

Correlates of Learners' Learning Behavior on the Use of Electronic Gadgets and Academic Performance of Baggao South District: A Basis for an Action Plan

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Abstract

This study focuses on the learning behavior and academic performance of pupils in the three clustered schools of Baggao South District, specifically regarding their use of electronic gadgets. The goal is to develop an action plan to address the effects of electronic gadget use on their academic performance.

The descriptive correlational design was employed in this investigation to determine the significant relationship between the learners' learning behavior and the academic performance of the 282 pupils of the three clustered schools of the Baggao South District.

Findings highlighted the learners' learning behaviors regarding the use of electronic gadgets, focusing on their strengths and difficulties, the academic performance of the participants, the relationship between the participants' learning behaviors on the use of electronic gadgets and their profile variables, and the correlation between the level of learning behaviors on the use of electronic gadgets and academic performance.

The study also revealed that the participants have a moderate degree on the use of educational platforms like YouTube and Facebook, but reported feeling they weren't very skilled in using devices. Social and emotional development was

seen as the most concerning difficulty with gadget use, followed by distractions from social media and potential health problems. A significant correlation was found between age, gender, parents' income/employment, and students' agreement with statements about using gadgets for research and learning, difficulty with analytical skills due to app dependence, and health problems from gadget use. Furthermore, no significant link was found between these demographics and statements about social interaction and collaboration with gadgets and using gadgets for accessing educational resources. Meanwhile, there was a strong negative correlation between academic performance and difficulties with analytical skills and health problems caused by excessive gadget use.

Based on the results, recommendations for teachers, pupils and parents are provided to address the negative impact on the use of electronic gadgets to the learners. These include awareness campaigns on the use of gadgets, lectures or symposiums for pupils and parents.

The study emphasizes the need to implement the action plan to address the negative impact on the use of electronic gadgets to the learners.

Keywords: *Learning Behavior, Electronic Gadgets, Academic Performance*

INTRODUCTION

In educational advances, technology has played a critical role, providing both teachers and students with more alternatives and flexibility in their teaching and learning practices. It has had an impact on and transformed the way teachers and students go about their daily teaching and learning tasks. Technology has, without a doubt, made people's lives more efficient and comfortable. Every year, the number of people who use electronics grows at an alarming rate. Students all over the world are finding it increasingly difficult to envisage their education without the aid of contemporary technology. Furthermore, the more quickly things change in the modern world, the more individuals appreciate the value of modern education and knowledge of current technological developments.

When it comes to teaching and learning, the use of technology in schools has opened up a whole new world of possibilities. Technology has a significant impact on the development of one's future and professional career path. As it has grown in importance as a key component of the world today, it has evolved and become increasingly vital to educational institutions.

One great alternative to books is electronic textbooks, which can be carried around in the palm of your hand and contain all of the necessary information in one small tablet. Searching for necessary information in them will be simple and quick, and learners will save time and money by not having to carry around a large number of textbooks. The application of computer technology in the humanities is no less beneficial. The usage of an e-book can aid in the study of languages because it is a technology that allows one to read novels, take notes, listen to audio recordings, and create audio recordings. Translating text of any complexity online from any language one is interested in is made possible by gadget-translators. Technology has permeated so deeply into people's daily lives that they have begun to abandon the outer world, opting instead to rely on technological equipment to complete their daily chores. The employment of information technologies in education opens up a world of possibilities for both educators and students. It should be mentioned that when studying a specific discipline, both the students and the teacher would be unable to function without the assistance of the Internet. Last, but not least, it comprises all of the necessary information that can be quickly located and applied to the specific situation in which they are required.

The emergence of new technologies has aroused great interest in their application in the field of education. The computerization process is irreversible and cannot be stopped. All developed countries develop and use information technology training. This is because the gadget has increased productivity in all spheres of human activity. The Internet is the infrastructure that all educational institutions need. The possibilities of the Internet in education make the learning process more accessible and faster for any user of the network.

It is undeniably true that, in light of the numerous favorable claims made about the use of technology, it has played an important part in educational innovations, giving both teachers and students greater alternatives and flexibility in their teaching and learning practices.

Because of the widespread availability of the internet and computer technology, technology is becoming increasingly crucial in the field of communication education (Keane, 2012). Many research tools and an endless richness of knowledge are available to students and teachers in today's schools thanks to multimedia software, content-based CD-ROMs, online resources, and a variety of other technological

innovations (Eunjoo & Rusell, 2002). Because of this, it is intended to give a safe environment in which to learn specific skills and become familiar with and independent of the impacts of electronic gadgets, among other things.

The growing visibility, increased roles, and rising cost of instructional digital tools continue to provide challenges to today's classrooms. Considering current educational trends, a modern classroom would be incomplete without computers, software, internet connections, projectors, and a range of other high-tech gear, all of which are available in most schools today. Keane (2012) further explained that using this powerful tool in the classroom can develop real-world skills that will expand, enrich, enhance, and broaden students' comprehension and learning of the subjects that are being taught in the

current curriculum. Effective classroom management has become more dependent on the integration of technological resources. Many researchers have been prompted to examine various facets of such integration as a result of this (Kortlik & Redmann, 2005; Bauer & Kenton, 2005; Judson, 2006; Zhao, 2007; Anderson & Maninger 2007; Abbott & Klett, 2007; and Wood & Ashfield, 2008). This is because, when used effectively and appropriately, it helps students to learn more in less time while also allowing schools to concentrate on global learning environments. Additionally, it has the potential to be a successful teaching tool if it is used to engage all students in the learning process. Technology has been widely accepted in a variety of fields, including business, entertainment, government, and education, over the previous several years.

The widespread use of technology has been a watershed moment in the history of education over the last several years. However, not all of the time do technological advancements have a good impact on the lives of students and teachers. Almost all educational institutions are now concerned about this, and it has become an urgent issue. To determine the effects of electronic gadgets on primary school students' academic performance, the researcher would like to undertake this study to find out how they affect their academic performance.

Baggao is a first-class municipality in the province of Cagayan, and it is one of the province's most populous municipalities. Business and infrastructure initiatives are being established in greater numbers, which indicates that the economy is growing. The introduction and development of technology, including the usage of the internet and other technical gadgets, go hand in hand with these developments and introductions.

The use of electronic gadgets in the Municipality of Baggao is becoming rampant since even the most remote barrio has a high rate of utilization.

In the municipality, the pervasive use of electronic gadgets is evident in various aspects of community life. Residents rely on smartphones, tablets, and computers to stay connected, access information, and engage with local government services and initiatives. From online platforms facilitating bill payments and permit applications to social media channels fostering community dialogue and participation, gadgets play a central role in enhancing communication, efficiency, and accessibility. Moreover, electronic devices support educational endeavors, business operations, and public safety efforts, empowering residents (Pasigui, 2025) to access learning resources, conduct commerce, and respond to emergencies effectively. As technology continues to evolve, the municipality harnesses the power of electronic gadgets to foster a connected, informed, and resilient community, where digital innovation enriches the lives of its residents and strengthens the fabric of civic engagement. (Pasigui, 2025)

In today's world, electronic gadgets are everywhere, and students are no exception. From smartphones and tablets to laptops and gaming consoles, technology is a constant presence in their lives. But how does this gadget use affect their academic performance? As a resident of San Jose, Baggao, Cagayan, the researcher has observed this firsthand.

In the local schools, it is common to see students engrossed in their phones during breaks, texting friends or scrolling through social media. Laptops are also becoming increasingly integrated into classrooms, with some teachers utilizing them for research projects or interactive activities. However, concerns arise when these gadgets

become distractions, with students checking phones during lessons or using laptops for non-educational purposes. This potential for divided attention is what motivates this research project to explore the connection between gadget use and academic performance. This has sparked discussions among parents and educators about the potential impact.

As the use of gadgets by the pupils increases, it is noted and observed too that the time for their supposed learning is decreased and affected.

With these, the researcher is motivated to conduct a study and understand the link between how students use electronic gadgets for learning and their academic performance. The study also intends to find out as to whether the use of electronic gadgets correlates with their learning activities and behavior. It explores specific learning behaviors with these devices, the types and duration of usage, and how these factors correlate with grades or test scores. By identifying potential connections, the research can shed light on whether gadgets enhance or hinder learning and inform strategies to promote their responsible and effective use for better academic outcomes.

Statement of the Problem

his study aimed to correlate learners' learning behavior regarding the use of electronic gadgets with their academic performance in the Baggao South District during the 2023-2024 academic year.

Specifically, the research sought to answer the following questions:

1. What is the profile of the respondents in terms of:
 - 1.1. age;
 - 1.2. sex;
 - 1.3. gadget type;
 - 1.4. number of gadget usage days per week;
 - 1.5. parent employment status;
 - 1.6. parent's highest educational attainment; and
 - 1.7. parent's gross monthly income?
2. What are the participants' learning behaviors on the use of electronic gadgets as regards their:
 - 2.1. Strength; and
 - 2.2. Difficulties
3. What is the academic performance of the participants?

4. Is there a significant relationship between the participants' learning behaviors on the use of electronic gadgets and their profile variables?
5. Is there a significant relationship between the participants' learning behaviors on the use of electronic gadgets and their academic performance?
6. What action plan can be proposed based on the findings of the study?

Hypotheses

This study was guided by the following hypotheses:

1. There is no significant relationship between the participants' learning behaviors on the use of electronic gadgets and their profile variables.
2. There is no significant relationship between the learner's learning behavior on the use of electronic gadgets and academic performance.

Scope and Delimitation of the Study

Only grade six pupils from the three (3) clustered schools of Baggao South District, Baggao, Cagayan who are officially registered for the school year 2023–2024 and who are using electronic gadgets were included in this study.

Cluster 1 comprises Asinga Via Elementary School, Bacagan Elementary School, Baggao South Central School, and Bitag Pequeno Elementary School. Cluster 2 includes Dabbac Elementary School, Hot Spring Elementary School, Imurung Elementary School, and Mocag Elementary School. Cluster 3 comprises Mabini Elementary School, San Francisco Elementary School, San Luis Elementary School, San Miguel Elementary School, and Tunguel Elementary School.

It focused only on the following variables: level of proficiency in the use of electronic gadgets, the academic performance of students, learning behavior, age, grade, level, sex, and length of days of exposure.

METHODOLOGY

This chapter discusses the methodologies and processes that were employed, including the research design, study participants, data gathering tool, data gathering protocol, and statistical tools that were used in the analysis and interpretation of the data, among other things.

Research Design

In this study, the descriptive correlational design was employed, which, according to Quaranta (2017), has the goal of describing the relationship between variables rather than inferring cause and effect

correlations. When the researcher has no control over the independent variables, which are the variables that are believed to cause or influence the dependent or outcome variable, descriptive correlational studies can be used to describe how one phenomenon is related to another. Descriptive correlational studies are particularly useful in situations where the researcher has no control over the independent variables. As a result of its preoccupation with the collecting of thorough and factual information that characterizes an existing phenomenon, in this case, the effect of the use of electronic gadgets on the academic performance of grade six students in Baggao South District, this study design was chosen. To identify important relationships between and among the collected variables, the correlation was used to establish their significance. As an added measure, survey questionnaires was utilized to gather information that was used to generalize the findings to a larger population than the sample set of participants.

Participants of the Study

The participants for this study were the grade 6 students from the elementary schools in Baggao South District who are enrolled in the district. Stratified sampling method was employed in this study. Participants only included pupils who are using gadgets or with gadgets.

All the participants were given codes to ensure confidentiality and anonymity using P-00 for pupil participants.

DISTRIBUTION OF PARTICIPANTS BY SCHOOL

NAME OF SCHOOLS	POPULATION
1.Asinga Elementary School	8
2.Bacagan Elementary School	14
3.Baggao South Central School	40
4.Bitag Pequeno Elementary School	38
5.Dabbac Elementary School	9
6.Hot Spring Elementary School	11
7.Imurung Elementary School	47
8.Mabini Elementary school	21
9.Mocag Elementary School	26
10.San Francisco Elementary School	18
11.San Luis Elementary School	6
12.San Miguel Elementary School	30
13.Tungel Elementary School	14
Total	282

Data Gathering Tool

The information was gathered through the use of a questionnaire. Part 1 contains the demographic profile of respondents, the number of gadget usage days per week, and the pupils' general weighted average, Part 2 determines what gadgets the respondents possess, Part 3 comprises the purpose of using electronic gadgets, and Part 4 the effects of behavior on the use of electronic gadgets while studying.

Structured questionnaire that underwent expert validation was used in this study. The study instrument was subjected to content validation. However, the tool is validated to fit the questionnaire to the objective of the study to ensure content validity or alignment of the statements and construct to what is demanded in the study.

Furthermore, prior to the administration of the tool, the study instrument was subjected to content validation by 6 experts. The evaluation of the panel of experts was subjected to content validity index analysis following the Aiken's V framework and interpreted with the use of the guidelines of Polit and Beck (2006) and Polit, et.al. (2007). After the validation of 6 experts, reliability testing was conducted among 20 elementary pupils. The results of the Cronbach Alpha for reliability coefficient yielded an interpretation/decision of good reliability.

Data Gathering Procedure

To conduct the study, the researcher requested an authorization from the Office of the Superintendent of Schools for the division of Cagayan.

Following the approval, the researcher requested authorization to administer the survey questionnaire to the District Supervisor of Baggao South District as well as the principals of the various public primary schools in the district.

After the approval of the letter, the researcher personally distributed the questionnaire to the target participants of the research with the assistance of the class adviser. Informed consent was given.

To ensure that genuine and trustworthy data is acquired, the researcher personally distributed the questionnaires to the participants during the research process. Informed consent was given to the

Retrieval and collection of all questionnaires followed. The researcher totaled the responses of all participants and compiled the data, which was processed and interpreted.

Statistical Tools

The following statistical tools was employed to get a more thorough examination of the tabulated data acquired by the researchers.

Participant responses on their profile, usage of technology, reason for using technology, and learning behavior were examined using frequency counts and the mean of the responses.

Pearson's r was used to examine the relationship between two or more variables.

Pearson's r derivation formula (Subong, 2005)

$$r_p = \frac{\sum d \, dy}{(N-1)(sdx)(sdy)}$$

Where:

r_p = Pearson's r Coefficient of Correlation between
variable x and y

$\sum d \, dy$ = sum of the product of the deviation between
variables x and y

sdx = the Standard Deviation of variable x

sdy = The Standard Deviation of variable y

N = Total Number of Population

Academic Performance Rating Scale

Percentile Rating	Adjectival Rating
95-99	Outstanding
90-94	Very Satisfactory
85-89	Satisfactory
80-84	Fairly Satisfactory
75-79	Do not Meet Expectations

RESULTS AND DISCUSSION

In this comprehensive study examining various aspects of community needs, several findings have emerged.

Summary of Findings

1. *Demographic profile of the participants:*

- The highest percentage of the participants are 12 years in age
- Majority are females
- Majority of the participants are using cellphones and smartphones
- The highest percentage of the participants gadgets usage per week is on android cell phones and smartphones
- Majority of the participants' parents are unemployed.
- The highest percentage of the participants' highest educational attainment is a college graduate.
- Majority of the participants parent's gross monthly income is below 5,000.

2. Weighted Mean on the learners' learning behaviors on the Use of Electronic Gadgets as to the strength and difficulties

The participants assessment of the three (3) clustered schools of Baggao South District on the learners' learning behaviors on the Use of Electronic Gadgets as to the strength is "slightly agree", while as to the difficulties, the participants assessment is "not agree".

3. Academic Performance of the participants.

In all the clustered schools in the Baggao South District, the highest percentage of the participants had satisfactory academic performance.

4. Correlation between the participants Learning Behaviors on the Use of Electronic Gadgets and their Profile Variables

A notable correlation exists between age, sex, parents' employment status, parents' highest educational attainment and parents' gross monthly income with the items "you use gadgets to make research thorough and effective", "you use different interactive educational platforms like youtube, facebook and apps to make learning easy", "you are good in using electronic devices such as cellphone and laptop", "you have problems on health such as eye defect, tiredness and irregular sleep patterns in using cellphones and laptop", "you encounter difficulty in analytical reasoning, grammar and spelling due to excessive dependence on messenger, instagram, facebook, and other apps", "You believe you are behind with latest updates due to absence of newest gadgets", "Your social and emotional development are affected due to the use of gadgets" and "Your social and emotional development are affected due to the use of gadgets" With the generated result of which p-value is less than the .05 level of significance, the null hypothesis is therefore rejected.

Meanwhile, in terms of the items on "You easily interact, share ideas, and work on projects using gadgets for social and cooperative learning", do not have any significant relationship when grouped according to sex, parent's employment status, and "You use cellphone or laptop for accessing educational resources", when grouped according to Parent's employment status and Parents' gross monthly income, with a p-value more than the .05 level of significance, which implies that all these is not associated with the participants' learning behavior in the use of electronic gadgets.

5. Correlation on the level of learning behaviors on the use of electronic gadgets and the academic performance.

A significant correlation was identified between the Level of Learning Behavior and the Academic Performance of the participants, particularly regarding difficulties in analytical reasoning, grammar, and spelling due to excessive reliance on messenger, Instagram, Facebook, and other apps, and problems on health such as eye defect, tiredness and irregular sleep patterns. This relationship was indicated by a p-value of .016, and .001 respectively which is below the .05 level of significance.

Meanwhile, for the rest of the learning behavior, it has no significant relationship with the academic performance, hence the null hypothesis is accepted. This implies that electronic gadgets do not influence the mean academic performance of the participants.

PROPOSED ACTION PLAN TO ADDRESS EFFECTS ON THE USE OF ELECTRONIC GADGETS TO LEARNERS OF BAGGAO SOUTH DISTRICT

RATIONALE

Balancing Gadgets and Well-being sets out to achieve a multi-pronged approach to our digital lives. This proposed homeroom guidance program aims to:

1. Raise awareness about the potential downsides of excessive gadget use, highlighting its impact on both physical and mental health.
2. Empower viewers by equipping them with practical strategies for achieving balance.
3. Help individuals reclaim control of their time and prioritize well-being by showcasing alternative activities that promote physical and social connection. By achieving these objectives, "Balancing Gadgets and Well-being" empowers viewers to leverage technology's benefits within a framework that fosters a healthy and fulfilling life.

The following are the Components of the Proposed Homeroom Guidance Program

1. Awareness Campaign
2. Classroom Discussion
3. Interactive Workshop
4. Gadget-Free Hours
5. Parental Involvement

Key Result Areas	Activities	Objectives	Development Strategies	Human Resources	Budget	Time Frame	Performance Indicators

1. Students Performanc e -	Awareness Campaign on the use of electronic gadgets	To empower pupils to understan d the effects of gadgets on well- being and develop skills for a healthy balance.	Workshops and seminar	School Heads, Teachers and pupils	5,000.0 0	First quarter	Increased awareness and knowledge
-	Classroom Discussion	To spark critical thinking in pupils about how to manage gadgets for well- being.	Facilitate open discussions about the benefits and challenges of gadgets usage	Teachers and pupils	5,000.0 0	Secon d Quarte r	Empowered pupils with healthy digital habits and a mindful approach to technology use
	Interactive Workshop	The interactive workshop aims to equip pupils with practical tools and strategies to manage gadget use and prioritize their well- being.	Engage pupils in managing screen time and balancing activities	Teachers and pupils	2,000.0 0	Third Quarte r	Empowered pupils with healthy digital habits and a mindful approach to technology use
	Gadgets- Free hours	Incorporat ing gadget- free hours is to promote mindful tech use	A brainstormi ng session will be held with pupils to develop engaging activities	Teachers and pupils	2,000.0 0	Third Quarte r	Increased participation in planned activities, improved focus during gadget- free periods, and self-

		by allowing pupils to experience the benefits of a technology-free environment and prioritize their overall well-being.	and incentives for gadget-free hours, fostering a sense of ownership and promoting well-being.				reported improvements in sleep or mood.
	Parental Involvement	To create a collaborative effort between school and home in fostering healthy gadget use and promoting pupils' overall well-being.	Organize workshops or informational sessions for parents on monitoring and guiding gadget use		5,000.00	Fourth Quarter	To guide parents in finding a healthy balance between technology use and their child's over-all well-being.
B.School /Parents Relationship	Meeting of parent between parent	Improved communication between parent and the school/adviser	To create a unified front on balancing gadgets and well-being, the school will develop strategies for communication, collaboration, and fostering	School head, teachers and pupils	5,000.00	Whole year	Increased parent attendance at workshops, participation in family challenges, and positive feedback from parents about their collaboration with the school in managing

			trust with parents.				their child's device use.
C.Pupils Development	Lecture Symposium on responsible use of gadgets	To empower participants with knowledge and strategies for harnessing the benefits of gadgets while promoting responsible use and overall well-being.	interactive workshops to educate participants and equip them with practical skills for making technology a positive force in their lives.	Teachers and pupils	5,000.00	Fourth quarter	Post-event survey measuring participants' knowledge gain on responsible gadget use and their intention to implement new strategies in their daily lives.
D.Faculty Development	Improved teaching and capabilities of teachers on how to handle pupils behavior	to enhance teachers' instructional practices and equip them with effective behavior management strategies to create a positive and productive learning environment for all pupils.	to improve teachers' capabilities in handling pupil behavior could involve workshops on de-escalation techniques, positive reinforcement strategies, and classroom management tools, fostering a more effective and supportive learning	School heads and teachers	5,000.00	Fourth Quarter	A successful outcome would be a decrease in classroom disruptions and a corresponding increase in positive interactions and on-task behavior among pupils

			environmen t.				
Evaluation	To evaluate the impact of the "balancing gadgets and well-being" initiative, a multi-pronged approach will be used, including surveys, participation tracking, focus groups, and teacher observations	aims to understand how the initiative impacted pupils' knowledge, attitudes, and behaviors regarding gadget use and overall well-being.	evaluation will involve designing data collection tools (surveys, observation guides) and a data analysis plan to assess the "balancing gadgets and well-being" initiative's effectiveness.	Teachers and pupils	5,000.00	Fourth Quarter	The evaluation's success indicator will be a mix of positive results, including increased pupil knowledge, healthier reported behaviors, and positive feedback from pupils and teachers.

Conclusions

Based on the findings of this study, the following conclusions are drawn.

The participants have a moderate degree on the use of educational platforms like YouTube and Facebook, but reported feeling they were not very skilled in using devices.

Social and emotional development was seen as the most concerning difficulty with gadget use, followed by distractions from social media and potential health problems.

The study suggests that factors like age, gender, family income, and parents' work status are linked to how students view using gadgets for learning, their struggles with analytical thinking due to apps, and the health issues they associate with gadget use.

The study also conclude that while age, gender, and family background (income/employment) seem to be factors influencing students' views on using gadgets for learning, their struggles with analytical skills due to apps, and the health issues they associate with gadget use, these demographics don't necessarily influence how students view using gadgets for social interaction/collaboration or accessing educational resources.

Meanwhile, the excessive use of gadgets has a negative impact on academic performance.

Recommendations

1. The respondents may have a longer exposure to educational sites like Google to improve their academic performance.
 2. Young learners may be monitored by their parents and teachers on how they use a diversity of electronic gadgets.
 3. Teachers may ensure that learners use electronic gadgets to enhance their academic performance.
 4. The use of electronic gadgets by the learners may focus on the academic relevance of those sites instead of using them for negative purposes.
5. The guidance enhancement program may be implemented to address the participants' use of electronic gadgets.
6. The findings of the research may be disseminated to the participants of the study.
7. Further research about electronic gadgets and its effect on other aspects of life may be conducted.

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