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ICT Coordinatorship in Public Schools: Its Roles, Challenges, and Opportunities

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ABSTRACT

The workload of Information and Communication Technology (ICT) coordinators varies from school to school and work-related issues are evident. This study aims to describe the experiences of ICT coordinators in public elementary schools in Buug, Zamboanga Sibugay to improve understanding of ICT coordinators. This qualitative research employs phenomenology to understand and describe the ICT coordinators' experiences in their respective stations. Through criterion purposeful sampling, eleven (11) participants are interviewed face-to-face. Using the thematic analysis, this study finds out that the ICT coordinator's roles include (1) making, submitting, and monitoring school reports; (2) assisting during the enrolment period; (3) attending class as a subject teacher; (4) facilitating other teachers in computer works; (5) consolidate and monitor computer equipment; and (6) manage the sound system during school programs. In terms of the challenges they encountered, these include (1) rush submission of reports; (2) disturbing classes; (3) lack of knowledge about the report; (4) low internet connectivity; (5) lack of knowledge of software and hardware used; and (6) lack of ICT-related equipment. However, their opportunities include (1) provision of load allowance and service credits; (2) self and time management; and (3) intentional learning. This study, therefore suggests the DepEd officials to provide schools with decent and high-end ICT-related equipment; capacitate ICT coordinators with the technical know-how of these pieces of equipment; train them properly on the reports that are asked from them to comply; and designate full-time ICT coordinators in order to be productive from their work and the learners will not be compromised from their learning.

Keywords: ICT coordinatorship, roles, challenges, opportunities, public schools

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1. INTRODUCTION

The advent of technology has a significant impact on the quality of life of today's generation. This is especially true when considering the educational system as observed in the ease of online access to information and communication. Many school functions have also shifted online and have been aided by technology including but not limited to enrolment, submission of reports, and meetings. The occurrence of the pandemic even intensified the need to utilize technology to deliver teaching and learning processes continuously. According to Kamylyis et al. (2013), the use of information and communication technologies in reforming classroom instruction has been a core concern in educational policy and strategy.

However, Caling (2023) asserts the necessity of having technical know-how on using both hardware and software in computers and gadgets, troubleshooting internet accessibility, and using various platforms such as Google Classroom, MS Teams, Edmodo, and other Learning Management Systems. In the exigency of government service after having observed the need to capacitate teachers on the integral role of technology in schools, some teachers underwent ICT training and were designated as Information and Communication Technology (ICT) Coordinators by the Department of Education.

The DepEd ICT Coordinator's duties and responsibilities include (a) maintaining the effective use of E-Classroom/ICT Lab; (b) monitoring the utilization of E-Classroom including other ICT devices (laptops, projectors, etc.); (c) reporting problems/concerns about ICT packages in schools to the supplier and Division Information Technology Officer; (d) facilitate the early submission of the different online forms and Information System provided by the Information Technology Unit and Information and Communication Technology Service; (e) provide technical assistance to school head, class advisers, co-teachers, pupils/students with regards to different ICT teaching and Learning, school operations and professional development; and (f) other ICT technical assistance assigned by the school head (Llego, 2019).

The researcher, being an ICT coordinator in a public school, learned that the workload of ICT coordinators varies from school to school and work-related issues are evident. Marcovitz (2000), Watson (2006), British Educational Communications and Technology Agency (20020), Gabriel (2020), and Caling (2023) were some of the researchers who conducted studies to determine the roles of ICT coordinators in schools and the challenges they have encountered. However, few studies have been conducted concerning the ICT coordinators' experiences in carrying out their day-to-day duties and responsibilities.

With the above considerations, the researcher was prompted to conduct this study in order to describe the actual roles being exercised by ICT coordinators, understand the challenges they encountered in the performance of their tasks, and obtain insights on the opportunities that they believe would greatly help them in delivering efficient and effective services.

1.1 Theoretical Framework

This study was anchored on the following theories: Theory of Reasoned Action, Technology Acceptance Model,

Technology-Organization-Environment Framework and Unified Theory of Acceptance and Use of Technology.

The Theory of Reasoned Action developed by Ajzen and Fishbein (1980) is the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question, while SN is the perceived social pressure to perform or not perform the behavior.

The Technology Acceptance Model developed by Davis (1989) is defined as the degree to which a person believes that using a particular technology would be free from effort.

The Technology-Organization-Environment Framework developed by Tornatzky and Fleischer (1990) theorizes that technological adoption decision-making, the main variable, is influenced by three principal contexts namely; the technological, organizational, and environmental.

The Unified Theory of Acceptance and Use of Technology developed by Venkatesh et al. (2003) has use behavior (UB) as the main variable, which was defined as the degree to which a person accepts and uses a new technology.

1.2 Conceptual Framework

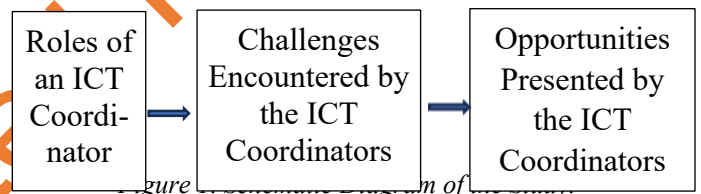


Figure 1 presents the schematic diagram of the study. It includes all the pieces of information that were required in the conduct of the study. As shown, the variables were the roles of an ICT coordinator, the challenges they encountered, and the opportunities presented being designated as one.

1.3 Statement of the Problem

This study aimed to describe the experiences of ICT Coordinators in public elementary schools in Buug, Zamboanga Sibugay to improve understanding of ICT coordinatorship.

Specifically, this study sought to answer the following research questions:

1. What are the roles performed by ICT Coordinators?
2. What are the challenges encountered in the performance of their tasks?
3. What are the opportunities presented to address the challenges encountered?

2. Methods

This study employed a qualitative research design to describe the stories of the ICT coordinators in their voices. In qualitative research, "the researcher relied on the views of the participants, asked broad and general questions, collected data consisting largely of words from participants, described and analyzed these words for the theme, and conducted inquiry subjectively" (Creswell, 2005).

The participants of the study were all of the designated ICT Coordinators of public elementary schools in Buug,

Zamboanga Sibugay for the School Year 2022-2023. These public schools are those which are under the direct supervision of the Department of Education. There were twenty-nine (29) elementary schools in Buug, Zamboanga Sibugay. Out of these schools, only eleven (11) participants were included in the study because they were those who met the inclusion criteria.

The participants of this study were selected through criterion purposeful sampling for phenomenological research. They were designated as ICT coordinator in public elementary schools during S.Y. 2023-2024 serving at least three years as ICT coordinator and are willing to participate in the study. Data then were gathered through a semi- structured interview of the 11 participants who volunteered.

Analysis of the data was conducted by identifying significant statements or quotes and from those quotes, clusters of meaning and themes were developed. A textual description was used to illuminate what was experienced, whereas the structural description illuminated the context that influenced the experience, how it was experienced and in what condition and situations. After examining these descriptions and the researcher's own experiences, a composite description was written that conveyed the overall essence of the phenomenon. This is also called the essential structure or invariant structure (Ary et al., 2017).

3. Findings and Discussions

This qualitative research used the thematic approach of Ary et al. (2017) in analyzing the data. Therefore, the researcher looked for patterns or repetitive ideas from the participants' responses to lead in drawing up themes. The presentation of results and discussions followed the order of the research questions written in the first chapter.

1. What are the roles performed by ICT coordinators?

This research question tried to explore the various functions performed by the ICT coordinators either with or not related to their designation as ICT coordinators. These functions were sorted out by highlighting and coding the responses of the participants. The highlighted and coded texts were compared by seeing their similarities and relationships to express concrete themes. Based on the participants' responses, six (6) themes were developed on the roles performed by ICT coordinators which include: (1) make, submit, and monitor school reports; (2) assist during the enrolment period; (3) attend class as a subject teacher and/or adviser; (4) facilitate other teachers on computer works; (5) consolidate and monitor computer equipment; and (6) manage the sound system during school programs.

Make, submit, and monitor school reports. This refers to the various online school reports and forms like the LIS, EBIS, BEIS, and many others which the participants were tasked to do and submit the same to the concerned offices. Among all the roles of an ICT coordinator, this was the most evident based on the responses of the participants.

This theme was supported by the following responses:

"As an ICT Coordinator, my role is on making reports. Having such experience gave me the idea of the reports of a head teacher." (P1)

"For me, the function and role of an ICT Coordinator is to make reports accurately and be responsible for online reports like LIS, EBIS. There were also reports being asked by the Division and District which should be submitted as soon as possible." (P2)

"As an ICT coordinator in our school, I am the one making reports." (P3)

"As an ICT Coordinator, my function is to print reports on the spot." (P4)

"I am in charge of the LIS, and also make some of the reports." (P5)

"As an ICT Coordinator, my function is to make reports, especially the LIS. Also, there were reports given by my school head that are ICT-related." (P6)

"My function and role as an ICT coordinator is first to make reports, then take charge of the learners' records through the LIS, and also other functions that are ICT-related." (P7)

"My role is to submit reports on time." (P10)

"In this school, we have two ICT; I was assigned in the LIS while the other was in WinS." (P11)

Assist during the enrolment period. This was another role of an ICT Coordinator which is supported by the following responses:

"Part of my job is on the LIS of the learners especially during enrolment." (P7)

"The role of ICT is on the learners' records per grade level. Although the advisers input their records but as an ICT, I have to monitor whether the learners were enrolled already. It is also my role to facilitate the teachers who do not know how to enroll." (P9)

"My function is to confirm requests and send documents that are requested from this school during enrolment." (P11)

Attend class as a subject teacher and/or class adviser. This was another role of an ICT coordinator which is supported by the following responses:

"As an ICT Coordinator of the school and also a kinder teacher." (P3)

"I also have class that I take care with, and I am also the adviser." (P5)

"I am also a class adviser." (P10)

Facilitate other teachers on computer work. This was another role of an ICT coordinator which is supported by the following responses:

"I have colleagues who know a little when it comes to anything ICT related, there is really a need to assist them." (P4)

"My role as an ICT Coordinator is to facilitate teachers in computer works, and the school head also." (P8)

Consolidate and monitor computer equipment.

This was another role of an ICT coordinator which is supported by the response below:

“It also includes consolidation and monitoring of computer equipment.” (P8).

Manage the sound system during school programs.

This was another role of an ICT coordinator which is supported by the following responses:

“As an ICT Coordinator, part of my function is taking charge of the sound system.” (P4)

“Another thing is on the school’s sound system given that I know computer technicalities, I was also tasked to operate the sounds.” (P8)

KEY THEMES ON THE ROLES OF ICT COORDINATORS	<ol style="list-style-type: none"> 1. make, submit, and monitor school reports; 2. assist during the enrolment period; 3. attend class as a subject teacher; 4. facilitate other teachers in computer work; 5. consolidate and monitor computer equipment; and 6. manage the sound system during school programs
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These findings were related to the duties and responsibilities of the DepEd school ICT coordinators as mentioned by Llego (2019). On the other hand, the findings of this study were related to what Hancock (1990) has defined ICT coordinator as a mentor for students, as a role model for the teachers, and as a strategic person who supports the administrative staff and the board.

2. What are the challenges encountered in the performance of their tasks?

This research question tried to explore the difficulties encountered by the ICT coordinators in the performance of their tasks. These difficulties were sorted out by highlighting and coding the responses of the participants. The highlighted and coded texts were compared by seeing their similarities and relationships to express concrete themes. Based on the participants’ responses, six (6) themes were developed on the challenges encountered by ICT coordinators in the performance of their tasks which include: (1) rush submission of reports; (2) can disturb classes; (3) lack of knowledge about the report; (4) low internet connectivity; (5) lack of knowledge in software and hardware used; and (6) lack of ICT-related equipment.

Among the themes generated, “low internet connectivity” obtained the greatest number of responses followed by “rushed submission of reports”, then “can disturb classes”, “lack of knowledge about the report” and “lack of knowledge in software and hardware used”. The “lack of ICT-related equipment” was last among the challenges that the ICT coordinators encountered in the performance of their tasks.

Rushed submission of reports. This was supported by the following responses:

“Rushed submission of reports.”

(P1)

“Making rushed reports.” (P3)

“The challenge is making reports on the spot. That is really true, like every time there are school activities. You will be asked to make tarpaulin immediately.” (P4)

“As an ICT Coordinator, the challenging one is every time there are reports that must be submitted immediately without me informing ahead of time.” (P6)

“And then making reports that must be submitted immediately even if I do not know how to do it.” (P7)

“Hastening the submission of reports and attending seminars even upon knowing that I have a class being left behind.” (P11)

Can disturb classes. This was

supported by the following responses:

“As an ICT coordinator, there were times when I have work to be done immediately which is why it distracted my class. As a classroom teacher, there were really instances when, I hope not to be given this role. I could certainly say that the ICT has so much work and even if I was in class, I was still given reports to make. It certainly disturbed my class but could not refuse the tasks given.” (P1)

“I am handling Grade V in which there were really cases that they will be left behind.” (P2)

“Maybe someday it will be approved that the ICT coordinators’ load may be lessened. It would be hard for the ICT coordinator to handle lower-grade classes because there would have on-the-spot activities. The learners would be left behind.” (P4)

“Urgent submission of reports and attending a seminar in which a class will be left behind.” (P11)

Lack of knowledge about the report. This was

supported by the following responses:

“At first, a Master Teacher gave me the task of being an ICT without any information, and I was immediately included in the group. During the GIYA, the Division asked for so many reports I had no idea about them. I was appointed ICT Coordinator of our school. It was indeed an overwhelming experience because it was my first time, so I had a heavy heart. I had no experience yet but was immediately designated as such. Afterward, there were lots of reports being asked by the Division.” (P1)

“The challenging one for me was I had no idea how to make the reports upon being given but had to learn it by myself.” (P2)

“It is actually challenging every time I make reports that I never had encountered, and had to comply even without any background. There were times when I didn’t have anybody to ask for and mostly, those who were assigned as ICT coordinators were new in the service. Thus, the same dilemma was experienced.” (P5)

“It is also challenging every time there are problems with the learner’s records and the teacher does not know how to make the report, for example, the adviser should know whether the learner had passed or not so that the enrollment process on the next higher level would be smooth. There were those enrolled in Grade VI only to find out that they failed in Grade V so many times.” (P9)

Low internet connectivity. This was supported by the following responses:

“One thing is the internet connection.” (P5)

“Challenges as an ICT Coordinator, it’s really due to the slow internet signal, especially during the submission of reports, which was really troublesome. Since the pandemic, I was the ICT. The year 2019 when I started, there was really no signal here which is why I had to make reports at home.” (P6)

“First and foremost is the internet connection because the school is far from the town center that is why the hardest part of being an ICT Coordinator is the submission of reports due to connection.” (P7)

“The most challenging is the submission of online reports because we have no internet signal here. So we cannot submit on time, especially those rushed reports.” (P8)

“Number one is the internet connection. There are plenty of challenges, especially for those learners who are on and off of school because you have to wait for confirmation from their previous school.” (P9)

“Sometimes the internet connection was the cause we could not submit on time because our school had no internet.” (P10)

“Before, the challenging one was my internet but now that we already have it, it’s the availability of our time. I had to do my reports at night. For example, this is a big school, there is a need to confirm around a hundred and prepare documents for the same, it really couldn’t be done on that same day. It was better before that we were given 30 to 40 minutes of free time every day to work on these, but recently there had been none.” (P11)

Lack of knowledge in software and hardware used.

This was supported by the following responses:

“I experienced having colleagues who fear navigating computers which is why I was forced to do their tasks. I had to do it because it was important and many of them did not know how to use them.” (P3)

“There were times when a software repair was necessary and I lack the skills to do so. My co-teachers tried to ask my help to fix it because I am the ICT of the school but I do not know how to so that was one of my challenges.” (P7)

“It was really challenging to know how to submit reports online, then convert the reports from Word into PDF so that the MB will be lessened. There were times when I did not know how to operate a laptop and navigate the same.” (P10)

Lack of ICT-related equipment. The following responses supported this:

“This will be maximized if the giving of laptops will be realized because I have colleagues who really need them.” (P7)

“There were instances when there is a need to facilitate new innovation in education, especially in educational technology; these were newly implemented and are part of the computer system. For example, our online system is hard to introduce to season teachers because of a lack of equipment.” (P8)

“What’s disheartening are those damaged computer which loads very slowly and hangs up always, especially when I have work to finish.” (P11)

KEY THEMES ON THE CHALLENGES ENCOUNTERED	<ol style="list-style-type: none"> 1. rush submission of reports; 2. can disturb classes; 3. lack of knowledge about the report; 4. low internet connectivity; 5. lack of knowledge in software and hardware used; and 6. lack of ICT-related equipment
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The theme “lack of knowledge in software and hardware used” is related to the finding of the study of Gabriel (2020).

3. What are the opportunities presented to address the challenges encountered?

This research question tried to explore the strategies and approaches that the ICT coordinators presented to address the challenges they encountered. These strategies and approaches were sorted out by highlighting and coding the responses of the participants. The highlighted and coded texts were compared by seeing their similarities and relationships to express concrete themes. Based on the participants’ responses, three (3) themes were developed on the opportunities presented to address the challenges encountered by the ICT Coordinators

which include: (1) provision of load allowance and service credits; (2) self and time management; and (3) intentional learning.

Among the themes generated, both the provision of load allowance and service credits and intentional learning obtained a greater number of responses. The 'self and time management' came in last among the opportunities presented by the ICT Coordinators to address the challenges that they encountered.

Provision of load allowance and service credits. The following responses supported this:

"As an ICT coordinator, I have load allocation. Also, others were saying that we also have service credits although I haven't experienced it yet. Maybe this is an opportunity to avail it. According to our ICT Coordinator before, she had not availed it." (P1)

"The opportunities that I received were having a load allocation worth P500 every month and hopefully being able to avail the 15 days of service credits as an ICT Coordinator." (P2)

"The load allowance was taken from the MOOE. However, there were times when I did not avail it. Because it is not only me as an ICT Coordinator who did all the work but my co-teachers as well. Sometimes, if I was able to claim it, then, I divided the load allowance among us." (P3)

"When that problem was brought out, the load allowance was finally taken in the MOOE as an ICT load. Our wishes on load allowance were heard." (P5)

"As an ICT coordinator, a load allowance is provided." (P6)

"And then service credits especially when we do our task on a Saturday because as an ICT Coordinator, there are times when we really have to do reports even on Saturdays so there's an opportunity gained from it." (P7)

"There is a load allowance. Then based on the memo, service credits will also be given when you do your job beyond your work because we are overloaded which is why we can enjoy service credit." (P8)

"Receiving a load of course is one of the opportunities. Sometimes I receive it monthly if there's a budget. There is also a 15-day service credit as an ICT however a lot is to be prepared to avail." (P10)

Self and time management. The following responses supported this:

"Actually, as time passed by, I was able to adjust myself as the ICT Coordinator even if I was handling lower grades. Today, I think it's all good already since I know how to make the reports including those my head teacher would give me." (P1)

"Now I think the challenges that I encountered became easy to handle because I have co-teachers who are much better than I am in terms of doing reports online." (P3)

"Time management so that there is no need to rush." (P8)

"Patience, hard work, and diligence, but I think it's really patience because this is not the only task that I do, especially when you have a lot of colleagues, there is a need to be open-minded. It can be maximized once applied. More so if it is one-on-one." (P9)

"To remind the teachers that in case they have problems with their records, they have to update the ICT immediately so that we will not be late anymore." (P10)

"Take it slowly, time management because it's part of my duty as a teacher; that is really a job." (P11)

Intentional learning. This was supported by the following responses:

"To overcome the challenges, I really have to attend seminars and webinars. And ask for help from my seniors in ICT and also study alone like on YouTube." (P2)

"Every time I attended seminars." (P3)

"There is really a need to grab seminars on ICT so that we will be informed as ICT. That is really what I want soon, like the election of SPG, hopefully, it will be electronic soon. So that the tablets given by the Division will be used." (P4)

"You have to attend seminars so that new knowledge will be acquired and you will be able to meet ICT Coordinators. Also, one can ask those who are knowledgeable about those challenges. Just like what I said, when you do not know it, you have to ask." (P5)

"Opportunities like seminars, although at that time there were only a few because of the pandemic but this opportunity to attend is really good. Then, challenges in doing reports will be overcome because there is already understanding and can even ask the ideas of the seniors and those who were also coordinators previously even if from other schools." (P6)

"I joined seminars, also district meetings." (P7)

"There are opportunities in seminars, one can be enlightened on the works of an ICT Coordinator, although it is really hard, it is indeed an opportunity to learn more. Additional learning will be obtained as a teacher and as ICT." (P9)

"To attend seminars to meet friends and other ICT Coordinators. I can also help my co-teachers who are having a hard time using computers." (P11)

KEY THEMES IN THE OPPORTUNITIES PRESENTED	provision of load allowance and service credits; self and time management; and intentional learning
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Conclusion

Based on the findings, this study concluded that the ICT coordinators in public elementary schools in Buug, Zamboanga Sibugay have varied roles and functions which are not limited only to the job description inherent to their position. Aside from preparing, submitting, and monitoring school reports online, they are also tasked to assist, facilitate, consolidate, and manage ICT-related activities and equipment.

What they found to be most challenging in performing their roles is the submission of reports that is always in a rush when given and calls for immediate action, considering the low internet connectivity in their station and that they are also handling their respective classes. In most cases, these classes were interrupted, hence learning is compromised. There had also been so many cases wherein they are in dilemma on how to make the reports that were asked from them because of insufficient information given and the lack of technical computer skills. However, it is good to note that these ICT Coordinators were given load allowance and service credits from their MOOE. Through time, they were able to maneuver the complexities of their roles and functions with proper self and time management, as well as intentionally asking for help from others.

5. Recommendations

Based on the findings presented in this study and the conclusion drawn from them, the researcher humbly suggests that the DepEd has to provide schools with decent and high-end ICT-related equipment like computers, laptops, and internet connection; capacitate ICT Coordinators with the technical know-how of these pieces of equipment; train them properly on the reports that are asked from them to comply; and designate full-time ICT Coordinators with no class responsibilities in order to be productive from their work and the learners will not be compromised from their learning; monitor the actual situation of ICT coordinators in the performance of their tasks in order to provide timely and relevant interventions through seminars and trainings towards the difficulties that they are experiencing, and at the same time, lobby these concerns to higher offices for action; lighten the teaching responsibilities of ICT coordinators so that they will be able to productively perform their tasks and no learners will be compromised.

This study is limited to the ICT coordinator in the elementary. It is also recommended that same study be conducted in the public secondary level as well as in private schools.

REFERENCES

- Ajzen, I. (1991). *The Theory of Planned Behaviour. Organizational Behaviour and Human Decision Processes*, 50, 179-211.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour*. Englewood Cliffs, NJ: Prentice-Hall.
- British Educational Communications and Technology Agency. (2002). *Final report on the roll out of the NGfL programme in ten pathfinder LEAs*. Retrieved from 27-08-2008, from http://partners.becta.org.uk/uploads/downloads/page_documents/research/final_report.pdf
- Caling, Gary John M. (2023). *ICT Coordinators and Their Roles in the School*. Retrieved from <https://www.gurupress-cordillera.com/post/ict-coordinators-and-their-roles-in-the-school>.
- Davis, F. D. (1989). *Perceived usefulness, perceived ease of use, and use acceptance of information technology*. *MIS Quarterly*, 13(3), 319-339.
- Davis, F., Bagozzi, R., & Warshaw, P. (1989). *User acceptance of computer technology: A comparison of two theoretical models*. *Management Science*, 35(8), 982-1003.
- Gabriel, Ethel Grace R. (2020). *ICT Competencies and Performance of ICT Coordinators in Moncada*. *Asian Journal of Multidisciplinary Studies* Vol. 3, No. 1. www.asianjournal.org.
- Hancock, V.E. (1990, March). *Promoting secondary school computer use? A coordinator is the key*. Paper presented at the meeting of the International Conference on Technology and Education, Brussels, Belgium. Available from: <http://www.eric.ed.gov/PDFS/ED327143.pdf>.
- DepEd. (2016). <http://depedcavite.com.ph/wp-content/uploads/2016/06/DM-075.pdf>.
- Kampylis, P., Law, N., Punie, Y., Bocconi, S., Brečko, B., Han, S., and Miyake, N. (2013). *ICT-enabled Innovation for Learning in Europe and Asia: Exploring Conditions for Sustainability, Scalability and Impact at System Level* (Y. Punie, N. W. Y. Law, & P. Kampylis Eds.). Luxembourg: Publications Office of the European Union.
- Llego, Mark Anthony (2019). *DepEd School ICT Coordinator Duties and Responsibilities*. Retrieved from <https://www.teacherph.com/school-ict-coordinator/>.
- Marcovitz, D. (2000). *The roles of the computer coordinators in supporting technology in schools*. *Journal of Technology and Teacher Education*, 8, 259-273.
- Tornatzky, L. G., & Fleischer, M. (1990). *The process of technological innovation*. Lexington: Lexington Books.
- Venkatesh, V., Morris, M. G., Davis G. B., & Davis F. D. (2003). *User acceptance of information technology: Toward a unified view*. *MIS Quarterly*, 27 (3), 425-478.
- Whitehead, D., & Whitehead, L. (2020). Data collection and sampling in qualitative research. *Nursing and Midwifery Research Methods and Appraisal for Evidence-Based Practice. 6th Edition*. Sydney: Elsevier, 118-135.