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**RESEARCH ARTICLE**

## Extent of Electronic Gadget Usage in Learning English and Reading Comprehension of Grade Six Pupils

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**ABSTRACT**

In an age where digital technology is deeply ingrained in our lives, children are becoming more immersed in electronic gadgets, often at the expense of traditional reading. Thus, this study sought to determine and understand how the proliferation of electronic gadget usage of the Grade 6 pupils of Loon South Central Elementary School impacts the level of their reading comprehension. With gadgets becoming a ubiquitous presence in their lives, this study aims to determine the significant relationship between the extent of electronic gadget usage of the respondents and the respondent's level of reading comprehension in applied, literal and interpretive category. The descriptive survey research design was used within the study. Findings revealed that there is no significant relationship between the extent of electronic gadget usage and level of reading comprehension. This means that the amount of time children spent in using electronic gadgets does not affect the level of their reading comprehension. Thus, students are capable of maintaining their comprehension skills, regardless of their screen time.

**KEYWORDS**

Electronic gadgets, reading comprehension, applied, literal, interpretive

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**1. Introduction**

Nowadays, the use of technology is increasing day by day. Human life is dependent on technology. Technology is being used in almost every aspect of our lives and everyone uses various technologies to accomplish specific tasks in our lives. According to Dico (2017), as the world grows technologically sophisticated, there is a great demand for the hottest electronic gadgets. Some of these are cell phones, laptops, cameras, MP3 players and several cool electronic gadgets. They are mostly used by teenagers and adults but nowadays, it is used by all categories of people, including children.

The Organization for Economic Cooperation and Development (OECD) tested around 600,000 15-year-old students in 79 countries through the 2018 Program for International Student Assessment (PISA). PISA results showed that the Philippines has an average reading score of 340, the lowest among the countries surveyed. It is also below the OECD average of 487. In a statement released by the Malacanang last December 2019, it states that the presence of computer technology and all the diversions and distractions it offers — gadgets, internet, online gaming and social media, are the probable cause that affects the outcome of the survey.

Due to technological development, reading habits and the ability to comprehend are changing. In our society today, while technology is slowly taking steady control over individual lives, the reading habit is quickly vanishing into thin air (The Hindu, 2004). Students now lack the skill of reading and reading comprehension. Instead, they spend more hours on electronic media by

browsing the net, playing with funky handsets and passing non-stop SMS seem to be the order of the day, thereby making reading a book or any other piece of written material in a quiet or peaceful corner of a library or home. This has become an archaic idea for most school children and adults (The Hindu, 2004).

The effect of digital literacy practices on young children's learning is a contentious and growing area for research and debate. Nowadays, children encounter many different types of texts through their everyday engagement with digital technologies (Oztuk & Ohi, 2018). Since reading comprehension is a crucial aspect of language development, the researchers aim to determine whether the extent of the respondents' gadget usage affects the level of their reading comprehension. Furthermore, it aims to provide recommendations and action plans on the most effective way to address the focus of the study based on its results and findings.

## **2. Theoretical Background**

The digital age is changing children's lives and childhood dramatically. New technologies transform the way people interact with each other, the way stories are shared and distributed and the way reality is presented and perceived.

For today's children, technological devices such as iPads, smartphones, and e-readers are quickly replacing more traditional "toys" as sources of learning and entertainment. With their capacity to contain a multitude of activities within a single device, tech devices are the new norm and are being utilized from a young age.

In a study conducted by the Pew Research Center, the most common device parents say their young child engages with is a television, with 88% of parents saying their child ever uses or interacts with a TV. Smaller – yet still large – shares of parents say their child ever uses or interacts with a tablet computer (67%) or a smartphone (60%). Some 44% of parents of young children say their child ever uses or interacts with a desktop or laptop computer or a gaming device. This only proves that children are becoming more immersed in utilizing gadgets in all means.

Furthermore, in a study conducted by Teng (2013) of 60 children, it was found that 65 percent of the children started playing with electronic devices before they turned three. Most of the children - 95 percent - played video and simulation games on their devices. Half of them said they used them to play educational games such as spelling quizzes. Other uses include surfing the Internet and social networking.

Reading comprehension, on the other hand, is a fundamental cognitive ability for children that supports school achievement and successfully participation in most areas of adult life (Hulme and Snowling, 2011). Reading comprehension is, indeed, a complex cognitive ability that involves not only linguistic (e.g., vocabulary, grammatical knowledge), but also cognitive (such as working memory, De Beni and Palladino, 2000), and metacognitive skills (both for the aspects of knowledge and control, Channa et al., 2015), and, more specifically, higher-order comprehension skills such as the generation of inferences (Oakhill et al., 2003).

Recently, due to the diffusion of technology in many fields of daily life, text comprehension at school, at home during homework and at work is based on an increasing number of digital devices (computers and laptops, e-books, and tablet devices) that can become fundamental support to improve traditional reading comprehension and learning skills (e.g., inference generation).

In line with this is the Sociocultural Theory of Larson and Marsh (2010). This theory helps clarify how technology can influence student comprehension in the educative process. This theory challenges educators to use these new literacies within their classrooms to drive reading and writing instruction to help students create meaningful responses. This theory by Larson and Marsh (2010), defines the learner as "an active member of a constantly changing community of learners in which knowledge constructs and is constructed by larger cultural systems". This implies that when learners are exposed to a system where products of technology are being utilized, it influences the responses they create in reading and writing instruction.

Many critics have explored the negative implications that technology has on reading, comprehension and learning, and while it may seem like iPads and other technological devices are a convenient way to keep young children entertained and distracted, it has also been shown that reading habits are negatively impacted when reading is done on a device. Technology overuse can contribute to developmental delays and decreased personal interactions and experiences that encourage the use of creativity and imagination. As a result, it is suggested that children's exposure to technological devices should be limited.

In "Young Children and Screen Time (Televisions, DVD's, Computers)", Padma Ravichandran and Brandel France de Bravo discuss the negative impacts screen time can have on young children. The reality is that "not only has screen time been linked to language delay and smaller vocabularies, but studies show that the more television infants, toddlers and graders are exposed to, the more likely they are to be inactive and obese, have difficulty sleeping, and show aggression" (Ravichandran and de Bravo 2). Furthermore, overexposure to screens is leading to a large amount of health and developmental problems, from language developmental delays to physical and emotional strain. These negative side effects, occurring during a child's formative years, can have lifelong health impacts because they create bad patterns and habits that cannot be easily undone.

In addition, Obama (2008), in his speech, pinpointed that children cannot achieve unless they raise their expectations and turn off television sets. Shabi and Udofia (2009) also noted that active learning from books is better than passive learning such as watching and playing games.

According to Third District board member Jason Gonzales, who also chairs the Regional Education Council, gadgets play a huge role in a child's reading ability. He highlighted that the brains (of children) who use gadgets are conditioned to moving pictures, especially from zero to two years of age and beyond. The moment they open a book; it will be increasingly harder to teach children how to read.

On the contrary, not all studies have found that using electronic gadgets promote negative effects on children especially in the aspect of reading comprehension. According to Ertem (2010), "computer technology has a role to play in the remediation of children with reading problems and successes in reading instruction". The idea of how technology positively impacts student success is found to be truthful from the results of his study. Ertem found that electronic texts showcase new supports as well as new challenges that can greatly affect a learner, as well as have a major impact on the individual's ability to comprehend texts. He also found from the study that original printed texts are highly non-interactive and contain no adaptable features. Since traditional paper texts lack these new advances, it makes decoding very difficult especially for a struggling reader to gain fluency as well as comprehend the text at hand. Ertem looked at a group of fourth-graders who had weak comprehension skills. He stated that through the use of electronic storybooks and other media, the student's reading comprehension as well as other areas of literacy would illustrate growth.

In support of Ertem's study, Coiro (2015) found similar results when directly looking at the benefits of online reading and how they affected comprehension as well as reading strategies. Coiro agrees with Ertem's findings by stating that technologies offer different ways to make the meaning clear to students. The way that the information and text are being presented through new literacies promotes highly effective scaffolding strategies. Coiro also stated that the way web-based learning is presented, students must be able to pull from a variety of strategies that include locating, evaluating, synthesizing and being able to communicate the information that is being found. Through the use of technologies, students can do this with confidence. She agrees that features such as narration, voice-overs, highlighted words and animations help students become more cognizant of their reading and comprehension skills.

Since today technology is so important to students, one theory that lends itself well to this new turn of instruction is the Theory of New Literacy Practices. Lankshear and Knobel (2006) presented a new literacy perspective to push educators to think about what a wonderful advantage technology can have on our students to shape their future worldwide views and practices. It explains that literacy, which includes reading and writing, is gained when educators learn to adapt to new changes. It plays a role in everyone's daily life, and now without products of technology, it would be foreign for the average person in today's society to get by without it. Further, this theory challenges educators to use these new literacies within their classrooms to drive reading, comprehension and writing instruction to help students create meaningful responses in which they communicate through iPads, iPhones, smart boards, computers and others. By having these various devices available to students within the classroom, they are connecting to their primary discourse allowing them to practice the skills that will help them succeed in the future (Clar, J. 2015).

Another theory proposed by Stephen Krashen is the Monitor Model Theory. It states that language acquisition occurs with comprehensible input (i.e. hearing or reading things that are just slightly above our current language level). He suggests that when learners strive to increase language inputs, especially in enhancing reading and reading comprehension, activities like viewing videos, watching television, utilizing other e-gadgets and going through books (online) for reading would help enhance but he highlighted making sure to receive proper error correction in one form or another (Lectura, Inc., 2018). This theory emphasizes how comprehensible inputs acquired by a child, especially in reading and comprehension, are highly influenced by their engagement in digital media.

On the other hand, the development of reading and reading comprehension of a learner can also be molded in the four corners of the classroom. With the influence of gadgets on children, teachers should ensure students' learning and provide them with sufficient and reliable information for children to learn at their best.

SENATE s. No. 1271 by Sen. Leila M. De Lima, is an act regulating the use of Mobile Phones and other Electronic Gadgets to students from Kindergarten to Senior High School in Public and Private Schools. It is being stated that:

"The State must provide students with a more focused, positive, and supportive learning environment that is free from any distractions that prevent them from performing poorly in school."

This act explains that the avenue of the students' learning shall encourage them to have a more dynamic way of learning. To do so, it is highlighted that the state must give students a supportive learning environment and that can only be achieved through utilizing mobile phones and other technological tools whether in public and private schools.

However, Department of Education Order 83, S. 2003 is Prohibiting Students of Elementary and Secondary Schools from using Cellular Phones and Pagers during class hours. It states that:

"Teachers and parents should devise ways to educate students on the responsible use of cell phones to prevent them from engaging in misguided and immoral activities."

The prohibition applies to elementary and secondary schools nationwide whether public or private. The ban aimed to help students remain focused on their studies and that learning distractions will be minimized. According to LDAOeng (2017), it is during these school years that most children become fluent readers and learn to interpret effectively the information they have read. Furthermore, in terms of gadget use, it is the most predominant age and level when kids get a phone or any other gadgets according to Nielsen research. Therefore, it is being prohibited.

Now that the learning system has changed, the government has ordered a blended style of learning for the Academic Year 2020-2021 amidst the COVID-19 pandemic. The said learning mode employs the use of computers/ tablets/ smartphones, radio, and television. Under the Department Memorandum 2020-00162, it states that:

"Kindergarten pupils are advised to have only one hour of screen time. Grades 1 to 5 students are recommended to use their gadgets for an hour and a half each day for their online learning activities. Learners in Grades 6 to 8 can use their devices for a maximum of two hours every day. Lastly, students in Grades 9 to 12 are suggested to go online for a maximum of four hours each day."

The above-mentioned legal underpinnings simply imply that the use of electronic devices, particularly in the educational process, will alter how pupils grow and develop as learners holistically. This supports the study showing that electronic gadgets do affect children's performance in all areas, may it be in a positive or negative notion.

These contrasting points entail how utilization of electronic gadgets affects students learning, positively or negatively, particularly in reading and comprehension. Anchored on the aforementioned theories, concepts and legal bases, the researchers have come up with this study focusing on the areas of the level of reading comprehension of Grade 6 learners and the extent of electronic gadget usage.

### **3. Statement of the Problem**

This study aimed to determine whether the use of electronic gadget affects the level of reading comprehension of the selected Grade 6 pupils, particularly in Loon South Central Elementary School, for the School Year 2021-2022.

Specifically, it attempted to answer the following questions:

1. What is the extent of electronic gadget usage of the respondents in learning English in the following:
  - 1.1. Laptop;
  - 1.2. Chromebooks;
  - 1.3. Tablets;
  - 1.4. Mobile Phones;
  - 1.5. Desktop Computers;
  - 1.6. iPad;
  - 1.7. Television;
  - 1.8. Play Station; and
  - 1.9. Radio?
2. What is the respondents' level of reading comprehension in terms of:
  - 3.1. Applied;
  - 3.2. Literal; and
  - 3.3. Interpretive reading?
3. Is there any significant relationship between the respondents' extent of electronic gadget utilization and level reading comprehension?
4. What action plan shall be proposed based on the findings of the study?

## 4. Methodology

### 4.1 Research Design

The design used by the researcher in this study was the descriptive survey design. It is a type of a descriptive research which involves description, analysis and interpretation of conditions that now exist. It often involves the comparison and contrast and attempted to discover the cause-and-effect relationship that exists in the variables of the study. The descriptive survey design estimated the extent to which different variables are located to each other and discovered how these characteristics may be related to certain behavior patterns or attitudes.

The main objective of this study was to determine whether the use of electronic gadget affects the level of reading comprehension of the Grade 6 pupils. It is concerned with finding out the degree of relationship of each variable and how these affect the outcome of the study. Therefore, this research design was adapted.

### 4.2 Research Environment

Due to the pandemic, Loon South Central Elementary School was chosen using the convenience sampling. It is a Department of Education managed public school in the Municipality of Loon, located at Moto Sur, Loon, Bohol and has been established in January 1915. The institution also offers a SPED (Special Education) program for children with special needs.

### 4.3 Research Participants

For the respondents of the study, the researchers used purposive sampling. It is a type of a non-probability sampling in which the researchers utilized simply because the participants elucidate the concept and purpose of the study. The focus were the 47 selected Grade 6 pupils of Loon South Central Elementary School. In selecting the final 47 respondents of the target sample, the researchers used simple random sampling using a fishbowl technique. This is done by drawing all the names of the pupils in each section written on a small-rolled paper and placing it in a bowl or container. Since the school has two Grade 6 sections, the researchers determined the sample size per class using Slovin's formula. Out of 33 pupils in Grade 6 Gardenia, 30 respondents were chosen while 17 in Champaca out of 30 pupils.

### 4.4 Research Instruments

Data for this study were collected by means of a modified research questionnaire instrument. The questionnaire has three main parts: Part I of the questionnaire is the extent of electronic gadget use. It aimed to measure the respondents' frequency of gadget use to represent the data needed in the study.

The Part II of the questionnaire is for the level of reading comprehension. It is a 15-item Multiple Choice Question which consists of 5 passages for each category (interpretive, literal and applied). In formulating and developing questions for the survey instrument, questionnaires previously designed by researchers were consulted and considered by the adviser. To test the validity and reliability of the questionnaires, the researchers conducted a pilot testing through face-to-face distribution to some Grade 6 learners that is convenient for each researcher. Each item was calculated to measure if the result of the responses was consistent and test whether some questions on the items were irrelevant or not. This is done to test the research tools including the questions, survey structure and distribution channels. Safety protocols are observed during the pilot testing. After gathering all the data, item analysis is performed.

## 5. Results and Discussions

Table 2. Pupils' Extent of Electronic Gadget Usage

Electronic Gadgets	Weighted Mean	Description and Interpretation
1. Laptop	1.51	Never, No extent and utilization gadget
2. Chromebook	1.40	Never, No extent and utilization of the gadget
3. Tablet	1.72	Never, No extent and utilization of the gadget
4. Mobile Phone	3.60	Frequently, High extent of gadget use between 5-7 hours a day
5. Desktop Computers	1.66	Never, No extent and utilization of the gadget
6. iPad	1.38	Never, No extent and utilization of the gadget
7. Television	3.32	Occasionally, Moderate extent of gadget use between 3-5 hours a day

8. Play station	1.45	Never, No extent and utilization of the gadget
9. Radio	2.21	Rarely, Low extent of gadget use between 1-3 hours a day
Total average weighted mean	2.03	Rarely, Low extent of gadget use between 1-3 hours a day

Table 2 illustrates the gadget use and the extent of its usage. From the list of electronic gadgets above, it was revealed that the respondents had a high extent of gadget utilization ranging between 5-7 hours a day with a weighted mean of 3.60 for mobile phones.

The result implies that the respondents frequently spend their time utilizing mobile phones. This can be attributed to the study conducted by the GSMA (Groupe Speciale Mobile Association) in 2015, which revealed that on average, 67 percent of children surveyed in Bahrain, Japan and the Philippines use a mobile phone and the Philippines has the highest proportion at 76 percent of usage. Further, the result also revealed occasionally on television, rarely on radio and majority of the electronic gadgets listed above were unutilized by the respondents, meaning to say, they do not own or use the gadget at all.

On that note, since one of the aims of this study is to determine the extent of the respondents' electronic gadget usage, it is anticipated that the frequency of time spent on mobile phones, televisions and radio would be affected since most of the respondents' usage of the other electronic gadgets is below average. Overall, it was revealed that the respondents have an average mean of 2.03 which means that they have a low extent of usage ranging for only 1-3 hours a day. This implies that the selected respondents were not exposed and immersed in utilizing the above-mentioned gadgets. Though not all, still the amount of time they spend on gadgets is only minimal.

Table 3 displays the level of reading comprehension of the respondents in terms of Applied, Literal and Interpretive Reading.

**Table 3.1. Level of Reading Comprehension in Literal Category**

<b>Performance in Literal Reading</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Proficient	20	42.55
Advanced	12	25.53
Basic	8	17.02
Poor	3	6.38
Very Poor	4	8.51
Total	47	100
Frequency above mean	39	
% above mean	82.98%	
Frequency below mean	8	
% below mean	17.02%	
Weighted mean performance	3.8	

For the literal reading, the result showed that the respondents got a weighted mean performance of 3.8 described as advanced, which means that they have a good grasp of using contextual clues to arrive at a specific definition of the specified word.

Table 3.2. Level of Comprehension in Interpretive Category

Performance in Interpretive Reading	Frequency	Percentage (%)
Proficient	22	46.81
Advanced	13	27.66
Basic	6	12.77
Poor	3	6.38
Very Poor	3	6.38
Total	47	100
Frequency above mean	35	
% above mean	74.47%	
Frequency below mean	12	
% below mean	25.53%	
Weighted mean performance	4	

In terms of interpretive reading, the respondents are on an advanced level having 4 as their weighted mean performance. This means that the participants know how to assess and think of the pattern and sequence of what is supposed to happen next in the passage or story.

Table 3.3. Level of Comprehension in Applied Reading

Performance in Applied Reading	Frequency	Percentage (%)
Proficient	11	23.40
Advanced	17	36.17
Basic	13	27.66
Poor	4	8.51
Very Poor	2	4.26
Total	47	100
Frequency above mean	41	
% above mean	87.23%	
Frequency below mean	6	
% below mean	12.77%	
Weighted mean performance	3.66	

In terms of the applied reading, majority of the respondents displayed a basic level in decoding and reading beyond what the passage means having 3.66 as its weighted mean performance. This means that the respondents' ability to understand meanings in a deeper sense is just on the average level.

For the overall level of the respondents' reading comprehension, the respondents have an "advanced" level of reading comprehension having 3.81 as their average weighted mean. Since the respondents have less amount of gadget use, this probably leads to a higher level of reading comprehension which can be geared to the study conducted by the researchers at the University of Alberta in 2010 which found that less screen time yields a higher working memory load. Less screen time means more time in their social life. Thus, when children read, they rely more on their memory and experiences to access contextual information during reading.

**Table 4. Relationship Between the Extent of Electronic Gadget Usage and Level of Reading Comprehension**

	df	Computed Value	Critical Value	Interpretation	Decision
		At 0.05 Level of Significance			
Extent of Electronic Gadget Usage and Level of Reading Comprehension	45	-0.06	<u>± 0.288</u>	Insignificant	Accept the null hypothesis

Table 4 presents the degree of relationship between the extent of electronic gadget used and the level of reading comprehension of the Grade 6 pupils of Loon South Central Elementary School. The computed value of r which is -0.06 shows a negligible correlation between the two variables. In finding the relation of the variables, it was revealed that the value of r (-0.06) is lesser than the critical value 0.288 at 45 df and 0.05 level of significance. This implies that the extent of electronic gadget usage of the respondents and their level of reading comprehension displays insignificant or no relationship which contrasts the findings of the study conducted by the researchers at the University of Alberta in 2010 which found out that less screen time yields a higher working memory load. Although at some point, they have commonalities with the results in the study, it was found to be insignificant. Meaning, the respondents' less time of gadget usage did not affect to the level of their performance particularly in the aspect of their reading comprehension. Therefore, the decision is to accept the null hypothesis.

The insignificant result of the relationship between the extent of electronic gadget usage and level of reading comprehension demonstrates that the respondents' low extent of gadget utilization did not affect their level of comprehension. Furthermore, having an average mean of 2.03 having only 1 to 3 hours of gadget use does not contribute to a higher level of comprehension in reading. The advanced level of the respondents' reading comprehension is influenced by other factors not by the amount of time they spend on gadgets. This is with the findings of Lee Katherine (2021), stating that children who use screens for an hour or less only improve social behavior and reduce aggression but it does not guarantee for a better academic performance, especially in terms of critical thinking and comprehension.

From the tables presented above, the researchers have observed that the respondents have low extent in terms of their gadget usage while in terms of their reading comprehension; they have an advanced level based on their reading performance. In finding the relationship of the variables in the study, the extent of electronic gadget usage and level of reading comprehension do not have any significant relationship with one another. This means that the success of a child's proficiency to understand and derive meanings from texts is not determined by the amount they spend on electronic gadgets. With the main objective of this study that seeks to determine whether the extent of electronic gadget usage affects the level of reading comprehension of the respondents, the result was found to be insignificant. Therefore, the researchers have concluded that low amount of gadget usage did not have a detrimental effect to their advanced level of reading comprehension. Despite limited exposure to electronic gadgets, these students demonstrated a commendable level of understanding and comprehension in their reading abilities. It underscores the importance of cultivating a well-rounded approach to literacy education that encompasses various instructional strategies and resources beyond electronic gadgets.

**6. Conclusions and Recommendations**

After analyzing the gathered data, the study concludes that utilization of electronic gadgets does not affect and aid the pupils' level of reading comprehension. It means that the respondents' level of reading comprehension is not influenced by the amount of their gadget usage.

The researchers came up with the following recommendations:

1. The parents must emphasize the importance of their role in promoting reading comprehension skills in their children by actively engaging in their child's reading habits. This can include reading together, discussing books, and creating a reading routine at home.
2. The teachers must develop digital literacy programs that teach students how to effectively use electronic gadgets for educational purposes. This can include providing guidelines and resources for using educational apps, e-books, and online reading platforms to enhance reading comprehension skills.
3. The administrators of the school must foster strong partnerships between schools and parents to support reading comprehension. Organize regular parent-teacher meetings to discuss reading progress, share strategies and provide feedback.



4. Further research can be conducted to explore the long-term effects of electronic gadget usage on reading comprehension. Evaluate the effectiveness of the recommended interventions and strategies in improving reading comprehension skills among Grade 6 students. This will provide valuable insights for future educational practices.

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