and format cells into tables	2.44	Fair	2.61	Good
6. I am able to process and summarize numerical data using advanced functions and formulas in an electronic spreadsheet tool	2.48	Fair	2.60	Good
Total	2.77	Good	2.88	Good

Table 6 reveals that the respondent's competencies in analyzing information using ICT. Data shows that both the central and non-central school learners are generally *good* in terms of analyzing information using ICT as revealed by the total weighted mean of 2.77 for the central school learners and 2.88 for those in the non-central schools. However, the table reveals that learners in the central schools are *fairly* competent in making computation, using formula and creating graphs, 2.42; using a calculation spreadsheet to enter data, sort data and format cells into tables, 2.44; and in processing and summarizing numerical data using advanced functions and formulas in an electronic spread sheet tool, 2.48 while their counterpart in the no-central schools are good along these competencies. .

The results show that the learners of non-central schools have higher weighted mean in terms of analyzing information using ICT. The average weighted mean reveals

that the learners need more hands on practice in in computation, calculation and summarizing numerical data.

The result also contradicts some of the misconceptions about non-central schools regarding digital equity that despite of the limited access to technological facilities learners from the non-central schools can also be good in performing ICT-related tasks.

d. Communicating and Collaborating Using ICT

Table 7
ICT Learning Competencies of Respondents In Terms of Communicating and Collaborating Using ICT

Communicating and Collaborating Using ICT	Weighted Mean			
	Central	Description	Non Central	Description
1. I can create and present audio/video	3.59	Very Good	3.40	Very Good
2. I can download or access online audio/video recordings	3.98	Very Good	3.74	Very Good
3. I can use instant messaging/chat (e.g. Skype, Messenger, Hangout, etc.) on the Web to communicate/collaborate with other students	4.45	Excellent	4.10	Very Good
4. I can use a social networking platform (e.g. Facebook) on the Web to communicate/ collaborate with other students	4.50	Excellent	3.97	Very Good
5. I can use the Web to share digital files related to my study (e.g. sharing photos, audio files, movies, digital documents, websites, etc.)	3.88	Very Good	3.60	Very Good
6. I can use Web-conferencing or video chat to communicate and collaborate with other students	3.60	Very Good	3.45	Very Good
7. I can contribute with other students to the development of a wiki as part of my studies	3.30	Good	3.35	Good
Total	3.90	Very Good	3.66	Very Good

The learners' competencies in communicating and collaborating using ICT are presented in Table 7. The figures show that the respondents in central and non-central schools were generally *very good* along this area as revealed by the average weighted mean of 3.90 and 3.66 for the central and non-central school learners, respectively. Data further reveals that learners from central schools are *excellent in* using instant messaging/chat (e.g. Skype, Messenger, Hangout, etc.) on the Web to communicate/collaborate with other students with a mean of 4.45; and in using a social networking platform (e.g. Facebook) on the Web to communicate/ collaborate with other students, with a mean of 4.50. In terms of contributing with other students to the development of a wiki as part of their studies, they are considered *good* as revealed by the weighted mean of 3.30 for the central school learners and 3.35 for the non-central school learners. With these results, learners from central school have a higher weighted

mean than non-central schools. It means they perform better when it comes to communicating and collaborating using ICT.

This affirms the assumption of Koc (2005), that using ICT enables students to communicate, share, and work collaboratively anywhere, any time. This proves that learners are competent to analyze problems and explore ideas as well as to develop concepts in order to express themselves and reflect on their learning.

e. Creating Knowledge Products

Table 8
ICT Learning Competencies of Respondents In Creating Knowledge Products

Creating Knowledge Products	Weighted Mean/Description			
	Central	Description	Non Central	Description
1. I am able to raw simple graphical shapes and objects.	3.70	Very Good	3.44	Very Good
2. I am able to create a multimedia presentation.	4.27	Excellent	3.78	Very Good
3. I am able to create a document with a word processor	4.39	Excellent	4.18	Very Good
4. I can create and present multimedia (e.g. PowerPoint)	4.27	Excellent	3.86	Very Good
5. I can enhance slide presentations by adding sound, customizing animation and inserting images	3.63	Very Good	3.54	Very Good
6. I can use a presentation package to add text and sequence a presentation	3.55	Very Good	3.47	Very Good
7. I can crop, scale, color correct and enhance digital images	3.73	Very Good	3.63	Very Good
8. I can play various media files using appropriate media players	3.38	Good	3.36	Good
9. I can create an image using a graphics program	3.27	Good	3.36	Good
10. I can use font style and size color, space and layout	3.91	Very Good	3.67	Very Good
Total	3.81	Very Good	3.63	Very Good

Table 8 shows the learners' competencies in creating knowledge products. It further shows that the learners from both central and non-central schools are *very good* in creating knowledge products as shown by the general weighted mean of 3.81 and 3.63, respectively. However, those in the central schools have higher level of competence in creating a multimedia presentation, creating a document with a word processor, and in creating and presenting multimedia (e.g. PowerPoint) with an *excellent* rating. In terms of the ability to play various media files using appropriate media players and creating an image using a graphics program, both those in the central and non-central got a rating of *good*.

According to Gee (2007), students' creativity can be optimized by using ICT. This affirms the result that learners discover new multimedia tools and create materials in the styles readily available to them through games, CDs, and television. With a combination of students' autonomy, capability, and creativity, the use of ICT can improve both teaching and learning quality. Learners are competent of their ICT competencies in terms of Creating Knowledge Products.

Table 9
Summary of the Respondents' ICT Competencies in Central and Non-Central schools

ICT Competencies	No. of Items	Weighted Mean/Description			
		Central	Description	Non Central	Description
1. Safe and Responsible use of ICT	10	3.92	Very Good	3.74	Very Good
2. Gathering and Organizing information using ICT	4	2.93	Good	2.82	Good
3. Analyzing Information using ICT	6	2.77	Good	2.88	Good
4. Communicating and collaborating using ICT	7	3.90	Very Good	3.66	Very Good
5. Creating Knowledge Products	10	3.81	Very Good	3.63	Very Good
Total	37	3.46	Very Good	3.35	Good

The table shows the summary of the respondents' ICT competencies. Data reveals that the learners from the central and non-central schools are *very good* in terms of Safe and Responsible Use of ICT, Communicating and Collaborating using ICT and Creating Knowledge Products and are *good* in Gathering and Organizing Information using ICT, and Analyzing Information using ICT.

On the overall, the data shows that those in the central schools have higher level of competence in ICT as revealed by the weighted mean of 3.46 or *Very Good* for the central school learners and 3.35 of *Good* for the non-central school learners.

3. Is there a significant difference in the ICT learning competencies of the respondents when grouped according to their ICT profile?
a. Access to Internet Connection

Table 10
Results of the Test of Significant Difference in the ICT Learning Competencies of the Pupils When Grouped According to Access to Internet Connection

Variables	Mean				Significance of F or P-value	Analysis	Decision	Remarks
	Very Strong	Strong	Weak	Very Weak				
Safe and Responsible use of ICT	3.84	3.84	3.70	3.64	0.0048	$P < 0.05$	Reject H_0	Significant
Gathering and Organizing information using ICT	3.00	2.96	2.70	2.41	0.0004	$P < 0.05$	Reject H_0	Significant
Analyzing Information using ICT	3.00	2.91	2.77	2.61	0.0176	$P < 0.05$	Reject H_0	Significant
Communicating and collaborating using ICT	3.87	3.78	3.56	3.71	0.0089	$P < 0.05$	Reject H_0	Significant
Creating Knowledge Products	3.80	3.78	3.45	3.55	0.0005	$P < 0.05$	Reject H_0	Significant

Table 10 presents the results of the test of significant difference in the ICT learning competencies of the learners when grouped according to access to internet connections.

The test resulted to P-values that are less than 0.05, hence, the null hypothesis is rejected at 0.05 level of significance. Thus, there is significant difference in the learning competencies of the learners in ICT when grouped according to access to internet connections. Findings show that those who have very strong access to internet connection have better ICT competencies along the five areas stated since they have the highest means among the rest of the learners.

This confirms the assertion of Ingram, that even when every student is “online”, not all of them may have the same type of connections. Some may have the benefit of high speed, dedicated networking, whereas the only option for some students may be a dial up modem line that does not support the data transfer rate required for high quality interactive multimedia programs. With this result in mind, based on the studies of Siddiquah and Salim (2017) and Bisht et al. (2022), problems in the internet signal might become a barrier among students in their learning.

b. ICT Gadgets Available at Home

Table 11
Results of the Test of Significant Difference in the ICT Learning Competencies of the Pupils When Grouped According to ICT Gadgets Available at Home

ICT gadgets and ICT Learning Competencies	Mean				Significance of F or P-value	Analysis	Decision	Remarks
	Desktop	Laptop	Smart phone	Tablet				
Safe and Responsible use of ICT	4.08	3.94	3.77	3.83	0.0046	$P < 0.05$	Reject H_0	Significant
Gathering and Organizing information using ICT	2.75	2.96	2.87	2.55	0.0058	$P < 0.05$	Reject H_0	Significant
Analyzing Information using ICT	3.08	2.88	2.86	2.69	0.0472	$P < 0.05$	Reject H_0	Significant
Communicating and collaborating using ICT	4.36	3.80	3.70	3.83	0.0500	$P = 0.05$	Reject H_0	Significant
Creating Knowledge Products	3.95	3.81	3.66	3.72	0.0239	$P < 0.05$	Reject H_0	Significant

The results of the test of significant difference in the ICT learning competencies of the learners when grouped according to ICT gadgets available at home are presented in Table 10.

It is revealed from the results that the significance of F or the P-values are less than 0.05. This signifies the rejection of the null hypothesis at 0.05 significance level. Therefore, there is significant difference in the ICT learning competencies of the learners when grouped according to ICT gadgets available at home. It means that the pupils' ICT learning competencies differ in terms of Safe and Responsible use of ICT, Gathering and Organizing information using ICT, Analyzing Information using ICT, Communicating and Collaborating using ICT, and Creating Knowledge Products when clustered according to the ICT gadgets available at home. As indicated by the mean values in the table, learners who have desktop, are more competent along the five ICT areas than the rest of the of the learners. However, those with tablets are fairly competent in gathering and organizing information using ICT than the rest of the pupils.

Desktop computers have more power and more features compared to other gadgets. That's because desktops usually come with full-size parts that are often more powerful. It can solve difficult and different problems, process data, store, retrieve data and performs faster accurately. It is more ideal for multitasking as the learner can have multiple windows to open at the same time.

4. Is there a significant difference between the ICT competencies of pupils from central and non-central schools?

Table 12
Results of the Test of Significant Difference between the ICT Competencies of Pupils from Central and Non-Central Schools

ICT Competencies of Pupils from Central and Non-central schools	Mean		Significance of F or P-value	Analysis	Decision	Remarks
	Central Schools	Non-central Schools				
Safe and Responsible use of ICT	3.92	3.74	0.0010	P<0.05	Reject Ho	Significant
Gathering and Organizing information using ICT	2.93	2.82	0.0355	P<0.05	Reject Ho	Significant
Analyzing Information using ICT	2.77	2.88	0.0240	P<0.05	Reject Ho	Significant
Communicating and collaborating using ICT	3.90	3.66	0.0008	P<0.05	Reject Ho	Significant
Creating Knowledge Products	3.81	3.63	0.0189	P<0.05	Reject Ho	Significant

Table 12 exhibits the results of the test of significant difference between the ICT competencies of learners from central and non-central schools.

It is evident from the results that the significance of F or the P-values are less than 0.05. For this reason, the null hypothesis is rejected at 0.05 level of significance. As a result, there is significant difference between the ICT competencies of pupils from central and non-central schools. It implies that the pupils from central schools differ in their ICT competencies in safe and responsible use of ICT, gathering and organizing information using ICT, analyzing information using ICT, communicating and collaborating using ICT, and creating knowledge products from that of the pupils of non-central schools. As shown by the mean values in the table, it is noted that the pupils from central schools are more competent in terms of Safe and Responsible use of ICT, Gathering and Organizing information using ICT, Communicating and collaborating using ICT and Creating Knowledge Products. On the other hand, pupils from non-central schools are more competent in Analyzing Information using ICT than those from the central schools.

In general, learners from the central schools are comparatively better in terms of confidence and dealing with the people due to exposure and digital learning. The more number of learners creates a greater environment for competent learning. Hence, there will be greater exposure and exchange of ideas among learners.

Conclusions

From the findings of the study the following conclusions were drawn:

The ICT learning competencies of learners of Tumauni South and Tumauni North districts significantly differ depending on their access and strength of internet connections and ICT gadgets available at home.

Learners from the central and non-central schools of Tumauni South and North districts show significant difference in their ICT competencies in the areas of safe and responsible use of ICT, gathering and organizing information using ICT, analyzing information using ICT, communicating and collaborating using ICT, and creating knowledge products.

Recommendations

Based on the findings and conclusions presented, the following recommendations are suggested:

1. The teachers of both districts should closely monitor the performance of the learners in ICT particularly their competencies to be able to immediately address the areas needing more improvement. They should sit down together to discuss the learning intervention plan that should be implemented to provide more guidance to the learners.
2. Teaching-learning strategies that integrate a range of information and communication technologies to promote and enhance students learning must be implemented. Cooperative and collaborative technology-supported and learner-centered environments that engage all students in focused learning experience must be established .
3. The Department of Education should invest on strengthening its IT structures to allow easy access to internet connection among learners and teachers. Likewise, funds must be allocated for the purchase of more advanced and modern ICT gadgets and equipment to be utilized in teaching and learning.
4. For institutions, curricular trends and demands to expand the use of technology within student services should be reconsidered; the skill level and preferences of learners should be evaluated to make decisions on how ICT could help implement lifelong learning.
5. Best practices and lessons learned among schools must be shared. This can be used to inform the development of blueprints and tools to better support ICT in education.
6. Schools should forge strong collaboration with the LGU to bring in additional technical and management practice, as well as financial resources. Strengths and capabilities of both sides must be put together to ensure the sustainability of ICT in education.
7. The result of the study should be considered as basis for learning intervention plan of the school administrators and teachers towards the ICT competencies

of elementary learners. Build their capacity to use and integrate ICT skills in the curriculum.

Compliance with Ethical Standards

This study complied with established ethical standards for research involving learners. Prior to data collection, the researchers secured permission from the appropriate education authorities, school heads, and other concerned officials. Informed consent was obtained from the parents or legal guardians of the Grade 6 learners, while the learners provided their informed assent after the purpose, procedures, potential benefits, and voluntary nature of participation were explained in clear and age-appropriate language. The respondents were informed that they could decline to participate or withdraw from the study at any time without penalty. Confidentiality and anonymity were maintained by excluding personally identifiable information from the research instruments, reports, and presentations. All collected data were securely stored, accessed only for legitimate research purposes, and reported in aggregate form. The researchers observed the principles of respect for persons, beneficence, nonmaleficence, justice, academic integrity, and child protection throughout the study. No respondent was exposed to physical, psychological, social, academic, or financial harm, and the results were presented honestly without fabrication, falsification, or misrepresentation.

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