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USE OF TECHNOLOGY BY SCHOOL ADMINISTRATORS AND TEACHERS FOR STUDENTS' DIGITAL HOME-LEARNING

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Abstract

This study examined the correlation of the school heads' and teachers' practices in the utilization of technology and the students' digital home-learning in the new normal education setting of the Kidapawan City Division using the mixed method encompassing the basic process of quantitative and qualitative research. It was conducted to the DCP recipient Secondary Schools that had received and installed the package. The respondents were the School ICT Coordinators taken with complete enumeration. School heads and teachers in the identified schools served as participants taken using purposive sampling. The research questionnaires were taken and adapted from National Educational Technology Standards for Administrators (NETS-A) from ISTE (2009) and National ICT Competency Standards (NICS) with modifications to suit the purpose. It came out that the school heads' leadership in the utilization of technology was very satisfactorily practiced as well as the teachers' technology utilization for the students' digital home-learning and the students' digital home-learning was very satisfactory.

The school heads and teachers' leadership practices in the utilization of technology showed a significant relationship with the students' digital home-learning and a significant influence on the students' digital home-learning. School heads and teachers support the utilization of technology by providing needed technical support for the students' digital home-learning. Therefore, the higher the technical support of school heads and teachers by providing opportunities for the students to explore and utilize online learning activities, the more the learners strive to efficiently utilize technology in home-learning.

Keywords: Technology Utilization, Digital Home-Learning, New Normal, Mixed Method, Philippines.

1. INTRODUCTION

The utilization of technology makes students more confident in interacting and in complying with their academic-related requirements. On the part of the teacher, the strong motivation of school heads and IT experts facilitate student learning effectively.

The skills in computing hasten and give a more accurate output when used correctly. Besides, it provides a better way of interaction processes between the teacher and learner in any learning environment (Collins, 2012).

It is evident that the Philippine government adopted significant transformation in the educational system ensuring that it has relevance to school's needs such as the DepEd Computerization Program (DCP). The program gives access to clientele to technology to learn lessons although they stay in remote areas (DepEd Order No. 78, s. 2010). It intends to improve the teaching-learning process, school management, and operations.

However, there are reported challenges and issues that affect the utilization of the ICT materials among school heads, teachers, and students in this pandemic situation which concurs with the findings of Johnson, Jacovina, Russell, and Soto (2016) that there are significant challenges to educators at each level of school systems. These observations have been noted by Davies (2010) earlier. Hence, the author recommends digging deeper research on program development to lead in the execution of technology utilization.

Moreover, these concepts geared the researcher to conduct a study on the school heads' leadership in the utilization of technology practices together with teachers for the students' digital home-learning, especially in this new normal situation where face-to-face education is prohibited and online distance learning is highly recommended. The researcher assumes that when the school heads increase their level of practice in the utilization of technology together with teachers is highly practiced, the outcomes for students' digital home-learning becomes better.

2. STATEMENT OF THE PROBLEM

The goal of this study was to see if there was a link between the school heads' leadership strategies in the use of technology and the students' outcomes for digital home-learning. This study specifically addressed the following research questions:

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1. What is the level of the school heads' practices in leading the utilization of technology?
2. What is the level of the teachers' practices in the utilization of technology for the students' digital home-learning?
3. What is the level of students' outcome for digital learning home-learning?
4. Is there a significant relationship between the school heads' leadership practices in the utilization of technology and the students' digital home-learning?
5. Do the school heads' leadership practices in technology utilization significantly influence students' digital home-learning?
6. Is there a significant relationship between the teachers' practices in the utilization of technology and the student digital home-learning?
7. Do the teachers' technology utilization practices significantly influence the students' digital home-learning?
8. What are the favorable and unfavorable experiences of school heads in leading the utilization practices of technology?
9. How do school heads address the unfavorable challenges in the utilization of technology?
10. 1What are the advantages and disadvantages of students' digital learning at home?

3. THEORETICAL FRAMEWORK

This research study was anchored on the Constructivist Theory which served as the foundation for this research (Bruner, 1980). This theory's techniques emphasize the student's role as an active participant in the learning process, in which the learner assists in the processing of information and comprehension. Learners incorporate new knowledge into existing mental constructs to create new mental constructions for themselves. They are actively involved in the development of their expertise. The instructor takes on the role of knowledge facilitator and co-producer. As Adams (2011) claims that constructivist discourse rejects a simple relationship between teacher action and what students learn and absorb the truth that exists before human comprehension.

Teaching and learning have altered as a result of technological advancements. Students nowadays use the internet, social media, and mobile devices extensively. Teachers must develop pedagogical techniques to bring technology into the classroom. Learning theories like constructivism are critical to underpin this trend as the higher education landscape changes in terms of student expectations and teaching techniques. About the ideas of constructivists, active learning develops knowledge and meaning out from their experiences. On the other hand, technology is the existing material that encourages students to engage in the learning process. This research study focused on the specific strategies employed by the teachers in their classroom discussion in a constructivist manner as it leads to having educational technology framework. Technology and constructivism have a strong relationship, with the adoption of either aiding the other. Using technology in the classroom, on the other hand, is very essential to achieve an effective classroom discussion using a theory that models instruction. What makes equipment significant to a constructivist classroom is how it is utilized; not what equipment is used.

4. CONCEPTUAL FRAMEWORK

This conceptual paradigm was based on the premise that under the new normal phenomenon, considering school heads' leadership in utilizing technology practices together with teachers can help in attaining students' digital home-learning. Korobo and Tromp (2006) argued that a collection of general ideas and concepts taken from the area of investigation and use to organize subsequent prevention is a conceptual framework. It is the role of the researcher on the problem and guides the analysis, illustrating the relationships between the various constructs that a researcher wants to investigate (Neumann, 2000).

In this analysis, variables such as school heads' leadership practices in the utilization of technology and teachers' utilization of technology practices, which were the independent variables of the study carried out, were examined. Favorable and unfavorable experiences of school heads in leading the utilization of technology practices, strategies employed by the school heads to address the problems and, advantages and disadvantages of students' digital learning outcome at home were discussed by the respondents through structured questionnaires and concentrated interviews in the face of the transition from normal to new normal education.

Finally, Sani (2015) investigated the relationship and influence of the school heads and teachers' level of technology utilization practices on the students' digital home-learning, which was set as the dependent variable. This study assumes that if school heads' level of utilization of technology practices as well as the teachers' utilization of technology is highly practiced, the positive outcome of students' digital home-learning is highly achieved.

5. METHODS

Research Design

The researcher employed a sequential-explanatory mixed-method approach. Mixed-methods research is distinguished by the fact that it integrates quantitative and qualitative data in a single study (Gay, Mills, & Airasian, 2009). It has one quantitative and one qualitative thread, (Creswell & Palno, 2011). A strand is a sub-study that covers the fundamentals of quantitative or qualitative research, such as formulating a research question, collecting and analyzing data, and interpreting the findings.

In this study, the researcher utilized first descriptive statistics for the level of respondents' responses on the variables and followed by the test of correlation. Meanwhile, the qualitative data were analyzed using the

thematic analysis and the results were integrated with the quantitative analysis.

Data Gathering Methods

The researcher observed the following procedures in the gathering of the data. An in-depth reading of the literature was done to select an appropriate questionnaire. After which, the researcher did data mining and saved numerous pieces of literature that are crucial in the present study. The researcher asked for the adviser's assistance to make the statements appropriate before the panel of experts will validate the tool. After this process, a dry-run was conducted to test the acceptability and its reliability using the Cronbach Alpha (0.988).

Participants of the Study

The respondents were from the four (4) districts of Kidapawan City Division Secondary Schools. Twenty-Seven (27) ICT Coordinators were taken as respondents using complete enumeration considering that in each school there is only one (1) ICT Coordinator. The ICT Coordinator rated the subjects of the study using the indicators in each parameter of each variable. School heads, teachers, and students were rated collectively by the ICT Coordinators in their respective schools. The respondents gave exact data for the realization of the study.

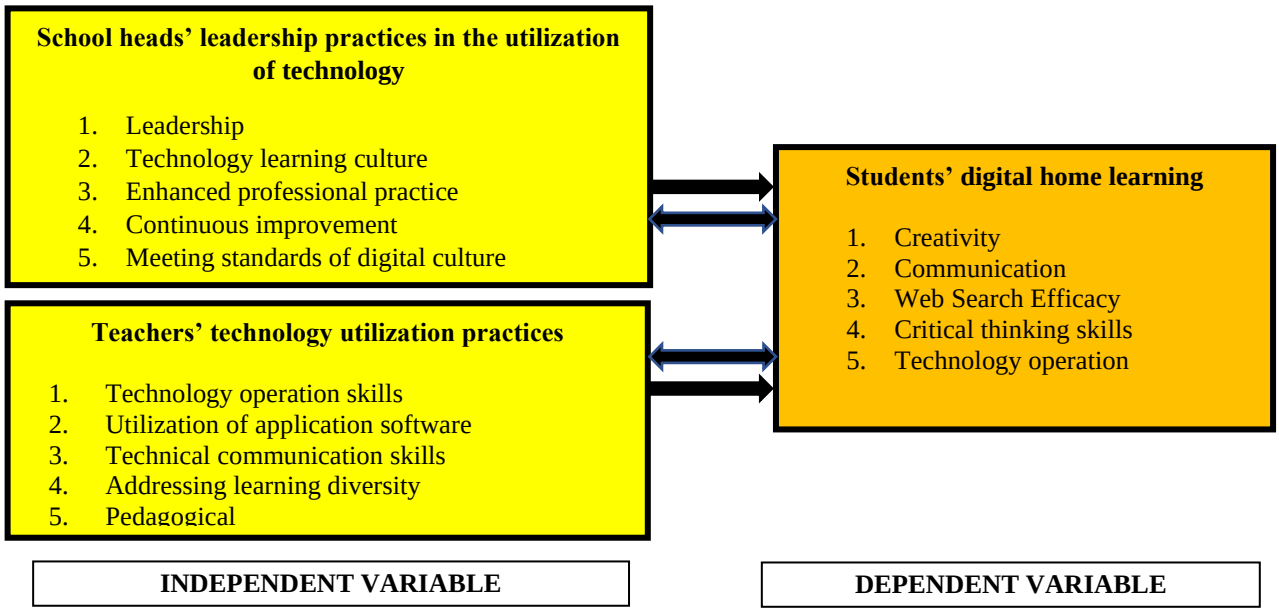


Figure 1 Schematic presentation showing the independent and dependent variables of the study

Table 1 Distribution of Respondents

No.	District Number	No. of respondents (ICT Coordinators)	No. of participants (School Heads)	No. of participants (Grade 10 Teachers)	Number of Classes
1	District 1	2	2	2	8
2	District 2	8	8	8	10
3	District 3	9	9	9	13
4	District 4	8	8	8	11
	Total	27	27	27	42

Statistical Tools and Data Analysis

The statistical tools used in this study were the descriptive statistics such as mean and weighted mean and correlational statistics such as the Pearson Product Moment of Correlation, and Multiple Regression. Thematic analysis was also used to answer the issues and problems, challenges, advantages, and disadvantages of utilizing technology by school heads and teachers for the students' digital home-learning. The mean and weighted mean were used to determine the extent of technology use by school heads and teachers, as well as the students' digital home-learning. A weighted mean is a similar concept to an average. Rather than each data point contributing the same amount of "weight" (Everitt, 2010).

The Pearson r correlation was used to determine whether the variables examined had a significant association. Pearson's r is a statistic that evaluates the intensity, direction, and likelihood of a linear relationship between two interval or ratio variables (Burns & Grove, 2005; Polit & Beck, 2006).

The substantial influence of the indicated factors was determined using regression analysis as it illustrates the relationship and influence of dependent and independent variables. (Tseng, Fu, Lu, & Shieh, 2011).

Qualitative Analysis of the data gathered through interviews and written comments from the questionnaire were interpreted using thematic analysis (Barnham, 2015).

Ethical Considerations

Before the conduct of the study, the researcher wrote a letter of permission addressed to the Schools Division Superintendent of Cotabato and Kidapawan City Division. After which, the researcher addressed a permission letter to the District Supervisors. The same letter of permission was given to the school heads the for-data collection purposes of both quantitative and qualitative strands.

On the other hand, in the qualitative gathering of data, the researcher also asked consent to the interviewee containing the participants' full knowledge of what is involved, the harm and risk of the participants and the issue of confidentiality on their responses.

6. RESULTS AND FINDINGS

Quantitative Strand

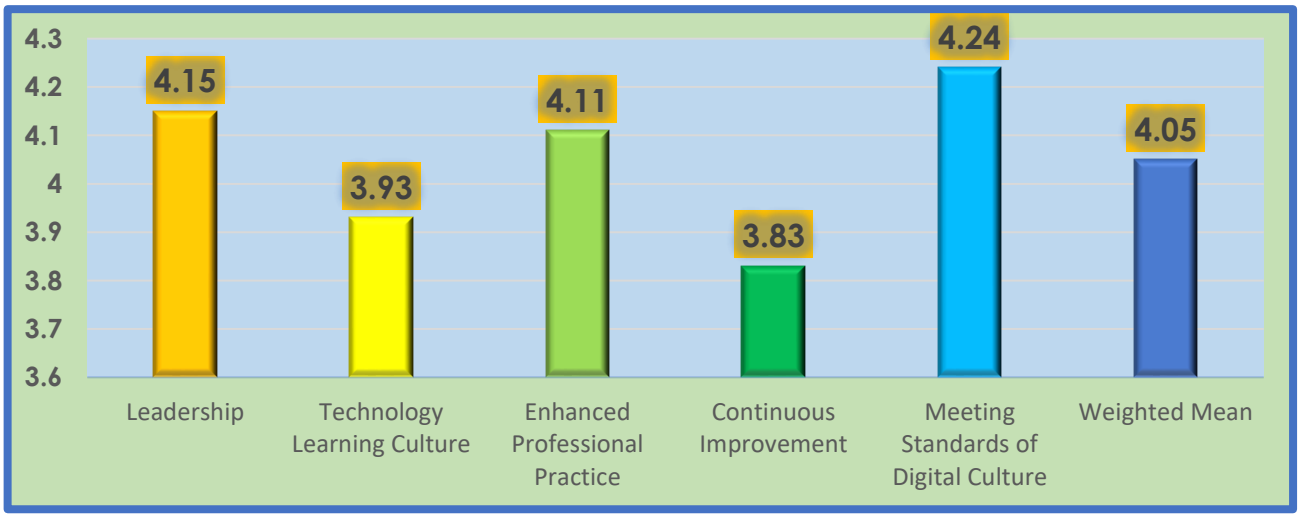
This section dealt with the result of the quantitative data gathered through the survey questionnaires.

Summary of Results and Discussions

A. Research Problem No. 1

Level of practices of school heads' in leading the utilization of technology in terms of leadership, technology learning culture, enhanced professional practice, continuous improvement, and meeting standards of digital culture.

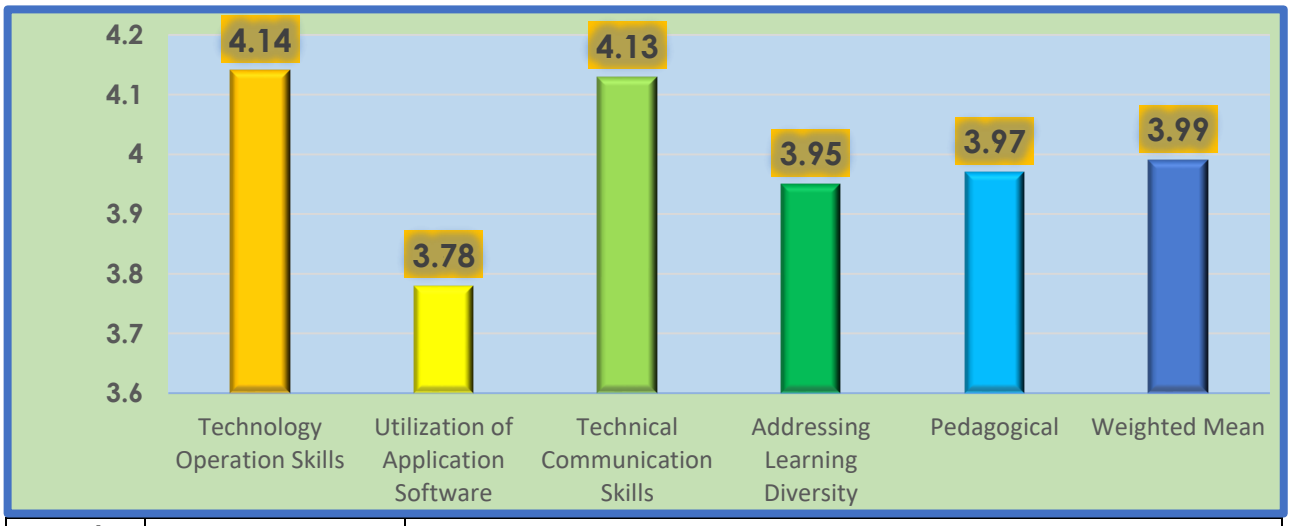
To sum up the level of practices of school heads' in leading the utilization of technology for the 5 (five) indicators, meeting standards of digital culture obtained the highest weighted mean with the value of 4.24, followed by leadership, enhanced professional practice, technology learning culture, and continuous improvement. All indicators were described as very satisfactorily practiced. The general weighted mean for the level of school heads' practices in leading the utilization of technology is 4.05 interpreted as very satisfactorily practiced by the school heads.



Level	Range	Description
5	4.50-5.00	Very High (Excellently Practiced)
4	3.50-4.49	High (Very Satisfactorily Practiced)
3	2.50-3.49	Moderate (Satisfactorily Practiced)
2	1.50-2.49	Low (Fairly Practiced)
1	1.00-1.49	Very Low (Poorly Practiced)

B. Research Problem No. 2

Level of practices of teachers in the utilization of technology in terms of technical operation skills, utilization of application software, technical communication skills, addressing learning diversity, and pedagogical.

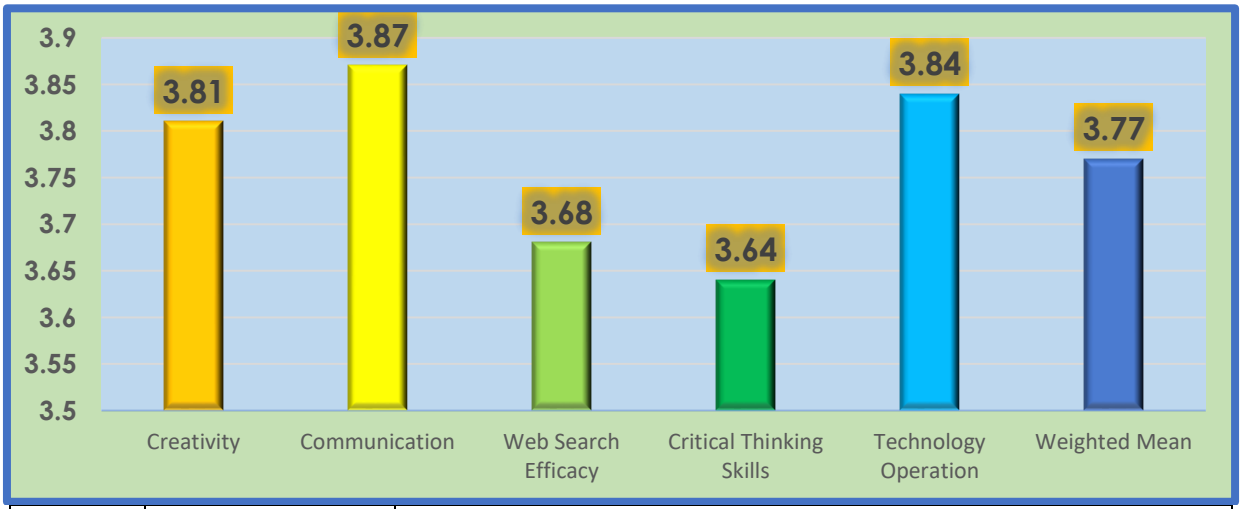


Level	Range	Description
5	4.50-5.00	Very High (Excellently Practiced)
4	3.50-4.49	High (Very Satisfactorily Practiced)
3	2.50-3.49	Moderate (Satisfactorily Practiced)
2	1.50-2.49	Low (Fairly Practiced)
1	1.00-1.49	Very Low (Poorly Practiced)

To summarize the level of practices of the teachers in the utilization of technology for the 5 (five) indicators, technology operation skills obtained the highest rating with the weighted mean of 4.14 interpreted as very satisfactorily practiced by the teachers followed by technical communication skills with a weighted value of 4.13 described as very satisfactorily practiced, pedagogical with a weighted value of 3.97 described as very satisfactorily practiced, addressing learning diversity with a weighted value of 3.95 described as very satisfactorily practiced, and lastly, utilization of application software with a weighted value of 3.78 interpreted as very satisfactorily practiced. The general weighted mean of the level of practices of the teacher's adversity (t-value=2.569, p=0.018*) and pedagogical (t-value=2.177, p=0.041*) in the utilization of technology (3.99).

C. Research Problem No. 3

Level of practices of students' digital home-learning in terms of creativity, communication, web search efficacy, critical thinking skills, and technology operation.

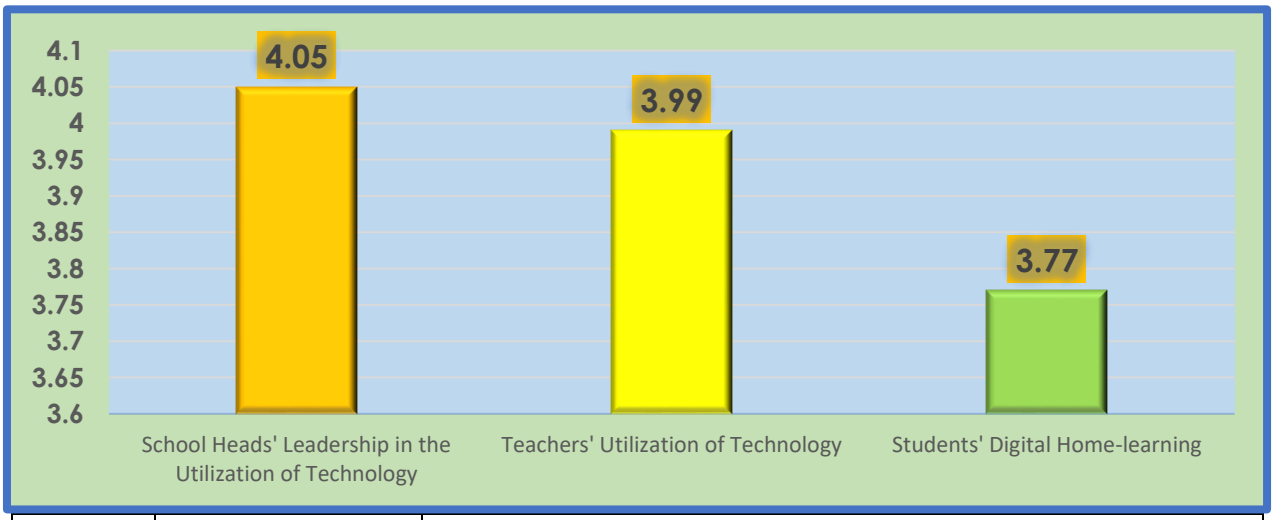


Level	Range	Description
5	4.50-5.00	Very High (Excellently Practiced)
4	3.50-4.49	High (Very Satisfactorily Practiced)
3	2.50-3.49	Moderate (Satisfactorily Practiced)
2	1.50-2.49	Low (Fairly Practiced)
1	1.00-1.49	Very Low (Poorly Practiced)

To briefly present the data, the level of practices of the students' digital home-learning for the 5 (five) indicators, communication attained the highest rating with a weighted mean of 3.87 interpreted as very satisfactorily practiced, other

indicators such as creativity, web search efficacy, critical thinking skills, and technology operation were interpreted as very satisfactorily practiced. The general weighted mean of the students' digital home-learning is (3.77).

General Weighted Mean of the Level of Practices of School Heads' Leadership in the utilization of technology, Teachers' Utilization of Technology, and Students' Digital Home-learning.



Level	Range	Description
5	4.50-5.00	Very High (Excellently Practiced)
4	3.50-4.49	High (Very Satisfactorily Practiced)
3	2.50-3.49	Moderate (Satisfactorily Practiced)
2	1.50-2.49	Low (Fairly Practiced)
1	1.00-1.49	Very Low (Poorly Practiced)

Research Problem No. 4.

The results show that there is a significant relationship between school heads' leadership in the utilization of technology practices and the students' digital home-learning. Hence, the hypothesis is rejected.

On the other hand, only enhanced professional practice showed no significant relationship. The result generally implies that the school heads' leadership practices in the utilization of technology are very satisfactorily practiced, and it affects the students' outcomes for digital home-learning an exception to the school heads' enhanced professional practice. School heads need to further sustain and improve those practices to gain consistent and better results for the students as they are engaged in digital home learning.

Table 2 The significant relationship between school heads' leadership in the utilization practices of technology

Practices		Creativity	Communication	Web search efficacy	Critical thinking skill	Technology Operation
Leadership	Pearson R	0.257	0.231	0.182	0.180	0.464*
	Probability	0.186	0.238	0.353	0.358	0.013
Technology Learning Culture	Pearson R	0.331	0.413*	0.294	0.307	0.440*
	Probability	0.085	0.029	0.128	0.112	0.019
Enhance professional practice	Pearson R	0.275	0.290	0.140	0.190	0.313
	Probability	0.157	0.134	0.476	0.332	0.105
Continuous Improvement	Pearson R	0.298	0.395*	0.155	0.290	0.402*
	Probability	0.124	0.038	0.432	0.134	0.034
Meeting standard of digital culture	Pearson R	0.379*	0.327	0.281	0.268	0.446*
	Probability	0.047	0.089	0.148	0.167	0.017

Research Problem No. 5.

The table shows the summary of the influence of school heads' leadership in the utilization of technology on the students' digital home-learning. It reveals that leadership has a significant relationship to students' digital home-learning in terms of technology operation, technology learning culture in terms of communication, and continuous improvement in terms of technology operation.

The result of the study generally implies that school heads are promoting positive attitudes as they utilize technology in the school community. In the same manner, school heads' practices in the utilization of technology, in exemption to enhance professional practice and meeting standards of digital culture, are the best predictors for the development of the

students' outcomes for digital home-learning. School heads must strongly embrace those technological practices as it becomes essential in facing the new normal of the educational set-up.

Table 3 The influence of School Heads' Leadership in Technology Utilization Practices to the Students' Digital Home-learning

School Head's Leadership Practices in the Utilization of Technology		Students' Digital Home-learning				
		Creativity	Communication	Web Search Efficacy	Critical Thinking Skills	Technology Operation
Leadership	t-value	-0.243	-1.806	-0.416	-0.628	2.857
	probability	0.810	0.289	0.682	0.536	0.043*
Technology Learning Culture	t-value	0.218	1.846	1.173	1.291	0.456
	probability	0.829	0.048*	0.253	0.210	0.653
Enhanced Professional Practice	t-value	0.023	-1.155	-0.751	-1.022	-1.065
	probability	0.982	0.261	0.461	0.318	0.298
Continuous Improvement	t-value	0.342	1.535	0.261	1.153	2.795
	probability	0.735	0.139	0.746	0.261	0.044*
Meeting Standards of Digital Culture	t-value	0.912	-0.319	0.197	-0.130	0.474
	probability	0.372	0.752	0.846	0.898	0.640

Statement of the Problem No. 6.

The results in the table revealed that there exists a highly significant relationship between the teachers' utilization of technology practices and the students' digital home-learning. Hence, the hypothesis is rejected. The result of the study implies that teachers' technological expertise is an essential factor for the students' digital home-learning.

Table 4 The significant relationship between the teachers' utilization of technology practices and the students' digital home-learning.

Teachers' Utilization of Technology Practices		Creativity	Comm.	Web search efficacy	Critical thinking skill	Technology operation
Technology operation skills	Pearson R	0.249	0.203	0.126	0.001	0.262
	Probability	0.201	0.301	0.524	0.996	0.178
Utilization of application software	Pearson R	0.475*	0.404*	0.196	0.353	0.392*
	Probability	0.011	0.033	0.317	0.065	0.039
Technical comm. skills	Pearson R	0.482**	0.258	0.138	0.160	0.349
	Probability	0.009	0.186	0.485	0.416	0.069
Addressing learning diversity	Pearson R	0.669**	0.614**	0.459*	0.543**	0.682**
	Probability	0.000	0.001	0.014	0.003	0.000
Pedagogical Practices	Pearson R	0.628**	0.569**	0.374*	0.466*	0.621**
	Probability	0.000	0.002	0.050	0.012	0.000

In addition, technology operation is a skill already learned by both teachers and students as they explore available technology in their community, and it doesn't affect the outcome for the students' digital home-learning. Teachers' practices in the utilization of technology play a vital role to achieve learning goals in the digital format thus they need to continue learning ICT skills and embrace the culture of utilizing technology for the digital learning delivery which is now the current need for the new educational normal.

Statement of the Problem No. 7

The results in the table show the summary of the influence of teachers' technology utilization practices on the students' digital home-learning. It revealed that technical communication skills had a negative influence on students' digital home-learning in terms of communication, web search efficacy, critical thinking skills, and technology operation. The result implies that teachers need to overcome the barriers that hinder their desire in reaching out to students such as problems with internet connectivity, various multitasking activities, and financial capability. Such factors affect the teachers' practices in the proper technology utilization which serves as the best predictor in attaining positive outcomes for students' digital home-learning.

In the same manner, addressing learning diversity, and pedagogy has highly influenced students' digital home learning in terms of creativity, communication, web search efficacy, critical thinking skills, and technology operation. The result of the findings in the study implies that teachers' pedagogical advancement has enhanced their practice in addressing learning diversity which resulted in productive results on the students' digital home-learning. On the other hand, the teachers' practice in the technical operation and utilization of application software showed no significant influence on the students' digital home-learning as these are already practiced in advance by students who are said to be digital natives.

Table 5 The influence of teachers' technology utilization practices on the students' digital home-learning

Teachers' Technology Utilization Practices		Students' Digital Home-learning				
		Creativity	Communication	Web Search Efficacy	Critical Thinking Skills	Technology Operation
Technology Operation	t-value	0.118	0.769	0.723	-0.581	1.136

	probability	0.907	0.450	0.477	0.567	0.268
Utilization of Application Software	t-value	0.316	0.382	-0.583	0.761	-0.423
	probability	0.755	0.706	0.566	0.455	0.676
Technical Comm. Skills	t-value	-0.905	-3.675	-2.232	-3.182	-3.080
	probability	0.375	0.001**	0.036*	0.004**	0.005**
Addressing Learning Diversity	t-value	4.445	1.950	1.916	1.783	2.569
	probability	0.007**	0.064	0.068	0.088	0.018*
Pedagogical	t-value	1.064	2.638	1.138	2.126	2.177
	probability	0.299	0.015*	0.267	0.045*	0.041*

Qualitative Strand

This section discusses the result of the data collected from in-depth interviews. Data analysis and the themes emerged from the result were also tackled.

Favorable and Unfavorable Experiences of School Heads in the Utilization of Technology

Teachers' Readiness on IT utilization. Teachers have prepared and geared themselves towards the call for being one of the 21st Century teachers. The efforts of the Department of Education in enhancing teachers through Information and Communications Technology Service (ICTS) have helped a lot in enhancing teachers' capacity in utilizing technology. In the same manner, this implies that teachers have embraced utilizing technology and acknowledged its importance in the delivery of the education system, especially in this pandemic time. During the interview, one of the participants responded that:

"As of now, I can proudly say that most of my colleagues are already well-equipped. Even those who are not well-equipped are trying to keep on asking and by seeking out assistance coming from the other colleague who is well equipped with the utilization of ICT. The keyword there was the teamwork helps and improve our utilization of ICT." (KI_1)

Another participant also stated that:

"We are always conducting LAC sessions where we incorporate all training about technology since all of our transactions are always documented." (KI_4)

This finding is anchored on the review of Schrum (2011) stating that leaders obtain the most up-to-date technological skills on their own and encourage instructors to collaborate and have a technological vision. Thus, allowing teachers to be ready in utilizing technology at high levels. In addition, their commitment to their duty as catalysts for change serves as a driving force of their personal growth in embracing the utilization of technology for the students' digital home-learning.

School Heads' Command of IT utilization. As the school head conveyed a positive attitude in utilizing technology, teachers are encouraged to utilize technology with freedom and confidence. This means that school heads have a great influence on teachers when it comes to utilizing technology. The command of school heads in the use of technology brings forth a positive impact on the school's performance especially in submitting reports and engaging in organizational communication. One of the participants expressed that:

"Our school head has a good command particularly in promoting the utilization of information and communication technology." (KI_{11})

In the same vein,

"He serves as a role model in implementing the newest updates and also in utilizing the usage of the ICT and also other platforms that are readily available which can help us improve and be convenient in conducting our online classes." (KI_1)

It is being clearly stated by Serhan (2007) that when educational leaders are having confidence in technology utilization, they can assist teachers in integrating it into the curriculum.

Low Attendance Turn-out of Students. Students' ability to join online classes has been affected by some related factors that are not being addressed properly as the pandemic rise. This means that students were not able to prepare and condition themselves for the new normal education as they are still about to adopt it. Students' setting of priorities, focus, and financial preparation to be able to actively engage in online class were not yet established and framed properly.

One participant expressed that:

"Some of them are focused on their jobs and some are almost giving up on their modules." (KI_4)

Another participant stated that:

"The students are very excited every time there is an online class and they are very eager. There are just some many uncontrolled circumstances maybe on their part as I have noticed like for example today, we conducted three days reading there are almost more than 30 to 40% who are absent maybe because they are busy and internal factors that they faced." (KI_1)

It is very evident from the view of Vonderwell (2004) that learning online of students is the most significant factor in achieving a high percentage of student participation. Moore (1989) was able to identify some types of contact in the educational sectors that need to be examined to evaluate the student's participation.

Poor Internet Connection. We cannot deny the fact that internet connection is essential in conducting online classes and it is a core technical requirement in having digital communication. The student's failure to attend class is also contributed by this problem and needs to be addressed to gain active participation of students. This further implies that with a poor internet connection, students are discouraged from attending digital home-learning as it affects their interest and goals in reaching high academic performance. It is clearly expressed by one of the participants:

"Internet connection, signal in their location, money to buy load, the gadget, and lacking idea about the technology of some students." (KI2)

In addition,

"We haven't conducted online class because we don't have school internet connection due to our location. We are just providing SLMs and supplementing learning through an asynchronous manner. Most of our students don't even have gadgets." (KI3)

The type of online/blended model that teachers can give, as well as student engagement with online information, may be influenced by connectivity. Understanding differences in the quality of home internet connectivity is critical, as is identifying groups of kids who may be in danger of a pedagogical digital gap, according to Cullinan (2021).

Late Submission of Students' Outputs. The students have difficulty in submitting their outputs contributed by many relevant factors brought by digital home-learning. It implies that pandemic has affected students' ability in submitting outputs on time. This is due to various situations of students such as their financial standing where they can't afford to buy load to connect through the internet, their location where internet connection is unstable, and their focus which is diverted on the jobs they work in. One of the participants confirmed that some of their students do not have gadgets, with the following statement:

"Some of our students don't have gadgets, money, and stable internet connection but they are capable of having it." (KI5)

Supported with another participant,

"*We are having difficulty on the student's sending of answers especially on gathering their answers." (KI4)*

It is stated by Bacher-Hicks (2021) that digital home-learning is affected by evidence of the education digital divide and thus needs to be considered by teachers. The late submission of students must be given due consideration and be pacified in such a way that addressing learning diversities will be fair to all learners since we are facing this pandemic that leads to having new normal education that is inevitable. Everyone must adjust

Table 6 Themes and Core Ideas on Favorable and Unfavorable Experiences of School Heads in the Utilization of Technology

Themes	Frequency of Response	Core Ideas
Teachers' Readiness on IT utilization	Variant	Teachers can use IT in teaching students in this time of the pandemic.
School Heads' Command of IT utilization	Typical	School heads are knowledgeable of using IT in reaching out to the teachers and finishing their reports.
Low Attendance Turn-out of Students	Typical	The pandemic hampered students' in attending their classes.
Poor Internet Connection	General	The internet connectivity is slow in some areas where students failed to attend their classes.
Late Submission of Students' Outputs	Variant	The students failed to send their outputs on time.

Legend: General 50%; Typical 25-40%; Variant 20%

Strategies employed by School Heads in addressing the Unfavorable Experiences

Creation of Group Chats for Teachers. To maximize the utilization of technology of teachers, school heads create group chats. This connotes that they politely resonated that creating group chat is a way of maximizing the use of technology and making communications easy and safe. Teachers learn from simple to complex applications as they use them on a day-to-day basis. This pandemic has brought a lot of challenges in creating face-to-face communication that is why group chat is now the common avenue of making safe and easy delivery of exchanging communication. Creating strong connections with each other leads to having a positive environment. Indeed, it was revealed during the interview that:

"We have a group chat for teachers. The school head always ensures that we are always being involved and that we always work together as teams." (KI1)

It is also supported by another participant saying that:

"We are just uploading videos in our group chats so they can view it at a later time." (KI3)

Clients and partners are increasingly using group chatting as a means of communication. This technology effectively expands on the immediacy of instant messaging by allowing you to communicate with dozens of people at once rather than just one at a time. Chat can be used alone or in conjunction with conference calls and video presentations. It can also promote a sense of urgency and collaboration that was previously only possible in a large corporate boardroom (Weedmark, 2022).

Openness to Learn Technology. The eagerness to learn is part of having self-motivation. This means that teachers and school heads have a great ability in conducting digital home-learning as they have the strong self-motivation to learn the utilization of technology in various ways. This further implies that school heads inculcate the value of living in the culture of practicing technology which drives

teachers to become technologically savvy. When teachers are open to learning new things, they learn faster. It was expressed by one of the participants that:

"Our school head is learning computers and is adopting technology as she challenges herself to speed up processes in providing data, arranging stuff than making manual." (KI10)

Another participant expressed that:

"He ensures that all teachers adhere to his ideas. He is strengthening our relationship and encouraging us to learn from him. That learning is indeed very satisfying if we are all working together so we can utilize fully the usage of the ICT." (KI2)

Table 7 Theme and Core Ideas on strategies employed by School Heads in addressing the Unfavorable Experiences

Themes	Frequency of Response	Core Ideas
Creation of Group Chats for Teachers	Variant	This is made to easily disseminate the information to everyone.
Openness to Learn Technology	General	They are eager to learn and widen their horizons on the utilization of IT.

Legend: General 50%; Typical 25-40%; Variant 20%

In support to Table 31, Dodd (2022) emphasized that as there is continuous advancement of learning technologies, an important dimension of the learning environment is becoming more prevalent: openness. Thus, openness needs to be practiced by school heads teachers to easily adapt to current trends of technology utilization as the demand for mastery rises continuously.

Advantages and Disadvantages of Students' Digital Home-Learning

Students' Eagerness to Continue Learning. One of the advantages that are being shown by students in digital home-learning is their eagerness to continue learning amidst the odds they faced. This signifies a great opportunity for teachers to deliver online distance learning as it posed a positive sign that even though students faced significant barriers in engaging in such learning delivery mode, they are still optimistic to continue learning and find all possible ways to overcome the barriers. This is being attested by one of the participants stating that:

"When it comes to the example in the online class, students are eager to continue learning as you can observe in their interaction. They are finding ways to submit requirements." (KI_5)

Another participant confirmed that:

"Students are positive on having digital learning because of the dynamic collaboration compared to the printed modules. They understand the lesson better, especially during remedial online classes. It is according to students who have gadgets and has access to the internet connection." (KI12)

Student motivation means eagerness and willingness to learn without needing to be told or be forced. When a student is motivated to learn, it is the best time for a teacher to reinforce such motivation. This is highly under the findings of the literature review of Yi (2020) stating that a teacher's rapport and delivery are extremely important, and a good teacher should have a thorough understanding of his students and always keep individual distinctions in mind. Modern teachers should master a variety of abilities for managing classroom activities, such as discussions and group work, to improve their teaching efficacy. These are the best practices that are important to be anchored in digital home-learning while students have the eagerness to continue learning.

Modular Learning Preference of Students. It is found that some students still prefer modular learning to the online learning modality. Thus, it implies that some students are still incapable of handling digital home-learning amidst the digital rise in the learning community. They still prefer modular learning as they have great difficulties in addressing the demand needed for online learning and it is easier for them to learn especially when lessons are delivered in a hard copy. They also see a negative effect on their participation wherein their class interaction is affected by poor internet connection. This is duly supported by the statement revealed by the participant stating that:

"…since most of our students preferred to have modular lessons because they want tangible learning materials, they tend not to join the digital home-learning." (KI_8)

Another participant shared that:

"Most of their feedbacks is the unstable internet connectivity, lessons are not delivered clearly because of the fluctuation especially when having recitation." (KI_{10})

It was sought that modular learning is a sort of distance learning that uses Self-Learning Modules (SLM) and is quite convenient for most Filipino students. For many parents/guardians, it was also the favored learning system for their children. Parents take a big part in answering the said SLM of learners, thus, it influences the learners' preference of having it aside from the fact that it is freely given, the contents are also clearly written and doesn't require technical skills to view it immediately (Guiamalon, 2021).

Incapable of Procuring Gadgets for Digital Home-Learning. One of the most common reasons why students prefer to have modular learning is because they cannot procure gadgets as one of the requirements for digital home learning. This is mostly manifested in students whose family belongs to the poverty level. This implies that students' eagerness to attend online classes is hampered by the fact that they cannot afford to buy gadgets. They have technological competence, but they lack financial providence. As one of the participants was asked, he stated that:

"…there are only a few students who participated it since they are or they don't have available gadgets at home." (KI6)

A similar response was stated that:

"Some of our students don't have gadgets, money, and stable internet connection but they are capable of having it." (KI5)

The result presented in Table 32 is also like the report by Bernardo (2020) showing a survey result that most of the

parents preferred modular printed learning as at home, their children do not have access to electronic devices, television, or radio. The main problem that may hinder a child's learning process through distance education was likewise identified as an unreliable mobile or internet connection. Furthermore, even though students possess independence and skills in utilizing technology for digital home-learning they are still being suppressed by the fact that they cannot combat the great need attached to it that makes them decide to choose and prefer modular learning over the digital one.

Table 8 Advantages and Disadvantages of Students' Digital Home-Learning

Themes	Frequency of Response	Core Ideas
Students' Eagerness to Continue Learning	General	The students are enthusiastic to pursue their studies even amid uncertainties.
Modular Learning Preference of Students	Variant	Some students still prefer Modular Learning to the Online Learning modality.
Incapable of Procuring Gadgets for Digital Home-Learning	Variant	Some students are unable to buy their gadgets to be used for online learning.

Legend: General 50%; Typical 25-40%; Variant 20%

7. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Findings disclosed that the school heads' leadership and teachers' practices in the utilization of technology are very satisfactorily practiced at a high level for the students' digital home-learning. In the same manner, the students' outcome for the digital home-learning is also very satisfactorily practiced. It is also revealed in the findings that there is a significant relationship between the school heads' leadership practices in the utilization of technology and the students' digital home-learning and the school heads' leadership practices in technology utilization significantly influence students' digital home-learning. Hence, when school heads' increase their practices in the utilization of technology, the students' outcome for digital home-learning is improved.

The result of the study also noted a significant relationship between the teachers' utilization of technology practices and the students' digital home-learning. Furthermore, the teachers' technology utilization practices significantly influence the outcomes for the students' digital home-learning. Finally, teachers' readiness on IT utilization, school heads' command of IT utilization, low attendance turn-out of students, poor internet connection, and late submission of students' outputs were found to be the favorable and unfavorable experiences of school heads as they utilize technology in their school environment.

On the other hand, the creation of group chats for teachers and openness to learning technology were the strategies employed by the school heads to address those unfavorable experiences. Students' eagerness to continue learning, modular learning preference of students, and incapable of procuring gadgets for digital home-learning were sought to be the advantages and disadvantages of having digital home-learning.

Conclusions

Based on the findings, it can be concluded that in this pandemic time, school heads and teachers have very satisfactorily practiced the leading of technology utilization and they are capable of conducting digital home-learning for students. They can fully support and create programs needed for the students' digital home-learning as they increase their efforts in the continuous enhancement of ICT skills. The moment that school heads meet the standards of digital culture, the student's capability for digital home-learning is improved and developed. The school heads' practices in the technology utilization particularly in terms of continuous improvement is needing further attention to be addressed in the soonest time to leverage more the outcomes of the students' digital home-learning.

Additionally, the teachers can successfully deliver lessons to their students in a digital format especially when they have properly addressed the external factors affecting their technical communication skills to students' communication, web search efficacy, critical thinking skills, and technology operation. The technical communication skills of teachers are all important elements to elevate the performance of the students as they actively engaged in digital home learning. However, there are underlying external factors that resulted in the negative effect of the teachers' practices on the students that if not addressed would harm the student's outcome for digital home-learning.

There exists a highly significant relationship between the teachers' utilization of technology practices in terms of utilization of application software, technical communication skills, addressing learning diversity, and pedagogical and digital home-learning with the students' creativity, communication, web search efficacy, critical thinking skill, and technology operation. The result manifests that teachers' practice in the utilization of technology plays a vital role to achieve learning goals in the digital format thus they need to continue learning ICT skills and embrace the culture of utilizing technology for the digital learning delivery which is now the current need for the new educational normal.

Finally, based on the results, it can be concluded that the positive outcomes of the students' digital home-learning are impacted by the school heads and teachers' practices of technology utilization. In addition, when school heads

and teachers comprehensively collaborate their practices in technology utilization, students' outcome for digital home-learning is more improved and developed.

Recommendations

Based on the findings and conclusions, this study offers the following recommendations:

1. School heads may consider creating programs and projects to maximize the implementation of digital home learning.
2. School heads must address relevant issues and concerns such as the internet connectivity and gadget for students' digital home-learning as it serves as the best way of continuing education while we are still facing the existence of pandemics.
3. School heads and teachers must continue in intensifying technology advancements to cope also with the student's ability in using various techniques.
4. The Department of Education may revisit its policy in utilizing the DCP Package for the school heads, teachers, and students.
5. Studying the Modified Framework labeled Figure 4 as the basis in crafting a training design.

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