INTERFACING WITH TECHNOLOGY: THE ELEMENTARY LEARNERS PASTIME EXPERIENCE

ESTHER T. ESPARRAGO

Abstract. This study extracted the experiences of elementary learners favoririte pastime using the modern technologies specifically in Maa District, Davao City. There were eight (8) learners who participated in the study. This study made use of a phenomenological approach to extract the ideas from the informants. The face to face in-depth-interview was employed to gather information as regards to their respective experiences. Using the thematic analysis, the following themes emerged as it relates to the experiences of the participants: Addicted to online games, Reduced focus on learning activities and Used as source of information. The coping mechanisms of the elementary learners were: "No game at school" strategy and Use gadgets for online research only. The educational management insights were focused on two factors: Improve school policies on the use of gadgets or lap tops and No use of gadgets during class hours. Based on the fidigs of the study, the following recommendations were given: The elementary teachers may consider several strategies to gain the attention of the learners in their quest of knowledge through their hand-held gadgets. Constant reminders on the proper use of these gadgets may be a regular task of the classroom teachers to regain the attention of the learners and guide them on the proper use of search engines to search important information. The parents may be given proper information and guidelines on the use of hand-held gadgets of their children. Being aware of the importance of communication, these hand-held gadgets may be put into proper use as guided by their parents and classroom teachers. The learners may be directed well through the constant reminders of their class advisers and on the right time to use and not to use their cellular phones in and out of their classrooms

KEY WORDS

1. Interfacing with technology   2. learners pastime   3. Technology

1.   Introduction

Today's elementary learners have been immensely submerged in tinkering the cellular phones or gadgets. At a very young age, these children had been playing with these hand-held gadgets. Regardless of their age, for as long as they can use their fingertips, they play with these gadgets. In the past twenty years or more, the technology that we have known had been changing at a very quick stance. This means that what ever we have at hand yesterday may not be useful in the succeeding days. These changes were too rapid that the old generations could hardly outpace, but the younger generations consider these changes as a normal turn of technological development. In the recent months, School closures has definitely been a huge disruption in the school year, it has also shown that learning can continue through dis-

tance education, especially by digital means, without students' physical presence in schools, even though this entails some challenges. These challenges can affect various aspects of education, including the student-teacher relationship that is so crucial for student success. Even the best technologies cannot completely eliminate this distance between teacher and student. In-class education therefore remains necessary, but this must be placed in perspective and adapted to the current situation. Furthermore, in preparing for the return of students to school, potential difficulties in meeting physical distancing requirements in the classroom, particularly given student numbers and classroom sizes, should be taken into account. Whereas many schools have reduced class sizes or spaced-out student desks, others have addressed these difficulties by organizing outside-the-classroom educational settings, either on school grounds or other outdoor settings. While technology is being utilized more and more frequently in K-12 education, many teachers are still struggling with integrating it in their classrooms and questioning if doing so is the right move for them. There are a number of factors we must each consider (cost, ease of use, ongoing support for proper understanding and usage) that will impact our decision of how, when, and if we should introduce new technology. Common challenges and concerns teachers experience when integrating technology and digital media in the classroom include: Students misusing technology , Teacher knowledge and professional development, Keeping students safe online, Cost of new technology and Keeping up with changes. With the introduction of technology in your classroom, you are sure to encounter students attempting to misuse it, largely for entertainment purposes instead of educational ones. Admin is designed with some of the most intuitive and comprehensive tools to protect against students misusing their devices, including the ability to block VPNs and students attempting to access incog-

nito browser modes via USB, both of which are popular ways in which students attempt to bypass web filters to access gaming sites or social media, search for inappropriate content, or use their devices at inappropriate times. Additionally, with Teacher, teachers are able to lock student devices at times they aren't needed to avoid students using them during videos, presentations, or when guest speakers are visiting (GoGuardian Team, 2019). Jo Adetunji (2018) pointed out that technology isn't always the answer. Pre-service teachers have reflected on having preferences for manual writing (compared to typing) and incidences of doubling up on time writing notes. Students can also prefer reading print and teachers can disengage from introducing new technology when they don't feel it adds anything extra. Students regularly use devices for social media, playing games, instant messaging, text messaging and emailing rather than for class work. Students have been described as "digital rebels" (accessing social media and texting), "cyber wanderers" , succumbing to virtual games, and "eLearning pioneers" (undertaking online studies during class time). The Covid-19 pandemic has presented an opportunity for rethinking assumptions about education in general and higher education in particular. In the light of the general crisis the pandemic caused, especially when it comes to the so-called emergency remote teaching (ERT), educators from all grades and contexts experienced the necessity of rethinking their roles, the ways of supporting the students' learning tasks and the image of students as self-organizing learners, active citizens and autonomous social agents (Rapanta et al. 2021). In the Philippines, The 2022 situationer said that the low quality in higher education can be blamed on the low quality of basic education and inadequate qualifications of teaching personnel with only a handful of faculty members holding graduate degrees. Progressive youth party list member Kabataan Raoul Manuel tells SciDev.Net that problems

in basic education prevent the Philippines from properly equipping its youth in STEM. He says that longstanding issues in basic education, including classroom shortages, meagre compensations for teachers, and lack of educational resources deprive students of quality education. "The country must go back to the basics and improve the teaching of science and math in the basic education level," Manuel says. "We can't find more young people in STEM careers if we can't guarantee quality education that will equip students to comprehend and solve basic problems or calculations." (Sison, M., 2022). Cruz (2022) claimed that education and EdTech Hub showed that technology limitations are the biggest barrier to achieving an effective online learning modality for students and teachers in the Philippines, especially amid school closures due to the Covid-19 pandemic. In particular, the high cost of data, sharing of gadgets with siblings or parents, and lack of interaction during classes, as well as the failure of education assessment methods to accurately gauge student progress and identify learning losses have put pressure on the country's educational system. Issue of unintended consequences of use of technology in class room is important because unintended consequences can cause disruption in class room and negate the institutional policies regarding strategic direction and intervention in teaching and learning process. Among the negative consequences listed by students were accessing social websites like face book, twitter etc. during class work, playing games, playing music, answering and returning calls and down-

loading and using copyrighted material. It is further observed that incidence of positive and negative consequences vary with the use of technology. Technical tools like laptops and mobile phones can distract students from their learning activity and cause disruption to class room activity, if not used properly. Mobile phones distract students because of problem of ringing during class room discussion, use in cheating during class room assessments, multi-tasking by students and use of camera in the class room which could lead to privacy issues. Similarly laptops and computers can be used for instant messaging and using Facebook, watching movies or videos not relevant to class room topics and distracting other students. (Gorra and Bhati (2016).

In the local scenario, some elementary schools in Maa District, Davao City have observed that most of their school children have been engrossed with the use of the cellular phone and other related gadgets, in and out of the school premises. It is also observed that using the cellular phones or any gadgets has become the learners favorite pastime. They spend a lot of their vacant periods holding and playing with their cellular phone. As a researcher, I was engrossed in knowing the reasons why these children prefer to play with their gadgets rather than do other academic related assignments such as writing or even playing on the field as part of their exercise. Their lives have been observed to be sedentary, this means they lack the proper exercise and above all, they tended to be giving more attention to their gadgets rather than to their class work.

1.1.   Purpose of the Study—The purpose of this phenomenological study was to explore the daily routines of elementary learners as they gave more time handling their handheld gadgets. This research also dealt with the coping mechanisms of the elementary pupils on their school related activities and the teachers insights about their respective experiences in dealing with the learners who were technologically addicted in using their gadgets.

1.2.   Synthesis—

The reviews gathered to support this current study mainly focused on the problems f technology in the classroom. These problems may have rooted from the various types of technologies being used as an instructional material. It can be noted that most of these technologies are rapidly changing, therefore, the retention of old technologies used in the classroom setting may not provide the needed help to ease the classroom teaching. Topics on the risks of the use of mobile phones were thoroughly discussed in the reviews cited in this study. The use of Information technology in the classrooms were also cited in the related literature of this study.

1.3.   Theory—This study was anchored on the Technology Acceptance Models (TAM) made popular by Davis (1985) which have been widely used in previous studies looking at how technology is accepted and used by students, educators, and employees. TAM is the most commonly applied and robust theory in existing research for understanding users' acceptance of technology in a variety of contexts. Since its appearance in 1985, the original TAM has been adapted and complemented with different factors or variables. In Davis's (1985) original model, three factors were introduced, all of them in order to reflect the context of the application. Four main factors determine an individual's acceptance and use of technology: perceived usefulness, ease of use (capability and effort), social influence ,and facilitating conditions . Another support theory for this study was based from the Theory of Connectivism by Downes (2005) is a relatively new learning theory that suggests students should combine thoughts, theories, and general information in a useful manner. It accepts that technology is a major part of the learning process and that our constant connectedness gives us opportunities to make choices about our learning. It also promotes group collaboration and discussion, allowing for different viewpoints and perspectives when it comes to decision-making, problem-solving, and making sense of information. Connectivism promotes learning that happens outside of an individual, such as through social media, online networks, blogs, or information databases. t's clear that technology is changing how students learn in and out of the classroom. Rather than learning from teachers and textbooks, smartphones and laptops serve as hubs of information for today's students. In fact, according to a 2015 study, 87 percent of college students reported that they used a laptop every week for schoolwork, while 64 percent reported using their smartphone for schoolwork. The publications address the important role technology plays in the learning process and how the digital age has increased the speed at which students have access to information. Since then, both Siemens and Downes have continued to write and speak on the subject. However, each has slightly different viewpoints. While Siemens tends to focus on the social aspects of connectivism, Downes focuses on non-human appliances and machine-based learning. The increasing use of technology as an educational tool has changed the learning landscape. With it came gaps in traditional ideas of teaching and the need for new methods to keep up. The theory of connectivism seeks to be the modern-day solution to those gaps. Whether you're already a teacher or aspire to be one, understanding this theory can give you additional tools and strategies to create a learning environment that sets your students up for success. This guide will help you dive deeper into the connectivism learning theory and provide tips on how to implement it in your own classroom. Patel (2021) theorized that education technology is a major part of the 21st-century learning experience. When incorporated properly in the classroom, tools such as computers, video con-
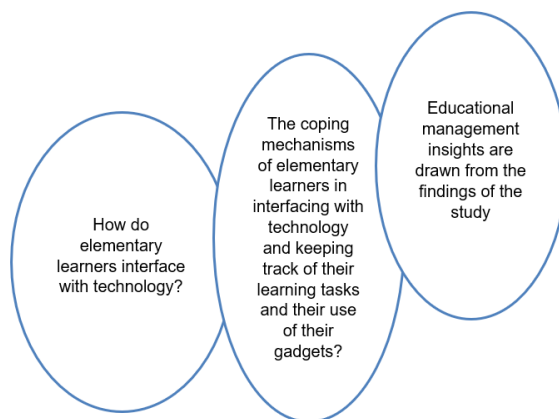
Fig. 1. Conceptual framework of the study

ferencing, and even artificial intelligence can be used to supplement children's education, provide support to students with disabilities, and have a wide variety of additional applications and benefits.

2. Methodology

This chapter discusses the research design that was used, the role of the researcher, the research participants, the data collection, the data analysis, the trustworthiness, and the ethical considerations.

The three most common qualitative methods are participant observation, in-depth interviews, and focus groups. Each method is particularly suited for obtaining a specific type of data. Participant observation is appropriate for collecting data on naturally occurring behaviors in their usual contexts. In-depth Interviews (IDI) is optimal for collecting data on individuals' personal histories, perspectives, and experiences, particularly when sensitive topics are being explored. Focus groups are effective in eliciting data on the cultural norms of a group and in generating broad overviews of issues of concern to the cultural groups or subgroups represented. Patton (2002) defined phenomenology as inquiry which asks the questions," What is the structure and essence of the experience of his phenomenon for these people? "the goal of this research worked well with this definition in trying to understand challenges of the floating teachers. Giorgi (2007) cautioned researchers to be prepared for an investigation that is greater in both depth and breadth than the offered description implied. He suggested information be viewed as only the tip of the iceberg.

2.1. Philosophical Assumptions—Philosophical Assumptions of the study The philosophical assumption is a framework used to collect, analyze and interpret the data collected in a specific field of study. It establishes the background used for the coming conclusions and decisions. Typical philosophical assumptions have different types and are elaborated below. Good research – undertaking with the selection of the topic, problem or area of interest, as well as the paradigm. Stanage (1987) traces 'paradigm 'back to its Greek (paradigm) and Latin origins (paradigm) meaning pattern, model for example among examples, an exemplar or model to follow according to which design actions are taken. Differently stated, a paradigm is an action of submitting to a view. This view is supported by Denzin and Lincoln (2000) who defend a research paradigms a "basic set of belief that

guide action", dealing with first principles, "ultimates' or the researcher's worldview or philosophy. Ontology. This part of the research pertains on how the issue relates to the nature of reality. According to Creswell (2012) reality is a subjective and multiple as seen by participants in the study. The ontological issue addresses the nature of reality for the qualitative researcher. Reality is constructed by individuals involved in the research situation. Thus, multiple realists exist, such as the realities of the researcher, those of individuals being investigated, and those of the reader or audiences interpreting the study. In this study, the elementary learners favorite pastime on their gadgets and other technology available for them were unearthed. In this study, I relied on voices and interpretations of the participants through extensive quotes, themes that reflected their words and provided evidences of different perspectives. The answers of the participants to the study were coded and analyzed to build and construct for the commonality and discreteness of responses. I made sure that the responses of the participants were carefully coded to ensure reliability of result. The researcher upheld the authenticity of the responses and precludes from making personal bias as the study progress. Epistemology. This refers to the awareness of how knowledge claims are justified by staying as close to the participants as possible as during the study in order obtain first-hand information. Guba and Lincoln (1985) as cited by Creswell (2013) state that on epistemological assumption, the researcher attempted to lessen distance himself or herself from the participants. He suggests that being a researcher he or she collaborates, spends time in the field with participants, and becomes an "insider." Based on Davidson (2000) and Jones (2011).I will identify phenomenology with the use of thematic analysis as the best means for this type of study. In this regard, individual researchers "hold explicit belief". The purpose of this research was to gather important details on the daily routines of elementary learners as they spend it on their handheld gadgets specifically in Maa District, Davao City. I assured to establish a close interaction with the participants to gain direct information that will shed light to the knowledge behind the inquiry particularly on the experiences and coping mechanisms of elementary learners as they engage themselves in their own personal gadgets or cellular phones. Axiology refers to role of values in research. Creswell (2013) avers that the role of values in a study is significant. Axiology suggests that the researcher openly discusses values that shape the narrative and includes own interpretation in conjunction with interpretation of participants. I uphold the dignity and value of every detail of information obtained from the participants. The researcher understands the personal and the value–laden nature of information gathered from the study. I therefore preserve the merit of the participant's answers and carefully interpreted the answers in the light of the participant's personal interpretation. Rhetorics. This philosophical assumption stressed that the researcher may write in a literary, informal style using the personal voice and uses qualitative terms and limited definition. In the context of the study, the researcher used the first person in explaining the technological activities of the elementary learners' narratives on their daily use of gadgets. As a researcher, I agree with the post modernism philosophy of Afzal-os-sadat Hossieni (2011). I believe that the aims of education are teaching critical thinking, production of knowledge, development of individual and social identity, self-creation. In postmodern education teachers just lead students to discover new things. They provide opportunities to discuss about different subjects and make creative ways. In this situation student learn to listen to other voices. They tolerate others criticism and try to think in critical way. They learn to respect other cultures and nationalities. Also, they emphasize on cooperative learning independent

learning, and dialectic, critical and verbal methods. It is deducted that postmodernism and creativity are embedded in each other and we can find the result of this opinion in postmodern education.

2.2. Qualitative Assumptions—Methodology is different from method. Methodology is creative and responsive approach to understand questions and subject matter while method refers to the exact knowledge and procedure (Gerodias, 2013). In this study the daily routines on the use of cellular phones or gadgets of the elementary learners in Maa District, Davao City were viewed. The researcher's drive in knowing the profounder meaning of the predicaments of the teachers as they observed their learners mostly engaged in the use of handheld gadgets became the basis for doing a qualitative research, a means of which Kalof and Dietz (2008), as cited from Gerodias, (2013) considered helpful in looking for "meanings and motivations that underline cultural symbols, personal experiences and phenomena ". By using phenomenology, this need was hoped to be addressed by bringing the stories of the floating teachers in a manner that, as David (2005) wrote, the themes, symbols and meaning of the experiences will be presented. Phenomenological research is based on two premises. The first is that experience is a valid, rich and rewarding source of knowledge. According to Becker (1992), as cited in Morrissey Higgs, (2006), that experience is a source of knowledge and shapes one's behavior. From the definition, human experience is viewed as a cornerstone of knowledge about human phenomena and not as an unreliable source. The second premise of phenomenological research lies in the view that the everyday world is a valuable and productive source of knowledge, and that we can learn much about ourselves and reap key insights into the nature of an event by analyzing how it occurs in our daily lives (Morrissey Higgs, 2006). By doing phenomenology which concerns with that "what" and the "how" (Moustakas, 1995), the researcher predicted that the personal experiences and coping mechanisms of the elementary learners were explored and insights were drawn as basis for the possible future researches and policy analysis in relation to this research.

2.3. Procedure—This study used qualitative research employing phenomenology. Interviews were conducted with a group of individuals who have first-hand knowledge of an event, situation or experience. The interview(s) attempts to answer two broad questions (Moustakas, 1994). The data was then read and reread and culled for like phrases and themes that are then grouped to form clusters of meaning (Creswell, 2013). Through this process the researcher constructed the universal meaning of the event, situation or experiences and arrived at a more profound understanding of the phenomenon. In this study phenomenology attempts to extract the most pure, untainted data and in some interpretations of the approach, bracketing is used by the researcher to document personal experiences with the subject to help remove him or herself from the process. One method of bracketing is memoing (Maxwell, 2013).

2.4. Research Participants—The participants in this study were composed of eight (8) informants. The selected informants were the elementary learners coming from elementary school in Maa District, Davao City. To be included as a participant in this study, the learners must have been engaged in using cellular phones or any hand held gadgets as observed in the school. The participants must be a bonafide learner of the selected school. The parents' consent must be acquired before any interview or conduct of the study would be done. Qualitative

analyses typically require a smaller sample size the quantitative analyses. Qualitative sample sizes should be large enough to obtain feedback for most or all perceptions. Obtaining most or all of the perceptions will lead to the attainment of saturation. Saturation occurs when adding more participants to the study does not result in additional perspectives or information. Glaser and Strauss (1967) recommend the concept of saturation for achieving an appropriate sample size in qualitative studies. For phenomenological studies, Creswell (1998) recommends five (5) to 25 and Morse (1994) suggests at least six (6). There are no specific rules when determining an appropriate sample size in qualitative research. Qualitative sample size may best be determined by the time allotted, resources available, and study objectives (Patton, 1990).

2.5. Data Collection—According to Creswell (2013), an important step in the process is to find people or places to study and to gain access to and establish rapport with participants so that they will provide good data. A closely interrelated step in the process involves determining a strategy for the purposeful sampling of individuals or sites. Once the inquirer selects the sites or people, decisions need to be made about the most appropriate data collection approaches. To collect this information, the researcher develops protocols or written forms for recording the data such as interview or observational protocols. Also, the researcher needs to anticipate issues of data collection, called "field issues," which may be a problem, such as having inadequate data, needing to prematurely leave the field or site, or contributing to lost information. Finally, a qualitative researcher must decide how he or she will store data so that they can easily be found and protected from damage or loss. In this study, there are seven steps in the process of data collection. First is the site or individual; the participants were the elementary learners from Maa district, Davao City. Second is the access and rapport; letter from the Dean of the Graduate School is given to the graduate student for the approval of the division superintendent; letter of permission for the Schools Division Superintendent, the school Principal and the concerned elementary teachers were prepared for easy collection of data. The third is the purposeful sampling strategy; all participants have experienced the phenomenon being studied. There were eight (8) informants selected in this study. The selected elementary learners were considered group of individuals who can best inform the researcher about the research problem. They were also considered as individuals who have experienced the phenomenon and can facilitate the collection of data. The fourth is the forms of data; the process of collecting information involved primarily in the Virtual In-Depth Interview (IDI) with the eight (8) informants. The fifth is the recording procedures; the use of a protocol was used in the observation and interviewing procedures. A predesigned form used to record information collected during an observation or interview. The sixth was the field issues; limited data collection was engaged in this study. The last or the seventh step was the storing of data; Davidson's (1996) suggested the use of database in backing up information collected and noting changes for all types of research studies. The COVID 19 Health Protocols. The data was collected during the Corona Virus Pandemic (COVID-19) time; therefore, the collection of data was based on the protocols set by the Inter-Agency Task Force (AITF) standards. It is a task force organized by the executive of the Philippine government to respond to affairs concerning emerging infectious diseases in the Philippines which was convened in January 2020. The Collection of data or the In-Depth Interview (IDI) was conducted following the

protocols for Social Distancing which is one of the mandates of AITF to avoid being contaminated and infected by COVID-19. In this study, the IDI was conducted with utmost care so that social distancing is followed and that at least 2 meters between persons was made. For some participants who missed the face-to-face social distancing efforts, the videocall via messenger, viber, zoom or google meet was used to gather the data or responses of the participants. The participants also filled-in the Interview Form provided to them and submit the same to the researcher.

2.6. Data Analysis—In this study all the data collected were carefully examined and thoughtfully analyzed. The researcher first described personal experiences with the phenomenon under study. The researcher began with full description of her own experience of the phenomenon. This is an attempt to set aside the researcher's personal experiences so that the focus can be directed to the participants. She developed a list of significant statements. She then finds statements about how individual was experiencing the topic, lists these significant statements as having equal worth, and works to develop a list of nonrepetitive, nonoverlapping, statements. The researcher took the significant statements and then grouped them into larger units of information, called "meaning units" or themes. She wrote a description of "what" the participants in the study experienced with the phenomenon. Next, she wrote a description of "how" the experience happened. This was called "structural description," and the inquirer reflects on the setting and context in which the phenomenon was experienced. Finally, she wrote a composite description of the phenomenon incorporating both the textural and structural descriptions. This passage is the "essence" of the experience and represents the culminating aspect of a phenomenological study. Thematic Content Analysis. A thematic analysis strives to identify patterns of themes in the interview data. One of the advantages of thematic analysis is that it's a flexible method which can be both for explorative studies, where the researcher do not have a clear idea of what patterns is being searched for, as well as for more deductive studies, where the researcher know exactly what he or she is are interested in. No matter which type of study is being done and for what purpose, the most important thing in the analysis is that the researcher respects the data and try to represent the results of the interview as honestly as possible (Montensen, 2020). Document analysis. Document analysis is a form of qualitative research that uses a systematic procedure to analyze documentary evidence and answer specific research questions. Similar to other methods of analysis in qualitative research, document analysis requires repeated review, examination, and interpretation of the data in order to gain meaning and empirical knowledge of the construct being studied. Document analysis can be conducted as a stand-alone study or as a component of a larger qualitative or mixed methods study, where it is often used to triangulate findings gathered from another data source (e.g., interview or focus group transcripts, observation, surveys). When used in triangulation, documents can corroborate or refute, elucidate, or expand on findings across other data sources, which helps to guard against bias (Frey, Bruce B., 2018). Triangulation of Data. Triangulation means using more than one method to collect data on the same topic. This is a way of assuring the validity of research through the use of a variety of methods to collect data on the same topic, which involves different types of samples as well as methods of data collection. However, the purpose of triangulation is not necessarily to cross-validate data but rather to

capture different dimensions of the same phenomenon (Kulkarni, Prashant, 2013). Environmental triangulation. The use of Environmental triangulation is limited only to those studies where the findings can be influenced by certain environmental factors. This type of triangulation uses different settings, locations and other factors such as time, day, season in which the study took place. The idea is to determine which of these factors influence the information received, these factors are then changed to see if the findings are the same. If the findings remain unaltered under varying environmental factors, then validity can be established (Naeem, Saira, 2019). In this study, such triangulation was used considering that the requirements as mentioned is the use of environmental triangulation best suit the environment of the research being conducted. According to Braun and Clark (2006) methods of qualitative data analysis fall in two groups. The first group consists of methods driven by an epistemological or theoretical position, which have limited variability in how they are applied within their frameworks, such as conversation analysis (CA) and interpretative phenomenological analysis (IPA) and methods which are situated within a broad theoretical framework and can therefore be used in a variety of ways within those frameworks, such as grounded theory (GT), discourse analysis (DA) narrative analysis (NA). The second group includes methods independent of theory and epistemology, which can be applied across a range of different theoretical and epistemological approaches and are therefore very flexible. One such method is thematic analysis, which through the theoretical freedom "provides flexible and useful research tool, which can potentially provide a rich and detailed, yet complex account of data (Braun and Clark, 2006). I observed several steps in conducting thematic analysis. The first stage in extracting qualitative data for analysis from the tape recordings was transcription. This was done to gain greater

familiarity with the data and deeper insight. I relied on my own resources to do the transcription with the use of my personal computer and some reliable headphones. I use several nights to listen to the interviews to deepen my understanding on the nuances of the language and semantics of the participants. Practice varied considerably in terms of agreeing conventions with transcribers. Some negotiated themselves to lay-out and conventions required, including researchers who wanted the kind of detailed transcriptions appropriate for conversations or narrative analysis. Others were sometimes less directly involved, and accepted the conventions generally used by the one transcribing the information. The next step as data extraction and analysis. I used manual techniques based on note taking and summary while listening to the recordings. My manual technique usually included some process of verbatim recordings of selected spoken words. I selected quotations about central issues, or when what was said seemed important or interesting. I used a number of different techniques as taught to me by my thesis adviser. I marked up transcripts with colored pens or sorted data by cutting and pasting. I used forms of thematic grids and charts, the framework technique as develop by the National Centre for Social Research (Ritchie et al, 2003). This technique was useful tome in the process of coding, sorting and collecting data for interrogation. This technique was very useful in understanding links and relationships between issues. All these efforts and procedure included saving verbatim spoken words from the transcripts, which could be cross referenced to the thematic displays or the maps. To summarize, the thematic analysis method outlined by Braun and Clarke (2006) which consisted of six (6) phases used in analyzing the data. Phase 1. I familiarized myself with the data by reading the whole data set and noting down initial ideas; Phase 2. I generated initial codes, with coded being the most basic segments of the raw data
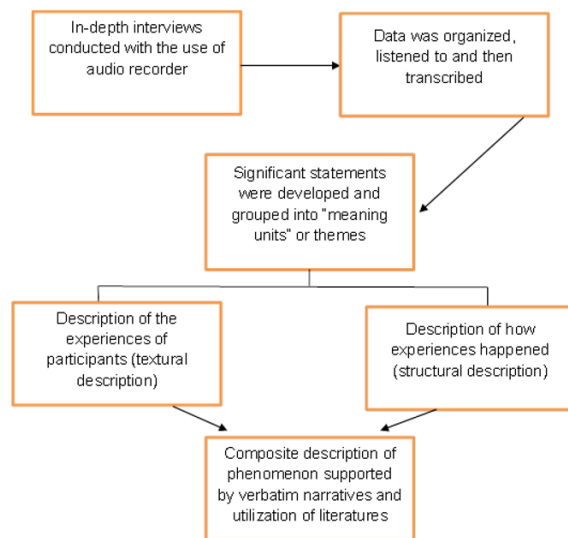
Fig. 2. nalytical Framework of the Study

that can identify a feature of the data that appears interesting; Phase 3. I searched for themes by sorting different codes into potential themes and collated all data extracts within identified themes; Phase 4. I reviewed the themes and refined them further (at the level of coded data extracts and the entire data set) and produced a thematic map showing relationships between themes and sub themes; Phase 5. I defined and named themes, making sure they give the reader immediate sense of what the theme is all about. Phase 6. I wrote the report to convince the reader of the merit and validity of the analysis (within and across the themes), used data extracts embedded within an analytic narrative to make arguments in relation to the research question.

3. Results and Discussion

This part of the study dealt with the research questions and its answers based on the responses of the participants of the study. The learner participants revealed their stories as they interfaced with the technology simultaneous to their learning activities. This study also explored the coping mechanisms and insights of the learners specifically in maa District, Davao City.

3.1. How Elementary Learners Interface With Technology—Many learners nowadays are heavily invested in technology, spending a lot of time on their gadgets such as smartphones, tablets, laptops, and desktops. While this may have introduced a new dimension of learning, it may also be causing a distraction from academic studies. This qualitative research aims to uncover the reasons behind learners' reliance on these devices.

One prevalent issue among elementary learners is their addiction to online games. Many of these students seem to prioritize their gadgets over their studies, which goes against the main purpose of being in school. Instead of using their devices for academic research and learning, they spend most of their time playing games and accessing other programs. This research aims to explore this issue in greater depth.

3.2. Reduced Focus on Learning Activities—School learning activities are crucial for developing new skills and acquiring knowledge
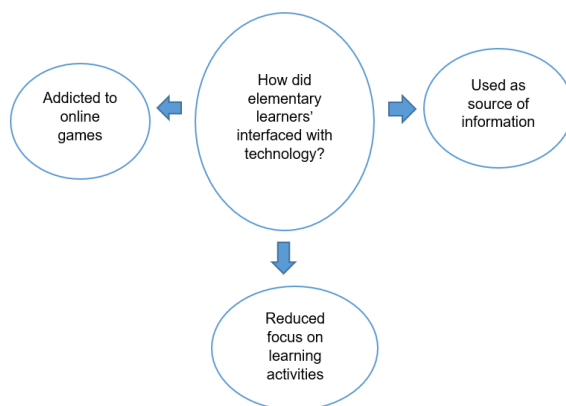
11

Fig. 3. How Elementary Learners Interface With Technology

from lectures. However, as many learners spend most of their time on their smartphones, they often lose focus on their regular class activities. Instead, they tend to give more attention to gaming or other non-academic activities, resulting in a reduction of their academic time. This, in turn, has a negative impact on their learning objectives, depriving them of the chance to learn and improve.

3.3. Source of Information—It is very true that at this point in time, learning new ideas are made easy through the internet research or browsing. Almost everything that we ask in the google were given and provided to us in a split second, without hesitation and too much waiting time. Unlike in the previous decades, library research on certain topics were difficult and it was not easy. In those years, making research gave each leaner the challenge of learning. But now, learning has always been easy and making research are just at the tip of the fingers.

3.4. The coping mechanisms of elementary learners in keeping track of their learning tasks and their use of their gadgets.—Despite all the issues and challenges in taking back the learning interests of the pupils and give focus on their studies, these learners were considerate enough to adopt a particular coping mechanism. As times passed by, these learners realized that they had been complacent with their classwork and they noticed that their class performance was not doing well.

3.5. "No game at school" strategy—As narrated by the participants of this study they themselves proved that they too can implement their personal rules to keep them on track with their learning activities. Most of the participants reiterated that they had no game at school policy. This was a personal decision that they made to make their school presence more productive and meaningful. Most of the participants of this study started to disregard some of their games while at school. With this no game at school strategy, they were able to provide a better-quality time while they were at the school premises.

3.6. Use gadgets for online research only—There is another side of the utilization of cellular phones on gadgets. As a learner, and as being always told and reminded by their class adviser, their on-line gaming vices was turned into and academic browsing of information. As one of their coping mechanisms, the learners directed their attention on the other uses of their cellular phones. Instead of focusing on their online gaming, they entertained the idea of making
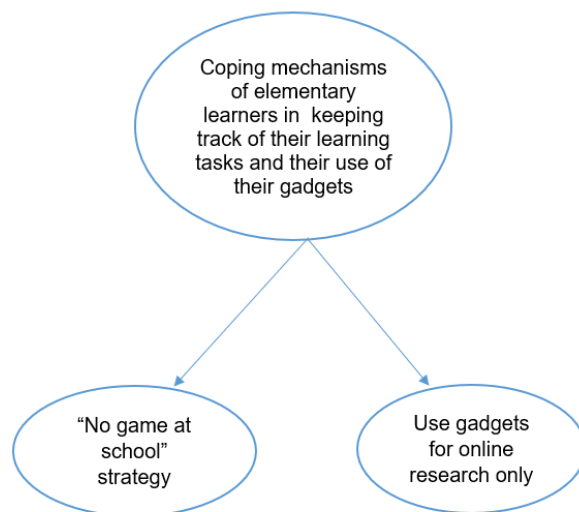
Fig. 4. Coping mechanisms of elementary learners in keeping track of their learning tasks and their use of their gadgets

research online rather than purely entertainment like gaming, watching videos and chatting.

3.7. Educational management insights drawn from the findings of the study —It has been known that the current utilization of personal gadgets are rampant inside the classrooms of elementary learners. These inevitable use of cellular phones for the elementary learners did not bring positive impact on the learner's school life. Rather, these gadgets have become a menace inside the classroom. After thorough analysis of the learners' responses and the themes were identified, some significant insights were drawn from the class advisers. In this part of the research, the insights of the teachers were solicited and taken into consideration since they were more knowledgeable about the research being conducted. The teachers were in the right position to give their respective comments on educational insights being a classroom manager.

Improve school policies on the use of gadgets or lap tops. The school policies may re revisited, specifically on the use of gadgets, there may be some limitations on its continual use inside the classroom. The school officials as well as the teachers may agree on the proper time and use of the cellular phones of the learners.

3.8. Limit or no use of gadgets during class hours—Based on the experiences of the teachers on their dealings with the students with cellular phones was somehow drastic. There were students who were stubborn and do not listen to the instructions of the teachers or advisers. While at this point in time, the use of cellular phones has become a necessity, for them. If there is no way not to use the gadgets the classroom, at least it can be in classroom use at a limited time.

4.   Implications and Future Directions

In this chapter, the summary of the study is presented, from the summary of the findings, I drew the implications and future directions. The purpose of my study was to find out the elementary learners interfaced with technology during their pastime. Their coping mechanisms were also drawn. Some

13

5.   References

Acharya et al (2013) A Study on Some of the Common Health Effects of Cell-   Phones amongst College Students. Department of Community Medicine,   Bhaskar Medical College, Moinabad, Hyderabad, AP, India

Adetunji, J. (2018) Ten reasons teachers can struggle to use technology in the classroom. https://theconversation.com/ten-reasons-teachers-can-   struggle-to-use-technology-in-the-classroom-101114

Adir, c. (2022) Video Game Addiction – Treatment, Symptoms, and Causes. https://gamequitters.com/video-game-addiction

Aduwa-Ogiegbaen, S. E., & Iyamu, E. O. S. (2005). Using information and communication technology in secondary schools in Nigeria: Problems and prospects. Educational Technology & Society, 8(1), 104-112.

Afzal-os-sadat Hossieni (2011) Explanation of creativity in postmodern   educational ideas. Procedia, social and Behavioral Sciences

Allen, K. (2017) Mobile phones in the classroom: A helpful or harmful hindrance? https://psychlopaedia.org/learning-and-development/mobile-phones-in-   the-classroom-a-helpful-or-harmful-hindrance/

Amadora, M. (2020) Common problems that occur during online classes. https://mb.com.ph/2020/09/18/common-problems-that-occur-during-   online-classes/

Anderson CA, Dill KE. (2000) Video games and aggressive thoughts, feelings, and behavior in the laboratory and in life. J Pers Soc Psycho. 2000;78(4):772– 90. [PubMed] [Google Scholar] [Ref list]

Armier, D. J., Shepherd, C. E., & Skrabut, S. (2016). Using game elements to increase student engagement in course assignments. College Teaching,   64(2), 64–72 https://doi.org/10.1080/87567555.2015.1094439.

Bachman, E. , J. Elfrink , and G. Vazzana (2006) Tracking the progress of e-mail vs. snail-mail. Marketing Research 8:31–35.

Becker, CS (1992), Living and relating: An introduction to phenomenology. 2019 American Psychological Association. 750 First Street NE, Washington, DC

Fig. 5. Educational management insights drawn from the findings of the study

significant insights were also taken into consideration. This study was conducted in Maa District, Davao City. To achieve the research objectives, I made use of qualitative phenomenological method with the use of thematic analysis. In adherence to Cresswell's (2006) guidelines in which open ended questions for interview were applied to extract authentic understanding of the participants experiences. Furthermore, through this interview approach, I encouraged my participants to fully and openly discuss their own experiences or meaning of the phenomenon being explored which was about the learners experiences with technology during their pastime. Based on the results of thematic analysis of the responses from the participants of the study the following findings and their corresponding themes were revealed: Addicted to online games, Reduced focus on learning activities and Used as source of information. The coping mechanisms of the elementary learners were: "No game at school" strategy and Use gadgets for online research only. The educational management insights were focused on two factors: Improve school policies on the use of gadgets or lap tops and No use of gadgets during class hours.

4.1. Implications—The experiences of elementary learners as they interfaced with technology during their pastime in Maa District, Davao city revealed several factual activities that these learners do in their respective classrooms. The narratives of the elementary learners as they interfaced with technology in their classrooms revealed three themes namely: being addicted to on line games, reduced focus on learning activities and used as source of information. It has been very well known the learners today are engrossed in using the technology anywhere they go. Most of them hold the cellular phones or computer tablets. It can be observed that even preschoolers use the cellular phones as their toys. Based on the findings of the study, most of the participants were addicted to on line

games. Most of them have been engaged in on line games while others were engrossed in some other games, thus, taking away all their precious time. Instead of using the gadgets for learning, they succumb to the games, therefore disregarding most of the classroom activities. Thes learners have reduced their participation in their learning activities. It was observed that the moment the learners hold the cellular gadgets, they start to focus on what they have started watching, be it a game or other pre recorded rhymes. Most of the elementary teachers had been worrying about the lack of participation or interest of the learners who are using the gadgets. It was not easy for the teachers to regain their interest back since most of them were given a cellular phone by their parents. Most of these participants became passive in the classroom activities, they did not care about the activities performed by their classmates. On the brighter side of this findings, it was revealed that there were times when the learners used their cellular phones as a source of information. It was easier for them to search specific information from Google and other open links. Most of their assignments and other classroom activities relied so much in searching immediate answers to the question posed by their teachers. In this decade, seldom we find learners carrying a printed dictionary. Most of them depended upon the search engine from their cellular phones. It is also true that at this time of learning methodologies, the presence of these gadgets assisted them very well in their search for answers posed by their teachers. The coping mechanisms of the elementary learners, to get away of being engrossed in using the gadgets, this research revealed two significant coping strategies namely: "No game at school" strategy and using the gadgets for on line research only. The "No game at school" strategy was also a developed way of the learners in consonance with their teachers advices, to get rid of their addiction to their use of the gadgets in the classroom. Having been noticed constantly by

their teachers, they themselves had to let go of their time playing while at school. The teachers were so much concerned about the rampant use of gadgets inside their classrooms. This strategy was gradually accepted by the learners. As they entered their respective classrooms, they already knew what to do with their handheld gadgets. It was a pleasant feeling seeing the elementary learners using their cellular phones by doing their course researchers. Simple as it is but thiy started learning about what is right and what is wrong in using the handheld gadgets in their classrooms. The second theme that came out was on using the gadgets for on line research. The elementary learners had been successfully redirected by the classroom advisers. The teachers were aware that almost all their learners have a gadgets, this cannot be taken away from them, however, the teachers tried their very best to divert the learners attention from the games installed in their cellular phones. During the conduct of the study, the learners narrated that they were allowed to use their cellular phones for on line researches or queries only. It was something positive to recall that the negative impact on the use of the gadgets were turned into a positive utilization. Some insights that were drawn from the findings of the study revealed that there is a need to improve school policies on the use of gadgets or lap tops. It is a common knowledge that almost everyone in this country owns a cellular phone. All we have to do is to improve our classroom policies on the utilization of hand-held gadgets. In coordination with the parents or the Parent-Teacher Association or PTA, some internal school policies may be crafted to maximize the use of cellular phones in the classroom and make these hand held gadgets more usable rather than a simple toy. The second insights drawn from the findings of the study was on the limited or no use of cellular phones in the classroom. Although the cellular phones play a significant role in the learning process in this decades learning, it is important

that some instructions or rules may be followed to make the presence of these gadgets meaningful. Having these rules in the classroom, the use of these gadgets becomes limited to the extent of doing research or playing games that are educational. These gadgets have replaced the traditional way of presenting videos or motion pictures or power point presentations. With these gadgets, it was easier for the teachers as well as the learners to search what they intend to know with the provision of the internet and paid data use.

4.2. Future Directions—Based on the findings of the study, it is important that the findings are properly relayed and used by the significant people whom this research was intended for. For the principals or school heads to be more open to technological developments. Knowing that most of the learners possess a hand-held gadget, school policies may be revisited and integrate in-school or in-classroom utilization procedures. The elementary teachers may consider several strategies to gain the attention of the learners

in their quest of knowledge through their hand-held gadgets. Constant reminders on the proper use of these gadgets may be a regular task of the classroom teachers to regain the attention of the learners and guide them on the proper use of search engines to search important information. The parents may be given proper information and guidelines on the use of hand-held gadgets of their children. Being aware of the importance of communication, these hand-held gadgets may be put into proper use as guided by their parents and classroom teachers. The learners may be directed well through the constant reminders of their class advisers and on the right time to use and not to use their cellular phones in and out of their classrooms. The learners may thoroughly follow important rules in the utilization of their gadgets. For the future researchers, similar studies may be conducted in other divisions or schools where the use of cellular phones and other technologies are rampant. Other dimensions of the utilization of hand-held gadgets may be explored.

5. References

Acharya et al (2013) A Study on Some of the Common Health Effects of Cell-	Phones amongst College Students. Department of Community Medicine,	Bhaskar Medical College, Moinabad, Hyderabad, AP, India

Adetunji, J. (2018) Ten reasons teachers can struggle to use technology in the classroom. https://theconversation.com/ten-reasons-teachers-can-	struggle-to-use-technology-in-the-classroom-101114

Adir, c.	(2022) Video Game Addiction – Treatment, Symptoms, and Causes. https://gamequitters.com/video-game-addiction

Aduwa-Ogiegbaen, S. E., & Iyamu, E. O. S. (2005). Using information and communication technology in secondary schools in Nigeria: Problems and prospects. Educational Technology & Society, 8(1), 104-112.

Afzal-os-sadat Hossieni (2011)	Explanation of creativity in postmodern	educational ideas. Procedia, social and Behavioral Sciences

Allen, K.	(2017) Mobile phones in the classroom: A helpful or harmful hindrance? https://psychlopaedia.org/learning-and-development/mobile-phones-in-	the-classroom-a-helpful-or-harmful-hindrance/

Amadora, M. (2020) Common problems that occur during online classes. https://mb.com.ph/2020/09/18/common-problems-that-occur-during-	online-classes/

Anderson CA, Dill KE. (2000) Video games and aggressive thoughts, feelings, and behavior in the laboratory and in life. J Pers Soc Psycho. 2000;78(4):772– 90. [PubMed] [Google Scholar] [Ref list]

Armier, D. J., Shepherd, C. E., & Skrabut, S. (2016). Using game elements to increase student engagement in course assignments. College Teaching,	64(2), 64–72 https://doi.org/10.1080/87567555.2015.1094439.

Bachman, E. , J. Elfrink , and G. Vazzana (2006) Tracking the progress of e-mail vs. snail-mail. Marketing Research 8:31–35.

Becker, CS (1992), Living and relating: An introduction to phenomenology. 2019 American Psychological Association. 750 First Street NE, Washington, DC

17

Beland, L. P., & Murphy, R. (2016). Ill communication: Technology, distraction & student performance. Labour Economics, 41, 61-76

Blikstad-Balas, M., & Davis, C. (2017). Assessing the educational value of one-to-one devices: Have we been asking the right questions? Oxford Review of Education, 43(3), 311-331

Boyle, E. A., Hainey, T., Connolly, T. M., Gray, G., Earp, J., Ott, M., et al. (2016). An update to the systematic literature review of empirical evidence of the impacts and outcomes of computer games and serious games. Computers & Education, 94, 178–192.

Consultores (2021) Advantages and disadvantages of using the internet in research. https://online-tesis.com/en/advantages-and-disadvantages-of-using-the-internet-in-research/

Cram (2023) The Importance Of Internet Sources Of Information. https://www.cram.com/essay/The-Importance-Of-Internet-Sources-Of-Information/F3NP7RSZ7MQW

Creswell, J.W. (2012). Qualitative Inquiry & Research Design: Choosing Among the Five Approaches. Thousand Oaks, CA: SAGE Publications, Inc. (pp. 77-83)

Creswell, J. (2013). Research design: Qualitative, quantitative and mixed methods approaches (2nd ed.). Thousand Oaks, CA: SAGE Publications Foster &Newman, (2005) "Going going....." Why are Males Underrepresented in Pre- Service Primary Education Courses at University?

Cruz, K. (2022) Tech limitations barrier to effective online learning – study. https://www.manilatimes.net/2022/06/09/campus-press/tech-limitations- barrier-to-effective-online-learning-study/1846725

Davidson (2000) and Jones (2011). Approach-withdrawal and cerebral asymmetry: emotional expression and brain physiology. Journal of Personality and Social Psychology 58

D'Angelo, C. (2020) Technology And The Curriculum: Summer 2018 University of Ontario Institute of Technology. https://pressbooks.pub/techandcurriculum/chapter/engagement-and-success/

Davis, F. D. (1985). A Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results. Doctoral dissertation. Cambridge, MA: Massachusetts Institute of Technology.

Denzin and Lincoln (2000) The discipline and practice of qualitative research. Denzin, N.K. and Lincoln, Y.S., Eds., Handbook of Qualitative Research, Sage, Thousand Oaks

Downes (2005) Theory of Connectivism. https://www.wgu.edu/blog/connectivism-learning-theory2105.html#close

Duff, E. (2022) School Policies & Procedures. https://www.hcbgroup.com/site/sectors_serv/education-solicitors/for-schools/policy-advice/

Gasson, S. (2004). Rigor in grounded theory research: An interpretive perspective on generating theory from qualitative field studies. In M. E. Whitman & A. B. Woszczynski (Eds.), The handbook of information systems research (pp. 79–102). Hershey, PA: Idea Group.

Gerety, S. (2022) 18 Awesome technology quotes to inspire & motivate. https://criteriaforsuccess.com/18-awesome-technology-quotes-to-inspire-motivate/

Giorgi, Amadeo (2007) Concerning the phenomenological methods of Husserl and Heidegger and their application in psychology. http://www.cirp.uqam.ca/documents%20pdf/Collection%20vol.%201/5.Giorgi.pdf

Glaser, B. G. & Strauss, A. L. (1967). The discovery of grounded theory: Strategies for qualitative research. Piscataway, New Jersey: Transaction.

GoGuardian Team (2019) Benefits and challenges of technology in the classroom. https://www.goguardian.com/blog/technology-in-the-classroom-importance-challenges

Gorman, R. (2014) . http://www.dailymail.co.uk/news/article-2591148/

Gorra and Bhati (2016) Students' perception on use of technology in the classroom at higher education institutions in Philippines. https://ro.uow.edu.au/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1878&context=buspapers

Fig. 6. Enter Caption

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), The handbook of qualitative research (pp. 105–117). Thousand Oaks, CA: Sage.

Haddad, W. D., & Jurich, S. (2002). ICT for education: potential and potency. In W.D. Haddad & A. Draxler (Eds.), Technologies for education. Paris: UNESCO and AED.

Haruna, R. (2016) Impact Of Mobile Phone Usage On Academic Performance Among Secondary School Students In Taraba State, Nigeria. https://eujournal.org/index.php/esj/article/view/6911

Haryanto, D. (2020) Analysis of Utilization of Gadgets as Effective Learning Media in Innovation Education to improve Student Learning Achievement. https://knepublishing.com/index.php/Kne-Social/article/view/4671/9402

Hilkemeijer, M. (2022) Teaching Strategies for the Classroom: Overcome technical issues with technology in the classroom. https://www.ictesolutions.com.au/blog/teaching-strategies-for-the- classroom-overcome-technical-issues-with-technology-in-the-classroom/

Jacobs, A. (2012). The charisma of the iPad: On technology in the classroom. The Atlantic 2012. Retrieved April 3, 2020. https://www.theatlantic.com/technology/archive/2012/04/the-charisma-of- the-ipad-on-technology-in-the-classroom/255801/

Johnson et al (2020) Challenges and solutions when using technologies in the classroom. https://files.eric.ed.gov/fulltext/ED577147.pdf

Kalof and Dietz (2008), Essentials of social research. McGraw-Hill Education, 1 Oct 2008 - Social Science

Kaware, S. S., & Sain, S. K. (2015). ICT Application in Education: An Overview. International Journal of Multidisciplinary Approach & Studies, 2(1), 25–32.

Kernbach, S., Bresciani, S., & Eppler, M. J. (2015). Slip-Sliding-Away: A Review of the Literature on the Constraining Qualities of PowerPoint. Business and Professional Communication Quarterly, 78(3), 292-313. https://doi.org/10.1177/2329490615595499

Khan (2022) Effects of Mobile Phones on Children's Health. https://innohealthmagazine.com/2019/well-being/effects-mobile-phones/

Kuznekoff and Titsworth (2013) The Impact of Mobile Phone Usage on Student Learning. https://www.tandfonline.com/doi/abs/10.1080/03634523.2013.767917

Lawrence, B., & Lentle-Keenan, S. (2013). Teaching beliefs and practice, institutional context, and the uptake of Web-based technology. Distance Education, 34(1), 4–20.

Lei, C., Conway, P. F., and Zhao, Y. (2011). The Digital Pencil: One-to-One Computing for Children. Abingdon: Routledge.

Lepp, J.E. Barkley, A.C. Karpinski (2014) The relationship between cell phone use, academic performance, anxiety, and satisfaction with life in college students Computers in Human Behavior, 31 (1).

Marion Deslandes-Martineau, Patrick Charland, Olivier Arvisais, Valérie Vinuesa (2020) Education and COVID-19: challenges and opportunities. https://en.ccunesco.ca/idealab/education-and-covid-19-challenges-and-opportunities.

Maxwell, Joseph Alex (2013), Qualitative research design : an interactive approach J.A. Maxwell.

Meador, D. (2019) 10 Essential Policies for Your Student Handbook. https://www.thoughtco.com/ten-essential-policies-for-your-student-handbook-3194524

Miller (2018) Is Too Much Technology Bad For Students? https://www.teachertoolkit.co.uk/2018/06/19/too-much-technology/

Mistler-Jackson, M., & Songer, N. B. (2000). Student motivation and Internet technology: Are students empowered to learn science? Journal of research in science teaching, 37(5), 459-479.

Mo, S. (2011). Evidence on instructional technology and student engagement in an auditing course. Academy of Educational Leadership Journal, 15(4), 149.

Moustakas, (1995) Phenomenological research methods

Morrision M, Krugman DM. A look at mass and computer mediated technologies: Understanding the roles of television and computers in the home. Journal of Broadcasting and Electronic Media. 2001;45:135–61. [Google Scholar]

Morrissey & Higgs, (2006), Phenomenological research and adolescent female sexuality: discoveries and applications

NeoGov (2020) Importance of clear policies and procedures in schools. https://www.powerdms.com/policy-learning-center/importance-of-clear-policies-and-procedures-in-schools

Nworie, John and N.Houghton (2008) "Good intentions and unanticipated effects: The uni9ntended consequences of application of technology in teaching and learning environments.", Tech Trends, Vol, 5, 5, pp.52-58 .

Ontario Ministry of Education. (2019). Cellphones and other personal mobile devices in schools.

Ozorio-Salez et al (2020) Parents' Acceptance of Educational Technology: Lessons From Around the World. https://www.frontiersin.org/articles/10.3389/fpsyg.2021.719430/full

Park and Lee (2011) Social implications of smartphone use: Korean college students' smartphone use and psychological well-being. Cyberpsychology, Behavior, and Social Networking, 15 (9) (2012),

Patel (2021) Greatest challenges facing education technology today. https://wpgc.io/the-7-greatest-challenges-facing-education-technology-today/

Patton, Michael (2000) Two decades of developments in qualitative inquiry: a personal, experiential perspective. https://journals.sagepub.com/doi/10.1177/1473325002001003636

Pea & Maldonado (2006) A Pedagogical Framework for Mobile Learning: Categorizing Educational Applications of Mobile Technologies into Four Types. https://www.researchgate.net/publication/

Ra (2016) Ways to Use ICT to Address Education Challenges. https://blogs.adb.org/blog/5-ways-use-ict-address-education-challenges

Ralph, P. (2015). Why universities should get rid of PowerPoint and why they won't.

Rapanta et al. (2021) Balancing technology, pedagogy and the new normal: post-pandemic challenges for higher education. https://link.springer.com/article/10.1007/s42438-021-00249-1

Richards and Schwartz (2002) Ethics of qualitative research: are there special issues for health services research?,

Saipriyanka (2020) Internet as a source of information. https://www.testbig.com/ielts-writing-task-ii-ielts-general-training-essays/internet-when-used-source-information-has-0

Roschelle, J. (2003) Keynote paper: Unlocking the learning value of wireless mobile devices. https://onlinelibrary.wiley.com/doi/abs/10.1046/j.0266-4909.2003.00028.x

Sanjari, M. et al (2014) Ethical challenges of researchers in qualitative studies: the necessity to develop a specific guideline. Journal of medical Ethics and History of Medicine.

Schindler, L. A., Burkholder, G. J., Morad, O. A., & Marsh, C. (2017). Computer-based technology and student engagement: a critical review of the literature. International Journal of Educational Technology in Higher Education, 14(1), 25.

Sison, M. (2022) Philippine struggle to make the grade in STEM education. https://www.scidev.net/asia-pacific/scidev-net-investigates/philippine-struggle-to-make-the-grade-in-stem-education/

Smith, Gambrell & Russell (2023) 10 Technology Challenges. https://www.sgrlaw.com/ttl-articles/10-technology-challenges.

Sun, S., Lee, P., Lee, A., & Law, R. (2016). Perception of attributes and readiness for educational technology: Hospitality management students' perspectives. Journal of Hospitality & Tourism Education, 28(3), 142-154.

Stanage, S. M. (2017). Adult education and phenomenological research: New directions for theory, practice and research. Malabar, FL: Robert E. Krieger.

Teach thought (2019) 5 Problems With Technology In Classrooms. https://www.teachthought.com/technology/problems-with-technology-in-classrooms/

Tenner, (Downloaded February 2023) E. "Why things bite back." New York, Vintage Books.

Twenge, J. M. (2017). Have Smartphones destroyed a generation? The Atlantic. September Issue. Accessed May 9, 2020. https://www.theatlantic.com/magazine/archive/2017/09/has-the-smartphone-destroyed-a-generation/534198/

Venkatesh, V., and Davis, F. A. (2000). Theoretical extension of the technology acceptance model: four longitudinal field studies. Manag. Sci. 46, 186–204. doi: 10.1287/mnsc.46.2.186.11926

Volkow ND, Tomasi D, Wang GJ, et al. Effects of cell phone radiofrequency signal exposure on brain glucose metabolism. JAMA. 2011;305(8):808–813. [PMC free article] [PubMed] [Google Scholar]

Wilmer, H. H., Sherman, L. E., & Chein, J. M. (2017). Smartphones and cognition: A review of research exploring the links between mobile technology habits and cognitive functioning. Frontiers in Psychology, 8(605), 1-16.

Youssef, A. B., & Dahmani, M. (2008). The impact of ICT on student performance in higher education: Direct effects, indirect effects and organisational change. RUSC. Universities and Knowledge Society Journal, 5(1), 13.

Zubak (2021) Learners' problems technology can solve. https://elearningindustry.com/learners-problems-technology-can-solve