THE GROWTH OF DIGITAL LITERACY IN THE NEW NORMAL EDUCATION: BASIS FOR A CAPACITY BUILDING PROGRAM

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(Educational Management)

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JERAMIE ANDOYO OROT

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APPROVAL SHEET

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DEDICATION

I dedicate my thesis work to the Almighty God, **my family** and **friends.**

A special feelings of gratitude to my loving parents, **Lorena A. Orot** and **Leonardo V. Orot Jr.** who have always encouraged and loved me unconditionally.

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ABSTRACT

Digital literacy is the ability to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital technologies for employment, decent jobs and entrepreneurship. It includes competences that are variously referred to as computer literacy, ICT literacy, information literacy and media literacy (UNESCO, 2018:40). Three areas on competency were identified in this study, namely: use of digital devices, knowledge on the core digital function, and manipulation of computer hardware and software. To ensure confidence in the results, appropriate descriptive and inferential tools were utilized. The study revealed that the elementary school teachers and the school administrators evaluated the level of digital literacy of teachers as "moderate" in terms of the information and data literacy, communication and collaboration, digital content creation, safety, and problem solving. The level of competency of teacher-respondents in using digital knowledge and skills as assessed by the two groups of respondents was: highly competent in terms of use of digital devices; moderately competent along knowledge on the core digital function in the viewpoint of the teachers; while highly competent according

to the school administrators; and moderately competent in terms of manipulation of computer hardware and software.

Key Terms: Digital Literacy, Technological Literacy, New Normal Education, Information and Data Literacy, Digital Device, Digital Citizenship

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THE PROBLEM AND ITS BACKGROUND

Introduction

Digital literacy is among the specific competencies referred to as 21st Century skills which focuses on teaching how to apply technology in interacting with the world given the internet and how to be responsible in this context. This has become one of the fundamental aspects of a holistic approach to education and is one of the pillars of lifelong learning.

Meanwhile, workplaces like educational institutions switched to emerging technology to ride out the storm when the pandemic began spreading around the globe earlier this year. The modern standard became virtual overnight and continued to be so. Most of us are practically living a virtual life in more ways than one could have thought six months ago, from working to studying or even socializing.

Owing to a lack of entry, millions of children are at risk of missing a valuable academic year (Marzal et al., 2020:90). During these exceptional times, work-from-home choices have saved many jobs, but the truth is not the same

for those who are not totally happy with technology due to different socio-economic reasons. Social isolation has been especially difficult for the elderly, many of whom have chosen to stay away from technology, until recently.

It is the current truth that has been put on us by the COVID-19 pandemic and the explanation for this is not far-fetched. Of course, this pandemic has influenced every aspect of life, as well as the environment. Nothing will ever be the old way again from family life, the environment, agriculture, relationships, the way of doing things to start steadily coping with the reopening of the economy and the way everybody handle things (Dae et al., 2015:48).

Also, the information transmitters come to the fore in talking about schooling, a crucial factor in the success of schooling, which is the teachers (Tran et al., 2020:86). The learning crisis is, at its core, a teaching crisis that is a growing body of evidence. They need good teachers for students to learn. It is a proven fact that if the teachers, who are the light givers, are not lit, there can be no effective teaching and learning, and this is because a candle without light cannot possibly light another candle (Pratolo & Solikhati, 2020:64).

Accordingly, the most critical driver of how much students learn in school is the teachers (Education Global Practice, 2019). This thought resonates with the catch phrase

in the National Education Policy (2019) that no education system will rise above the level of its educators. Therefore, the focus of this discussion is on upgrading the awareness of digital literacy for teachers.

Furthermore, in order to respond to the changing vicissitudes of national and global socio-economic tides, especially in the achievement of online education in the Philippines, an upgraded Teachers Digital Literacy is where we should be. It is necessary to equip teachers with the right skills and knowledge to perform best in the classrooms, and this is why organizations have introduced something called successful teachers and successful students, such as the World Bank. This is intended to encourage countries to support the reform of the teaching profession. The World Bank says that this global forum for teachers tackles the biggest problem.

Technology and technological progress offer new teaching and learning opportunities and, as such, teachers, students and the learning process in general need to be assisted. When they properly upgrade their digital skills, teachers can better navigate the classroom and give their students different challenges. All these efforts are required to help teachers at all levels become more productive in promoting learning, enhancing learning technologies and strengthening school and system management,

while ensuring that learners of all ages are prepared for success (Pratolo & Solikhati, 2020:64).

In relation to the foregoing premise, Department Order Number 78, series of 2020 (www.deped.gov.ph), referring to the Guidelines of the Implementation of the DepEd Computerization Program, was carried out. The program aims to provide public schools with appropriate technologies that would enhance the teaching-learning process and meet the challenges of the 21st century. The program also responds to the computer backlog of public schools by providing them hardware and software, and training on simple trouble shooting.

In all of these, it can absolutely be surmised that central to the objective of the education sector in achieving digital literacy is the indispensable role of the teachers which implies the need for their acquisition of digital literacy as well. The teachers engage in helping students understand whatever they find through the search engines and in assisting them to evaluate the legitimacy of sources. In addition, they are in capacity to hone students to develop further whatever information they accessed online and how to constructively utilize such. In the long run, they would be creating a responsible digital citizen. That is why, given such a backdrop, this study looked into the digital literacy of the elementary school teachers in Daram 1 District, Schools

Division of Samar of which is a coastal and a third-class municipality in the province of
Samar and has 30 primary schools.

Moreover, unlike in prior years where it appeared detached from the cyberspace, it has gradually improved its internet connectivity. However, complete access and awareness of the responsibility that comes with it still remain a challenge like weak internet signal and non-provision of gadgets that can be used in teaching among others where almost 90 percent of the schools experience these challenges. Apart from it, the municipality is also facing another challenge to fully capacitate teachers and students in order to board the digital bandwagon and thus to impose the necessary resolve to be consistent with such goal (Daram 1, ICT record 2020).

Relative to the above statement, the District Office recorded that almost majority or 109 0f 208 or about 58 percent of the elementary teachers do not have the ability to navigate or do not know the basic know-how of computers (Daram 1, ICT Record, 2020). This is due to the fact that most of the teachers do not own laptop for it will add up to their additional budget.

Recognizing the importance of digital literacy for public elementary teachers in their teaching role, this study was conceived to determine the level of digital literacy among elementary school teachers in Daram I District, Schools

Division of Samar. Therefore, the researcher conceptualized that the findings of this study would input to the literacy capacity building program.

Statement of the Problem

This study determined the level of digital literacy among elementary school teachers in the District of Daram 1, Schools Division of Samar with the end view of crafting a school-based digital literacy capacity building program during the School Year 2020-2021.

Specifically, it answered the following questions:

1. What is the profile of the teacher-respondents in terms of the following variates:

    1.1 age and sex;

    1.2 civil status;

    1.3 highest educational attainment;

    1.4 teaching position;

    1.5 gross monthly family income;

    1.6 number of years in teaching;

    1.7 performance rating based on the latest IPCRF;

    1.8 types of technology literacy tools used;

    1.9 number of relevant digital literacy trainings; and

    1.10 attitude toward digital literacy?

2. What is the level of digital literacy of the elementary school teachers as evaluated by the teachers themselves and by their school administrators in terms of the following domains:

2.1 information and data literacy;

2.2 communication and collaboration;

2.3 digital content creation;

2.4 safety; and

2.5 problem solving?

3. Is there a significant difference between the evaluation of the two groups of respondents relative to the digital literacy of the elementary school teacher-respondents in term of the aforementioned domains?

4. What is the level of competency of the elementary teacher-respondents in using digital knowledge and skills as assessed by the two groups of respondents in terms of the following areas:

4.1 use of digital devices;

4.2 knowledge on the core digital function; and

4.3 manipulation of computer hardware; and software?

5. Is there a significant difference between the evaluation of the two groups of respondents relative to the digital literacy of the elementary school teacher-respondents in term of the aforementioned domains?

6. Is there a significant relationship between the level of digital literacy of the elementary school teacher-respondents and the following:

6.1 teacher-related variates; and

6.2 level of competency in using digital

7. What are the problems encountered by the teacher-respondent in teaching digital literacy?

8. What digital literacy capacity building program may be evolved based on the findings of the study?

Hypotheses

The following hypotheses were tested based on the stated questions of the study.

1. There is no significant difference between the evaluation of the two groups of respondents relative to the digital literacy of the elementary school teacher-respondents in term of the aforementioned domains.

2. There is no significant difference between the evaluation of the two groups of respondents relative to the digital literacy of the elementary school teacher-respondents in term of the aforementioned domains.

3. There is no significant relationship between the level of digital literacy of the elementary school teacher-respondents and the following:

3.1 teacher-related variates; and

3.2 level of competency in using digital.

Theoretical Framework

This study was anchored on the following theories, namely: Freire's Theory of Learning, Freire's Emancipatory Pedagogy Theory, and Bloom's Digital Taxonomy Theory.

Freire's Theory of Learning (1998:87) explains that students have to construct new knowledge from knowledge they already possess; digital pedagogy is influenced by constructivism and places great value on students developing and using critical thinking skills. Freire challenged the teachers to learn how the student understands the world so that the teacher understands how the student can learn; digital pedagogy acknowledges collaboration between student, embraces the idea of student-as teacher and it is rooted in connectivism. Freire has spoken on the globally-interconnected nature of community. Freire said that educators need to know the world in which their students reside. He challenged educators saying that, "they need to get to know their dreams, the language with which they skillfully defend themselves from the aggressiveness of their world, what they know independently of the school, and how they know it".

The 21st century students reside in a digital culture where they are digitally-connected to the world (Rideout et

al. 2010:54), while 21st century teachers need to understand this digital culture, too (Prensky, 2001:20), and 21st century citizens need to become digitally literate.

Emancipatory Pedagogy Theory (Freire, 1993:90) is also one of the anchorages of this study. Emancipatory pedagogy is a process of teaching and learning that involves the use of multiple ways of knowing that centers students and teachers, who are also considered learners, in ways of teaching and learning that are based on asking and solving problems rather than on transmission and reproduction of information. Critical pedagogists believe that education should be designed to be emancipatory. Emancipatory pedagogy is a subset of critical pedagogy and social justice theories. Education theorists and curriculum theory researchers have long written on the subject of literacy and agency which directly pertains to emancipatory pedagogy. The traditional concept of literacy is associated with power and agency which are tenets of emancipatory pedagogy.

This study was also anchored on Bloom's Digital Taxonomy Theory (https://www. Common sensemedia .org/ videos/blooms-digital-taxonomy). The purpose of Bloom's Digital Taxonomy is to inform instructors of how to use technology and digital tools to facilitate student learning experiences and outcomes. It aims to expand upon the skills associated with each level as technology becomes a more ingrained essential

part of learning. Bloom's Digital Taxonomy helps navigate through the myriad digital tools and make choices based on the kinds of learning experiences the students want to engage in.

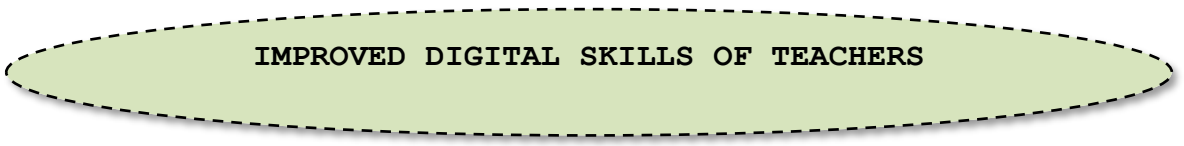
The use of this adapted version and the examples of tools it provides should not focus on the tools themselves, but rather on how the tools can act as vehicles for transforming student thinking at different levels. Connecting characteristics of Bloom's Revised Taxonomy is necessary for creating online learning activities that are in accordance with the students' needs.

The three theories implied that the digital literacy of the elementary teachers is consequential in the performance of their duty as they incorporate technology into the teaching and learning process.

Conceptual Framework

Figure 1 presents the schematic diagram of the study.

This study presupposed that elementary teachers have an indispensable role in creating a conducive environment to foster digital literacy. Thus, it followed that their own level of digital literacy is of significant consideration in order to lay the right policies and induce the appropriate interventions toward realizing the long-



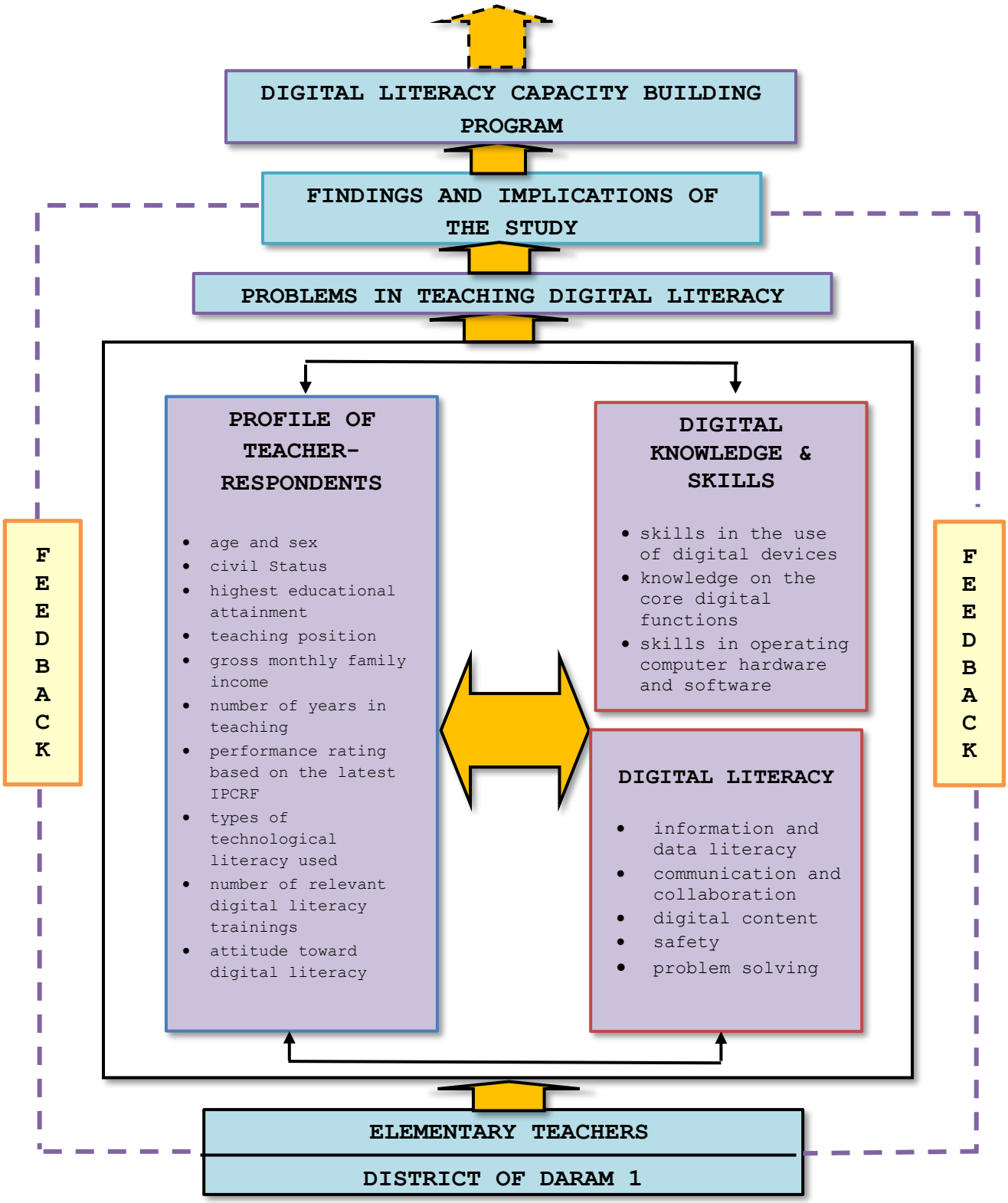


Figure 1. The Conceptual Framework of the Study

term goal of creating a digitally literate labor resource.

The input box presents the locale of the study which are the elementary schools in Daram 1 District, Schools Division of Samar. The variables of the study are likewise shown which include the profile of the elementary school teachers, level of digital literacy of the elementary school teachers and problems met by elementary school teachers with regards teaching digital literacy.

The lower box shows the elementary school teachers of Daram 1 District, Schools Division of Samar. It is connected to the big box with three small boxes in it, wherein the first box is the profile of the elementary teacher-respondents in terms of age and sex, civil status, highest educational attainment, teaching position, gross monthly family income, number of years in teaching, teaching performance based on the latest IPCRF, types of technology literacy tools used, number of relevant digital literacy trainings, and their attitude toward digital literacy.

The profile variates of the respondents are correlated into two other boxes, one for digital knowledge and skills which comprises of skills in using digital devices, knowledge on the core digital function, and skills in operating computer hardware and software. The other box pertains to the digital literacy comprised of information and data literacy, communication and collaboration, digital content, safety, and problem solving.

It shall further search through the problems encountered by the teachers with regard to teaching digital literacy. Further, findings from the study were scrutinized and analyzed in order to come up with a digital literacy capacity building program intended for elementary school teachers as an output of this research endeavor and also to serve as feedback to the locale of the study. Through this, it was hoped that there would be an improved digital skill of teachers.

Significance of the Study

The result of the study would be very useful to the teachers, students, school administrators, ICT coordinators, DepEd Key officials, and future researchers.

To the Teachers. The findings of this study would give them insights about strengthening the integration of digital literacy in the curriculum. It would also serve as a jump-off point for the teachers to position themselves on how adept they are in using technology in the teaching-learning process.

To the Students. The result of this study would provide conducive learning environment for the students thereby increasing their participation rate.

To the School Administrators. The result of this study would help them asses the integration of digital literacy in

the curriculum and guide them in the implementation of policies in order to improve the level of digital literacy among its teacher and toward institutionalizing digital literacy programs and modules.

To the ICT Coordinators. The result of this study would provide valuable information to the school's respective ICT Coordinator in recognizing and determining as to how many teachers do not have access to digital devices and appropriate training related to ICT.

To the DepEd Key Officials. The result of the study may give significant insights to the DepEd key officials in order for them to provide technical and financial assistance to schools for the implementation and sustainability of digital literacy programs and modules.

To the Future Researchers. Future researchers would likewise find this study invaluable as a reference in terms of the instruments or research design which they could apply in their research undertaking.

Scope and Delimitation of the Study

This study determined the level of digital literacy of the elementary school teachers in Daram 1 District, Schools Division of Samar. The respondents were the elementary school teachers and school administrators of Daram 1 District, who evaluated the teachers' level of digital literacy.

This study focused on the profile of elementary school teachers in terms of age and sex, civil status, highest educational attainment, teaching position, gross monthly family income, number of years in teaching, performance rating based on the latest IPCRF, types of technology literacy tools used, number of relevant digital literacy trainings, and their attitude toward digital literacy. It also sought answers for digital knowledge and skills of elementary school teachers which comprises of skills in using digital devices, knowledge on the core digital function, and skills in operating computer hardware and software. Moreover, answers on digital literacy comprised of information and data literacy, communication and collaboration, digital content creation, and problem solving were also ascertained.

Further, findings from the study were scrutinized and analyzed in order to come up with a digital literacy capacity building program intended for elementary school teachers as an output of this research endeavor.

This was conducted during the School Year 2020-2021.

Definition of Terms

For better understanding of the readers, the terms listed below have been defined conceptually and operationally.

Capability Building Program. This term refers to the process of developing and strengthening the skills, instincts, abilities, processes and resources that organizations and communities need to survive, adapt, and thrive in a fast-changing world (https://www.un.org/ 15 December 2020). Operationally, this term refers to the offshoot that evolved based on the findings of this study which aimed to enhance the digital literacy of the teachers of the District of Daram I.

Competency. This refers to a specific skill performed with varying degrees of independence. It has different degrees of difficulty and performance levels. It also refers to the ability to perform activities according to the standards expected by drawing from one's knowledge, skills and attitudes (DepEd No. 021 s. 2019). As used in this study, the term shall refer to the basic skills of elementary teachers of Daram 1 District with regards to navigating computers.

Communication and Collaboration. It pertains to interacting, communicating and collaborating through digital technologies while being aware of cultural and generational diversity and to participate in society through public and private digital services and participatory citizenship and to manage one's digital identity and reputation (UNESCO, 2018:34). In this study, the term refers to the knowledge of

the elementary teachers of the District of Daram 1 in participating conferences and meeting via online platform.

Computer Hardware. It refers to all the sum of all the physical objects, such as the electrical, mechanical, and electronic devices which comprise a computer system; as, the typical PC hardware suite consists of a mainboard and a number of peripherals such as hard drives and speakers, connected by adapter cards, but the input and output from users occurs mostly through the keyboard and monitor; contrasted with software, the programs executed by the computer (https://www.definitions.net/definition/Hardware, 3/9/2020). In this study, the term refers to the outer parts of the computer.

Digital Content Creation. This means to create and edit digital content. To improve and integrate information and content into an existing body of knowledge while understanding how copyright and licenses are to be applied. The term also means to know how to give understandable instructions for a computer system (UNESCO, 2018:34). As used in this study, the term refers to the basic knowledge of elementary teachers of Daram 1 District in relation to making and submitting reports online.

Digital Citizenship. It means being able to find, access, use and create information effectively; engage with other users and with content in an active, critical, sensitive

and ethical manner; and navigate the online and ICT environment safely and responsibly, being aware of one's own rights (UNESCO 2017:65). As used in this study, the term refers to the knowledge and basic know-how of elementary teachers of the District of Daram 1 in using and sharing online information.

Digital Device. It refers to any physical unit of equipment that contains a computer or microcontroller. Today, myriad devices are digital including a smartphone, tablet and smartwatch. In this study, the term refers to any digital device owned by the elementary teachers of the District of Daram 1.

Digital Literacy. It is the ability to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital technologies for employment, decent jobs and entrepreneurship. It includes competences that are variously referred to as computer literacy, ICT literacy, information literacy and media literacy (UNESCO, 2018:40). As used in this study, the term refers to the level of knowledge of elementary teachers of the District of Daram 1 with regards to using any online platform.

Information Data Literacy. This means to articulate information needs, to locate and retrieve digital data, information and content, to judge the relevance of the source

and its content, and to store, manage and organize digital data, information and content (UNESCO, 2018:40). In this study, the term refers to the ability of the elementary teachers of the District of Daram 1 in relation to storing, retrieving, managing, and organizing online and offline data.

IPCRF. Conceptually, the term refers to the rating scale based on the Civil Service Commission (CSC) Memorandum Circular Number 6, Series of 2012 that sets the guidelines on the establishment and implementation of the Strategic Performance Management System (SPMS) in all government offices (https://www.teacherph.com, 25/9/2020). In this study the IPCRF or Individual Commitment and Review Form shows what the teacher has been done for the school year. The key result areas or KRAs is where the individual performance is being measured.

Knowledge on the Core Digital Function. As used in this study, the term refers to the overall knowledge of teachers on how digital thing works as it relates to their performance of duties making it fast and easy.

New Normal Education. In this study, this term refers to the educational plan articulated in the Continuity Plan of the DepEd during the emergence of COVID-19 pandemic adopting the different modalities in the delivery of teaching such as distance modular teaching, online teaching, blended learning modality, and the like.

Problem Solving. This means to identify needs and problems and to resolve conceptual problems and problem situations in digital environments. This also means to use digital tools to innovate processes and products and to keep up to date with the digital evolution (UNESCO, 2018: 67). In this study, the term refers to the ability of the elementary teachers of Daram 1 District to solve issues related to computer.

Safety. The term refers to protect devices, content, personal data and privacy in digital environments, to protect physical and psychological health, and to be aware of digital technologies for social well-being and social inclusion and to be aware of the environmental impact of digital technologies and their use (UNESCO, 2018:90). As used in this study, the term refers to the ability of elementary teachers of Daram 1 District to protect themselves with regard to the problems that may arise with the use of any digital device.

Skill. It is the coordinated performance of related tasks with a certain degree of facility (DepEd D. O. No. 021 s. 2019). In this study, the term refers to the ability of the elementary teachers of the District of Daram 1 in terms of teaching and using digital device and content.

Computer Software. Computer software, or simply software, is a collection of data or computer instructions that tell the computer how to work. This is in contrast to

physical hardware, from which the system is built and actually performs the work. Computer software includes computer programs, libraries and related non-executable data, such as online documentation or digital media. (https://www.definitions.net/definition/software,5/9/2020). In this study, the term refers to the files saved in any digital device.

Technological Literacy. In this study, the term shall refer to a familiarity with digital information and devices, increasingly essential in a modern learning environment. Technology literacy is similar to digital literacy, in that an individual who is technologically or digitally literate is well-versed in thinking critically and communicating by utilizing technology. In this study, the term refers to the ability of the elementary teachers of the District of Daram 1 to adapt themselves on the changes brought by technology.

21st century skills. It is generally used to refer to certain competencies such as collaboration, digital literacy, problem-solving, civic literacy, global awareness and cross-cultural skills; gender sensitivity; critical and inventive thinking; communication, collaboration and information skills; risk-taking; entrepreneurial skills; passion for learning and discovery; and resiliency (PDP 2017-2022:69). In this study, the term refers to the set of capabilities shown

by the elementary teachers of the District of Daram 1 in handling digital content.

Chapter 2

REVIEW OF RELATED LITERATURE AND STUDIES

This chapter presents the studies which tackle the different concept, understanding, ideas, generalization or conclusion from books, journals, periodicals, magazines, and other publication materials. Also, this includes the

different developments related to the studies in the past up to the present which served as the researchers' guide in developing the inquiry.

Related Literature

The ample literature presented were related on digital literacy and other pertinent thoughts which shed light to the problem of the present study.

Digital Literacy is defined as the ability to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital technologies for employment, decent jobs and entrepreneurship. It includes competences that are variously referred to as computer literacy, ICT literacy, information literacy and media literacy (UNESCO, 2018:102).

Chun and Lee (2016:78), sees that today's students generally face no difficulties in using technology for everyday social and entertainment activities but it would be constructive to understand if the students can make effective use of technology for learning as well. They further posited that to make effective use of technology for learning, one needs to have a certain level of digital literacy. As such, digital literacy for learning is more than just knowing how to operate the technology, but also having the right

information management and critical thinking skills, as well as proper online behaviors.

Moreover, digital literacy is defined in a number of different ways adding and assuming new meanings as each author defines it according to his or her view(s) of the matter. The following part of the paper will present a selection of digital literacy definitions followed by a list of extracted elements from these definitions identifying the core of each definition. Each definition has a focus on different aspects of digital literacy thus contributing to the general and evolving concept of digital literacy.

One of the first definitions of digital literacy was created by Gilster (2016:98) who defined digital literacy as the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers.

Joint Information Systems Committee (2016:47), analyzed approaches to use of open educational resources and during that effort they provided two perspectives on digital literacy: functional access to networks, devices, services, software and content that individuals require to exercise and develop digital literacy; and the contexts for these practices/skills, including the workplace, learning environments, the personal/social context and community

including the concept of identity and its manifestation in social networks, lifestyles, learning and work communities.

It is described digital literacy as a person's ability to perform tasks effectively in a digital environment, with digital meaning information represented in numeric form and primarily for use by a computer. Digital literacy includes the ability to read and interpret media (text, sound, images), to reproduce data and images through digital manipulation, and to evaluate and apply new knowledge gained from digital environments (Jones-Kavalier & Flannigan, 2006:110).

O'Brien and Scharber (2008:64), defined digital literacy as a socially situated practice supported by skills, strategies, and stances that enable the representation and understanding of ideas using a range of modalities enabled by digital tools. Digitally literate people not only represent an idea by selecting modes and tools but also plan how to spatially and temporally juxtapose multimodal texts to best represent ideas. Digital literacies enable the bridging and complementing of traditional print literacies with other media.

Karpati (2011:54) chose more detailed approach to digital literacy and included the use and production of digital media, information processing and retrieval, participation in social networks for creation and sharing of knowledge, and a wide range of professional computing skills.

For Visser (2012:113), digital literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills.

Littlejohn et al. (2012:69) wrote about influence of digital literacy on life of an individual and society in general and offered the following definition of digital literacy: the capabilities required to thrive in and beyond education, in an age when digital forms of information and communication predominate. Hicks and Hawley-Turner (2013:76) saw digital literacy as an opportunity to critically consume information, to create and share across time and space, to co-create and collaborate to solve problems, to persevere in light of setbacks, and to maintain flexibility.

Park and Burford (2013:112) investigated digital media literacy and stated that a digitally literate person is someone who can critically process media content as well as communicate effectively using digital media. For Gruszczynska et al. (2013:86), digital literacy was the general ability to use computers alongside a set of skills such as the ability to use word processors or database software.

Boechler and Wasniewski (2015:37) did a literature review about the digital literacy concept and found out a number of issues including: challenges in the research base for conceptualizing digital literacy; the multiplicity of

frameworks and models which attempt to situate digital literacy but lack sound theoretical origins and wide disagreement among stakeholders, disciplines as to what specific skills, knowledge, and understandings should fall under the umbrella term of digital literacy.

Moreover, indeed, there are so many definitions of digital literacy focusing on different skills, knowledge, and competences taking into account different theoretical foundations. Some of these definitions demonstrate two extreme approaches in defining the term digital literacy: they are either simple and include very few elements while others are very complex attempting to take into account everything that could be found to be related to digital literacy. Furthermore, some definitions are very concrete and detailed, while others are very general and abstract.

Furthermore, master in digital technology is a must in the 21st century. The advancement of technology for example computer and systems helps the student to improve the digital technology skills. For the Generation Y, the skills to use the technologies are more compared to the Generation X. That will become a benefit for them. In digital literacy, students need to be talented and familiar with the system they might use. Students can develop their skill by going to the class of ICT of perhaps learning by themselves. As in the real life, kids also having they own Smartphone or tablet. But, many

people didn't aware actually that is also the starting point which the skill can be developed.

Other than that, communication technology, nowadays, has implemented many tools which can apply for digital literacy. The skills are needed to use the tools appropriately. From the past research, the tool that has been used is iPads, iPods, Smartphone, Web 2.0, podcasting and much more. All those searching tools might help students to explore and making learning more attractive and fun. Many people never realize different technology used will give different benefits. For example, by using Google earth, the student can learn to build a good vocabulary and improve their writing sentences. Other than that, one of the methods for making class and learning fun is by digital storytelling. Based on the research, some teachers stated that student is extra active and feel free to understand learning with the digital tools. As teachers, practicing digital technology as a teaching tool will enhance student commitment and created learning engagement with students. Because of that, the performance of the students is increased rapidly (Baharuddin, 2016:54).

Referring to a study by Vidosavljevic and Vidosavljevic (2019:46), pointed out that teachers' role started to be more complex in this changing world where knowledge is unlimited. As Weinberger (2002:36) cited in the said study, teachers

today are expected to become technologically oriented, to be more co-operators, collaborators, open-minded, critical independent professionals, and facilitators who will help students to analyze the quality of new sources and how to learn in a digital environment.

Thus, citing Sharma (2017:89), the author puts that in these digital sage teachers are confronting with new challenges every day in respect of students, their individual needs, new hardware and software and own developmental needs. Sharma further explained that as a first challenge are diverse students who became more competitive, interrogative, knowledgeable, and more demanding from their teachers adding that modern students are always "on" as digital natives who learn and think differently and above all, this modern education represents a lifelong learning market where seminars and courses become more meaningful for teachers and students to get to know with the changing technologies in teaching learning. Undeniably taking into account that teachers engage more in multiple tasking.

The same study pointed again UNESCO's (2013) statement that the successful integration of new technologies into the classroom depends on the ability of modern teachers to develop classes and collaborative work, to create new learning environments, to link new pedagogy with technology and to serve all of these, it is necessary to have a different set

of teachers' skills that includes the frequent using of technologies with the aim to encourage digital literacy, knowledge deepening and knowledge creation in teaching-learning process.

For Vidosavljevic and Vidosavljevic (2019:36), a guide for using digital literacy in teaching and pedagogical framework composed of the following components: 1) functional skills which are important for developing basic ICT competence and which all learners can apply; 2) creativity in terms of how students create and distribute knowledge building their own literacy through blogs, videos, e-book, podcasts, wikis and other digital platforms; 3) collaboration and communication as a significant part of digital literacy in teaching for making dialogues discussing and exchanging of ideas.

Then, 4) ability to find and select information, as necessary skills for students' knowledge development and their learning in a digital environment; 5) critical thinking and evaluation as the key of digital literacy that include analysis and transformation of information to making new knowledge; 6) cultural and social understanding skills which are important for students to promote comprehension using digital literacy while they are crating meaning; and 7) E-safety as a part of digital literacy which is significant for

students' protection in the digital world when they create and share digital contents with the help of teachers.

However, Quaicoe and Pata (2015:79,107), rooted on the fact of digital divide where they said that teachers need to reposition themselves digitally to contribute meaningfully to the development of their unique school digital culture (SDC) and exhibit holistic digital literacy skills – which embraces DL and IL. Apparently, developing SDC has to do with relating the human and material factors associated with ICT resources (Digital tools and digital Information) in schools, as well as the digital information factors. Developing SDC requires not only training teachers on computer knowledge; but building their capacities in the appropriation of ICT resources (both technologies and digital information); coupled with provision of equipment and tools for use in schools, creating the supportive norms and policies for using ICT in teaching and professional development.

Moreover, literature holds it that holistic TDL skills needs to be modelled around related traits (knowledge, attitude, skills and application) which offer bases for digitally enhanced teaching and learning environments to be created; using Information literacy (identify, assess, retrieve, evaluate, adapt and communicate information). In the condition that causes digital culture to thrive and pervade all spheres of the school's teaching and learning

practices, the two (Digital Literacy and Information Literacy) may define the schools' digital culture and prevailing DD status of schools (Cordell, 2013:84).

Various empirical research (Van, 2008:39), described Digital Divide as lack of mental, material, skills, and usage access in the context of Information and Communication Technology. They also examined the subject matter as a gap between "haves and have nots" in respect of access and use of ICT tools - including the internet; but added that Digital Divide is a phenomenon that is not easily defined and the possible gap difficult to fill. In works of access is considered - a key DD factor and seen as a multifaceted (motivational access, material access, skills access and usage access) Digital Divide indicator. In most of the developing countries DD continues to be a contending issue (Mndzebele, 2013:78) requiring the attention of the academia.

Empirically, the authors identified in digitally disadvantaged communities that Digital Divide could prevail across schools' teacher factors and materials factors. It is worth noting the authors said that the records show over the past eight years governments in Ghana had vigorously pursued an ICT in education policy agenda aimed at integrating ICTs in schools.

Within this period - 2007 to 2015, incremental activities have resulted in massive deployment of ICT

equipment in schools; with substantial percentage of practicing teachers participating in training for TDL organized across the country. The pre-service teachers are obliged to take a course in computer literacy in line with the national digital aspirations in teacher training colleges. African teachers' professional digital literacy capacity indicators are defined by (UNESCO, 2012:32).

As reported by UNESCO, this professional digital competency framework launched in 2012, attempted to offer bases for standardizing teacher professional digital practices in Africa. The framework evaluates TDL in six thematic areas of the teachers' professional digital literacy practices namely; engagement in instructional design processes, facilitate and inspire student learning, innovation, and creativity, create and manage effective learning environments, engage in assessment and communication of student learning, engage in professional learning and models of ethical responsibilities, understand subject matter for use in teaching.

It is anticipated that as teachers graduate from emerging to the transformation levels of digital competence scale, they would be adequately equipped with the essential digital and information literacy skills to function as agents of change towards the development the positive digital culture of schools (Quaicoe & Pata, 2015:23).

It is however, suggested by empirical studies and reports spanning across the period 2007 to 2015 that there is a gap between Teacher Digital literacy and ICT integration in the schools. They speculate that despite the intensive Computer knowledge training programs and bringing technology to schools, the schools have disparities in SDC that causes some of them to be digitally disadvantaged (Acquah, 2016:56).

Corollary to all these, Future Lab in the United Kingdom cited David and Merchant (2009:26), which purports that over the past decade digital technologies have become embedded in popular culture. Mobile phones are widely used by young people and adults alike. Websites such as YouTube and Wikipedia are the first port of call for many people seeking information about a chosen area of interest. TV, films and music are stored and accessed on computers, MP3 players and online. Email allows instant communication between people across the world. Online shopping and banking have become more prevalent and government services have become increasingly internet-based. Both online and offline gaming feature prominently in many people's lives and Web 2.0 technologies such as social networking sites allow people to collaborate by sharing and editing online content. Although we cannot and should not overlook the inequalities that still exist in access to digital technology and the internet, it can be said that

digital media is now a central aspect of most people's lives, whatever their age.

Moreover, they emphasize that the skills, knowledge and understanding of digital literacy are therefore becoming indispensable as young people grow up in a society in which digital technology and media play an ever more important role just as technology is playing an increasing role in culture generally, so too does it play a growing role in the lives of children. Children and young people are engaging with digital media and using a wide variety of technologies at younger and younger ages.

Furthermore, they are likely to be watching TV and films and listening to music online and offline, playing computer games, creating MySpace or Facebook pages or, for younger children, taking part in Club Penguin. Some children may also be creating, editing and sharing their own cartoons, animations, films, music or other media. Children and young people, then, are actively manipulating digital media to participate in social and cultural life outside of school and making and sharing media has become increasingly important in the way that young people communicate with each other. This means that children need to be able to negotiate information in multiple modes (textual, visual, audio and so on) and need to learn how meaning can be represented in those modes. It also means that many young people are participating in

multiple, distributed online networks and need to learn how to negotiate and manage their participation in these networks.

Hence, digital technologies, including the rise of social networking sites and online gaming, have made it easier for young people to be simultaneously connected to groups of their friends, peers and others who may be widely interspersed in geographical space. Digital literacy facilitates processes of interaction and participation and allows students to become active rather than passive in interpersonal contexts. In addition, some young people are using technology to design and author their own media. They may, for example, be creating a MySpace page or producing and editing music and film and sharing it online. Many young people may also be regularly sending each other video clips from YouTube, for example, or cartoons and photos they have found on the internet. Their aim may solely be to make their friends laugh or it may be more complex and ambiguous.

Additionally, in either case they are using digital technologies to communicate and therefore to create and share meaning in multiple formats. Digital literacy supports this process of young people becoming active meaning-makers. Rather than preventing young people from engaging creatively with technology, a focus on digital literacy in the classroom can help them to expand and extend their use of technology

for creativity and self-expression and to develop a greater understanding of the complexities of what they're doing. There is, after all, much to be excited about in terms of the possibilities that digital technologies offer for children's self-expression, creativity and learning.

Lastly, technologies such as the internet can offer extensive opportunities for informal learning and for expanding where, how, what and with whom children learn. Education systems need to help young people to understand and benefit from their engagement with digital technology and digital cultures. Fostering digital literacy in the classroom provides one way in which to make subject learning relevant to a society in which growing technology use is changing the way that both adults and children represent and communicate information and meaning and participate in cultural life.

The related literature cited provided valuable information and clear insights and directions in the proper conduct of the study, in the same manner that it also aided the researcher in conducting and treating the study. The pieces of information included in this chapter helped the researcher in familiarizing bits of information that were relevant to the present study.

Related Studies

A review of related studies, both local and foreign, was undertaken by the researcher to acquire more information related to digital literacy of teachers.

Nueva (2019) conducted a study entitled, "Filipino Teachers' Attitude Towards Technology — Its Determinants and Association with Technology Integration Practice Results". The findings of the study suggested that the teachers surveyed have a favorable attitude towards technology. Moreover, the confirmatory factor analysis reveals that the grade level assignment of the teachers is significantly associated with their attitude towards technology. In addition, results of the structural equation model revealed that only the perceived ease of use of technology significantly associates with technology integration practice of the teachers. There is a need for large-scale surveys to obtain definitive findings on the topic. However, if the present evidence is an indication, the positive attitude among Filipino teachers will bode well for their application and integration of technology into their teaching activities.

The study of Nueva had resemblance to the present study for the reason that both studies utilized quantitative research approach with survey questionnaire as its main data gathering tool. They differ on the acquiring respondents since the present study utilize elementary teachers as its

respondents while that of Nueva had teachers in general as her respondents.

Yazon et al. (2019) performed a study entitled, “Digital Literacy, Digital Competence and Research Productivity of Educators”. The findings revealed that there is a strong and significant relationship between faculty members’ digital literacy and research productivity. This means that the increase in understanding, finding, using, and creating information using digital technologies is positively related to faculty members’ ability to conduct, complete, present and publish a research article. Likewise, faculty member’s digital competence is strong and significantly correlated to their research productivity, which clearly indicates that as their knowledge, skills and attitudes for working, living and learning in the knowledge society increases, there is also a significant increase in their ability to produce publishable research outputs.

The study of Yazon et al. bears resemblance on the present study for the reason that both studies delved into the relationship of digital literacy vis-à-vis some teachers’ variables. They differ on the locale of the study.

Ozturk (2018) in a study entitled, “Elementary School Teachers' Integration of Digital Literacy During Collaborative Planning Sessions in a Project-Based School”, revealed that teachers demonstrated the shift in

understanding of what it means to be literate in the 21st century. The third-grade team's insights about digital literacy encompassed developing 21st century skills, changing the definition of what means to be literate, becoming a digital citizen, creating relevance to students' lives, using technology for pleasure as well as teaching. The examination of the five teachers' collaborative interactions as they planned to use digital technology offers insights into how to assist other teachers in those efforts.

The study of Ozturk bears significance on the present study in the sense that both studies had elementary teachers as its respondents and for the fact also that it acquires their understanding about digital literacy. The studies differ on the locale since that of Ozturk was conducted in Georgia, USA while the present study is situated in Daram, Samar, Philippines.

Roberto (2017) in her study entitled, "An Analysis of the Impact of the Computer Literacy Program of the BULSU-College of Science on Panasahan Elementary School's Teachers", found out that the levels of knowledge and skills of the respondents on the topics included in the programs prior to and after participation were determined.

The level of agreement of the respondents on statements regarding the computer literacy programs conducted as well as the chances of using the skills developed by the respondents

from the computer literacy programs were also determined in this study. The paired samples t-test was used to determine the statistical difference between the mean levels of knowledge and skills of the respondents on the topics included prior to and after participating in the program. The mean was also used to summarize other data gathered. The results showed that the computer literacy programs of the BulSU - College of Science have improved the knowledge and skills of Panasahan Elementary School's Teachers. This brought a remarkable impact to the teachers since the knowledge and skills they learned are useful in performing their work as teachers.

The study of Roberto resembles to the present study for the reason that this study utilized survey questionnaire as its main data-gathering tool and teachers as its respondents in which digital literacy is focus of the study. They differ on the place or locale of the study.

Çam et al. (2017) had a study entitled, "Perceptions of Prospective Teachers on Digital Literacy". The results showed that in terms of gender variable digital literacy levels of male prospective teachers and in terms of department variable digital literacy levels of computer education, and instructional technology teaching department were found high. Besides, the digital literacy levels of prospective teachers having continuous Internet connection or a computer that they can continuously use were found high. In addition, the

research found that prospective teachers' personal income levels had no effect on their digital literacy levels.

The study of Çam et al. resembles to the present study for the reason that both studies deal with the perception of respondents on digital literacy. It is evident that the present study is conducted in the Philippines while that of Çam et al. were conducted abroad and this serve as the reason about the difference of the researches.

Another study by Creer (2018) on " Introducing Everyday 'Digital Literacy Practices' into the Classroom: An Analysis of Multi-layered Media, Modes and their Affordances" looked carefully at the congruence and incongruences that exist between the two literacy practices with the aim to offer rich insights into meaning making in what are comparatively new, digital literacy practices. A major conclusion was that some assessment tasks do have congruence with young people's everyday literacy practices but at times they either do not take account of the students 'funds of knowledge' (Moll et al., 1992) to the full which is likely to cause confusion and possible under performance.

The study of Creer had resemblance to the present study being conducted for the reason that these studies talk about how digital literacy can be of help to the teachers and how it augments the life teachers, students, and people. The studies differ on the research locale because the present

study will be conducted in Daram, Samar Philippines while Creer had been conducted abroad.

Lorenzo (2016) conducted a study on the "Effectiveness of the Computer and Internet Literacy Project in Public High Schools of Tarlac Province, Philippines", wherein findings showed that the beneficiary schools encountered problems in project implementation. These problems include hardware failure, difficulty on the use of software package, lack of follow-up on capability building, no available internet connection, limited access to the laboratory, and lack of repair/maintenance of the equipment in the laboratory.

Despite these problems, however, the project was rated by the teachers as very satisfactory in terms of project administration, project components, and project delivery system. This implies that the project in general was effective in attaining its objectives which is ICT integration in education and to bridge the digital divide among public high school teachers.

The study of Lorenzo had significance on the present study for the reason that both studies tackle on the different problems being faced by the public-school teacher in relation to the implementation of Internet Literacy. While both studies gave emphasis on the different problems being faced about internet literacy, they differ on the subject of each study. The present study is focus on elementary school

teachers as respondents in particular while that of Lorenzo was being generalized to public school teachers.

Spengler (2015) conducted a study entitled, "Educators' Perceptions of a 21st Century Digital Literacy Framework". The results revealed that it was evident through the data analysis that the participants are enthusiastic about learning, teaching, and the students who enter their classrooms and what they bring to the table. They have expectations for certain skillsets and are vocal about the need for schools to provide instruction related to the topics at hand. The responses that were provided were astute and well thought out. Eventually, two themes emerged: a 21st century digital curriculum should include hard technology skills; and a 21st century digital curriculum should be reinforced by soft skills.

The study of Spengler resembles to the present study for the reason that both studies deal with the perception of respondents on digital literacy. It is evident that the present study is conducted in the Philippines while that of Spangler were conducted abroad and this serve as the reason about the difference of the researches.

Nalugon (2015) researched on the "Influence of Information and Communication Technology Utilization on Teachers' Performance: Toward Enhancing Technology-Driven Schools." This research sought to investigate how the

utilization of information and Communication Technology influences the teachers' performance among the Religious of the Virgin Mary Secondary (RVM) schools in Luzon.

The simple descriptive survey and descriptive-correlational research methods were employed in exploring the influence between variable. The level of influence the teachers' utilization of ICT resources on their performance was statistically analyzed using multiple regression analysis. In this study, it was found that the teachers' utilization of ICT software resources in RVM schools in Luzon exerted significant influence on their performance in terms of promotion of learning environment, diversity of learners, curriculum implementation and spiritual growth.

The study of Nalugon had similarities with the present study because both studies look into the perception and attitude of respondents towards digital literacy. However, the two studies differed in the focus of the study. The previous study focused on the influence of information and communication technology utilization on teachers' performance with the end view of enhancing technology-driven RVM schools in Luzon while the present study focus on the Growth of Digital Literacy in the New Normal Education of Elementary Teachers in the District of Daram I, Schools Division of Samar.

Tyger (2011), in her study entitled, "Teacher

Candidates' Digital Literacy and Their Technology Integration Efficacy". It was found out that the PST candidates self-rated their digital literacy levels and technology integration efficacy using an online digital literacy survey. The study was a quantitative approach and found out that the relationship between PST candidates' perceptions of their digital literacy level and their level of technology integration efficacy has recently been of concern to educational stakeholders.

Because of this concern, several other relationships with digital literacy were analyzed: age, race, financial aid status; laptop/personal computer/Internet accessible device ownership, time of laptop/personal computer/Internet accessible device ownership and Internet access level.

The study of Tyger shows resemblance to the present study in terms of acquiring the perception of teachers on digital literacy and information with regards to their personal profile. Each study differs on the geographical location where it was conducted since the present study is conducted in the District of Daram 1, Schools Division of Samar, Philippines while that of Tyger was conducted abroad.

The cited related studies in this research were directed toward improving competence in teaching in general, particularly on digital literacy. In general, the

aforementioned studies provided the researcher with a better grasp and perspective of this research endeavor.

Chapter 3

METHODOLOGY

This part presents the working process to be undertaken in this study. It includes the following: research design, the locale of the study, the instrumentation, the validation of the instruments, sampling procedure, data gathering procedure, and the statistical treatment of data.

Research Design

This study used the descriptive-correlation method with the questionnaire as the main source of gathering data. Descriptive in the sense that it described the teachers' profile which included age and sex, civil status, highest educational attainment, teaching position, gross monthly family income, number of years in teaching, types of technology literacy tolls used, number of times computer room is utilized in daily teaching, number of relevant digital literacy trainings, and attitude toward digital literacy.

The profile variates of the respondents were correlated with their perceptions on the digital knowledge and skills of teachers on computer operation such as skills in using devices, knowledge on the core digital functions, and skills in operating computer hardware and software as well as on the level of digital literacy along the competence areas of

information and data literacy, communication and collaboration, digital content creation, safety and problem solving.

The purpose of using the descriptive research method was to acquire accurate, factual, systematic data that can provide an actual picture of the data set for review. The descriptive part of the study specifically dealt with describing and analyzing the data gathered by giving proper interpretation so that findings and conclusions would be derived at.

The data that were gathered were treated statistically using both the descriptive and inferential statistical tools. In the testing of the hypotheses, appropriate statistical tools were employed like the t-Test for Independent Samples, Spearman's Rank Coefficient of Correlation, Pearson's Product-Moment Coefficient Correlation, and the Fisher's t-Test.

Locale of the Study

The figure below shows the research locale of the study which is Daram 1 District, Samar Division with its elementary schools to include; Arawane Elementary School, Astorga Elementary School, Baclayon Elementary School,

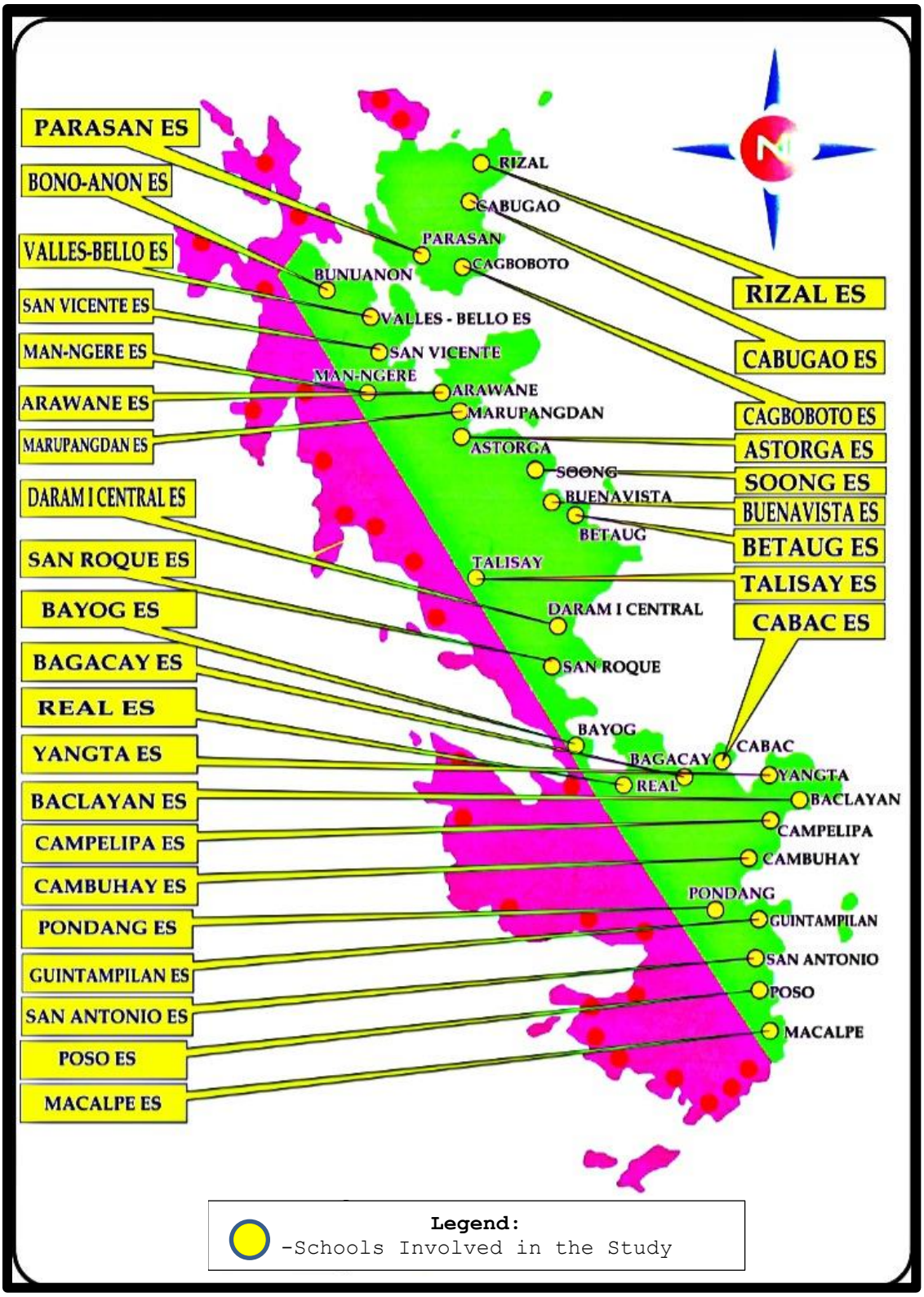


Figure 1. The Map Showing the Locale of the Study

Bagacay Elementary School, Bayog Elementary School, Bitaug Elementary School, Bono-anan Elementary School, Buenavista Elementary School, Cabac Elementary School, Cabugao Elementary School, Cagboboto Elementary School, Cambuhay Elementary School, Campelipa Elementary , Daram 1 Cental Elementary School, Guintampilan Elementary School, Macalpe Elementary School, Mangere Elementary School, Marupangdan Elementary School, Parasan Elementary School, Pondang Elementary School, Poso Elementary School, Real Elementary School, Rizal Elementary School, San Antonio Elementary School, San Roque Elementary School, San Vicente Elementary School, Soong Elementary School, Talisay Elementary School, Valles Bello Elementary School, and Yangta Elementary School.

Historians believe that the name Daram originated from a flock of birds called "Daramsiyao." The Island was originally part of the municipality of Zumarraga, Samar, and mostly inhabited by a few fisher-folk and travelers from other places whose primary source of income was fishing and farming.

As the years passed, Daram began to grow in population and economic activities through settlers and travelers who constructed dwelling units sporadically along the coastlines of the Island.

Daram eventually became independent of Zumarraga and

was formally recognized as a municipality through Act of Congress by virtue of Executive Order No. 262 on September 22, 1949 (https://infogalactic.com/info/Daram,_Samar).

Daram has a total land area of 14,026 hectares (34,659 acres). The province is composed of two major islands; Daram Island and Parasan Island. Other islands include Poro Island and Danaodanauan Island (uninhabited).

The main island features mountainous interiors with very narrow coastal areas. Mountain ranges occupy the major portion of the island municipality.

Daram has a combination of warm and cool climatic zones, thus the prevailing climate is ideal for the cultivation of a wide range of agricultural crops. There is no distinct dry season but the heavy wet season generally occurs in December. Daram lies within the western part of Samar Sea and the Zumarraga Channel. The north and western boundary is the Samar Sea; the eastern boundary is the Zumarraga Channel; the southern boundary is Daram Channel. It can be reached by a 30-minute boat ride from the provincial capital of Catbalogan and Northern Leyte.

Daram is a coastal municipality in the province of Samar. The municipality has a land area of 140.26 square kilometers or 54.15 square miles which constitutes 2.32% of Samar's total area. Its population as determined by the 2015 Census was 42,879. This represented 5.49% of the total

population of Samar province, or 0.97% of the overall population of the Eastern Visayas region. Based on these figures, the population density is computed at 306 inhabitants per square kilometer or 792 inhabitants per square mile. The municipal center of Daram is situated at approximately 11° 38' North, 124° 48' East, in the island of Daram. Elevation at these coordinates is estimated at 6.8 meters or 22.3 feet above mean sea level. It has 58 barangays(https://infogalactic.com/info/Daram_Samar,19/8/2020).

Instrumentation

The researcher utilized several data gathering instruments to collect essential information needed in this study, namely: questionnaire, document analysis, and focused group discussion.

The questionnaire was adapted from the Digital Literacy Questionnaire of the Asia-Pacific Association for Computer Assisted Language Learning and the global framework of reference by UNESCO. It served as one of the principal data-gathering tools that were used. One set of questionnaires was used in the study.

The questionnaire was composed of five (5) parts. Part I gathered information on profile of the respondents in terms of age and sex, civil status, highest educational attainment,

teaching position, gross monthly family income, number of years in teaching, performance rating based on the latest IPCRF, types of technology literacy tools used, number of relevant digital literacy trainings, and attitude toward digital literacy.

Part II collected information on Digital Literacy Domains specifically information on data literacy which was composed of three (3) statements, communication and collaboration, composed of seven (7) statements, digital content creation composed of four (4) statements, safety composed of four (4) statements, and problem solving which had five (5) statements. In relation to the categorization of responses regarding the level of digital literacy of the elementary school teachers and administrators, the scale below was used: 5 (Very High), 4 (High), 3 (Neutral, 2 (Low), and 1 (Very Low).

Part III delved on the digital knowledge and skills literacy which comprised the skills in using digital devices, with four (4) statements, knowledge on the core digital function with ten (10) statements, and skills in operating computer hardware and software comprise of two (2) statements. On this part, teacher-respondents were instructed to tick on their response using a five-point Liker Scale in which 5 meant Highly Competent (HC), 4 meant Moderately Competent (MC), 3 meant Competent (C), 2 meant

Less Competent (LC), and 1 meant Not Competent (NC).

Part IV of the questionnaire elicited responses on the different problems encountered by the elementary school teachers in relation to their respective digital literacy. They were directed to some statements of some of the foreseen problems on digital literacy and check an item which they consider to be a problem.

The document analysis was used to validate the profile of the teacher-respondents particularly on their age, length of service and all other vital information which were available at the District office.

The focused group discussion (FGD) was also utilized by the researcher in order to probe vague or contradicting responses that were given by the respondents. This was employed in order to ensure that bias would minimize.

Validation of Instruments

Since the instruments were adopted from identified sources with permission to use from the author, there was no need for validation as they were constructed and validated by the sources who held Doctorate Degree, thus, considered as authorities and experts in the field, added to the fact that they already had used the instrument in their studies and others as well.

The segment of the questionnaire which gauged the

specific knowledge of the respondents on the aspects of digital literacy was adopted from the questionnaire of the Asia Pacific Association for Computer Assisted Learning while the part which delved into the level of digital literacy among the elementary school teachers was guided by the competence areas espoused by UNESCO.

Though the questionnaire had been adopted from reliable sources of experts, still it underwent expert validation by the Panel of Oral Examiners of Samar College-Graduate Studies to make sure that some of the statements suited within the local setting. After scrutiny of the panel members and revisions had been made, the questionnaire was ready for fielding.

Sampling Procedure

Table 1 shows the number of respondents of this study. The researcher utilized universal sampling. This means that the 30 primary schools comprising the District of Daram 1, Schools Division of Samar were included as respondents of this study considering that these schools started from being detached to gradually being attached to the digital world.

Data Gathering Procedure

The researcher sought approval from the Schools Division Superintendent of Samar Division in fielding the

Table 1

The Number of Respondents of the Study by School

School	Teachers	School Administrators
1. Arwani ES	2	1
2. Astorga ES	12	1
3. Baclayon ES	6	1
4. Bagacay ES	13	1
5. Bayog ES	3	1
6. Bitaug ES	3	1
7. Bono-anan ES	3	1
8. Buenavista ES	7	1
9. Cabac ES	5	1
10. Cabugao ES	3	1
11. Cagboboto ES	5	1
12. Cambuhay ES	5	1
13. Campelipa ES	6	1
14. Daram 1 CES	28	1
15. Guintampilan ES	6	1
16. Macalpe ES	3	1
17. Mangere ES	2	1
18. Marupangdan ES	6	1
19. Parasan ES	6	1
20. Pondang ES	10	1
21. Poso ES	5	1
22. Real ES	3	1
23. Rizal ES	9	1
24. San Antonio ES	2	1
25. San Roque ES	7	1
26. San Vicente ES	3	1
27. Soong ES	6	1
28. Talisay ES	2	1
29. Valles Bello ES	6	1
30. Yangta ES	4	1
Total	**180**	**30**
Response Rate	**100%**	**100%**

questionnaire to the respondents of the identified elementary schools in the District of Daram 1, Schools Division of Samar. The approval was used as reference in seeking permission from

the District Supervisor and Principal in the respondent schools. Once permission was approved, the researcher administered the research instrument to the elementary teachers personally to ensure high percentage of retrieval. The researcher fielded the instrument during the month of January 2021.

Statistical Treatment of Data

The data were tallied, organized, analyzed, and interpreted using the appropriate statistical tools both descriptive and inferential such as Frequency Count, Percentage, Mean, Standard Deviation, Weighted Mean, T-test for independent sample means, Pearson's Product-Moment of Correlation Coefficient, and Fisher's t-test.

Frequency Count. This statistic was used in reporting the profile of the respondents in terms of age and sex, civil status, highest educational attainment, gross monthly family income, number of years as administrator, and number of relevant trainings.

Percentage. This statistical tool was used in presenting the proportion of the teacher-respondents having the same profile variates. The formula used was as follows:

$$P = [f/N] \times 100$$

where P refers to the percentage;

f refers to the number of occurrences; and

N refers to the total number of samples.

Arithmetic Mean. This was used to express the average of some of the identified characteristics of the respondents specifically on the data that were in ratio and interval scale. The following formula (Freud & Simon, 1992:35) was used:

$$\mu = \frac{\Sigma fX}{N}$$

where: μ refers to the arithmetic mean or average;

f refers to the frequency of occurrence;

X refers to the identified variable; and

n refers to the sample size.

Standard Deviation. This statistical measure was used in describing the extent to which the data vary among themselves such as age and gross monthly family income. The following formula (Freund & Simon, 1992:35) was used:

$$S = \sqrt{\frac{\sum f(X - \mu)^2}{n - 1}}$$

where: S refers to the standard deviation;

∑f refers to the summation of frequency of occurrence;

X refers to the identified variable; and

μ refers to the arithmetic mean.

Weighted Mean. This was used to express the collective percentage of each group of respondents.

$$\bar{x}_w = \frac{\sum f_i X_i W_i}{n}$$

where: $\bar{x}_w$ refers to the weighted mean;

f_i refers to the frequency of a category of variable;

X_i refers to the identified category of variable;

W_i refers to the weights which are expressed in a five-point Likert or Thurstone scales; and

n refers to the sample size.

In interpreting the weighted mean, particularly the attitude of respondents toward digital literacy and the competencies of respondents in terms of the identified areas, the following five-point Likert Scale was used:

Range	**Interpretation**
4.50-5.00	Strongly Agree (SA)
	Highly Competent (HC)
3.50-4.49	Agree (A)
	Moderately Competent (MC)
2.50-3.49	Uncertain (U)
	Competent (C)
1.50-2.49	Disagree (D)
	Less Competent (LC)
1.00-1.49	Strongly Disagree (SD)
	Not Competent (NC)

t-test for Independent Sample Means. This was used to determine the significant difference on the perceptions of the two groups of respondents.

$$t = \frac{M_X - M_Y}{\sqrt{\left[\frac{\left(\Sigma X^2 - \frac{(\Sigma X)^2}{N_X}\right) + \left(\Sigma Y^2 - \frac{(\Sigma Y)^2}{N_Y}\right)}{N_X + N_Y - 2}\right] \cdot \left[\frac{1}{N_X} + \frac{1}{N_Y}\right]}}$$

where: Σ= sum the following scores

M_X= mean for Group A

M_Y= mean for Group B

X score in Group 1

Y score in Group 2

N_X number of scores in Group 1

N_Y number of scores in Group 2

Spearman's Rank Coefficient of Correlation. The Spearman's Rho was employed to associate linear relationship between two variables which were in a not normal distribution using the following formula (Walpole, 1997:460):

$$\rho = 1 - \frac{6\sum D^2}{N^3 - N}$$

where: ρ refers to the coefficient of linear association between paired ranks assigned to individual scores on two variables;

D refers to the deviation between

paired ranks; and

N refers to the total number of paired observations.

Pearson's Product-Moment Coefficient Correlation. This statistical tool was used to determine the relationship between teacher- and school administrator-respondents' profile and their perceived level of implementation of DRRM. The formula below was used (Walpole, 1982:376):

$$rxy = \frac{N\sum xy - (\sum y)\ (\sum y)}{\sqrt{[N\sum x^2 - \sum x)^2 (\sum y^2][N\sum y^2 - (\sum y)^2]}}$$

where:

rxy = refers to the computed correlation coefficient between X and Y;

$\sum y$ = refers to the sum of the values in the first set of dependent variable

$\sum x$ = refers to the sum of the values in the second set of dependent variable

$\sum xy^2$ = refers to the sum of the product of X and Y;

$\sum X^2$ refers to the sum of the squared X values; and

$\sum Y^2$ refers to the sum of the squared Y values.

In interpreting the degree of correlation, Table 2 was

Table 2

The Table of Coefficient of Correlation

Correlation Coefficient	Interpretation
0	No linear association
0<p<± 0.2	Very weak linear association
±0.2≤p<±0.4	Weak linear association
±0.4≤p<±0.6	Moderate linear association
±0.6≤p<±0.8	Strong linear association
±0.8≤p<±0.1.0	Very Strong linear association
+1.0	Perfect linear association

used.

Fisher's t-Test. This was used to test the significance of relationship between paired variables. The Fisher's t-test (Walpole, 1982:382) formula was used:

$$t = {}^{r}\sqrt{\frac{n-2}{1-r^2}}$$

Where:

r= refers to the computed correlation coefficient

N= refers to the number of paired observations

t= refers to the computed Fisher's t-value/ significance of the correlation coefficient.

In deciding whether the null hypothesis would be accepted or rejected, the following decision rule served as guide: accept the null hypothesis if and when the computed value turned lesser than the critical or tabular value or the p-value turned greater than the α; on the other hand, reject the null hypothesis if and when the computed value turned equal or greater than the critical value or tabular value or the p-value turned equal or lesser than the α. The hypotheses

were tested at 0.05 level of significance to determine the critical region of acceptance and rejection. For precision and accuracy in the computation, the researcher utilized the available software and statistical packages in the data processing.

Chapter 4

PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

This chapter presents the findings of the study with the corresponding analysis and interpretation of data. Included here are the following: profile of the teacher-respondents, level of digital literacy of the elementary school teachers as evaluated by the teachers themselves and by their school administrators, comparison between the evaluation of the two groups of respondents relative to the digital literacy of the elementary school teacher-respondents, level of competency of the elementary teacher-respondents in using digital knowledge and skills as assessed by the two groups of respondents, comparison between the evaluation of the two groups of respondents relative to the digital literacy of the elementary school teacher-respondents, relationship between the level of digital literacy of the elementary school teacher-respondents and the identified factors, and problems encountered by the teacher-respondent in teaching digital literacy.

Profile of Teacher-Respondents

This part provides information regarding the profile of teacher-respondents in terms of age and sex, civil status, highest educational attainment, teaching position, gross monthly family income, number of years in teaching, performance rating based on the latest IPCRF, types of

technology literacy tools used, number of relevant digital literacy trainings, and attitude toward digital literacy.

Age and Sex. Table 3 presents the age and sex disaggregation of teacher-respondents.

The table shows that the teacher-respondents ranged from 22-56 years old whereby a number of them, that is, 71 or 41.52 percent were aged 27-31 years old while 28 or

Table 3

Age and Sex Disaggregation of Teacher Respondents

Age Bracket	Sex			Total (f)	%
	Male	Female	Not Stated		
52-56	2	1	0	3	1.75
47-51	3	5	0	8	4.68
42-46	3	11	0	14	8.19
37-41	4	12	0	16	9.36
32-36	9	12	0	21	12.28
27-31	29	42	0	71	41.52
22-26	9	19	0	28	16.37
Not Stated	0	0	10	10	5.85
Total	**59**	**102**	**10**	**171**	**100.00**
%	**34.50**	**59.65**	**5.85**	**100.00**	
Mean	**32.25 years old**				
SD	**7.35 years**				

16.37 percent were aged 22-26 years old, 21 or 12.28 percent were aged 32-36 years old and the rest were distributed to the other identified age brackets.

The mean age of the teacher-respondents was posted at 32.25 years old with a standard deviation (SD) of 7.35 years. The data signified that the teacher-respondents were relatively young at their early 30s. They were expected to be in the best of their health while at the height of their career.

Moreover, majority of the teacher-respondents were female accounting for 102 or 59.65 percent with the male counterpart being composed of 59 or 34.50 percent only. The data showed female dominance among the teaching force of the DepEd. This was expected considering that most of those who took up teacher education during college were female and consequently, most of them embraced this profession.

Civil Status. Table 4 shows the civil status of teacher-respondents.

From the table, it can be noted that majority of the teacher-respondents were married accounting for 124 or 72.52 percent while 35 or 20.47 percent were still single and the rest were distributed to the other identified civil statuses.

The data manifested that most of the teacher-respondents had entered into a marital state where the

Table 4

Civil Status of Teacher-Respondents

Civil Status	f	%
Single	35	20.47
Married	124	72.52
Widow	3	1.75
Widower	1	0.58
Not Stated	8	4.68
Total	**171**	**100.00**

responsibility of their children was their priority which served as an advantage for them as teachers being the second parent of the school children.

Highest Educational Attainment. Table 5 reveals the highest educational attainment of teacher-respondents.

Table 5 reveals that a number of the teacher-respondents, that is, 67 or 39.18 percent were with master's units while 45 of them or 26.32 percent were master's degree holders, 31 or 18.13 percent were baccalaureate degree holders and the rest were distributed to the other identified educational levels.

The data signified that the teachers were qualified for the position they were appointed. In fact, most of them pursued advance education for professional development. Being such, these teachers were ready for any promotion.

Table 5

Highest Educational Attainment of Teacher-Respondents

Educational Level	f	%
Doctorate Degree	2	1.17
Doctorate Units	16	9.36
Master's Degree	45	26.32
Master's Units	67	39.18
Baccalaureate Degree	31	18.13
Not Stated	10	5.84
Total	**171**	**100.00**

Teaching Position. Table 6 contains the teaching position of teacher-respondents.

The table reveals that a number of the teacher-respondents, that is, 67 or 39.18 percent were appointed to the position of Teacher I while 38 or them or 22.22 percent were appointed as Teacher III, 24 or 14.04 percent were appointed as Master Teacher I and the rest were distributed to the other identified teaching positions.

The data signified that the teacher-respondents, except for the newly appointed, had been promoted to higher level in the hierarchy of the DepEd which meant that most of them had qualified themselves for any personnel action.

Gross Monthly Family Income. Table 7 presents the gross monthly family income of the teacher-respondents.

The table shows that majority of the teacher-

Table 6

Teaching Position of Teacher-Respondents

Position	f	%
Master Teacher II	18	10.53
Master Teacher I	24	14.04
Teacher III	38	22.22
Teacher II	18	10.53
Teacher I	67	39.18
Not Stated	6	3.50
Total	**171**	**100.00**

respondents earned a gross monthly family income of Php18,000–Php27,999 accounting for 113 or 66.08 percent while 37 of them or 21.64 percent earned Php38,000–Php47,999 monthly and the rest were distributed to the other identified income brackets.

The modal income of the teacher-respondents was posted at Php22,999.50 which signified that most of the teachers earned this much as their family income. As compared with the per capita poverty threshold, the teachers still earned sufficiently to defray their basic and nutritional needs including educational needs of schooling members of the family.

Number of Years in Teaching. Table 8 presents the number of years in teaching of the teacher-respondents. The table shows that majority of the teacher-

Table 7

Gross Monthly Family Income of Teacher-Respondents

Income Bracket	f	%
Php48,000-Php57,999	2	1.17
Php38,000-Php47,999	37	21.64
Php28,000-Php37,999	8	4.68
Php18,000-Php27,999	113	66.08
Not Stated	11	6.43
Total	**171**	**100.00**
Modal Income	**Php22,999.50**	

Respondents had been in the service for 1-5 years accounting for 111 or 64.91 percent while 28 of them or 16.37 percent had been teaching for 11-15 years, 16 or 9.36 percent for 6-10 years and the rest were distributed to the other identified number of years in service.

The mean number of years in teaching accumulated by the teacher-respondents was posted at 6.74 years with a SD of 6.56 years. The data signified that there was a slight disparity in the number of years in teaching of the teacher-respondents which could be attributed to the differences in their entrance to the DepEd.

Furthermore, the teacher-respondents had been in the service as teachers in the department for quite a number of years which could signify that they were able to hone their

Table 8

Number of Years in Teaching of Teacher-Respondents

No. of Years	f	%
36-40	1	0.59
31-35	1	0.59
26-30	2	1.17
21-25	3	1.75
16-20	9	5.26
11-15	28	16.37
6-10	16	9.36
1-5	111	64.91
Total	**117**	**100.00**
Mean	**6.74 years**	
SD	**6.56 years**	

teaching skills and discharged their duties and functions effectively.

Performance Rating Based on the Latest IPCRF. Table 9 reveals the latest performance rating of the teacher-respondents based on the IPCRF.

The table reveals that majority of the teacher-respondents obtained performance rating with an adjectival description of "very satisfactory" accounting for 118 or 69.01 percent. The remaining 53 or 30.99 percent garnered an "outstanding" performance rating.

In the overall, the teacher-respondents manifested exemplary performance based on the IPCRF which indicated

Table 9

Performance Rating Based on the Latest IPCRF

of Teacher-Respondents

Rating	f	%
Outstanding	53	30.99
Very Satisfactory	118	69.01
Total	**171**	**100.00**

they were able to accomplish their targets for the year which they committed to the department. This signified that the teacher-respondents need recognition through the productivity incentive bonuses.

Types of Technology Used. Table 10 provides the types of technology used by the teacher-respondents. There were 21 identified technologies included whereby the respondents affirmatively or negatively signified for their use.

The table shows that of the identified technologies, the teacher-respondents signified in using primarily the following gadgets, both personally and as an aid in teaching, namely: cellular phone, laptop, flash drive, printer, wifi, and television. The other gadgets were still used, however, in moderation which included the following: speaker, personal computer, and LCD projector. The rest of the identified gadgets were seldom used or not even actually used.

Table 10

Types of Technology Used by Teacher-Respondents

	Yes		No	
	f	%	f	%
1. Cellular Phone	170	99.42	1	0.58
2. Tablet	40	23.39	131	76.61
3. WiFi	161	94.15	10	5.85
4. Router	10	5.85	161	94.15
5. Netbook	17	9.94	154	90.06
6. Laptop	168	98.25	3	1.75
7. Printer	163	93.32	8	4.68
8. LCD Projector	133	77.78	38	22.22
9. Digital Camera	24	14.04	147	85.96
10. DVD Player	96	56.14	75	43.86
11. Lapel	11	6.43	160	93.57
12. Microphone	43	25.15	128	74.85
13. Speaker	156	91.23	15	8.77
14. Headphone	50	29.24	121	70.76
15. Television	160	93.57	11	6.43
16. Personal Computer	151	88.30	20	11.70
17. Flash Drive	165	96.49	6	3.51
18. CD/DVD	122	71.35	49	28.65
19. Internal Drive	7	4.09	164	95.91
20. OTG	35	20.47	136	79.53
21. Artificial Intelligence	1	0.58	170	99.42

The data signified that somehow the teacher-respondents were adept in using technologies both for personal and for professional use. However, only common gadgets were usually used by them probably due to non-availability of the gadget within their station or location.

Number of Relevant Digital Literacy Trainings. Table 11 discloses the number of digital literacy trainings attended by the teacher-respondents in the different

Table 11

Number of Relevant Digital Literacy Trainings of Teacher-Respondents

Training Level	Mean	SD
National	2 trainings	1.73 trainings
Regional	4 trainings	3.09 trainings
Division	5 trainings	3.59 trainings
District	7 trainings	4.28 trainings
Overall	**4 trainings**	**3.17 trainings**

levels.

From the table, it can be gleaned that the teacher-respondents the following mean number of trainings: in the national level, two trainings with a SD of 1.73 trainings; in the regional level, four trainings with a SD of 3.09 trainings; in the division level, five trainings with a SD of 3.59 trainings, and in the district level, seven trainings with a SD of 4.28 trainings.

The overall mean number of digital trainings attended by the teacher-respondents was posted at four trainings with a SD of 3.17 trainings. The data signified that although the teacher-respondents had attended few relevant in-service trainings, at least they were able to attend some in the different levels. However, due to limited slots and financial constraints only few of these teachers were able to avail such trainings.

Attitude Toward Digital Literacy. Table 12 appraises the attitude of teacher-respondents toward digital literacy. There were 10 attitude statements identified whereby the

respondents signified their agreement or disagreement in each statement.

As presented in Table 12, the teacher-respondents "strongly agree" eight attitude statements with weighted means ranging from 4.52 to 4.72. The statements that obtained the highest and the least weighted means, respectively, corresponded to the statements stating: "I enjoy using digital devices" and "I am willing to learn more about digital technologies." The remaining two attitude statements were "agreed" by this same group of respondents corresponding to the statements stating: "I feel that I am behind my fellow students in using digital technologies" and "I feel threatened when others talk about digital technologies," with weighted means of 4.43 and 4.30, respectively.

Taken as a whole, the teacher-respondents "strongly agree" their attitude toward digital literacy being shown by the grand weighted mean of 4.57. This indicated that the teacher-respondents manifested extremely favorable attitude toward digital literacy which signified that they have the desire to learn and explore more regarding the use of technologies personally and professionally.

Table 12

Attitude Toward Digital Literacy of Teacher-Respondents

Attitude Statement	WM	I
1. I enjoy using digital devices.	4.72	SA
2. I feel comfortable using digital devices.	4.70	SA
3. I am aware of various types of digital devices.	4.57	SA
4. I understand what digital literacy is.	4.53	SA
5. I am willing to learn more about digital technologies.	4.52	SA
6. I feel threatened when others talk about digital technologies.	4.30	A
7. I feel that I am behind my fellow students in using digital technologies.	4.43	A
8. I think that it is important for me to improve my digital fluency.	4.68	SA
9. I think that my learning can be enhanced by using digital tools and resources.	4.65	SA
10. I think that training in digital literacy enhanced learning should be included in educational programs.	4.64	SA
Grand Weighted Mean	**4.57**	
Interpretation	**Strongly Agree**	

Legend:	4.50-5.00	Strongly Agree	(SA)
	3.50-4.49	Agree	(A)
	2.50-3.49	Uncertain1	(U)
	1.50-2.49	Disagree	(D)
	1.00-1.49	Strongly Disagree	(SD)
		Weighted Mean	(WN)
		Interpretation	(I)

Level of Digital Literacy of Elementary School Teachers as Evaluated by the Two Groups of Respondents

This part appraises the level of digital literacy of elementary school teachers as evaluated by the teachers themselves and by their school administrators in terms of the following areas, namely: information and data literacy, communication and collaboration, digital content creation, safety, and problem solving.

Information and Data Literacy. Table 13 presents the level of digital literacy of elementary school teachers as evaluated by the two groups of respondents in terms of information and data literacy. There were three indicators identified in this area whereby the respondents evaluated the implementation of each indicator.

From the table, it can be noted that the teacher-respondents considered only one indicator as "high" corresponding to: "articulating information needs, searching for data, information and content in digital environments, accessing them and navigating between them. Creating and updating personal search strategies," with a weighted mean of 3.57. The remaining two indicators were considered by this same group of respondents as "moderate." These corresponded to the following statements: "analyzing, comparing and critically evaluating the credibility and reliability of sources of data, information and digital

Table 13

Level of Digital Literacy of Elementary School Teachers as Evaluated by the Two Groups of Respondents in Terms of Information and Data Literacy

Indicator	Teachers		School Administrators	
	WM	I	WM	I
1. Articulating information needs, searching for data, information and content in digital environments, accessing them and navigating between them. Creating and updating personal search strategies	3.57	H	3.40	M
2. Analyzing, comparing and critically evaluating the credibility and reliability of sources of data, information and digital content Analyzing, interpreting and critically evaluating the data, information and digital content	3.50	M	3.43	M
3. Organizing, storing and retrieving data, information and content in digital environments. Organizing and processing them in a structured environment	3.35	M	3.30	M
Grand Weighted Mean	**3.47**		**3.38**	
Interpretation	**Moderate**		**Moderate**	

Legend:

4.50-5.00	Very High	(VH)
3.50-4.49	High	(H)
2.50-3.49	Moderate	(M)
1.50-2.49	Low	(L)
1.00-1.49	Very Low	(VL)
	Weighted Mean	(WN)
	Interpretation	(I)

content. Analyzing, interpreting and critically evaluating the data, information and digital content" and "Organizing,

storing and retrieving data, information and content in digital environments. Organizing and processing them in a structured environment," with weighted means of 3.50 and 3.35, respectively.

Taken as a whole, the teacher-respondents considered their level of digital literacy in terms of information and data literacy as "moderate" being shown by the grand weighted mean of 3.47. This indicated that to the belief of the teachers they still need to enhance their digital literacy and to explore more regarding its use.

On the other hand, the school administrators evaluated the level of digital literacy of elementary school teachers in terms of information and data literacy as "moderate" in all indicators with weighted means ranging from 3.30 to 3.43. The indicators that obtained the highest and the least weighted means, respectively, corresponded to: "analyzing, comparing and critically evaluating the credibility and reliability of sources of data, information and digital content. Analyzing, interpreting and critically evaluating the data, information and digital content" and "organizing, storing and retrieving data, information and content in digital environments. Organizing and processing them in a structured environment."

Taken as a whole, the school administrators considered the level of digital literacy of elementary school teachers

in terms of information and data literacy as "moderate" being indicated by the grand weighted mean of 3.38. This signified that the school administrators also viewed their teachers still need to enhance their digital literacy and to explore more regarding its use.

In summary, the two groups of respondents arrived at a similar descriptive evaluation as regards the level of digital literacy of elementary school teachers in terms of information and data literacy. However, they differed in the numerical assessment. While the teachers gave a grand weighted mean of 3.47, the school administrators gave 3.38.

Communication and Collaboration. Table 14 presents the level of digital literacy of elementary school teachers as evaluated by the two groups of respondents in terms of communication and collaboration. There were seven indicators identified in this area whereby the respondents evaluated the implementation of each indicator.

The table presents that from the viewpoint of the teacher-respondents, they considered their level of digital literacy in terms of communication and collaboration as "moderate" in all indicators with weighted means ranging from 3.02 to 3.50. The indicators that obtained the highest and the least weighted means, respectively, corresponded

Table 14

Level of Digital Literacy of Elementary School Teachers as Evaluated by the Two Groups of Respondents in Terms of Communication and Collaboration

Indicator	Teachers		School Administrators	
	WM	I	WM	I
1. Interacting through a variety of digital technologies and understanding appropriate digital communication means for a given context.	3.50	M	3.27	M
2. Sharing data, information and digital content with others through appropriate digital technologies. Acting as an intermediary, knowing about referencing and attribution practices	3.40	M	3.17	M
3. Understanding a policy against discrimination with regard to gender, cultural origin, social status, religious belief and others.	3.12	M	3.50	M
4. Participating in society through the use of public and private digital services. Seeking opportunities for self-empowerment and for participatory citizenship through appropriate digital technologies.	3.13	M	3.27	M
5. Using digital tools and technologies for collaborative processes and for co-construction and co-creation of resources and knowledge.	3.25	M	3.37	M

Table 14 continued

Indicator	Teachers		School Administrators	
	WM	I	WM	I
6. Being aware of behavioral norms and know-how while using digital technologies and interacting in digital environments. Adapting communication strategies to the specific audience and being aware of cultural and generational diversity in digital environments.	3.24	M	3.30	M
7. Creating and managing one or multiple digital identities, being able to protect one's own reputation, dealing with the data that one produces through several digital tools, environments and services.	3.02	M	3.33	M
Grand Weighted Mean	**3.24**		**3.32**	
Interpretation	**Moderate**		**Moderate**	

Legend:

4.50-5.00	Very High	(VH)
3.50-4.49	High	(H)
2.50-3.49	Moderate	(M)
1.50-2.49	Low	(L)
1.00-1.49	Very Low	(VL)
	Weighted Mean	(WN)
	Interpretation	(I)

to: “interacting through a variety of digital technologies and understanding appropriate digital communication means for a given context” and “creating and managing one or multiple

digital identities, being able to protect one's own reputation, dealing with the data that one produces through several digital tools, environments and services."

Taken as a whole, the teacher-respondents considered their level of digital literacy in terms of communication and collaboration as "moderate" being shown by the grand weighted mean of 3.24. This signified that to the belief of the teachers they still need to enhance their digital literacy and to explore more regarding its use in terms of communication and collaboration.

On the other hand, the school administrators evaluated all indicators along the level of digital literacy of elementary school teachers in terms of communication and collaboration as "moderate" with weighted means ranging from 3.17 to 3.50. Consequently, the indicators that obtained the highest and the least weighted means corresponded to: "understanding a policy against discrimination with regard to gender, cultural origin, social status, religious belief and others" and "sharing data, information and digital content with others through appropriate digital technologies. Acting as an intermediary, knowing about referencing and attribution practices." Taken as a whole, the school administrators viewed the level of digital literacy of elementary school teachers in terms of communication and collaboration as "moderate" being manifested by the grand weighted mean of

3.32. This indicated that the school administrators confirmed the belief of the teachers that they still need to enhance their digital literacy and to explore more regarding its use in terms of communication and collaboration.

In summary, the two groups of respondents arrived at the same adjectival evaluation on the level of digital literacy of elementary school teachers in terms of communication and collaboration. Both groups considered it moderate. However, they differed in the numerical evaluation. While the teachers gave a grand weighted mean of 3.24, the school administrators gave 3.32.

Digital Content Creation. Table 15 evaluates the level of digital literacy of elementary school teachers as evaluated by the two groups of respondents in terms of digital content creation. There were four indicators identified in this area whereby the respondents evaluated the implementation of each indicator.

From the table, it can be gleaned that the teacher-respondents considered their digital literacy in terms of digital content creation in all indicators as "moderate" with weighted means ranging from 2.85 to 3.40. In these indicators, the ones that obtained the highest and the least weighted means corresponded to: "modifying, refining, improving and integrating information and content into an existing body of knowledge to create new, original and

Table 15

Level of Digital Literacy of Elementary School Teachers as Evaluated by the Two Groups of Respondents in Terms of Digital Content Creation

Indicator	Teachers		School Administrators	
	WM	I	WM	I
11. Creating and editing digital content in different formats, expressing oneself through digital means.	3.37	M	3.07	M
12. Modifying, refining, improving and integrating information and content into an existing body of knowledge to create new, original and relevant content and knowledge.	3.40	M	3.17	M
13. Understanding how copyright and licenses apply to data, information and digital content.	2.85	M	3.17	M
14. Planning and developing a sequence of understandable instructions for a computing system to solve a given problem or perform a specific task.	3.07	M	3.23	M
Grand Weighted Mean	**3.17**		**3.16**	
Interpretation	**Moderate**		**Moderate**	

Legend:

4.50-5.00	Very High	(VH)
3.50-4.49	High	(H)
2.50-3.49	Moderate	(M)
1.50-2.49	Low	(L)
1.00-1.49	Very Low	(VL)
	Weighted Mean	(WN)
	Interpretation	(I)

relevant content and knowledge" and "understanding how copyright and licenses apply to data, information and digital content." Taken as a whole, the teachers evaluated their level of digital literacy in terms of digital content creation as "moderate" being shown by the grand weighted mean of 3.17. This signified that the teachers believed that they still need to enhance their digital literacy and to explore more regarding its use in terms of digital content creation.

Likewise, the school administrators evaluated the level of digital literacy of elementary school teachers in terms of digital content creation in all indicators as "moderate" also with weighted means ranging from 3.07 to 3.23. Eventually, the indicators that obtained the highest and the least weighted means, respectively, corresponded to: "planning and developing a sequence of understandable instructions for a computing system to solve a given problem or perform a specific task" and "creating and editing digital content in different formats, expressing oneself through digital means." Taken as a whole, the school administrators considered the level of digital literacy of elementary school teachers in terms of digital content creation as "moderate" being indicated by the grand weighted mean of 3.16. This meant that the school administrators, also, viewed the teachers as in need of an enhancement of their level of digital literacy in terms of digital content creation.

In summary, the two groups of respondents arrived at the same adjectival evaluation on the level of digital literacy of elementary school teachers in terms of digital content creation. Both groups considered it moderate. However, they differed in the numerical evaluation. While the teachers gave a grand weighted mean of 3.17, the school administrators gave 3.16.

Safety. Table 16 appraises the level of digital literacy of elementary school teachers as evaluated by the two groups of respondents in terms of safety. There were four indicators identified in this area whereby the respondents evaluated the implementation of each indicator.

Table 16 shows that from the viewpoint of the teachers, they considered their level of digital literacy in terms of safety as "high" in one indicator. This corresponded to: "being aware of the environmental impact of digital technologies and their use" with a weighted mean of 3.58. The remaining three indicators were evaluated by the same group of respondents as "moderate" with weighted means ranging from 3.19 to 3.27. In these indicators, the ones that obtained the highest and the least weighted means, respectively, were: "protecting devices and digital content, and understanding risks and threats in digital

Table 16

Level of Digital Literacy of Elementary School Teachers as Evaluated by the Two Groups of Respondents in Terms of Safety

Indicator	Teachers		School Administrators	
	WM	I	WM	I
15. Protecting devices and digital content, and understanding risks and threats in digital environments. Knowing about safety and security measures and to have due regard to reliability and privacy.	3.27	M	3.50	M
16. Protecting personal data and privacy in digital environments. Understanding how to use and share personally identifiable information while being able to protect oneself and others from damages. Understanding that digital services use a "Privacy policy" to inform how personal data is used.	3.21	M	3.43	M
17. Avoiding health-risks and threats to physical and psychological well-being while using digital technologies. Ability to protect oneself and others from possible dangers in digital environments (e.g. cyber bullying). Being aware of digital technologies for social well-being and social inclusion.	3.19	M	3.43	M

Table 16 continued

Indicator	Teachers		School Administrators	
	WM	I	WM	I
18. Being aware of the environmental impact of digital technologies and their use.	3.58	H	3.37	M
Grand Weighted Mean	**3.31**		**3.43**	
Interpretation	**Moderate**		**Moderate**	

Legend:

4.50-5.00	Very High	(VH)
3.50-4.49	High	(H)
2.50-3.49	Moderate	(M)
1.50-2.49	Low	(L)
1.00-1.49	Very Low	(VL)
	Weighted Mean	(WN)
	Interpretation	(I)

environments. Knowing about safety and security measures and to have due regard to reliability and privacy" and "avoiding health-risks and threats to physical and psychological well-being while using digital technologies. Ability to protect oneself and others from possible dangers in digital environments (e.g. cyber bullying). Being aware of digital technologies for social well-being and social inclusion." Taken as a whole, the teachers considered their level of digital literacy in terms of safety as "moderate" being indicated by the grand weighted mean of 3.31. This showed that the teachers admitted that they lack the digital literacy in terms of safety and they need an enhancement in this area.

Table 16 also shows that the school administrators evaluated the level of digital literacy of the elementary

school teachers in terms of safety in all its indicators as "moderate" with weighted means ranging from 3.37 to 3.50. The indicators that obtained the highest and the least weighted means, respectively, corresponded to the statements stating: "protecting devices and digital content, and understanding risks and threats in digital environments. Knowing about safety and security measures and to have due regard to reliability and privacy" and "being aware of the environmental impact of digital technologies and their use." Taken as a whole, the school administrators viewed the level of digital literacy of the elementary school teachers in terms of safety as "moderate" being proven by the grand weighted mean of 3.43. This confirmed the belief of the teachers that they still lack the digital literacy in terms of safety.

In summary, the two groups of respondents arrived at the same adjectival evaluation on the level of digital literacy of elementary school teachers in terms of safety. Both groups considered it moderate. However, they differed in the numerical evaluation. While the teachers gave a grand weighted mean of 3.31, the school administrators gave 3.43.

Problem Solving. Table 17 provides the level of

Table 17

Level of Digital Literacy of Elementary School Teachers as Evaluated by the Two Groups of Respondents in Terms of Problem Solving

Indicator	Teachers		School Administrators	
	WM	I	WM	I
19. Identifying technical problems when operating devices and using digital environments, and solving them (from trouble-shooting to solving more complex problems).	3.37	M	3.33	M
20. Assessing needs and identify, evaluate, selecting and using digital tools and possible technological responses to solve them. Adjusting and customizing digital environments to personal needs (e.g. accessibility).	3.01	M	3.47	M
21. Using digital tools and technologies to create knowledge and to innovate processes and products. Engaging individually and collectively in cognitive processing to understand and resolve conceptual problems and problem situations in digital environments.	3.15	M	3.20	M
22. Understanding where one's own digital competence needs to be improved or updated. Ability to support others with their digital competence development. Seeking opportunities for self-development and keeping up-to-date with the digital evolution.	3.16	M	3.27	M
23. Processing a computable problem into sequential and logical steps as a solution for human and computer systems.	3.41	M	3.50	M

Table 17 continued

Indicator	Teachers		School Administrators	
	WM	I	WM	I

Grand Weighted Mean	**3.22**	**3.35**
Interpretation	**Moderate**	**Moderate**

Legend:			
	4.50-5.00	Very High	(VH)
	3.50-4.49	High	(H)
	2.50-3.49	Moderate	(M)
	1.50-2.49	Low	(L)
	1.00-1.49	Very Low	(VL)
		Weighted Mean	(WN)
		Interpretation	(I)

digital literacy of elementary school teachers as evaluated by the two groups of respondents in terms of problem solving. There were five indicators identified in this area whereby the respondents evaluated the implementation of each indicator.

The table presents that the teacher-respondents evaluated all indicators along this area as “moderate” with weighted means ranging from 3.01 to 3.41. Consequently, the indicators that obtained the highest and the least weighted means corresponded to the statements stating: “processing a computable problem into sequential and logical steps as a solution for human and computer systems” and “assessing needs and identify, evaluate, selecting and using digital tools and possible technological responses to solve them. Adjusting and customizing digital environments to personal needs (e.g. accessibility).” Taken as a whole, the teachers evaluated their level of digital literacy in terms of problem solving as “moderate” being shown by the grand weighted mean of 3.22

indicating that this group of respondents admitted to themselves that they still lack the digital literacy in terms of problem solving.

Likewise, Table 17 shows that the school administrators evaluated all indicators relative to the level of digital literacy of elementary school teachers in terms of problem solving as “moderate” with weighted means ranging from 3.20 to 3.50. In these indicators, the ones that obtained the highest and the least weighted means, respectively, corresponded to the statements stating: “processing a computable problem into sequential and logical steps as a solution for human and computer systems” and “using digital tools and technologies to create knowledge and to innovate processes and products. Engaging individually and collectively in cognitive processing to understand and resolve conceptual problems and problem situations in digital environments.” Taken as a whole, the school administrators viewed the level of digital literacy of elementary school teachers in terms of problem solving as “moderate” being manifested by the grand weighted mean of 3.35. This indicated that the school administrator, too, considered their teachers as lacking in digital literacy in terms of problem solving which signified that they need enhancement in this area.

In summary, the two groups of respondents arrived at the same adjectival evaluation on the level of digital literacy

of elementary school teachers in terms of problem solving. Both groups considered it moderate. However, they differed in the numerical evaluation. While the teachers gave a grand weighted mean of 3.22, the school administrators gave 3.35.

Comparison of the Evaluation Between the Two Groups of Respondents Relative to the Level of Digital Literacy of Elementary School Teachers

Table 18 reveals the comparison of the evaluation between the two groups of respondents relative to the level of digital literacy of elementary school teachers in terms of information and data literacy, communication and collaboration, digital content creation, safety, and problem solving.

Information and Data Literacy. It can be recalled that the two groups of respondents arrived at a similar descriptive evaluation as regards the level of digital literacy of elementary school teachers in terms of information and data literacy. However, they differed in the numerical assessment. While the teachers gave a grand weighted mean of 3.47, the school administrators gave 3.38

Table 18

Comparison of the Evaluation Between the Two Groups of Respondents Relative to the Level of Digital Literacy of Elementary School Teachers

Parameter	t-Value	df		

	Computed	Critical		p-Value @ α=.05	Evaluation/ Decision
Information and Data Literacy	1.274	±2.776	4	0.272	NS / Accept Ho
Communication and Collab-oration	-1.060	±2.179	12	0.310	NS / Accept Ho
Digital Content Creation	0.093	±2.447	6	0.929	NS / Accept Ho
Safety	-1.269	±2.447	6	0.252	NS / Accept Ho
Problem Solving	-1.423	±2.306	8	0.192	NS / Accept Ho

S = Significant NS = Not Significant

which resulted to a mean difference of 0.09. To ascertain whether the mean difference was significant the t-Test for Independent Sample Means was employed.

The result showed that the computed t-value was posted at 1.274 at df = 4 with a p-value of 0.272. The critical value was set at ±2.776. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned lesser than the critical value and the p-value turned greater than the α. Following the decision rule stated in the methodology, the difference between the evaluation of the two groups of respondents relative to the level of digital literacy of elementary school teachers in terms of information and data literacy was not significant. Therefore, the null hypothesis

stating: "there is no significant difference between the evaluation of the two groups of respondents relative to the level of digital literacy of elementary school teachers in terms of information and data literacy" was accepted. This meant that both the teachers and the school administrators have the same viewpoint on the digital literacy of the teachers in terms of information and data literacy.

Communication and Collaboration. It can be recalled that the two groups of respondents arrived at the same adjectival evaluation on the level of digital literacy of elementary school teachers in terms of communication and collaboration. Both groups considered it moderate. However, they differed in the numerical evaluation. While the teachers gave a grand weighted mean of 3.24, the school administrators gave 3.32. These resulted a mean difference of -0.08. To ascertain whether the mean difference was significant the t-Test for Independent Sample Means was employed.

The result showed that the computed t-value was posted at -1.060 at df = 12 with a p-value of 0.310. The critical value was set at $\pm$2.179. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned lesser than the critical value and the p-value turned greater than the α. Following the decision rule stated in the methodology, the difference between the evaluation of the two groups of

respondents relative to the level of digital literacy of elementary school teachers in terms of communication and collaboration was not significant. Therefore, the null hypothesis stating: "there is no significant difference between the evaluation of the two groups of respondents relative to the level of digital literacy of elementary school teachers in terms of communication and collaboration" was accepted. This meant that both the teachers and the school administrators have the same viewpoint on the digital literacy of the teachers in terms of communication and collaboration.

Digital Content Creation. It may be recalled that the two groups of respondents arrived at the same adjectival evaluation on the level of digital literacy of elementary school teachers in terms of digital content creation. Both groups considered it moderate. However, they differed in the numerical evaluation. While the teachers gave a grand weighted mean of 3.17, the school administrators gave 3.16 which resulted to a mean difference of 0.01. To ascertain whether the mean difference was significant the t-Test for Independent Sample Means was employed.

The result showed that the computed t-value was posted at 0.093 at df = 6 with a p-value of 0.929. The critical value was set at ± 2.447. In comparing the calculated value with the critical value and the p-value with the α of .05. It was

obvious that the computed t-value turned lesser than the critical value and the p-value turned greater than the α. Following the decision rule stated in the methodology, the difference between the evaluation of the two groups of respondents relative to the level of digital literacy of elementary school teachers in terms of digital content creation was not significant. Therefore, the null hypothesis stating: "there is no significant difference between the evaluation of the two groups of respondents relative to the level of digital literacy of elementary school teachers in terms of digital content creation" was accepted. This meant that both the teachers and the school administrators have the same viewpoint on the digital literacy of the teachers in terms of digital content creation.

Safety. It can be recalled that the two groups of respondents arrived at the same adjectival evaluation on the level of digital literacy of elementary school teachers in terms of safety. Both groups considered it moderate. However, they differed in the numerical evaluation. While the teachers gave a grand weighted mean of 3.31, the school administrators gave 3.43. These resulted to a mean difference of -0.12. To ascertain whether the mean difference was significant the t-Test for Independent Sample Means was employed.

The result showed that the computed t-value was posted at -1.269 at df = 6 with a p-value of 0.252. The critical

value was set at ±2.447. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned lesser than the critical value and the p-value turned greater than the α. Following the decision rule stated in the methodology, the difference between the evaluation of the two groups of respondents relative to the level of digital literacy of elementary school teachers in terms of safety was not significant. Therefore, the null hypothesis stating: "there is no significant difference between the evaluation of the two groups of respondents relative to the level of digital literacy of elementary school teachers in terms of safety" was accepted. This meant that both the teachers and the school administrators have the same viewpoint on the digital literacy of the teachers in terms of safety.

Problem Solving. It may be recalled that the two groups of respondents arrived at the same adjectival evaluation on the level of digital literacy of elementary school teachers in terms of problem solving. Both groups considered it moderate. However, they differed in the numerical evaluation. While the teachers gave a grand weighted mean of 3.22, the school administrators gave 3.35 which resulted to a mean difference of -0.13. To ascertain whether the mean difference was significant the t-Test for Independent Sample Means was employed.

The result showed that the computed t-value was posted at -1.423 at df = 8 with a p-value of 0.192. The critical value was set at ±2.306. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned lesser than the critical value and the p-value turned greater than the α. Following the decision rule stated in the methodology, the difference between the evaluation of the two groups of respondents relative to the level of digital literacy of elementary school teachers in terms of problem solving was not significant. Therefore, the null hypothesis stating: "there is no significant difference between the evaluation of the two groups of respondents relative to the level of digital literacy of elementary school teachers in terms of problem solving" was accepted. This meant that both the teachers and the school administrators have the same viewpoint on the digital literacy of the teachers in terms of problem solving.

Level of Competency of Teacher-Respondents in Using Digital Knowledge and Skills as Assessed by the Two Groups of Respondents

This part contains the level of competency of teacher-respondents in using digital knowledge and skills as assessed by the two groups of respondents in terms of use of digital

devices, knowledge on the core digital function, and manipulation of computer hardware and software.

Use of Digital Devices. Table 19 appraises the level of competency of teacher-respondents in using digital knowledge and skills as assessed by the two groups of respondents in terms of use of digital devices. There were four indicators in this area whereby the respondents assessed their level of competency in each indicator.

The table shows that the teacher-respondents evaluated themselves as "highly competent" in all indicators along this area with weighted means ranging from 3.70 to 4.01. The indicators that obtained the highest and the least weighted means corresponded to the following statements: "typing skills" and "web search skills." Taken as a whole, the teachers evaluated their level of competency in using digital knowledge and skills in terms of use of digital devices as "highly competent" being manifested by the grand weighted mean of 3.86. This signified that to the belief of

Table 19

Level of Competency of Teacher-Respondents in Using Digital Knowledge and Skills as Assessed by the Two Groups of Respondents in Terms of Use of Digital Device

Indicator	Teachers		School Administrators	
	WM	I	WM	I
1. Typing Skills	4.01	HC	4.23	HC

2. Web Search Skills	3.70	HC	4.03	HC
3. Ability to use computer	3.89	HC	4.03	HC
4. Ability to use the internet	3.84	HC	4.03	HC
Grand Weighted Mean	**3.86**		**4.08**	
Interpretation	**Highly Competent**		**Highly Competent**	

Legend:

4.50-5.00	Extremely Competent	(EC)
3.50-4.49	Highly Competent	(HC)
2.50-3.49	Moderate Competent	(MC)
1.50-2.49	Slightly Competent	(SC)
1.00-1.49	Not Competent	(NC)
	Weighted Mean	(WN)
	Interpretation	(I)

the teachers, they have a highly favorable level of competency in using digital knowledge and skills in terms of use of digital devices which indicated that they were very knowledgeable with its use.

Likewise, the school administrators evaluated the level of competency of their teachers in using digital knowledge and skills in terms of use of digital devices as “highly competent” with weighted means ranging from 4.03 to 4.23. In this case, the indicator that was rated with the highest weighted mean corresponded to the statement stating: “typing skills.” Taken as a whole, the school administrators evaluated the level of competency of their teachers in using digital knowledge and skills in terms of use of digital devices as “highly competent” being shown by the grand weighted mean of 4.08. This signified that the school administrators agreed on the position of their teachers that

they have a highly favorable level of competency in using digital knowledge and skills in terms of use of digital devices which indicated that they were very knowledgeable with its use.

In summary, the two groups of respondents arrived at the same descriptive evaluation on the level of competency of teacher-respondents in using digital knowledge and skills in terms of use of digital devices. Both groups considered it "highly competent." However, they differed in their numerical evaluation. The teachers gave a grand weighted mean of 3.86 while the school administrators gave 4.08.

Knowledge on the Core Digital Function. Table 20 appraises the level of competency of teacher-respondents in using digital knowledge and skills as assessed by the two groups of respondents in terms of knowledge on the core digital function. There were ten indicators identified in this area whereby the respondents assessed their level of competency in each indicator.

Table 20 presents that from the viewpoint of the teacher-respondents, they evaluated their level of competency in using digital knowledge and skills in terms of knowledge on the core digital function as "extremely competent" along two indicators. These were: "turn on/off and charge the device" and "send and receive text messages," with weighted means of 4.74 and 4.63, respectively. The remaining eight indicators

were evaluated by the same group of respondents as "moderately competent" with weighted means ranging from 2.54 to 3.09. In these indicators, the following statements obtained the highest and the least weighted means, respectively, "search for, choose, download and approve privacy policy of an application" and "intra-app finance transactions." Taken as a whole, the teachers assessed their level of competency in using digital knowledge and skills in terms knowledge on the core digital function as "moderately competent" being shown by the grand weighted mean of 3.24. This signified that the teachers believed that their level of competency in using digital knowledge and skills in terms knowledge on the core digital function was just moderate and needs some enhancement.

Table 20, on the other hand, shows that the school administrators in assessment of the level of competency of

Table 20

Level of Competency of Teacher-Respondents in Using Digital Knowledge and Skills as Assessed by the Two Groups of Respondents in Terms of Knowledge on the Core Digital Function

Indicator	Teachers		School Administrators	
	WM	I	WM	I
5. Turn on/off and charge the device	4.74	EC	4.87	EC
6. Send and receive text messages	4.63	EC	4.87	EC

7. Set or change App Language	2.95	MC	3.60	HC
8. Share location data	2.89	MC	3.67	HC
9. Create a public profile	3.08	MC	3.67	HC
10. Search for, choose, download and approve privacy policy of an application	3.09	MC	3.40	MC
11. Intra-app finance transactions	2.54	MC	3.33	MC
12. Search for goods and services and compare price information	2.74	MC	3.20	MC
13. Search through academic Sites	2.83	MC	3.13	MC
14. Interaction with academic Sites	2.89	MC	3.13	MC
Grand Weighted Mean	**3.24**		**3.69**	
Interpretation	**Moderately Competent**		**Highly Competent**	

Legend:

4.50-5.00	Extremely Competent	(EC)
3.50-4.49	Highly Competent	(HC)
2.50-3.49	Moderate Competent	(MC)
1.50-2.49	Slightly Competent	(SC)
1.00-1.49	Not Competent	(NC)
	Weighted Mean	(WN)
	Interpretation	(I)

teacher-respondents in using digital knowledge and skills in terms of knowledge on the core digital function considered them “extremely competent” along two indicators in this area. These corresponded to the following statements: “turn on/off and charge the device” and “send and receive text messages,” with the same weighted mean of 4.87. Three indicators were evaluated by this same group of respondents as “highly competent” which corresponded to: “share location data,” “create a public profile,” and “set or change App Language,”

with weighted means of 3.67, 3.67, and 3.60, respectively. In the remaining indicators, this group considered the teachers as "moderately competent" with weighted means ranging from 3.13 to 3.40.

Taken as a whole, the school administrators evaluated the level of competency of teacher-respondents in using digital knowledge and skills in terms of knowledge on the core digital function as "highly competent" being supported by the grand weighted mean of 3.69. This indicated that the school administrators believed that their teachers' digital knowledge and skills in terms of knowledge on the core digital function was very favorable.

In summary, the two groups of respondents arrived at a despaired evaluation on the level of competency of teacher-respondents in using digital knowledge and skills in terms of knowledge on the core digital function, both adjectival and numerical assessments. The teachers gave a grand weighted mean of 3.24 being interpreted as "moderately competent," the school administrators gave a grand weighted mean of 3.69 being interpreted as "highly competent." **Manipulation of Computer Hardware and Software**. Table 21 provides the evaluation on the level of competency of teacher-respondents in using digital knowledge and skills as assessed by the two groups of respondents in terms of manipulation of computer hardware and software. There were

two indicators identified in this area whereby the respondents assessed their level of competency in each indicator.

The table shows that the teacher-respondents assessed their level of competency in using digital knowledge and skills in terms of manipulation of computer hardware and software as "moderately competent" in all its indicators. These indicators corresponded to the statement stating, "identify and use the functions and features of the hardware tools and technologies" and "know and understand the data, information and/or digital content that are needed to operate software tools and technologies" with weighted means of 3.37 and 3.30, respectively. Taken as a whole, the teachers considered their level of competency in using digital knowledge and skills in terms of manipulation of computer hardware and software as "moderately competent" being shown by the grand weighted mean of 3.34. This denoted that the teachers believed that their competency in

Table 21

Level of Competency of Teacher-Respondents in Using Digital Knowledge and Skills as Assessed by the Two Groups of Respondents in Terms of Manipulation of Computer Hardware and Software

Indicator	Teachers		School Administrators	
	WM	I	WM	I

15. Identify and use the functions and features of the hardware tools and technologies.	3.37	MC	3.50	MC
16. Know and understand the data, information and/or digital content that are needed to operate software tools and technologies.	3.30	MC	3.27	MC
Grand Weighted Mean	**3.34**		**3.39**	
Interpretation	**Moderately Competent**		**Moderately Competent**	

Legend:

4.51-5.00	Extremely Competent	(EC)
3.51-4.50	Highly Competent	(HC)
2.51-3.50	Moderate Competent	(MC)
1.51-2.50	Slightly Competent	(SC)
1.00-1.50	Not Competent	(NC)
	Weighted Mean	(WN)
	Interpretation	(I)

using digital knowledge and skills in terms of manipulation of computer hardware and software was just moderate and therefore, they need some enhancement.

Likewise, Table 21 shows that the school administrators evaluated the level of competency of their teacher-respondents in using digital knowledge and skills in terms of manipulation of computer hardware and software as "moderately competent" in all its indicators corresponding to: "identify and use the functions and features of the hardware tools and technologies" and "know and understand the data, information and/or digital content that are needed to operate software tools and technologies," with weighted means of 3.50 and 3.27,

respectively. Taken as a whole, the school administrators evaluated the level of competency of their teacher-respondents in using digital knowledge and skills in terms of manipulation of computer hardware and software as "moderately competent" being supported by the grand weighted mean of 3.39. This indicated that the school administrators also believed that the competency of their teachers in using digital knowledge and skills in terms of manipulation of computer hardware and software was just moderate and therefore needs enhancement.

In summary, the two groups of respondents arrived at the same descriptive evaluation on the level of competency of teacher-respondents in using digital knowledge and skills in terms of manipulation of computer hardware and software. Both groups considered it "moderately competent." However, they differed in their numerical evaluation. The teachers gave a grand weighted mean of 3.34 while the school administrators gave 3.39

Comparison of the Evaluation Between the Two Groups of Respondents Relative to the Level of Digital Literacy of Elementary School Teachers

Table 22 presents the comparison of the evaluation between the two groups of respondents relative to the level of digital literacy of elementary school teachers in terms of

use of digital devices, knowledge on the core digital function, and manipulation of computer hardware and software.

Use of Digital Devices. It may be recalled that the two groups of respondents arrived at the same descriptive evaluation on the level of competency of teacher-respondents in using digital knowledge and skills in terms of use of digital devices. Both groups considered it "highly competent." However, they differed in their numerical evaluation. The teachers gave a grand weighted mean of 3.86 while the school administrators gave 4.08 resulting to a mean difference of -0.22. To ascertain whether the mean difference was significant the t-Test for Independent Sample Means was employed.

The result showed that the computed t-value was posted at -2.705 at df = 6 with a p-value of 0.035. The critical value was set at ±2.445. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned greater

Table 22

Comparison of the Evaluation Between the Two Groups of Respondents Relative to the Level of Digital Literacy of Elementary School Teachers

Parameter	t-Value		df	p-Value @ α=.05	Evaluation/ Decision
	Computed	Critical			

Use of Digital Device	-2.705	±2.445	6	0.035	S / Reject Ho
Knowledge on the Core Digital Function	-1.394	±2.101	18	0.180	NS / Accept Ho
Manipulation of Hardware and Software	-0.416	±4.303	2	0.718	NS / Accept Ho

S = Significant NS = Not Significant

than the critical value and the p-value turned lesser than the α. Following the decision rule stated in the methodology, the difference between the evaluation of the two groups of respondents relative to the level of competency of teacher-respondents in using digital knowledge and skills in terms of use of digital devices was significant. Therefore, the null hypothesis stating: "there is no significant difference between the evaluation of the two groups of respondents relative to the level of competency of teacher-respondents in using digital knowledge and skills in terms of use of digital devices" was rejected. This meant that the teachers and the school administrators have dissimilar views on the level of competency of teacher-respondents in using digital knowledge and skills in terms of use of digital devices. From the means, it can be gleaned that the school administrators posted higher value which indicated that to their assessment and observation, the teachers were doing well in their digital

knowledge and skills in terms of use of digital devices while the teachers considered their competency not enough.

Knowledge on the Core Digital Function. It can be recalled that two groups of respondents arrived at a despaired evaluation on the level of competency of teacher-respondents in using digital knowledge and skills in terms of knowledge on the core digital function, both adjectival and numerical assessments. The teachers gave a grand weighted mean of 3.24 being interpreted as "moderately competent," the school administrators gave a grand weighted mean of 3.69 being interpreted as "highly competent." These resulted to a mean difference of -0.45. To ascertain whether the mean difference was significant the t-Test for Independent Sample Means was employed.

The result showed that the computed t-value was posted at -1.394 at df = 18 with a p-value of 0.180. The critical value was set at $\pm$2.101. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned lesser than the critical value and the p-value turned greater than the α. Following the decision rule stated in the methodology, the difference between the evaluation of the two groups of respondents relative to the level of competency of teacher-respondents in using digital knowledge and skills in terms of knowledge on the core digital function was not significant.

Therefore, the null hypothesis stating: "there is no significant difference between the evaluation of the two groups of respondents relative to the level of competency of teacher-respondents in using digital knowledge and skills in terms of knowledge on the core digital function" was accepted. This meant that both the teachers and the school administrators viewed the level of competency of teacher-respondents in using digital knowledge and skills in terms of knowledge on the core digital function.

Manipulation of Hardware and Software. It can be recalled that the two groups of respondents arrived at the same descriptive evaluation on the level of competency of teacher-respondents in using digital knowledge and skills in terms of manipulation of computer hardware and software. Both groups considered it "moderately competent." However, they differed in their numerical evaluation. The teachers gave a grand weighted mean of 3.34 while the school administrators gave 3.39 resulting to a mean difference of -0.05. To ascertain whether the mean difference was significant the t-Test for Independent Sample Means was employed.

The result showed that the computed t-value was posted at -0.416 at df = 2 with a p-value of 0.718. The critical value was set at $\pm$4.303. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned lesser than the

critical value and the p-value turned greater than the α. Following the decision rule stated in the methodology, the difference between the evaluation of the two groups of respondents relative to the level of competency of teacher-respondents in using digital knowledge and skills in terms of manipulation of hardware and software was not significant. Therefore, the null hypothesis stating: "there is no significant difference between the evaluation of the two groups of respondents relative to the level of competency of teacher-respondents in using digital knowledge and skills in terms of manipulation of hardware and software" was accepted. This meant that both the teachers and the school administrators viewed the level of competency of teacher-respondents in using digital knowledge and skills in terms of manipulation of hardware and software.

Relationship Between Level of Digital Literacy of the Teacher-Respondents and the Identified Variates

This part shows the relationship between the level of digital literacy of the teacher-respondents and the identified variates, namely: teacher-related variates, and level of competency in using digital knowledge and skills.

Teacher-Related Variates. Table 23 contains the relationship between the level of digital literacy of the teacher-respondents and their profile variates in terms of age, sex, civil status, highest educational attainment,

teaching position, gross monthly family income, number of years in teaching, performance rating based on the latest IPCRF, types of technology literacy tools used, number of relevant digital literacy trainings, and attitude toward digital literacy.

Age. In associating relationship between the level of digital literacy of the teacher-respondents and their age using the Pearson's r, the coefficient resulted to 0.030 denoting a very weak linear association. To ascertain the significance of the calculated coefficient, the Fisher's t-Test was employed which yielded a value of 0.390 with a p-value of 0.700. The critical value was set at ±1.974 at df = 169. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned lesser than the critical value and

Table 23

Relationship Between Level of Digital Literacy of the Teacher-Respondents and Their Personal Variates

Variates	Association		Fisher's t-Value	p-Value @ α=.05	Evaluation/ Decision
	Coeffi-cient	Degree			
Age	0.030	Very Weak	0.390	0.700	NS / Accept Ho
Sex	0.087	Very Weak	1.135	0.272	NS / Accept Ho
Civil Status	0.086	Very Weak	1.122	0.279	NS / Accept Ho
Highest Educational Attainment	0.094	Very Weak	1.227	0.237	NS / Accept Ho

Teaching Position	0.018	Very Weak	0.234	0.823	NS / Accept Ho
Gross Monthly Family Income	0.029	Very Weak	0.377	0.714	NS / Accept Ho
Number of Years in Teaching	0.071	Very Weak	0.925	0.360	NS / Accept Ho
Latest Performance Rating	0.031	Very Weak	0.403	0.691	NS / Accept Ho
Types of Technology Literacy Tools Used	0.060	Very Weak	0.781	0.435	NS / Accept Ho
Number of Relevant Digital Literacy Trainings	0.091	Very Weak	1.188	0.240	NS / Accept Ho
Attitude Toward Digital Literacy and Competence	0.189	Very Weak	2.502	0.027	S / Reject Ho

Fisher's t-Critical = ±1.974 S = Significant
df = 169 NS = Not Significant

the p-value turned greater than the α. Following the decision rule stated in the methodology, the linear association between the evaluated level of digital literacy of the teacher-respondents and their age was not significant. Therefore, the hypothesis stating that "there is no significant between the evaluated level of digital literacy of the teacher-respondents and their age" was accepted. This meant that the age of the teachers did not influence their level of digital literacy.

Sex. In associating relationship between the level of digital literacy of the teacher-respondents and their sex

using the Spearman's Rank Coefficient of Correlation or Spearman's Rho, the coefficient resulted to 0.087 denoting a very weak linear association. To ascertain the significance of the calculated coefficient, the Fisher's t-Test was employed which yielded a value of 1.135 with a p- value of 0.272. The critical value was set at ±1.974 at df = 169. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned lesser than the critical value and the p-value turned greater than the α. Following the decision rule stated in the methodology, the linear association between the evaluated level of digital literacy of the teacher-respondents and their sex was not significant. Therefore, the hypothesis stating that "there is no significant between the evaluated level of digital literacy of the teacher-respondents and their sex" was accepted. This meant that the sex of the teachers did not influence their level of digital literacy.

Civil Status. In associating relationship between the level of digital literacy of the teacher-respondents and their civil status using the Spearman's Rho, the coefficient resulted to 0.086 denoting a very weak linear association. To ascertain the significance of the calculated coefficient, the Fisher's t-Test was employed which yielded a value of 1.122 with a p- value of 0.279. The critical value was set at ±1.974 at df = 169. In comparing the calculated value with the

critical value and the p-value with the α of .05. It was obvious that the computed t-value turned lesser than the critical value and the p-value turned greater than the α. Following the decision rule stated in the methodology, the linear association between the evaluated level of digital literacy of the teacher-respondents and their civil status was not significant. Therefore, the hypothesis stating that "there is no significant between the evaluated level of digital literacy of the teacher-respondents and their civil status" was accepted. This meant that the civil status of the teachers did not influence their level of digital literacy.

Highest Educational Attainment. In associating relationship between the level of digital literacy of the teacher-respondents and their highest educational attainment using the Pearson's r, the coefficient resulted to 0.094 denoting a very weak linear association. To ascertain the significance of the calculated coefficient, the Fisher's t-Test was employed which yielded a value of 1.227 with a p-value of 0.237. The critical value was set at $\pm$1.974 at df = 169. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned lesser than the critical value and the p-value turned greater than the α. Following the decision rule stated in the methodology, the linear association between the evaluated level of digital literacy of the teacher-respondents and

their highest educational attainment was not significant. Therefore, the hypothesis stating that "there is no significant between the evaluated level of digital literacy of the teacher-respondents and their highest educational attainment" was accepted. This meant that the highest educational attainment of the teachers did not influence their level of digital literacy.

Teaching Position. In associating relationship between the level of digital literacy of the teacher-respondents and their teaching position using the Pearson's r, the coefficient resulted to 0.018 denoting a very weak linear association. To ascertain the significance of the calculated coefficient, the Fisher's t-Test was employed which yielded a value of 0.234 with a p- value of 0.823. The critical value was set at $\pm$1.974 at df = 169. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned lesser than the critical value and the p-value turned greater than the α. Following the decision rule stated in the methodology, the linear association between the evaluated level of digital literacy of the teacher-respondents and their teaching position was not significant. Therefore, the hypothesis stating that "there is no significant between the evaluated level of digital literacy of the teacher-respondents and their teaching position" was

accepted. This meant that the teaching position of the teachers did not influence their level of digital literacy.

Gross Monthly Family Income. In associating relationship between the level of digital literacy of the teacher-respondents and their gross monthly family income using the Pearson's r, the coefficient resulted to 0.029 denoting a very weak linear association. To ascertain the significance of the calculated coefficient, the Fisher's t-Test was employed which yielded a value of 0.377 with a p- value of 0.714. The critical value was set at $\pm$1.974 at df = 169. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned lesser than the critical value and the p-value turned greater than the α. Following the decision rule stated in the methodology, the linear association between the evaluated level of digital literacy of the teacher-respondents and their gross monthly family income was not significant. Therefore, the hypothesis stating that "there is no significant between the evaluated level of digital literacy of the teacher-respondents and their gross monthly family income" was accepted. This meant that the gross monthly family income of the teachers did not influence their level of digital literacy.

Number of Years in Teaching. In associating relationship between the level of digital literacy of the teacher-

respondents and their number of years in teaching using the Pearson's r, the coefficient resulted to 0.071 denoting a very weak linear association. To ascertain the significance of the calculated coefficient, the Fisher's t-Test was employed which yielded a value of 0.925 with a p- value of 0.360. The critical value was set at ±1.974 at df = 169. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned lesser than the critical value and the p-value turned greater than the α. Following the decision rule stated in the methodology, the linear association between the evaluated level of digital literacy of the teacher-respondents and their number of years in teaching was not significant. Therefore, the hypothesis stating that "there is no significant between the evaluated level of digital literacy of the teacher-respondents and their number of years in teaching" was accepted. This meant that the number of years in teaching of the teachers did not influence their level of digital literacy.

Performance Rating Based on the Latest IPCRF. In associating relationship between the level of digital literacy of the teacher-respondents and their latest performance rating based on the IPCRF using the Pearson's r, the coefficient resulted to 0.031 denoting a very weak linear association. To ascertain the significance of the calculated

coefficient, the Fisher's t-Test was employed which yielded a value of 0.403 with a p-value of 0.691. The critical value was set at ±1.974 at df = 169. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned lesser than the critical value and the p-value turned greater than the α. Following the decision rule stated in the methodology, the linear association between the evaluated level of digital literacy of the teacher-respondents and their latest performance rating based on the IPCRF was not significant. Therefore, the hypothesis stating that "there is no significant between the evaluated level of digital literacy of the teacher-respondents and their latest performance rating based on the IPCRF" was accepted. This meant that the latest performance rating based on the IPCRF of the teachers did not influence their level of digital literacy.

Types of Technology Literacy Tools Used. In associating relationship between the level of digital literacy of the teacher-respondents and their types of technology literacy tools used, using the Spearman's Rank, the coefficient resulted to 0.060 denoting a very weak linear association. To ascertain the significance of the calculated coefficient, the Fisher's t-Test was employed which yielded a value of 0.781 with a p-value of 0.435. The critical value was set at ±1.974 at df = 169. In comparing the calculated value with the

critical value and the p-value with the α of .05. It was obvious that the computed t-value turned lesser than the critical value and the p-value turned greater than the α. Following the decision rule stated in the methodology, the linear association between the evaluated level of digital literacy of the teacher-respondents and their types of technology literacy tools used was not significant. Therefore, the hypothesis stating that "there is no significant between the evaluated level of digital literacy of the teacher-respondents and their types of technology literacy tools used" was accepted. This meant that the types of technology literacy tools used of the teachers did not influence their level of digital literacy.

Number of Relevant Digital Literacy Trainings. In associating relationship between the level of digital literacy of the teacher-respondents and their number of relevant digital literacy training using the Pearson's r, the coefficient resulted to 0.091 denoting a very weak linear association. To ascertain the significance of the calculated coefficient, the Fisher's t-Test was employed which yielded a value of 1.188 with a p-value of 0.240. The critical value was set at ±1.974 at df = 169. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned lesser than the critical value and the p-value turned greater than the α. Following the decision rule stated in the methodology, the linear

association between the evaluated level of digital literacy of the teacher-respondents and their number of relevant digital literacy training was not significant. Therefore, the hypothesis stating that "there is no significant between the evaluated level of digital literacy of the teacher-respondents and their number of relevant digital literacy training" was accepted. This meant that the number of relevant digital literacy training of the teachers did not influence their level of digital literacy.

Attitude Toward Digital Literacy. In associating relationship between the level of digital literacy of the teacher-respondents and their attitude toward digital literacy using the Pearson's r, the coefficient resulted to 0.189 denoting a very weak linear association. To ascertain the significance of the calculated coefficient, the Fisher's t-Test was employed which yielded a value of 2.502 with a p-value of 0.027. The critical value was set at $\pm$1.974 at df = 169. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned greater than the critical value and the p-value turned lesser than the α. Following the decision rule stated in the methodology, the linear association between the evaluated level of digital literacy of the teacher-respondents and their attitude toward digital literacy was significant. Therefore, the hypothesis stating that "there is no

significant between the evaluated level of digital literacy of the teacher-respondents and their attitude toward digital literacy" was rejected. This meant that the attitude toward digital literacy of the teachers influenced their level of digital literacy.

The coefficient being positive suggested a direct proportional linear relationship denoting that the teachers with highly favorable attitude toward digital literacy training manifested higher level of digital literacy.

In summary, of the teacher-related variates, only their attitude toward digital literacy posed significant influence to their level of digital literacy. The other variates proved to have no significant influence to it.

Level of Competence in Using Digital Knowledge and Skills. Table 24 reveals the relationship between the level of digital literacy of the teacher-respondents and their level of competency in using digital knowledge and skills in terms of use of digital devices, knowledge on the core digital function, and manipulation of computer hardware and software.

Use of Digital Devices. In associating relationship between the level of digital literacy of the teacher-respondents and their level of competency in using digital knowledge and skills in terms of use of digital devices using the Pearson's r, the coefficient resulted to 0.411 denoting a moderate linear association. To ascertain the significance

of the calculated coefficient, the Fisher's t-Test was employed which yielded a value of 5.861 with a p-value of 0.000. The critical value was set at ±1.974 at df = 169. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned greater than the critical value and the p-value turned lesser than the α. Following the decision rule stated in the methodology, the linear association between the

Table 24

Relationship Between Level of Digital Literacy of the Teacher-Respondents and Their Level of Competence in Using Digital Knowledge and Skills

Area	Association		Fisher's t-Value	p-Value @ α=.05	Evaluation/ Decision
	Coeffi-cient	Degree			
Use of Digital Device	0.411	Moderate	5.861	0.000	S / Reject Ho
Knowledge of the Core Digital Function	0.808	Very Strong	17.828	0.000	S / Reject Ho
Manipulation of Computer Hardware and Software	0.685	Strong	12.223	0.000	S / Reject Ho

Fisher's t-Critical = ±1.974 S = Significant
df = 169 NS = Not Significant

evaluated level of digital literacy of the teacher-respondents and their level of competency in using digital knowledge and skills in terms of use of digital devices was

significant. Therefore, the hypothesis stating that "there is no significant between the evaluated level of digital literacy of the teacher-respondents and their level of competency in using digital knowledge and skills in terms of use of digital devices" was rejected. This meant that the digital literacy of the teachers was significantly influenced by their level of competency in using digital knowledge and skills in terms of use of digital devices.

The coefficient being positive suggested a direct proportional linear relationship denoting that the teachers with highly favorable competency in using digital knowledge and skills in terms of use of digital devices tend to manifest higher level of digital literacy.

Knowledge on the Core Digital Function. In associating relationship between the level of digital literacy of the teacher-respondents and their level of competency in using digital knowledge and skills in terms of knowledge on the core digital function using the Pearson's r, the coefficient resulted to 0.808 denoting a very strong linear association. To ascertain the significance of the calculated coefficient, the Fisher's t-Test was employed which yielded a value of 17.828 with a p-value of 0.000. The critical value was set at $\pm$1.974 at df = 169. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned greater than the critical

value and the p-value turned lesser than the α. Following the decision rule stated in the methodology, the linear association between the evaluated level of digital literacy of the teacher-respondents and their level of competency in using digital knowledge and skills in terms of knowledge on the core digital function was significant. Therefore, the hypothesis stating that "there is no significant between the evaluated level of digital literacy of the teacher-respondents and their level of competency in using digital knowledge and skills in terms of knowledge on the core digital function" was rejected. This meant that the digital literacy of the teachers was significantly influenced by their level of competency in using digital knowledge and skills in terms of knowledge on the core digital function.

The coefficient being positive suggested a direct proportional linear relationship denoting that the teachers with highly favorable competency in using digital knowledge and skills in terms of knowledge on the core digital function tend to manifest higher level of digital literacy.

Manipulation of Computer Hardware and Software. In associating relationship between the level of digital literacy of the teacher-respondents and their level of competency in using digital knowledge and skills in terms of manipulation of computer hardware and software using the Pearson's r, the coefficient resulted to 0.685 denoting a

strong linear association. To ascertain the significance of the calculated coefficient, the Fisher's t-Test was employed which yielded a value of 12.223 with a p-value of 0.000. The critical value was set at $\pm$1.974 at df = 169. In comparing the calculated value with the critical value and the p-value with the α of .05. It was obvious that the computed t-value turned greater than the critical value and the p-value turned lesser than the α. Following the decision rule stated in the methodology, the linear association between the evaluated level of digital literacy of the teacher-respondents and their level of competency in using digital knowledge and skills in terms of manipulation of computer hardware and software was significant. Therefore, the hypothesis stating that "there is no significant between the evaluated level of digital literacy of the teacher-respondents and their level of competency in using digital knowledge and skills in terms of manipulation of computer hardware and software" was rejected. This meant that the digital literacy of the teachers was significantly influenced by their level of competency in using digital knowledge and skills in terms of manipulation of computer hardware and software.

The coefficient being positive suggested a direct proportional linear relationship denoting that the teachers with highly favorable competency in using digital knowledge

and skills in terms of manipulation of computer hardware and software tend to manifest higher level of digital literacy.

In summary, the digital literacy of the teacher-respondents was influenced significantly by their level of competency in using digital knowledge and skills in terms of the identified areas.

Problems Encountered by Teacher-Respondents in Teaching Digital Literacy

Table 25 presents the problems encountered by teacher-respondents in teaching digital literacy. There were nine identified problems in this area whereby the respondents ranked each problem according to the extent to which they encountered it.

From the table, it can be gleaned that the first five problems encountered by the teachers relative to digital literacy were the following: lack of training for teachers, Rank 1; low access to WIFI among students and teachers in and out of school, Rank 2; resistance to adapt digital

Table 25

Problems Encountered by Teacher-Respondents in Teaching Digital Literacy

Problem	f	Rank
1. Resistance to adapt digital method.	159	**3.5**
2. Lack of IT support by the school administration.	155	**6.5**

3. Lack of quality content.	151	**8**
4. Differences in the operating systems and functions of devices.	150	**9**
5. Low access to WIFI among students and teachers in and out of school.	165	**2**
6. Software that is not optimized for mobile devices.	155	**6.5**
7. Lack of training for teachers.	169	**1**
8. Security issues of the computer software/hardware.	156	**5**
9. High costs of devices and internet connection.	159	**3.5**

method, Rank 3.5; high costs of devices and internet connection, Rank 3.5; and security issues of the computer software/hardware, Rank 5.

The data signified that the teacher-respondents encountered problems regarding digital literacy which need to be addressed properly by the concerned.

Chapter 5

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents the summary of findings with the conclusions drawn from them and the recommendations based on the conclusions drawn from the findings of the study.

Summary of Findings

The following were the salient findings of the study:

1. The mean age of the teacher-respondents was posted at 32.25 years old with a standard deviation (SD) of 7.35 years. Moreover, majority of the teacher-respondents were female accounting for 102 or 59.65 percent with the male counterpart being composed of 59 or 34.50 percent only.

2. Majority of the teacher-respondents were married accounting for 124 or 72.52 percent.

3. A number of the teacher-respondents, that is, 67 or 39.18 percent were with master's units.

4. A number of the teacher-respondents, that is, 67 or 39.18 percent were appointed to the position of Teacher I.

5. The modal income of the teacher-respondents was posted at Php22,999.50.

6. The mean number of years in teaching accumulated by the teacher-respondents was posted at 6.74 years with a SD of 6.56 years.

7. Majority of the teacher-respondents obtained performance rating with an adjectival description of "very satisfactory" accounting for 118 or 69.01 percent.

8. Of the identified technologies, the teacher-respondents signified in using primarily the following gadgets, both personally and as an aid in teaching, namely: cellular phone, laptop, flash drive, printer, wifi, and television.

9. The overall mean number of digital trainings attended by the teacher-respondents was posted at four trainings with a SD of 3.17 trainings.

10. The teacher-respondents "strongly agreed" on their attitude toward digital literacy being shown by the grand weighted mean of 4.57.

11. The elementary school teachers and the school administrators evaluated the level of digital literacy of teachers as "moderate" in terms of the information and data

literacy, communication and collaboration, digital content creation, safety, and problem solving.

12. In the comparison of the evaluation between the two groups of respondents relative to the level of digital literacy of elementary school teachers in terms of information and data literacy, communication and collaboration, digital content creation, safety, and problem solving, a not significant was arrived at.

13. The level of competency of teacher-respondents in using digital knowledge and skills as assessed by the two groups of respondents was: in terms of use of digital devices, "highly competent;" knowledge on the core digital function, teacher "moderately competent while school administrators "highly competent;" and manipulation of computer hardware and software, "moderately competent."

14. In the comparison between the level of competency of teacher-respondents in using digital knowledge and skills as assessed by the two groups of respondents, the following evaluation was noted: in terms of use of digital devices, significant; knowledge on the core digital function, and manipulation of computer hardware and software, not significant.

15. In associating relationship between the level of digital literacy of the teacher-respondents and their profile variates a significant evaluation was arrived at along

attitude toward digital literacy while they were not significant along age, sex, civil status, highest educational attainment, teaching position, gross monthly family income, number of years in teaching, performance rating based on the latest IPCRF, types of technology literacy tools used, and number of relevant digital literacy trainings.

16. In associating relationship between the level of digital literacy of the teacher-respondents and their level of competency in using digital knowledge and skills a significant evaluation was found out in terms of use of digital devices, knowledge on the core digital function, and manipulation of computer hardware and software.

17. The first five problems encountered by the teachers relative to digital literacy were the following: lack of training for teachers, Rank 1; low access to WIFI among students and teachers in and out of school, Rank 2; resistance to adapt digital method, Rank 3.5; high costs of devices and internet connection, Rank 3.5; and security issues of the computer software/hardware, Rank 5.

Conclusions

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

1. The teacher-respondents were relatively young at their early 30s. They were expected to be in the best of their health while at the height of their career. Furthermore, female dominance existed among the teaching force of the DepEd. This was expected considering that most of those who took up teacher education during college were female and consequently, most of them embraced this profession.

2. Most of the teacher-respondents had entered into a marital state where the responsibility of their children was their priority which served as an advantage for them as teachers being the second parent of the school children.

3. The teachers were qualified for the position they were appointed. In fact, most of them pursued advance education for professional development. Being such, these teachers were ready for any promotion.

4. The teacher-respondents, except for the newly appointed, had been promoted to higher level in the hierarchy of the DepEd which meant that most of them had qualified themselves for any personnel action.

5. Most of the teachers earned sufficiently to defray their basic and nutritional needs including educational needs of schooling members of the family.

6. There was a slight disparity in the number of years in teaching of the teacher-respondents which could be

attributed to the differences in their entrance to the DepEd. Furthermore, the teacher-respondents had been in the service as teachers in the department for quite a number of years which could signify that they were able to hone their teaching skills and discharged their duties and functions effectively.

7. In the overall, the teacher-respondents manifested exemplary performance based on the IPCRF which indicated they were able to accomplish their targets for the year which they committed to the department. This signified that the teacher-respondents need recognition through the productivity incentive bonuses.

8. Somehow the teacher-respondents were adept in using technologies both for personal and for professional use. However, only common gadgets were usually used by them probably due to non-availability of the gadget within their station or location.

9. Although the teacher-respondents had attended few relevant in-service trainings, at least they were able to attend some in the different levels. However, due to limited slots and financial constraints only few of these teachers were able to avail such trainings.

10. The teacher-respondents manifested extremely favorable attitude toward digital literacy which signified that they have the desire to learn and explore more regarding the use of technologies personally and professionally.

11. The teacher-respondents considered their level of digital literacy in terms of information and data literacy, communication and collaboration, digital content creation, safety, and problem solving as “moderate” which was confirmed by the school administrators which indicated that the teachers still need to enhance their digital literacy and to explore more regarding its use.

12. Both the teachers and the school administrators have the same viewpoint on the digital literacy of the teachers in terms of the identified areas.

13. In the overall, the teachers manifested highly favorable competence in using digital knowledge and skills in terms of the identified areas.

14. The evaluation of the two groups of respondents on the competence in using digital knowledge and skills differed along use of digital devices while they were similar in terms of knowledge on the core digital function and manipulation of computer hardware and software.

15. Of the teacher-related variates, only their attitude toward digital literacy posed significant influence to their level of digital literacy. The other variates proved to have no significant influence to it.

16. The digital literacy of the teacher-respondents was influenced significantly by their level of competency in

using digital knowledge and skills in terms of the identified areas.

17. The teacher-respondents encountered problems regarding digital literacy which need to be addressed properly by the concerned school administrator.

Recommendations

Based on the conclusions draw from the findings of the study, the following are recommended:

1. Inasmuch as the teachers were found wanting on their digital literacy, an enhancement program may be proposed to improve their digital literacy.

2. As it was found out that competence in using digital tools directly influenced the digital literacy of the teachers, it is suggested that the teachers' competence be strengthened though a digital literacy capacity building program.

3. The proposed digital literacy capacity building program should be implemented within the district to improve the digital literacy of the teachers which could be used in teaching.

4. Schools should update their digital equipment to be used in the teaching-learning process, particularly during the new normal education.

5. School administrators should provide digital equipment available for teachers.

6. School administrators should allot a bigger slice of the MOOE fund for the training of teachers on digital literacy and allow them to attend available trainings.

7. Another study may be conducted in other districts to validate the findings of the study.

8. A sequel study may be conducted to validate the effectiveness of the proposed digital literacy capacity building program.

Chapter 6

DIGITAL LITERACY CAPACITY BUILDING PROGRAM

This chapter presents the output of the study which is the Digital Literacy Capacity Building Program that has been collated based on the result, conclusions, and recommendations of the study.

Rationale

Today, the term "digital" refers to computer-based technology and the information transmitted through it. Digital technology is ubiquitous; it has rendered our society multidimensional, media-saturated, and fast paced; it affects how we study, work, communicate and collaborate. We need strategies and knowledge of how to use the new digital technology tools needed for success. Digital Literacy is the new literacy of the 21st Century.

The term, digital literacy, as it appears in the title of this minor program, represents a person's ability to perform tasks effectively in a digital environment. It includes the abilities to read and interpret media, to reproduce data and images through digital manipulation, and to locate information, evaluate critically and apply new knowledge from digital environments.

In order to thrive in the 21st century, teachers need to be prepared with digital age proficiencies. These include critical thinking skills, teamwork, and proficiency in using technology, as well as academic knowledge (National Alliance of Business, 2000). Teachers in the 21st century live in a technology and media-suffused environment, marked by various characteristics, including: 1) access to an abundance of information, 2) rapid changes in technology tools, and 3) the ability to collaborate and make individual contributions on an unprecedented scale. To be effective in the 21st century, citizens and workers must be able to exhibit a range of functional and critical thinking skills related to information, media and technology."

Few would argue that this is not an accurate reading of the world into which our graduates will enter upon leaving Stockton. The rate of technological change and its far-reaching impact on many areas of modern life is seen in all fields. Teachers are not nearly as prepared as they need to

be for critically assessing information from digital sources. In addition, evidence exists that while students are users of technology tools, their mere use does not translate into effective application of those same tools in their academic and work lives. Lastly, there are very real concerns that as a society we are becoming less civil due to the less direct nature of online discourse, even as technologies to promote collaboration are touted as making the world smaller. What these issues and questions point to is a need for teachers to, as part of their duties and functions in education, learn the knowledge and skills to become citizens of the 21st century.

This program will provide pieces of information in which teachers design, develop and evaluate digital content using multimedia technology and relevant learning theories. Given the prevalence of digital media, teachers handling any major will be better prepared for their career goals with practical knowledge and skills learned from this digital Literacy Capacity Building Program.

Objectives

This Digital Literacy Capacity Building Program will focus on theories related to digital technology and its impact on education, so teachers can identify new ways to adapt, adjust, and utilize technology. Moreover, the program

prepares them to respond to the constant changes and challenges in the evolving digital world. It also will also focus on helping teachers develop skills and understanding related to the use of digital technology. Through hands-on activity, teachers will develop digital products, thus demonstrating their capacity to use digital technology for practical purposes which transcends its impact on education.

The digital literacy Capacity Building Program aims to:

a. Introduce elementary teachers to digital technologies and their practical uses;

b. Create an awareness among elementary teachers of the importance of digital literacy;

c. Improve digital literacy among elementary teachers;

d. Introduce theories, challenges and/or issues associated with digital technology; and

e. Have elementary teachers use digital technologies to create and develop products

Features of the Program

This a formal face to face training that shall be conducted among elementary teachers. Its aim is to capacitate teachers with regard to digital literacy and how it can be applied in the teaching and learning process.

With the different learning experiences that they will get from the competent resource persons, their level of awareness, understanding and application of basic concepts on digital literacy. This in turn will promote capacitated teachers banking on the idea of digital literacy.

Intervention Program

<table>
<tr><th colspan="5">Schedule of Sessions</th></tr>
<tr><th>Time</th><th>Day 1</th><th colspan="2">Day 2</th><th>Day 3</th></tr>
<tr><td>7:30-8:00</td><td>Opening Program</td><td colspan="2">MOL</td><td>MOL</td></tr>
<tr><td rowspan="2">8:00-12:00</td><td rowspan="2">Introduction to Basic Computer Literacy

Teaching with Web

Facilitated by District ICT Coordinator</td><td>8:00-10:00</td><td>Technologies as a Professional Development Tool

Facilitated by Division ICT Coordinator</td><td rowspan="2">Advanced Technology for Educators

Facilitated by Division ICT Coordinator</td></tr>
<tr><td>10:00 - 12:00</td><td>Interactive Media Design

Facilitated by Division ICT Coordinator</td></tr>
<tr><td colspan="5">LUNCH BREAK</td></tr>
<tr><td>1:00-4:00</td><td>Multimedia and Virtual World</td><td colspan="2"></td><td>Crafting of Action Plan</td></tr>
</table>

	Facilitated by District ICT Coordinator	Technology for Educators Facilitated by School Head	Closing Program • Pledge of commitment

The target participants include the following: School ICT Coordinators, School Heads and Elementary Teachers.

Strategy of Implementation

The researcher will pilot test the intervention program among randomly selected career advocates in his school and document observations and outputs of the pilot test. This will be done through proper representation with the school head by presenting an activity paper outlining the specific objective.

Then the researcher will submit the said intervention program to the school heads and district supervisor for the recommendation to the Schools Division Superintendent together with the documented result of the pilot test. Once approved, the researcher will write a letter asking for any form of assistance to industry partners and stakeholders attaching the approved intervention program for reference so as to get “other sources of fund” in the implementation of the said program. The researcher will also invite teachers, school heads, parents, community members, industry partners

and stakeholders to generate fund intended for the series of activities of the intervention program.

Similar activity paper submitted during the pilot test will be submitted to the district supervisor to ensure her cooperation. There will be registration so that a certificate of attendance or participation could be issued which would be submitted for accreditation to the DepEd for possible CPD units that can be used by the attendees in the renewal of their PRC ID. This is another way to invite participation among concerned career advocates and guidance counselors.

Monitoring and Evaluation

The researcher will provide a template/checklist for the monitoring and evaluation of the intervention program. The researcher will coordinate with the Division Coordinators for the reliability of the tool. But first, the researcher will have conceptualized a tool to monitor the extent of implementation of the intervention program subject for the approval of the Schools Division Superintendent.

There will be a monitoring report per quarter for the sustainable implementation of the program and basis for another intervention program or intervention scheme.

Budgetary Requirements

The proposed intervention program will need the following materials and resources: Meta strips, manila paper, Marker pens, chalk, white board markers, Masking tape, scissors, Computer, LCD, Name Tags, Pencils, Ballpoint pens, Notebooks, Bond papers and crayons.

The expected number of participants for the three-day capability building is 110 which will be provided with lunch and two snacks for three days including training kit.

The following is the budgetary requirements to finance the implementation of the intervention program:

Meals and snacks @ ₱350/pax		
(₱350 x 110 pax x 3 days)	₱	115,500.00
Materials and supplies		
(₱250 x 110 pax)		27,500.00
Administrative Cost		14,300.00

Total	**₱**	**157,300.00**
		==========

Funds will be solely sourced out from the registration fees to be collected which will be augmented by the pledges and donations from partners.

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A P P E N D I C E S

APPENDIX A

REQUEST FOR APPROVAL OF RESEARCH PROBLEM

SAMAR COLLEGE
COLLEGE OF GRADUATE STUDIES
City of Catbalogan

October 14, 2020

DR. NIMFA T. TORREMORO
Dean, College of Graduate Studies
Samar College
City of Catbalogan

M a d a m e:

The undersigned will enroll in thesis writing this 1st Semester, School Year, 2019-2020. In this regard, she would like to present the following proposed title, preferably Number 1, for your evaluation, suggestion and recommendation.

1. The Growth of Digital Literacy in the New Normal Education: Basis for a Capacity Building Program
2. Grade 4 Curriculum Under the K-12 Education Program: An Evaluation
3. Research Competencies of Elementary Master Teachers of Daram I District

(SGD.) JERAMIE A. OROT
Researcher

Recommended Title No.

 # 1 (**SGD.**) **LETECIA R. GUERRA, PhD**
Evaluator
 # 1 **(SGD.) PEDRITO G. PADILLA, PhD**
Evaluator
 # 1 **(SGD.) GUILLERMO D. LAGBO, DPA**
Evaluator

Approved Title No: **# 1**

(SGD.) NIMFA T. TORREMORO, PhD
Dean, College of Graduate Studies

APPENDIX B

ASSIGNMENT OF ADVISER

Republic of the Philippines
Commission on Higher Education
Region VIII
SAMAR COLLEGE
COLLEGE OF GRADUATE STUDIES
City of Catbalogan

NAME	:	JERAMIE A. OROT
COURSE	:	Master of Arts in ducation
SPECIALIZATION	:	Elementary Education
TITLE OF THESIS PROPOSAL	:	The Growth of Digital Literacy in the New Normal Education: Basis for a Capacity Building Program
NAME OF ADVISER	:	Natalia B. Uy, PhD

(SGD.) JERAMIE A. OROT
Researcher

CONFORME:

(SGD) NATALIA B. UY, PhD
Adviser

APPROVED

(SGD.) NIMFA T. TORREMORO, PhD
Dean, College of Graduate Studies

APPENDIX C

QUESTIONNAIRE
(For Teacher-Respondent)

Republic of the Philippines
Commission on Higher Education
Region VIII
SAMAR COLLEGE
COLLEGE OF GRADUATE STUDIES
City of Catbalogan

February 20, 2021

Dear Respondent,

The undersigned is currently conducting a study entitled "The Growth of Digital Literacy in the New Normal Education: Basis for a Capacity Building Program", as one of the requirements for the Degree, Master of Arts in Education (MAEd) major in Elementary Education with the College of Graduate Studies of Samar College, City of Catbalogan.

As potent source of information, the undersigned requests your cooperation in answering the attached questionnaire

Rest assured that any information given in this questionnaire will be held in strict confidentiality and shall be used solely for the purpose of this study.

Thank you very much for the usual cooperation

Very truly yours,

(SGD.) JERAMIE A. OROT
Researcher

PART I. TEACHER'S PERSONAL PROFILE

Directions: Please indicate your answer with a check mark (✓) or write the data on the blank provided before/after each item.

1. Name:(Optional) _____
2. Sex: _____ 3. Age:_____
4. Civil Status:
   ____Single ____Widow
   ____Married ____Widower
5. Highest Educational Attainment:
   ____ Doctorate Degree
   ____ Doctorate Units
   ____ Master's Degree
   ____ Master's Unit
   ____ Baccalaureate Degree
6. Teaching Position:
   ____ Teacher 1
   ____ Teacher II
   ____ Teacher III
   ____ Master Teacher I
   ____ Master Teacher II
   ____ Master Teacher III
   ____ Master Teacher IV
7. Gross Monthly Income:
   _____ Php 18, 000 – Php 27, 999
   _____ Php 28, 000 – Php 38, 999
   _____ Php 38, 000 – Php 47,999
   _____ Php 48, 000 – Php 57, 999
   _____ Php 58, 000 – Php 67, 999
   _____ Php 68, 001 and over

8. Number of years in teaching: _____
9. Latest performance rating based on the IPCRF:
   Numerical: _____
   Adjecival: _____
10. Types of Technology Literacy Tools Used:

Types of Technology Literacy Tools	**Yes**	**No**
Cellular Phone		
Tablet		
WiFi		
Router		
Netbook		
Laptop		
Printer		
LCD Projector		
Digital Camera		
DVD Player		
Lapel		
Microphone		
Speaker		
Headphone		
Television		
Personal Computer		
Flash Drive		
CD/DVD		
Internal Drive		
OTG		
Artificial Intelligence		

11. Number of relevant digital literacy trainings attended:
   _____ National
   _____ Regional
   _____ Division
   _____ District

PART II. ATTITUDE TOWARD DIGITAL LITERACY

Direction: Below are attitude statements toward digital literacy. Kindly assess each statement and signify your agreement or disagreement by checking the appropriate column using the following scale:

5 – Strongly Agree (SA)
4 – Agree (A)
3 – Uncertain (U)
2 – Disagree (D)
1 – Strongly Disagre (SD)

Attitude Statement	**5 (SA)**	**4 (A)**	**3 (U)**	**2 (D)**	**1 (SD)**
11. I enjoy using digital devices.					
12. I feel comfortable using digital devices.					
13. I am aware of various types of digital devices.					
14. I understand what digital literacy is.					
15. I am willing to learn more about digital technologies.					
16. I feel threatened when others talk about digital technologies.					
17. I feel that I am behind my fellow students in using digital technologies.					
18. I think that it is important for me to improve my digital fluency.					
19. I think that my learning can be enhanced by using digital tools and resources.					
20. I think that training in digital literacy enhanced learning should					

be included in educational programs.					

PART III: LEVEL OF DIGITAL LITERACY OF ELEMENTARY SCHOOL TEACHERS

Directions: Below is a list of statements that pertains to digital literacy. Kindly indicate your rating for the following items by putting a check (/) in the box corresponding to your answer using the scale below.

5 – Very High (VH)
4 – High (H)
3 – Neutral (N)
2 – Low (L)
1 – Very Low (VL)

A. Information and data literacy	**VH (5)**	**H (4)**	**N (3)**	**L (2)**	**VL (1)**
1. Articulate information needs, to search for data, information and content in digital environments, to access them and to navigate between them. Create and update personal search strategies.					
2. Analyze, compare and critically evaluate the credibility and reliability of sources of data, information and digital content. Analyze, interpret and critically evaluate the data, information and digital content.					
3. Organize, store and retrieve data, information and content in digital environments. Organize and process them in a structured environment					
B. Communication and collaboration					
4. Interact through a variety of digital technologies and to understand appropriate digital					

communication means for a given context.					
5. Share data, information and digital content with others through appropriate digital technologies. Act as an intermediary, to know about referencing and attribution practices					
6. Your school has a policy against discrimination with regard to gender, cultural origin, social status, religious belief and others.					
7. Participate in society through the use of public and private digital services. Seek opportunities for self-empowerment and for participatory citizenship through appropriate digital technologies.					
8. Use digital tools and technologies for collaborative processes and for co-construction and co-creation of resources and knowledge.					
9. Aware of behavioral norms and know-how while using digital technologies and interacting in digital environments. Adapt communication strategies to the specific audience and to be aware of cultural and generational diversity in digital environments.					
10. Create and manage one or multiple digital identities, to be able to protect one's own reputation, to deal with the data that one produces through					

several digital tools, environments and services.					
C. Digital Content Creation					
11. Create and edit digital content in different formats, express oneself through digital means.					
12. Modify, refine, improve and integrate information and content into an existing body of knowledge to create new, original and relevant content and knowledge.					
13. Understand how copyright and licenses apply to data, information and digital content.					
14. Plan and develop a sequence of understandable instructions for a computing system to solve a given problem or perform a specific task.					
D. Safety					
15. Protect devices and digital content, and to understand risks and threats in digital environments. Know about safety and security measures and to have due regard to reliability and privacy.					
16. Protect personal data and privacy in digital environments. Understand how to use and share personally identifiable information while being able to protect oneself and others from damages. Understand that digital services use a "Privacy policy" to inform how personal data is used.					

17. Avoid health-risks and threats to physical and psychological well-being while using digital technologies. Ability to protect oneself and others from possible dangers in digital environments (e.g. cyber bullying). Aware of digital technologies for social well-being and social inclusion.					
18. Aware of the environmental impact of digital technologies and their use.					
E. Problem-Solving					
19. Identify technical problems when operating devices and using digital environments, and solve them (from trouble-shooting to solving more complex problems).					
20. Assess needs and identify, evaluate, select and use digital tools and possible technological responses to solve them. Adjust and customize digital environments to personal needs (e.g. accessibility).					
21. Use digital tools and technologies to create knowledge and to innovate processes and products. Engage individually and collectively in cognitive processing to understand and resolve conceptual problems and problem situations in digital environments.					
22. Understand where one's own digital competence needs to be improved or updated. Ability					

to support others with their digital competence development. Seek opportunities for self-development and to keep up-to-date with the digital evolution.					
23. Process a computable problem into sequential and logical steps as a solution for human and computer systems.					

PART IV: LEVEL OF COMPETENCY OF TEACHER-RESPONDENTS IN USING DIGITAL KNOWLEDGE AND SKILLS

Direction: Below is a list of statements that pertains to digital knowledge and skills in digital literacy. Kindly indicate your rating for the following items by putting a check (/) in the box corresponding to your answer using the scale below.

5 – Highly Competent (HC)
4 – Moderately Competent (MC)
3 – Competent (C)
2 – Less Competent (LC)
1 – Not Competent (NC)

A. Skills in Using Digital Devices	**HC (5)**	**MC (4)**	**C (3)**	**LC (2)**	**NC (1)**
1. Typing Skills					
2. Web Search Skills					
3. Ability to use computer					
4. Ability to use the internet					
B. Level of Knowledge on the Core Digital Functions	**VH (5)**	**H (4)**	**N (3)**	**L (2)**	**VL (1)**
5. Turn on/off and charge the device					

6. Send and receive text messages					
7. Set or change App Language					
8. Share location data					
9. Create a public profile					
10. Search for, choose, download and approve privacy policy of an application					
11. Intra-app finance transactions					
12. Search for goods and services and compare price information					
13. Search through academic Sites					
14. Interaction with academic Sites					
C. Skills in Operating Hardware and Software					
15. Identify and use the functions and features of the hardware tools and technologies.					
16. Know and understand the data, information and/or digital content that are needed to operate software tools and technologies.					

PART V: PROBLEMS ENCOUNTERED BY THE TEACHER-RESPONDENT IN TEACHING DIGITAL LITERACY

Directions: Listed below are some of the foreseen problems in relation to the teaching of digital literacy. Kindly indicate your responses by putting a checkmark on the item before each number which you consider to be a problem in the teaching of digital literacy.

___ Resistance to adapt digital method

___ Lack of IT support by the school administration

____ Lack of quality content

____ Differences in the operating systems and functions of devices

____ Low access to WIFI among students and teachers in and out of school

____ Software that is not optimized for mobile devices

____ Lack of training for teachers

____ Security issues of the computer software/hardware

____ High costs of devices and internet connection

Others, please specify _____

THANK YOU!!

APPENDIX D

QUESTIONNAIRE
(For Administrator-Respondent)

Republic of the Philippines
Commission on Higher Education
Region VIII
SAMAR COLLEGE
COLLEGE OF GRADUATE STUDIES
City of Catbalogan

February 20, 2021

Dear Respondent,

The undersigned is currently conducting a study entitled "The Growth of Digital Literacy in the New Normal Education: Basis for a Capacity Building Program", as one of the requirements for the Degree, Master of Arts in Education (MAEd) major in Elementary Education with the College of Graduate Studies of Samar College, City of Catbalogan.

As potent source of information, the undersigned requests your cooperation in answering the attached questionnaire

Rest assured that any information given in this questionnaire will be held in strict confidentiality and shall be used solely for the purpose of this study.

Thank you very much for the usual cooperation

Very truly yours,

(SGD.) JERAMIE A. OROT
Researcher

PART I: LEVEL OF DIGITAL LITERACY OF ELEMENTARY SCHOOL TEACHERS

Directions: Below is a list of statements that pertains to digital literacy. Kindly indicate your rating for the following items by putting a check (/) in the box corresponding to your answer using the scale below.

5 – Very High (VH)
4 – High (H)
3 – Neutral (N)
2 – Low (L)
1 – Very Low (VL)

A. Information and data literacy	**VH (5)**	**H (4)**	**N (3)**	**L (2)**	**VL (1)**
1. Articulate information needs, to search for data, information and content in digital environments, to access them and to navigate between them. Create and update personal search strategies.					
2. Analyze, compare and critically evaluate the credibility and reliability of sources of data, information and digital content. Analyze, interpret and critically evaluate the data, information and digital content.					
3. Organize, store and retrieve data, information and content in digital environments.					

Organize and process them in a structured environment					
B. Communication and collaboration					
4. Interact through a variety of digital technologies and to understand appropriate digital communication means for a given context.					
5. Share data, information and digital content with others through appropriate digital technologies. Act as an intermediary, to know about referencing and attribution practices					
6. Your school has a policy against discrimination with regard to gender, cultural origin, social status, religious belief and others.					
7. Participate in society through the use of public and private digital services. Seek opportunities for self-empowerment and for participatory citizenship through appropriate digital technologies.					
8. Use digital tools and technologies for collaborative processes and for co-construction and co-creation of resources and knowledge.					
9. Aware of behavioral norms and know-how while using digital technologies and interacting in digital environments. Adapt communication strategies to the specific audience and to be aware of cultural and					

generational diversity in digital environments.					
10. Create and manage one or multiple digital identities, to be able to protect one's own reputation, to deal with the data that one produces through several digital tools, environments and services.					
C. Digital Content Creation					
11. Create and edit digital content in different formats, express oneself through digital means.					
12. Modify, refine, improve and integrate information and content into an existing body of knowledge to create new, original and relevant content and knowledge.					
13. Understand how copyright and licenses apply to data, information and digital content.					
14. Plan and develop a sequence of understandable instructions for a computing system to solve a given problem or perform a specific task.					
D. Safety					
15. Protect devices and digital content, and to understand risks and threats in digital environments. Know about safety and security measures and to have due regard to reliability and privacy.					
16. Protect personal data and privacy in digital environments. Understand how to use and share personally					

identifiable information while being able to protect oneself and others from damages. Understand that digital services use a "Privacy policy" to inform how personal data is used.					
17. Avoid health-risks and threats to physical and psychological well-being while using digital technologies. Ability to protect oneself and others from possible dangers in digital environments (e.g. cyber bullying). Aware of digital technologies for social well-being and social inclusion.					
18. Aware of the environmental impact of digital technologies and their use.					
E. Problem-Solving					
19. Identify technical problems when operating devices and using digital environments, and solve them (from trouble-shooting to solving more complex problems).					
20. Assess needs and identify, evaluate, select and use digital tools and possible technological responses to solve them. Adjust and customize digital environments to personal needs (e.g. accessibility).					
21. Use digital tools and technologies to create knowledge and to innovate processes and products. Engage individually and collectively in cognitive processing to					

understand and resolve conceptual problems and problem situations in digital environments.					
22. Understand where one's own digital competence needs to be improved or updated. Ability to support others with their digital competence development. Seek opportunities for self-development and to keep up-to-date with the digital evolution.					
23. Process a computable problem into sequential and logical steps as a solution for human and computer systems.					

PART II: LEVEL OF COMPETENCY OF TEACHER-RESPONDENTS IN USING DIGITAL KNOWLEDGE AND SKILLS

Direction: Below is a list of statements that pertains to digital knowledge and skills in digital literacy. Kindly indicate your rating for the following items by putting a check (/)in the box corresponding to your answer using the scale below.

5 – Highly Competent (HC)
4 – Moderately Competent (MC)
3 – Competent (C)
2 – Less Competent (LC)
1 – Not Competent (NC)

A. Skills in Using Digital Devices	**HC (5)**	**MC (4)**	**C (3)**	**LC (2)**	**NC (1)**
1. Typing Skills					
2. Web Search Skills					
3. Ability to use computer					

4. Ability to use the internet					
B. Level of Knowledge on the Core Digital Functions	**VH (5)**	**H (4)**	**N (3)**	**L (2)**	**VL (1)**
5. Turn on/off and charge the device					
6. Send and receive text messages					
7. Set or change App Language					
8. Share location data					
9. Create a public profile					
10. Search for, choose, download and approve privacy policy of an application					
11. Intra-app finance transactions					
12. Search for goods and services and compare price information					
13. Search through academic Sites					
14. Interaction with academic Sites					
C. Skills in Operating Hardware and Software					
15. Identify and use the functions and features of the hardware tools and technologies.					
16. Know and understand the data, information and/or digital content that are needed to operate software tools and technologies.					

PART III: PROBLEMS ENCOUNTERED BY THE TEACHER-RESPONDENT IN TEACHING DIGITAL LITERACY

Directions: Listed below are some of the foreseen problems in relation to the teaching of digital literacy. Kindly indicate your responses by putting a

checkmark on the item before each number which you consider to be a problem in the teaching of digital literacy.

___ Resistance to adapt digital method

___ Lack of IT support by the school administration

____ Lack of quality content

____ Differences in the operating systems and functions of devices

____ Low access to WIFI among students and teachers in and out of school

____ Software that is not optimized for mobile devices

____ Lack of training for teachers

____ Security issues of the computer software/hardware

____ High costs of devices and internet connection

Others, please specify _____

THANK YOU!!

APPENDIX E

REQUEST LETTER TO THE SCHOOLS DIVISION SUPERINTENDENT TO FIELD THE INSTRUMENT

Republic of the Philippines
Commission on Higher Education
Region VIII
SAMAR COLLEGE
COLLEGE OF GRADUATE STUDIES
City of Catbalogan

THE SCHOOLS DIVISION SUPERINTENDENT,
Department of Education
Division of Samar
City of Catbalogan

M a d a m e:

The undersigned is currently conducting a study entitled "The Growth of Digital Literacy in the New Normal Education: Basis for a Capacity Building Program", as one of the requirements for the Degree, Master of Arts in Education (MAEd) major in Elementary Education with the College of Graduate Studies of Samar College, City of Catbalogan.

In this regard, he is requesting from your good office the permission to field the questionnaire at the District of Daram 1 elementary teachers and school administrators.

Rest assured that any information given in this questionnaire will be held in strict confidentiality and shall be used solely for the purpose of this study.

Thank you very much for the usual cooperation

Very truly yours,

(SGD.) JERAMIE A. OROT
Researcher

APPROVED:

(SGD.) CARMELA R. TAMAYO, EdD, CESO V
Schools Division Superintendent

APPENDIX F

REQUEST LETTER TO THE DISTRICT SUPERVISOR TO FIELD THE INSTRUMENT

Republic of the Philippines
Commission on Higher Education
Region VIII
SAMAR COLLEGE
COLLEGE OF GRADUATE STUDIES
City of Catbalogan

THE DISTRICT SUPERVISOR,
Department of Education
Division of Samar
City of Catbalogan

Sir:

The undersigned is currently conducting a study entitled "The Growth of Digital Literacy in the New Normal Education: Basis for a Capacity Building Program", as one of the requirements for the Degree, Master of Arts in Education (MAEd) major in Elementary Education with the College of Graduate Studies of Samar College, City of Catbalogan.

In this regard, he is requesting from your good office the permission to field the questionnaire at the District of Daram 1 elementary teachers and school administrators.

Rest assured that any information given in this questionnaire will be held in strict confidentiality and shall be used solely for the purpose of this study.

Thank you very much for the usual cooperation

Very truly yours,

(SGD.) JERAMIE A. OROT
Researcher

APPROVED:

(SGD.) JOSE NELSON M. LOZANO
District Supervisor

APPENDIX G

REQUEST LETTER TO THE ELEMENTARY SCHOOL PRINCIPAL TO FIELD THE INSTRUMENT

Republic of the Philippines
Commission on Higher Education
Region VIII
SAMAR COLLEGE
COLLEGE OF GRADUATE STUDIES
City of Catbalogan

THE SCHOOL PRINCIPAL
Department of Education
Division of Samar
City of Catbalogan

The undersigned is currently conducting a study entitled "The Growth of Digital Literacy in the New Normal Education: Basis for a Capacity Building Program", as one of the requirements for the Degree, Master of Arts in Education (MAEd) major in Elementary Education with the College of Graduate Studies of Samar College, City of Catbalogan.

In this regard, he is requesting from your good office the permission to field the questionnaire at the District of Daram 1 elementary teachers and school administrators.

Rest assured that any information given in this questionnaire will be held in strict confidentiality and shall be used solely for the purpose of this study.

Thank you very much for the usual cooperation

Very truly yours,

(SGD.) JERAMIE A. OROT
Researcher

C U R R I C U L U M V I T A E

NAME	:	JERAMIE A. OROT
HOME ADDRESS	:	Brgy. San Roque Daram, Samar
CIVIL STATUS	:	Single
PRESENT POSITION	:	Elementary Grade Teacher III
STATION	:	Real Elementary School Daram I District Daram, Samar
DEGREE PURSUED	:	Master of Arts in Education (MAED)
SPECIALIZATION	:	Educational Management

EDUCATIONAL BACKGROUND

PRIMARY	:	San Roque Elementary School Brgy. San Roque Daram,Samar 2002-2005
INTERMEDIATE	:	San Roque Elementary School Brgy. San Roque Daram,Samar 2005-2008
SECONDARY	:	Daram National High School Pob. 01 Daram, Samar 2008-2012
TERTIARY	:	Bachelor of Elementary Education (BEED) Samar State University Catbalogan City, Samar 2012-2016

GRADUATE STUDIES : Master of Arts in Education
Educational Management
Samar College, Inc.
Catbalogan City, Samar
2017-present

ELIGIBILITY

Licensure Examination for Teachers (LET) : 76.6 - September, 2016
Tacloban City

WORK EXPERIENCE

Elementary Grade Teacher I : Grade V Adviser
So-ong Elementary School
Daram I District
Daram, Samar
2018-2019

Elementary Grade Teacher III : Grade V Adviser
So-ong Elementary School
Daram I District
Daram, Samar
2019-2020

Grade V and VI Adviser
Real Elementary School
Daram I District
Daram, Samar
2020-2021

MEMBERSHIP IN ORGANIZATION

Coordinator : ICT Coordinator
Real Elementary School
Daram I District
Daram, Samar
2020-2021

TRAININGS/SEMINARS ATTENDED

Online Orientation on Data Requirememnts and Data Gathering Forms for School Year 2020-2021 through Virtual Meeting on April 27, 2021

Child Rights and Child Protection in Basic Education Webinar through Deped Facebook Live stream, September 07-09, 2020

Orientation on the Steps and Processes to follow on Preparing Learning Activity Sheets, worksheet Considering Learning Resource Standard (Social Content Guidelines and Copyright Standards) by Dr. Josefina F. Dacallos through Samar Division Facebook Live stream, July 13, 2020

Teaching Araling Panlipunan in the New Normal by Dr. Eloisa R. Zartiga through Samar Division Facebook Live stream, July 10, 2020

2nd Division Conference on Curriculum Management and Development in Edukasyon sa Pagpapakatao through DepEd Samar Division Facebook Live stream, July 09,2020

MELC-Based Budget of Lesson Orientation in MAPEH by EPS Nancy Abaracosso through DepEd Samar Division Facebook Live stream, July 09, 2020

School Based In-Service Training at So-ong Elementary School, Brgy. So-ong Daram, Samar, October 22-24, 2019

2019 Mind Education Specialist Training (MEST): International Seminar on Transformational Leadership and Professional Growth Development held at M Grand Resort Hotel, Catbalogan City, March 29-31, 2019

JOB ORIENTATION FOR THE 2018 NEWLY-HIRED TEACHERS At DepEd Samar Redaja Hall, Catbalogan City, October 22-24, 2018