Educational screen time and the academic performance of grade 6 students in Bubukal Elementary School, Sta. Cruz, Laguna

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Abstract

The primary objective of this study was to determine the average educational screen time of Grade 6 students at Bubukal Elementary School in Santa Cruz, Laguna, with the aim of assisting the students' academic performance. A descriptive method was employed to systematically and accurately describe a situation or areas of interest. The sampling process involved sixty-seven (67) respondents who responded to the researchers' questions to gather data. The primary instrument used in the study was a survey questionnaire distributed to the respondents, consisting of five questions. The treatment utilized by the researchers to establish the relationship between the mean educational screen time and the 3rd quarterly grades of Grade 6 students involved measures of central tendency and the Pearson product-moment correlation coefficient to examine the relationship between mean educational screen time and the 3rd quarterly grades of the students. The researchers concluded that the null hypothesis was rejected. The relationship between the mean educational screen time for television and laptop use was interpreted as a weak (negative) linear relationship with r-values of -0.2266 and -0.2127, respectively, while in cellphone usage, it was a weak (positive) linear relationship with an r-value of 0.0598, all with r-values less than the critical value. Consequently, the relationship between the mean educational screen time and the 3rd quarterly grades of the students is not considered significant. Consequently, the researchers found that educational screen time, particularly with gadgets such as laptops, cellphones, and televisions, does not significantly impact the 3rd-quarter grades of the students. The researchers would like to make the following recommendations: 1.) Students of Bubukal Elementary School may receive a leaflet from the researchers that includes information about screen time, educational sites that they can use for their studies, advice on how to use screen time wisely, as well as recommended time limits for using their gadgets. 2.) Bubukal Elementary School may consider integrating more technology and gadgets into the learning process to enhance students' knowledge and help them catch up with the advanced and modern world. 3.) Parents and guardians should set time limits for their children's screen time using gadgets so that they can use it wisely and responsibly. 4.) Future researchers should conduct a similar study with additional information to further explore this topic and use this study as a reference for future research related to educational screen time and academic performance.

Keywords: educational screen time; academic performance; gadgets

1. Introduction

The use of technology has become a natural part of daily life, especially for individuals with internet access. Technological innovation has rapidly progressed, resulting in small handheld devices and pocket-sized

mobile phones with widespread internet availability. Consequently, children are spending an increasing amount of time looking at their screen devices. While technology offers numerous benefits, there is growing concern about its detrimental effects on academic performance, particularly among students.

This research aims to explore and analyse the relationship between educational screen time and academic performance. By investigating various aspects of this phenomenon, we aim to shed light on the potential challenges and consequences that students face when spending extended periods engaged with screens. The term "educational screen time" refers to excessive hours spent studying on digital devices, including smart phones, computers, and televisions. This study focuses on the implications of educational screen time on academic performance and its subsequent effects on students' educational achievements.

Educational screen time can help children develop problem-solving, social, creative, and communication skills. Utilizing screen time for learning can include activities such as taking photos, making videos, using online maps, and teaching others to play games or applications. Understanding the potential effects of educational screen time on academic performance is crucial for educators, parents, policy makers, and healthcare professionals. By recognizing and addressing these effects, we can develop informed strategies, interventions, and guidelines to promote healthier screen time habits and create a conducive learning environment that maximizes students' academic potential.

In conclusion, this research aims to provide a comprehensive examination of educational screen time and academic performance. By critically analysing existing research, this seeks to highlight the significant challenges students face in this digital era and offer insights to inform future policies, practices, and interventions. Ultimately, our goal is to foster a balanced and healthy relationship between students and screens, ensuring their academic success and overall well-being in an increasingly screen-dominated world.

1.2. Background of the Study

In the rapidly evolving digital age, technology has become an integral part of our lives, impacting various aspects of society, including education. The way we study and access information has been completely transformed by the development of cellphones, laptops, televisions, and other electronic gadgets. Educational screen time, referring to the time students spend using digital devices for learning purposes, has emerged as a prominent topic of interest among educators, researchers, parents, and policy makers alike.

According to Jennifer Holmes (2023), there are ten reasons why too much use of gadgets is bad for our children. The first on the list is the drastic impact on brain development. Studies have shown that excessive gadget use can lead to attention deficit, cognitive delays, worse learning, increased impulsivity, and a diminished ability to self-regulate. Second, youngsters may witness violence on TV or through games on their ipads, which can lead to aggressive behaviour in children. Furthermore, excessive gadget use can reduce interaction with others, hindering the normal development of children's communication skills.

On the other hand, the international journal of environmental research and public health (2020) suggests that screen time for young children can have positive effects on learning capacities, engagement in stem subjects, and social interaction when used actively and in collaboration with educators. For example, e-books seem to be useful in stimulating vocabulary development and reading comprehension, making them more engaging for young children.

Moreover, Amy Morin (2020) agrees that too much use of gadgets is harmful, leading to educational problems and lower academic performance, especially for children in elementary school who have gadgets in their beds. It can disrupt study time, interfere with internal time management, and negatively impact family relationships. The negative consequences of excessive screen time are not limited to youngsters, as adults can also suffer from issues such as obesity and sleep disturbances.

Overall, it is crucial to recognize and address the potential detrimental effects of excessive gadget use. Striking a balance and using technology mindfully can help mitigate these negative impacts and promote healthier habits for both children and adults in this digital era.

1.2. Statement of the Problem

This study aims to determine the Educational Screen time and the Academic Performance of Grade 6 Students in Bubukal Elementary School Santa Cruz, Laguna.

Specifically, this study will seek answers to the following questions:

1. What is the mean educational screen time of Grade 6 students in terms of:
   1.1. Cellphone
   1.2. Television
   1.3. PC/Laptop
2. What is the 3rd Quarterly Grade of the students?
3. Is there any significant relationship between the mean educational screen time and the 3rd quarterly grade of the students?

1.3. Objectives of the Study

This study will evaluate the Educational Screen time and the Academic Performance of Grade 6 students in Bubukal Elementary School Santa Cruz, Laguna.

This study specifically seeks to:

1. Determine the mean educational screen time of Grade 6 students in terms of cellphone, television and pc/laptop.
2. Identify the 3rd quarterly grade of the students.
3. Determine the significant relationship between the mean educational screen time and the 3rd quarterly grade of the students.

1.4. Hypothesis

Null Hypothesis (H_0): There is no significant relationship between the mean educational screen time and the 3rd quarterly grade of the students in Bubukal Elementary School Santa Cruz, Laguna.

Alternative Hypothesis(H_1): There is a significant relationship between the mean educational screen time and the 3rd quarterly grade of the students in
Bubukal Elementary School Santa Cruz, Laguna.

1.5. Significance of the Study

The researcher of this undertaking desires to make a significant contribution to the following:

Students. This study may serve as a guide and reference for students who use educational screen time to help with their studies.

Parents. This study will help parents recognize the potential risks and make informed decisions regarding their children's educational screen time habits, ultimately promoting their well-being and development.

Teachers. Through this study, teachers can design appropriate strategies and interventions to utilize educational screen time in the classroom, fostering a more productive and engaging learning environment.

Researchers. This study will assist researchers who want to relate their studies. It will support researchers in interpreting their new information when conducting a similar study.

The outcomes of the study are beneficial for future researchers. This may be used as one of the bases to find information that is similar to their study.

1.6. Scope and Limitations of the Study

The study will solely focus on the relationship between Educational Screen time and the Academic Performance of Grade 6 students in Bubukal Elementary School, Santa Cruz, Laguna. The total number of students involved in the study will be 67 respondents from Bubukal Elementary School who are enrolled in the school year 2022-2023.

The research will be conducted using a survey. It will only cover the specific aspects related to screen time and its impact on students' academic performance. Any factors or problems that are not directly connected to the outcomes of screen time on academic performance will be excluded as they fall outside the scope of the study.

1.7. Definition of Terms

In this research, several key terms will be used, and their definitions are as follows:

Academic performance: Refers to the level of achievement or success attained by students in their educational pursuits.

Achievement: This term pertains to the academic performance of students and can encompass various measures of success, such as grades.

Educational screen time: Refers to activities done in front of a screen, such as watching TV, working on a computer, or using a cellphone for educational purposes.

Electronic gadgets: The most common gadgets used by the respondents include television, cell phones, and laptops/computers.

Mean: Describes the average academic performance of students who are affected by screen time.

Performance: Refers to the overall achievement, progress, or results of students in their educational endeavours.

Screen time: The time spent engaged with screens and digital media.

2. Review of Related Literature and Related Studies

This chapter presents the related literature and studies after a detailed and rigorous search done by the researchers. This chapter provides the synthesis as well as the theoretical and conceptual frameworks of the research.

In this modern digital age, educational screen time has become a prominent part of students' lives. As technology continues to advance, it is important to understand the effects of screen time on academic performance, particularly among students. The 21st century has been called the era of science and technology, especially with the new technology developments and advancements over the last few decades. In the world today, people cannot live without technologies such as televisions, mobile phones, computers, and others (Tajane, et al., 2021). The internet has proved to be a boon in this era of technology, whereas the evolution of cellular phones has been one of the fastest in the history of innovation. Internet use has increased with the prevalence of mobile devices and internet-based applications in education, health, social networking, entertainment, etc. For students, it has made learning easier with the information available on the net, and smart phones can be seen as a learning aid. Moreover, smart phone use can divert attention away from studying by providing an alternative and possibly more psychologically rewarding way of occupying one's time, unlike studying for exams, which provides immediate satisfaction (e.g., playing video games, following friends on social networking applications, browsing varieties of applications).

The Digital Era is defined by technology that increases and expands knowledge about our society, economy, and environment. We live in a fast-paced world where knowledge is produced more often, enabling adaptation to changing environmental conditions. Also, the technology or digital era can be both an evolutionary system for our lives or replace us humans. Not only does it provide us with convenience, but it is

also increasingly out of our control, making our lives more difficult to manage (Jill Shepherd 2023).

The emergence of screens over the past 100+ years has involved preceding technologies with rich histories of their own, as well as a variety of organizations of experts who have recognized the immense potential of screens and worked to develop solutions in line with it. As a result, the history of screen-based technology can be seen more clearly as a series of histories. Considering the intricacy of screens' historical development, it is crucial to fully understand them given the significant impact they have on contemporary life. Screens increasingly influence and frequently depend on everything, including jobs, education, pleasure, and our interpersonal interactions (LeBlanc et al., 2018). As a result of modern technologies, people are using electronic gadgets all the time, which is called screen time. According to Schirmeister (2022), screen time is a term used to refer to how long you spend on a device with a screen. A majority of our screen time comes from using smart phones, tablets, and laptops. Factors like the pandemic and the shift to online schooling have significantly increased screen time use. Despite higher screen time becoming a part of our daily lives due to the changing nature of our world, there are many ways to ensure that children use this time to its full potential and get quality lessons on how to use screen time for both personal entertainment and productivity.

Screen time has permeated into our daily lives, and the rising pervasiveness of gadgets is only fostering this situation. As smart phones become more popular, especially among students (Elsevier 2018). Additionally, according to DepEd (2022), children in grades 1 to 6 are recommended to have an hour and a half of screen time each day for their online learning activities. This learning mode utilizes computers/laptops, cellphones, radio, and television. Screen-based devices have become widespread in the everyday activities of kids and their families. Over the last twenty years, children's daily exposure to screen-based electronic devices has increased, and the age of first exposure has decreased. Additionally, the variety of gadgets and their applications has rapidly expanded. While home-based viewing of television and cell phones used to be the primary mode of screen viewing, computers, game consoles, smart phones, and tablets are now accessible to young children. Research has shown a connection between high screen time and negative outcomes in young children, including obesity, reduced physical activity, higher energy intake, poor sleep, and cognitive and social/emotional challenges, which can contribute to poor academic performance in students. Moreover, excessive screen time can interfere with activities like moderate to vigorous physical activity (MVPA) and sleep, which are beneficial for academic achievement. Screen time is considered a sedentary behaviour that takes away valuable time for MVPA and increases the risk of overweight and obesity in children and adolescents. Additionally, screen time can disrupt sleep patterns by delaying bedtime, interrupting sleep due to incoming notifications, and reducing sleep quality due to emotional arousal from screen use before sleep. This can lead to daytime sleepiness and lower academic achievement (Rebecca Byrne et al., 2021).

Numerous studies have been conducted to investigate the impact of screen time on academic performance among students. Innerdrive (2020) conducted a meta-analysis encompassing 30 studies and revealed a significant association between excessive screen time and a decline in academic achievement. The findings suggested that students who spent more than two hours per day engaging in television viewing or gaming activities experienced compromised academic performance. This decline in achievement may be attributed to the potential displacement of time that could have been utilized for physical activity or dedicated study, leading to reduced academic focus and performance.

In addition to the negative effects of using too much screen time, other research highlights the adverse consequences of moderate use of various screens, including phones, tablets, and televisions, on the psychological well-being of students. Studies have indicated that when students spend approximately four hours per day on screens, it can result in lower levels of psychological well-being, potentially contributing to the development of demotivated learners. These learners may struggle to dedicate themselves fully to their academic work, subsequently leading to reduced academic achievement.

Moreover, the impact of educational screen time on academic performance appears to vary across different age groups. Research has shown that the negative associations between screen time and academic achievement are more pronounced in older students compared to younger children. Adolescents, in particular, may experience more intense drops in psychological well-being using too much screen time, leading to even

greater detrimental effects on their academic performance. This may be attributed to the greater access that teenagers have to various screens, such as mobile phones and laptops, compared to younger children, whose screen time is often more closely monitored and limited.

Despite variations in research methodologies and populations, the consistent consensus remains that using too much screen time negatively impacts students' academic performance. Many students may remain unaware of these detrimental effects and continue to indulge in prolonged screen time each day.

Therefore, it is crucial for teachers and parents to play an active role in raising students' awareness about these negative effects and encouraging them to adopt healthier screen time management practices (Innerdrive, 2020).

According to Sinnarajah K, et al. (2019), screen time in younger children is connected with difficulties in later childhood, such as decreased academic success, reduced physical activity, and victimization by classmates. More than half of teenagers log on to social media sites more than once each day, and 22% log on to their favourite social media site more than ten times per day. When a student is trying to work on specific tasks like school work, checking social media on their smart phone or going through notifications can disrupt the flow state they had been in while performing the task. This makes the task less enjoyable and harder to complete (Onur Sapci, et al., 2021). Even though technology helps students learn in a variety of ways, smart phone use may be a distraction in academic progress (Elhai et al., 2019).

In another study, Active Social Care Limited NSPPC (2023), highlighted the dual nature of the internet as both a valuable tool and a potential risk to safety and security, particularly concerning children. With its boundless access to information, the internet offers numerous opportunities for learning and exploration. However, it also exposes children to various dangers, including the risk of encountering sexual predators, exposure to explicit content like pornography, and susceptibility to radicalization, especially in chat rooms. Additionally, the study addresses the escalating issue of e-technology-enabled bullying, affecting over a third of young individuals. The rise of online bullying is attributed to the prevalent use of social media platforms like Twitter and Facebook, easily accessible through mobile devices and computers. Examples of cyberbullying include posting negative comments on someone's social media profiles, assuming false identities to humiliate others, and harassing individuals via mobile phones or social media channels. These are some of the factors that contribute to problems that hinder students from doing well in school, resulting in poor academic performance. To support students in using gadgets carefully, the Online Children Safety Act of 2010 was introduced by Sen. Jinggoy Ejercito Estrada. This bill aims to ensure safety measures for protecting children from harmful materials on the Internet by requiring commercial establishments, schools, and other public institutions providing internet access to use filtering devices. The law also proposes the identification of websites that may contain hazardous information for children by implementing a tag developed by the National Telecommunication Commission.

Furthermore, according to Section 2 Declaration of Policy of the "Online Children Safety Act of 2010," the state declares its policy to promote and protect children's physical, moral, spiritual, intellectual, and social well-being. The state is committed to implementing a mechanism to identify banned websites and enforcing the deployment of effective filtering devices. Moreover, the state places high priority on implementing strategies that promote safe online activities for children, assisting parents in shielding their children from inappropriate materials, and not only preventing Internet-based child exploitation but also investigating and prosecuting individuals who provide exploitative materials to children.

According to Ray (2023), while excessive screen time can be concerning, when used for educational purposes, it can be beneficial. The study found a negative relationship between excessive educational screen time and academic performance among students. Since the pandemic, screen time among children has increased globally by 52 percent. However, the researchers also discovered that educational screen time offers significant advantages, leading to positive effects on children's determination and academic performance without significantly impacting their health. On the other hand, interactive screen time, which includes activities like playing videos, was linked to positive educational outcomes but reduced attention span and increased distraction, potentially leading to lower academic achievement. The researchers recommended

limiting screen time and promoting alternative activities that encourage face-to-face interactions and hands-on learning experiences. They also suggested providing reading materials with instructions on using gadgets wisely to help students limit their screen time activity.

Another study by Johnson et al. (2019) examined the impact of educational screen time on the academic performance of students. The researchers found a positive correlation between moderate amounts of educational screen time and improved academic performance. The study highlighted the potential of educational screen time to enhance learning and cognitive development among students, leading to improved academic outcomes. The researchers emphasized the importance of balanced screen time usage and the need for clear guidelines for educators and parents to ensure the positive impact of screen time on academic achievements.

According to the Australian Parenting Website (2022), screen time can be used effectively for educational purposes. Balancing outdoor activities with screen time can be beneficial for a child's development and knowledge acquisition. For instance, if a child watches age-appropriate videos on the internet that involve critical or creative thinking, it can enhance their learning. Similarly, if a child becomes inspired to build structures out of boxes, glue, and paper after playing the Minecraft game on their gadgets, it can encourage their creativity and problem-solving skills. Lastly, knowledge gained through gadgets can occur when a child uses digital technology with a specific goal in mind, such as going online to get directions for a craft activity. When screen time is used with purpose and in moderation, it can contribute positively to a child's learning and development. Using gadgets provides students with instant access to a vast amount of information and resources. The internet and digital tools allow students to explore various subjects, conduct research, and access educational materials that may not be available in traditional textbooks. Also, outside the classroom, students use technology in all aspects of their lives. Within the classroom, technology can make learning more fun and exciting. However, by incorporating technology into the classroom, students can learn how to be responsible in the digital world and with their digital actions.

Galgo (2023) stated that the effect of mobile phone or gadget usage on a child's academic performance suggests that these gadgets help children in completing educational tasks. Furthermore, students value the potential benefits of technology in enhancing their learning experience and place a high value on learning integrity. It also implies that pupils are aware that cellular phones can be utilized to learn rather than cheat. Students' positive attitudes about cell phones may imply that introducing technology into the curriculum can improve student engagement and learning outcomes.

Additionally, a meta-analysis conducted by Renau et al. (2019) synthesized data from multiple studies on educational screen time and academic performance among children and adolescents. The meta-analysis revealed a relationship, suggesting that moderate screen time had a positive impact on academic performance, while both low and high levels of screen time were associated with poorer academic outcomes for the students. The study emphasized the importance of striking a balance between screen-based educational activities and other non-screen activities to optimize academic performance. Additionally, the study found that screen-based activities can exhibit a negative and positive correlation with the academic performance of the students. Basically, screen time can help students enhance their academic performance by using it not for entertainment but for educational purposes.

The Australian parenting website (2022) acknowledges that screen time can be more than just a passive form of entertainment. In fact, when used appropriately and with parental guidance, screen time and digital technology have the potential to positively influence various aspects of children's development. One of the key findings highlighted by the Australian parenting website (2022) was the positive impact of screen time on children's learning and skill development. Contrary to common misconceptions, it was suggested that screen time can act as a catalyst for enhancing problem-solving abilities in children. Engaging with educational apps and games that encourage critical thinking and logic can foster a child's analytical skills.

In addition to presenting the benefits of screen time, the study of the Australian parenting website (2022) also offered practical ideas for leveraging screen time to support children's learning. These included encouraging children to take photos and document their experiences, making videos to share knowledge or

create visual stories, using online maps to foster geographical understanding, and teaching others to play games or use educational applications. While the study highlighted the positive aspects of screen time, it also emphasized the importance of balance. Encouraging parents to strike a balance between screen time and other activities, such as outdoor play, reading, and social interactions, is essential for the well-rounded development of children.

Another study by Edwards et al. (2020) shed light on the multifaceted impact of screen time and digital technology on children's learning and development. Contrary to concerns about its potential negative effects, screen time can be harnessed as a valuable tool for nurturing problem-solving, social, creative, and communication skills. By offering practical ideas for utilizing screen time in a productive manner, the study encourages parents to play an active role in guiding their children's digital experiences and promoting a healthy balance between screen time and other essential activities. As the digital landscape continues to evolve, it is crucial to remain informed about the potential benefits and risks associated with screen time, and this research contributes to the ongoing conversation on this study. This study is one of the proofs that screen time is useful not only in entertainment but especially in education and academic development.

2.1. Theoretical Framework

This study is anchored in the theory of the Displacement Hypothesis and Content Theory, as proposed by Neuman (1988). These theories concretely explain the risks of recreational screen time. Students in elementary, middle, and high schools are exposed to and have access to TVs, tablets, video games, and other technologies at home. According to the guidelines, children under 2 years old should have zero screen time, except for video chatting with family or friends. Children between 2 and 5 years old should have no more than one hour per day of co-viewing with a parent or sibling, while those between 5 and 17 years old should generally have no more than two hours per day, except for homework (Legner, 2022).

The Displacement Hypothesis provides a theoretical basis for understanding screen time's impact, which has been a challenge for many researchers. According to this theory, the amount of time spent on screens displaces time spent on other activities, such as health promotion, sports, doing homework, and social interactions with family and friends. The activities associated with screen time have evolved over time, and modern mobile devices offer a variety of social connections. Consequently, the types of activities related to each screen type are diverse. For example, mobile phones can contribute to communal activities, while television often involves passive acts. Previous studies have assessed screen time in various ways, leading to potentially contradictory results. The impact of screen time may vary depending on how it is conceptualized. Some studies measure total screen time across multiple screens, while others focus on specific screen types' contributions (Liu et al., 2018).

The Content theory states that what children see and do online is problematic and attracts disproportionate attention. Most of the solutions parents are familiar with,bsuch as co-viewing and media learning, are designed to address content. Giving children screen time affects them in many ways, from affecting academic performance to increasing or decreasing aggression. However, what mitigates these effects is how the availability of media in their life is managed. Screen time can have both positive and negative impacts on a student's academic performance. Research continues to support this idea, showing that hours spent sitting in front of the TV or scrolling on a cell phone can have outcomes on learning. According to Piaget's Content Theory of Motivation, it focuses on factors that motivate behaviour by rewarding or reinforcing behaviour. Piaget's theory shows that children are motivated by maturity and environmental stimuli. It is a theory for thinking about human growth, development, and learning, understanding what motivates human thought and action, both individually and in society.

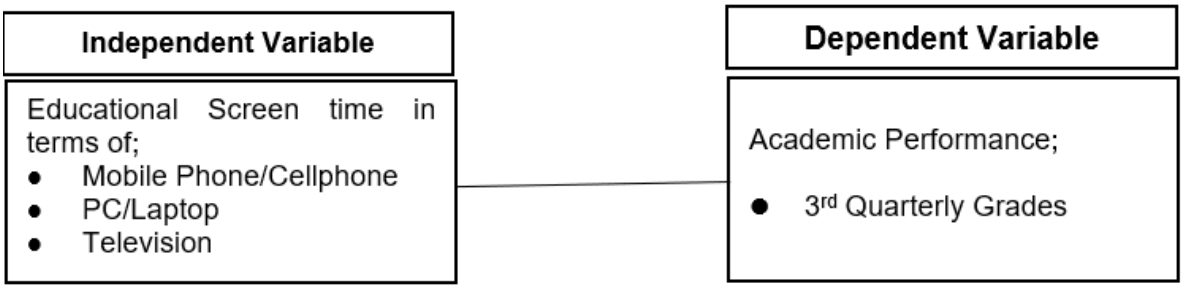
Furthermore, some studies suggest that the use of social media has negative effects on academic performance, whereas others reveal differing relations from social media to student engagement and performance as a function of the type of usage, meaning that some activities have negative outcomes while others are positive. Nevertheless, it appears that at least the use of digital technologies is consistently related

to issues in both overall and academic well-being (Holmgren & Coyne, 2018).

The Goldilocks theory (Przybylski & Weinstein, 2018) states that there is a point between low and high use of technology that is 'just right' for teenagers when their sense of well-being is boosted by having 'moderate' amounts of screen time. The researchers suggest this may be because digital connectivity can enhance creativity, communication skills, and development. Different studies argue that while a lot has been said by scientists and paediatricians about the possible dangers of teenagers spending time on digital devices or computers, there is little robust evidence to back up their claims. The researchers said that they are the first to systematically test for links between well-being and screen time measured continuously, separately for different digital activities, and days of the week.

2.2. Conceptual Framework

The figure below illustrates the paradigm of the study, which serves as a model to determine the Educational screen time and the academic performance of Grade 6 students in Bubukal Elementary School Santa Cruz, Laguna.



Frame 1. **Frame 2.**

Figure 1 Research Paradigm of the study

Frame 1: The frame shows the Independent Variable of the factor that makes change, which is the educational screen time in terms of; Television, Cellphone and PC/Laptop.

Frame 2: The frame shows the Dependent Variable or the academic performance of the students in terms of 3rd quarterly grades.

2.3. Synthesis

The use of educational screen time remains a topic of debate, with conflicting findings in various studies regarding its effects on a child's academic performance. Some studies report negative outcomes, while others highlight the positive impacts, such as fostering creativity and developing problem-solving, social, and communication skills among children who use screen time for educational purposes.

In the classroom setting, students with access to different types of gadgets may excel academically because they have additional tools to enhance their learning. Studies suggest that active use of smart devices and collaboration with educators can benefit vocabulary development and reading comprehension, particularly for young children.

On the other hand, students who lack access to gadgets in online or face-to-face classes may encounter challenges in interacting with their teachers. This may lead to interruptions, disconnections, or limited participation during classes, especially if technology is not available.

To address this gap and better understand the relationship between educational screen time and academic performance, this study aims to investigate how the use of screen time impacts students' educational

achievements. By exploring these factors, the research can contribute valuable insights to inform educators, parents, and policy-makers in optimizing the benefits of educational screen time while mitigating any potential negative effects.

3. Methodology

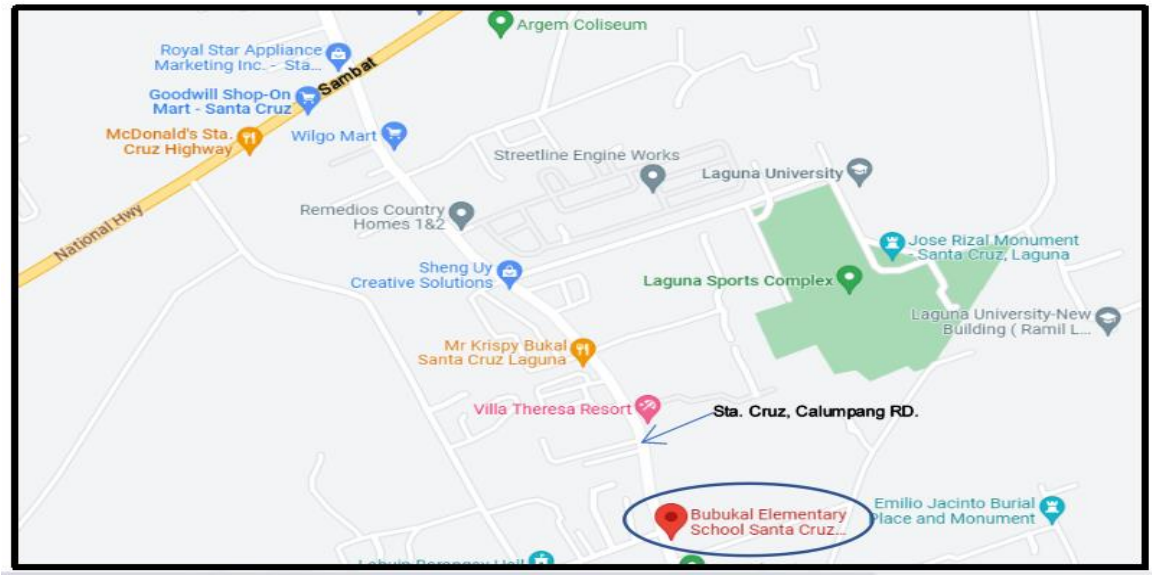
This chapter presents the methodology used in the conduct of this study, including the discussion of the research design, research locale, and population of the study, research instrument, data gathering, and treatment of data used. The researchers decided to use survey questionnaires to collect the primary data needed to address the research problem.

3.1. Research Design

The researcher employed the descriptive method of research. The purpose of the descriptive method is to systematically describe a situation or area of interest factually and accurately. This method is crucial in this research to present the facts and important details about the educational screen time and the academic performances of grade 6 students at Bubukal Elementary School.

In addition, a quantitative research design was used. This formal, objective, and systematic process involves the use of numerical data to obtain information about variables. It is utilized to examine relationships between and among variables. This design will be employed to determine the relationship between mean educational screen time and the 3rd quarterly grade of the students in Bubukal Elementary School.

3.2. Research Locale



Source: Google Map
Figure 2: Vicinity Map

The study was conducted at Bubukal Elementary School in Santa Cruz, Laguna. The participants of the study were Grade 6 students who were academically enrolled in the school during the academic year

2022-2023. Bubukal Elementary School was founded on January 01, 1944, and is situated in Barangay Bubukal, Santa Cruz,Laguna

3.3. Population of the Study

The respondents of the study were 67 grade 6 students at Bubukal Elementary School for the academic year 2022-2023. The sampling technique used to select the respondents was simple random sampling.

Simple random sampling is a commonly used probability sampling method due to its ease of implementation and analysis.

3.4. Research Instrument

The primary data collection approach used in this study is survey research, where a group of individuals is questioned about their thoughts on a specific topic. Surveys are often conducted online to reach the respondents more efficiently.

The questionnaire used in the survey consists of one part with orderly arranged questions designed to collect factual information. It is a mixed questionnaire, containing both closed-ended and open-ended questions. This approach allows researchers to obtain specific and flexible data needed for the study.

The survey is mainly focused on questions that aim to determine the mean screen time of the respondents. The questionnaire is constructed in a way that the respondents can easily understand and answer the questions.

3.5. Data Gathering

The research is about Educational Screen time and the Academic Performance of Grade 6 students of Bubukal Elementary School A.Y. 2022-2023.

The following statements present the systematic procedure followed by the researchers in conducting the study:

First, to allow the Grade 6 students to answer the questionnaire, the researchers first needed to get the principal's approval.

Second, the questionnaire was conducted inside the premises of Laguna Sports Complex, Santa Cruz, Laguna.

Third, the researchers encoded and applied the relevant statistical computations, which were carried out by the statistician after compiling the responses.

Fourth, the educational screen time was compared, examined, and tabulated along with the 3rd quarterly grade. Likewise, the questionnaire results were gathered and tabulated for analysis.

3.6. Treatment of Data

The researchers will use the following statistical treatment to determine the relationship between Educational Screen time and the Academic Performances of Grade students in Bubukal Elementary School, Santa Cruz, Laguna.

To determine if the independent variable (Educational Screen time) has a relationship with the dependent variable (Academic performances), the measures of Central Tendency will be used to look for the statistical measure that represents the single value of the entire distribution or data set.

Where:

$\overline{x}$ = the mean

f = frequency (Mean 3rd quarterly grade of the students)

x = the class mark
N = the total frequency
The formula is given by:

$$\overline{X} = \frac{\Sigma fx}{N}$$

The researchers will use the Pearson Product-Moment Correlation Coefficient to determine the correlation of dependent and independent variables. Pearson's correlation coefficient is the test statistics that measures the statistical relationship, or association, between two continuous variables. It is known as the best method of measuring the association between variables of interest because it is based on the method of covariance. It gives information about the magnitude of the association, or correlation, as well as the direction of the relationship (Statistics Solutions, 2018).

$$r = \frac{n\Sigma xy - (\Sigma x)(\Sigma y)}{\sqrt{[n(\Sigma x^2) - (\Sigma x)^2][n(\Sigma y^2) - (\Sigma y)^2]}}$$

Qualitative Interpretation of r are shown below.

0.00 – ±0.20	Very weak (positive/negative) linear relationship
±0.21 – ±0.40	Weak (positive/negative) linear relationship
±0.41 – ±0.60	Moderate (positive/negative) linear relationship
±0.61 – ±0.80	Strong (positive/negative) linear relationship
±0.81 – ±1.00	Very strong (positive/negative) linear relationship

4. Presentation, Analysis and Interpretation of Data

This chapter presents the presentation, analysis, and interpretation of data gathered to answer all questions related to the study. It includes different graphs and tables showing the Educational Screen time and the Academic Performance of Grade 6 students.

Figure 3. Mean Screen time in terms of Gadgets (Television, Cellphone, and Laptop)

Gadgets	Mean Educational Screen Time
TV	2.14 hrs.
CP	7.33 hrs.
LP/Computer	1.21 hrs.

Table 1 presents the mean educational screen time in terms of gadgets (Television, Cellphone, and Laptop) for a total of 67 respondents. The results show that respondents spend an average of 2.14 hours on

television, 7.33 hours on the cellphone, and 1.21 hours on the laptop/computer.

As mentioned by Schirmeister (2022), screen time refers to the amount of time spent on a device with a screen, and it is predominantly contributed by the use of smart phones, tablets, android televisions, and laptops. Additionally, according to DepEd (2022), students in grades 1 to 6 are recommended to have an hour and a half of screen time each day for their online learning activities, which involves the use of computers/laptops, cellphones, radio, and television.

Figure 4. 3rd Quarterly Grades of the students

Grading Period	Mean	Verbal Interpretation
3rd Quarter	**83.48**	**Satisfactory**

*Outstanding 90-100, Very Satisfactory 85-89, Satisfactory 80-84, Fairly satisfactory 75-79, Did not meet expectation below 75

Table 2 displays the mean grades of the students of Bubukal Elementary School in the 3rd quarter, with an average grade of 83.48. This interpretation indicates that the students achieved a "Satisfactory" level, meaning they passed the 3rd quarterly grading.

According to Abidin and Hunter (2017), educational screen time can be effectively integrated into education at all levels of schooling, and gadgets play a significant role in this process. In the new normal, the use of gadgets has become essential for learners to continue their studies. This suggests that the utilization of educational screen time can contribute to students achieving passing grades.

Similarly, the Australian Parenting Website (2022) highlights that screen time can be used effectively for educational purposes, and a balanced combination of outdoor activities and screen time can support a child's development and knowledge acquisition. When children engage with age-appropriate videos on the internet that involve critical or creative thinking, it can positively impact their learning. This further supports the notion that the use of educational screen time can lead to improved academic performance and passing grades for students.

Figure 5. The relationship between the mean educational screen time and the 3rd quarterly grade of the students

Mean Educational Screentime	3rd Quarterly Grades			
	r- value	critical-value	Interpretation	Analysis
Television	-0.2266	-0.2440	Weak (negative) linear relationship	Not significant
Cellphone	0.0598	0.2440	Weak (positive) linear relationship	Not significant
Laptop	-0.2127	-0.2440	Weak (negative) linear relationship	Not significant

Table 3 presents the relationship between the mean educational screen time and the 3rd quarterly grade of the students. The relationship of the mean educational screen time for television and laptop is interpreted as a weak (negative) linear relationship with r-values of -0.2266 and -0.2127, respectively, while for the cellphone, it shows a weak (positive) linear relationship with an r-value of 0.0598. Since the r-values are less than the critical value, the null hypothesis is rejected. Therefore, the relationship between the mean educational screen time and the 3rd quarterly grades of the students is not significant.

Galgo (2023) suggests that gadget usage has a positive impact on a child's academic performance as it helps them in completing educational tasks. Additionally, students recognize the potential benefits of gadgets in enhancing their learning experience and value learning integrity. This implies that students are aware of using gadgets for educational purposes rather than using them in other ways.

5. Summary, Findings, Conclusion and Recommendations

This chapter includes the summary, findings, conclusion, and recommendation of the study.

5.1. Summary

This study, titled "Educational Screen time and the Academic Performance of Grade 6 students in Bubukal Elementary School," utilized the descriptive method to systematically describe the situation and areas of interest factually and accurately. The researchers selected a sample of sixty-seven (67) respondents who answered the survey questionnaire to gather the data needed for the study. The questionnaire consisted of 5 questions.

The main instrument used in the study was the survey questionnaire, which was distributed to the respondents. The researchers then used the measure of central tendency and Pearson product-moment correlation coefficient to examine the relationship between mean educational screen time and the 3rd quarterly grades of the grade 6 students.

After analysing the data, the researchers found that educational screen time in terms of gadgets like laptops, cellphones, and televisions had no significant relationship to the 3rd quarter grade of the students.

5.2. Findings

The survey was conducted on sixty-seven (67) Grade 6 students. Based on the gathered data, the following are the findings:

1. The mean educational screen time of the respondents shows that they spend more time on cell phones than on television and laptops.
2. The results show that the mean 3rd quarterly grades of the students are interpreted as "Satisfactory."
3. The relationship between the educational screen time and the 3rd quarterly grade is not significant.

5.3. Conclusion

There is no significant relationship between mean educational screen time and the 3rd quarterly grade of the Grade 6 students in Bubukal Elementary School.

5.4. Recommendations

Based on the findings and conclusions drawn from the study, the following recommendations are hereby given:

1. Students of Bubukal Elementary School may receive a leaflet from the researchers that includes information about screen time, educational sites that they can use for their studies, advice on how to use

screen time wisely, as well as recommended time limits for using their gadgets.
2. Bubukal Elementary School may consider integrating more technology and gadgets into the learning process to enhance students' knowledge and help them catch up with the advanced and modern world.
3. Parents and guardians should set time limits for their children's screen time using gadgets so that they can use it wisely and responsibly.
4. Future researchers should conduct a similar study with additional information to further explore this topic and use this study as a reference for future research related to educational screen time and academic performance.

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