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The Effects of Electronic Gadgets on the Learning Behavior of Students: A Correlation

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ABSTRACT

This study investigated the relationship between electronic gadget usage and students' learning behavior at Banlag Elementary School. A descriptive correlational research design was employed, and a structured survey questionnaire was the primary data-gathering tool. A total of 106 student respondents were selected using total enumeration. The study focused on identifying the reasons for using electronic gadgets, the number of hours spent on gadget use, and the level of learning behavior based on the domains of behavior, social aspect, Maka-Diyos, and Maka-Tao. Data was analyzed using mean, frequency, and Pearson product-moment correlation. The results revealed that most students used electronic gadgets for entertainment, spending an average of 5 to 7 hours daily. Learning behavior was generally at a high level in the domains of behavior, social aspect, and Makata-Tao, but was low in Maka-Diyos. Statistical analysis showed no significant relationship between the reasons for gadget usage and the students' learning behavior, nor between the hours spent and their learning behavior. The study concludes that while electronic gadgets are commonly used among students, it does not significantly affect their learning behavior. It is recommended that parents and teachers guide students in using gadgets more purposefully to support positive values and behavior.

Keywords: education, learning, gadgets

INTRODUCTION

The use of gadgets among adolescents is steadily increasing, raising concerns about potential challenges to academic performance and the risk of digital addiction. While various electronic devices have the potential to enhance students' educational experiences by providing easier access to information and learning tools, their excessive and unregulated use may also lead to negative consequences. These include declining academic achievement and a noticeable shift in students' interest from active learning to disinterest and disengagement from studies. According to Zain **(**2022), learners who become overly dependent on gadgets are likelier to exhibit anti-social behavior. Furthermore, excessive gadget use can negatively affect students' health, with common issues such as sleep disturbances and loss of appetite. As observed in many classrooms, young learners show significant changes in their learning behavior. Their reliance on gadgets has altered how they process information and interact in academic settings, often reducing participation and attention in class activities.

A global study conducted by Aprianti et al. (2022) at Bina Bangsa University in Indonesia revealed both positive and negative impacts of gadget use among students. On the positive side, students benefit from easy access to information, the ability to engage in long-distance communication, and opportunities to enhance creativity. However, the study also identified several negative consequences associated with the continuous use of gadgets.

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These include a decline in academic performance, adverse effects on student health, disruptions in cognitive development, and increased vulnerability to online risks. Furthermore, students who become dependent on gadgets often exhibit behavioral changes such as forgetfulness, laziness, and reluctance to study. Many frequently spend time on social media and playing games with little educational value.

However, the study of Balbaguio et al. (2021) in Adremil National High School, Adremil, Sara, Iloilo, Philippines revealed no significant relationship between the effects of the use of electronic gadgets and the learning proficiency of the students. Students are very aware of the impact of the use of gadgets, yet responsive and educated on the ill effects of these gadgets. Educational use of gadgets develops a foundation of good, strong, progressive, and responsive citizens in the future. In the context of the researcher's school setting, daily classroom observations reveal that many students use their gadgets during leisure periods, such as recess and during academic hours. While some learners use their devices for productive purposes, such as researching academic content, others are drawn to entertainment applications like YouTube, TikTok, and mobile games. Fellow teachers also report similar trends, such as students being frequently distracted, exhibiting reduced classroom participation, and showing declining interest in traditional learning activities. These shared experiences and professional insights have become a compelling basis for this study. The researcher aims to determine the effects of electronic gadgets on the students' learning behavior, values, and social aspects. Understanding these dynamics is crucial for developing appropriate interventions that balance technology use and academic success.

Literature Review

In this modern era, technological developments continue to grow because they follow the development of increasingly advanced science. Technology was created to provide convenience for human life in daily activities and provide positive value (Indrawarsari, 2019). However, even though it was created to produce positive benefits, it can also be used for negative things. Technological progress has made such a big change in human life in various fields and has greatly influenced social life (Sahetapy, 2021). Gadgets are a rapidly growing technological tool with special functions, including smartphones and tablets (Fauzi, 2018). Gadgets with various applications can present various social media so that they are often misused and negatively impact student academic scores (Das et al., 2018). It is not surprising that children like gadgets in this era. Because gadgets in the current era have turned into interesting items, especially in touchscreen technology, and have also been equipped with various applications that attract attention, especially in children. The use of gadgets among children, adolescents, and adults has various purposes for someone using gadgets, for example, to find information or to play games (Budiharto et al., 2020).

Further, gadgets facilitate long-distance communication with other people, both between cities and abroad, and can also be used as information media for Warsita (Fatimatuz, 2015). But most people now cannot even control themselves to use the gadget itself and instead it has an impact that is not good for their lives, Warsita (Fatimatuz, 2015). Many people know the benefits and uses of gadgets themselves, such as making phone calls, recording pictures, recording videos, recording voices, playing videos, playing music, accessing the internet, managing data, and so on (Indraswari, 2019). Gadget is a technology that is growing rapidly among people. Gadgets are widely used among students, especially in education (Muthi'ah, 2021). Arifin's (2011) opinion states that technological developments should be utilized as best as possible. Hence, students are not only limited to handbooks but can also learn to use the internet to get free e-books to support the learning process. Furthermore, the use of mobile devices in education to enhance learning activities is known as mobile learning, and it is widely considered the next generation of learning technologies. Sarrab, Elgamel, and Aldabbas (2012) emphasized that mobile learning effectively bridges the gap between technology and education by accommodating a broad spectrum of learners, whether mobile, institutional, at home, young, or adult. It supports various learning environments, including classroom-based, networked, online, mobile, distance, collaborative, and synchronous and asynchronous formats. This adaptability makes mobile learning especially appealing to the new generation of distance learners. The authors highlight the importance of preparing students, teachers, and instructors to embrace this emerging mode of education. Building a robust mobile infrastructure is crucial for enabling nomadic learning and expanding opportunities in e-learning and telecommunications. Although not intended to replace traditional classrooms, mobile learning offers a powerful complement that fosters engagement and enhances the overall teaching and learning experience. Hence, digital technology in the classroom encompasses tools and software designed to support students, especially those with specific accessibility needs. Integrating technology is one of the most efficient ways to minimize repetitive and time-consuming tasks for teachers. Educational tech tools can streamline routine activities such as tracking attendance and student progress. Additionally, students learn to use technology responsibly and purposefully, fostering better decision-making and self-discipline. Technology also

equips students for lifelong learning by offering virtual environments and flexible access to information tailored to their individual learning preferences (Haleem et al., 2022). Yılmaz (2021) posited that technology integration in education should be gradual, using well-prepared content and engaging practices to boost learners' cognitive, emotional, and behavioral involvement. As it is a labor-intensive process requiring strong digital skills, educators must continuously develop themselves. Learners should actively participate in the integration process to ensure meaningful participation and success.

Ratnasari and Haryanto (2019) expressed their ideas that gadgets have become an essential part of students' lives in today's context. When used appropriately, they can function as innovative tools for learning. Students are highly skilled in using mobile devices, which they view as personal and enjoyable, more so than other technologies. Mobile gadgets are used more frequently than desktop computers or laptops, indicating their growing potential as powerful learning tools. As such, mobile phones can play a vital role in supporting students' learning by helping them explore and interact with the world. Curriculum developers and education policymakers should recognize the vast potential of mobile technology in education and incorporate it into learning activities that cater to diverse learning styles. Moreover, according to Di Zou, Xie, and Wang (2021), it is recommended that students engage in either collaborative or competitive gameplay when possible, as both approaches significantly enhance engagement and concentration, which are vital for effective learning. Teachers are also encouraged to create opportunities for discussion, collaboration, and interaction among students, promoting more profound understanding and stronger retention of knowledge and skills. Engaging in discussions helps learners restructure what they've learned, leading to more meaningful memorization. Additionally, fostering a healthy competitive environment can be a strong motivator and contribute to greater self-confidence in learning. In addition, the study of Taja-on (2021) supported the idea that game-aided instruction positively influences students' academic achievement and critical thinking abilities. This study compared game-aided instruction to learner-centered instruction, concluding that game-aided instruction is more effective than learner-centered instruction. Further, this study shows a strong correlation between the variable students' game score and their critical thinking rating. This study suggests that game-aided instructions are an excellent motivational tool due to the attribution of active gameplay and interaction. Utilizing Electronic Gadgets in learning addresses the students' learning motivation in terms of interaction and engagement. This approach contributes to the student's motivation, as revealed by all of the studies above, because student engagement allows them to collaborate with their peers and teacher, enabling them to participate and apprehend the learning outcomes simultaneously. Based on the literature above, the use of technology in learning is an excellent approach to enhancing students' motivation.

Thus, the integration of ICT in the classroom must be given serious attention to strengthen the country's education system and improve its global standing. Doing so will also help develop a more capable future workforce. To effectively promote ICT use in education, the government should work on shifting teachers' perceptions toward its integration, as teachers play a crucial role in the successful implementation of new policies. Technological advancements and communication tools are driving change and should be accessible to students at school and at home. Moreover, teachers must be proficient and knowledgeable in using ICT to enhance their teaching strategies. This is vital for fostering meaningful learning and aligning with the demands of 21st-century education (Ghavifekr and Rosdy, 2015). Technology integration in education has been positively received by students and instructors, who acknowledge its potential to make learning more accessible, engaging, and personalized. The widespread use of tools such as language learning applications, online platforms, and multimedia resources has significantly enhanced the effectiveness and enjoyment of the learning experience. Several challenges that can impede the smooth integration include technical difficulties, inconsistent access to digital devices, and varying levels of digital literacy among students (Sari, 2024). Such issues can create barriers to fully leveraging the benefits of educational technology. Thus, Sari (2024) also suggested that to address these challenges, there is a strong need for continuous professional development and training programs that equip instructors with the skills to integrate technology into their teaching practices effectively. Furthermore, improving digital infrastructure and ensuring equitable access to technological resources for all students are essential steps toward maximizing the impact of technology. According to Bayanova et.al (2019), emerging new technologies have sparked widespread interest in their potential educational applications. Computerization is an irreversible process that cannot be stopped. Every developed country develops and implements information technology training. This is because the device has enhanced productivity across all aspects of human activity. The Internet is the infrastructure that every educational institution requires. The Internet's educational capabilities make learning more accessible and faster for all network users. The use of devices is constantly expanding year after year. Furthermore, as the modern world evolves, individuals become more aware of the value of modern

education and knowledge of current technologies. At the same time, numerous domestic and foreign authors have researched the topic of academic performance; they have also observed a decline in academic performance. On the other hand, gadgets are a valuable tool to integrate into learning. Electronic textbooks are an excellent alternative to books because one little tablet can have all the manuals and textbooks, and searching for the necessary information in them is straightforward and quick, not to mention that you don't have to carry as many textbooks. Computer innovations in the Humanities are equally useful. E-books aid in language learning because they are a technology that allows you to read novels, take notes, listen, and generate audio recordings. Gadgets-translators will translate text of any complexity from any language you choose. Information technology has become so pervasive in our daily lives that we sometimes leave the outside world in favor of technological devices (Yamashkin et.al, 2019).

Gadgets have become an essential part of modern life. The use of electronics is becoming more common among adults, but the younger generation is also being exposed to these various technological tools. The use of technology by the younger generation has a wide range of consequences for their socio-emotional development, both positively and negatively. Most individuals use gadgets for communication, learning, and information retrieval, aligning with the technology's intended purpose. The benefits of technical improvement extend beyond the economic sector to include state education. However, if the ease of this technology is abused, it might harm humans (Ashari et al., 2018). Using technology gadgets provides pupils with a variety of benefits. Much previous research has shown that technology gadgets benefit students' self-development. The use of technological gadgets is an excellent medium for education since it allows for self-learning and teaches youngsters to be more creative and innovative, particularly in learning (Salmah & Malisah, 2015). Furthermore, learning with technological gadgets may enhance student self-motivation to learn while benefiting their cerebral development. This electronic device offers learning opportunities for individuals with learning challenges, making it a valuable tool. This is because technology gadgets feature a variety of software and education-related applications, which is one of the reasons why children enjoy learning through engaging techniques (Zouaghi, 2016).

Frequent gadget use correlates with pupils' understanding of technology. Parents who are overly concerned with trivial matters and trust their children to use technology devices are one of the elements contributing to an increase in the level of knowledge and efficiency with which pupils handle the gadgets. The majority of parents are positive about their children's use of gadgets. They suggest that using a device at a young age can help youngsters create a career by allowing them to hone their social skills in a new setting and encouraging responsiveness through video games (Vittrup et al., 2016). On the other hand, parents are unaware that early exposure to gadgets contributes to children's increased knowledge and skills with gadgets. Young individuals have a higher level of competence and expertise in managing gadgets, increasing their motivation to play with them. Children who spend more time on technological gadgets have poorer self-esteem and are more likely to experience issues. Student emotions are also impacted since they are more likely to feel fatigued and depressed than their colleagues when they are not offered a gadget (Ebbeck et.al, 2016). The study's results examining the relationship between students' socioemotional and their knowledge and attitudes toward gadgets revealed a weak but significant correlation between the students' socioemotional and their knowledge of gadgets and between their socioemotional and their attitudes toward gadgets. This finding clarifies how socio-emotional pupils who are also at high levels might be influenced by their degree of knowledge and attitudes. This has been demonstrated by studies showing that children who frequently use digital devices have higher levels of emotional maturity than pupils who do not (Mamatha et.al, 2016). In addition to expressing one's feelings, technological devices also act as a conduit for users to show love to others. This is similar to the primary purpose of technological devices, which is to facilitate communication and build relationships between people. However, the results of this study contradict the findings, which indicate no substantial correlation between students' socio-emotional intelligence and their attitudes regarding studying using computer devices. This study's results emphasize the relationship between students' socioemotional intelligence and efficient technology-assisted learning strategies. However, students' socio-emotional health has suffered due to using digital devices (Agung & Widiputera, 2019). The quick rise in processing power, memory capacity, screen size, and resolution further enhances the potential of electronic devices. When developing new mobile applications, developers may benefit from this update, which makes it possible for users of electronic devices to utilize more beneficial apps in their personal and professional lives. Due to their popularity among students and the younger generation, electronic devices can potentially be used for teaching and learning. Instant chatting, social media, online gaming, emailing, and basic communications are just a few of the various uses for electronic devices. As a result, they are increasingly seen as significant for personal and professional lives (Mariam et.al, 2018).

Electronic devices are cutting-edge technological instruments that have always added value to contemporary living (Gaggioli et.al, 2019). Over 80% of American adults own a mobile phone, and 73% send and receive text messages on their phones as of 2011. After a year, 85% of people use mobile phones, and 80% of text messages are sent or received. Electronic devices of the current generation have several features different from those of the previous year. Voice communication is no longer the only use for a mobile phone. From the palm of their hand, students may access the internet, submit and receive essays via text, check their emails, and engage in video chats with others. Additionally, students can use their mobile phones to access various social networking sites (Smith, 2011). Many students who own electronic devices spend most of their time using them. As a result, their over-reliance on electronic devices impacts their health and academic performance. In Malaysia, 233 schoolchildren participated. 48.1% of students used their electronic devices for more than six hours, while 51.9% used them for fewer than five hours. According to the results, no significant correlation existed between the years spent using an electronic device and the total amount of time spent. Still, there was a significant correlation between the total amount of time spent and the following factors: race, gender, parent income, degree of dependency, academic performance, and health status (Othman, 2020). According to Imran et.al (2023), the rapid expansion of the Internet in many aspects of life presents significant issues for young children growing up in the digital age, with both short- and long-term consequences. Parents play an important role in shaping their children's attitudes and behaviors. However, studies show that adults fail to mitigate the variety of cyber hazards that children experience appropriately, and that parent-focused solutions are insufficient. This study aims to fill research gaps in the status and type of parents' opinions of their children's online use in Australia based on their ethnic origin. The findings show that parents' perceptions of online risk for their children vary depending on ethnicity, cultural adaptation, gender, and age. Parents in multicultural societies are less prepared to deal with cyber dangers to their children and monitor and reduce the hazards that exist. A global review study discovered a favorable association between excessive usage of electronic devices such as cellphones and laptops and psychiatric comorbidities. Young children were disproportionately affected. According to the US Centers for Disease Control and Prevention, the average child watches electronic devices roughly 8 hours each day. Children who spend too much time on screens and do not get enough sleep are less productive. In the worst-case scenario, kids are driven to engage in illegal activities and become social delinquents. According to studies, excessive use of electronic devices in early infancy or adolescence can lead to a variety of psychological illnesses, including attention deficit hyperactivity disorder (ADHD) (Nadeem & Ahmed, 2020).

Surat et al. (2021) found that excessive usage of devices can lead to major health problems (both physical and mental). Another study by Wahyuni et al. (2019) found that this form of physical inactivity can cause energy imbalances and increase the chance of becoming obese or overweight. Consistent with these findings, we have noticed increased physical and mental issues among the study's secondary school participants. Nearly half (on average) of people who reported using gadgets for more than two hours each day had headaches, sleeping disturbances, backaches, limb discomfort, sight disturbances, or sadness. A similar study revealed that most participants (67.11%) used mobile phones daily. With the onset of the COVID-19 pandemic, 24.48% of respondents reported using electronic devices specifically for attending online classes. The data showed a significant increase in gadget usage in 2020 compared to 2019 ($P < .05$). There was also a noticeable decline in children's participation in outdoor activities, with over half of the participants spending less than an hour outside each day. The study also identified a link between frequent gadget use and health issues such as headaches, back pain, vision problems, and sleep disturbances (Rashid et al., 2021). According to Lubis et al. (2024), youngsters and teenagers frequently use gadgets excessively. They use it excessively, which may impair their social and emotional functioning. This study found a relationship between the duration of playing gadgets and mental-emotional outcomes in elementary school students with a probability value of 0.0001 ($p < 0.05$), and the frequency of using gadgets on mental-emotional outcomes with a probability value of 0.001 ($p < 0.05$). There is a substantial association between mental and emotional states, the duration of playing with gadgets, and the frequency with which primary school pupils use devices. According to Amesi and Yellowe (2018), information and communication technology is an innovation that provides a wide range of digital pedagogical tools to teachers, students, and administrators. They include the internet (intranet and extranet), computer email, e-presentations, discussion rooms, platforms, video-conferencing, disks, flash memories, multimedia projectors, interactive white boards, and many more in the future. These new gadgets and equipment methods are essential in almost every aspect of current information transmission. Not surprisingly, educational institutions would profit from using information and communication technology (ICT).

Furthermore, mid-adolescents make up most device users in Indonesia. Excessive usage of devices can lead to various issues, including poor sleep quality and diminished social interactions. The findings revealed a favorable

relationship between the intensity of gadget use and poor sleep quality in adolescents. The intensity of gadget use was negatively associated with social engagement. Adolescents' social connection declines as their usage of devices increases. The usage of gadgets during adolescence is associated with sleep disturbances in terms of latency and length of sleep. Adolescents are more inclined to participate in social connection and communication via technology rather than face-to-face (Krisnana et al., 2022). Lastly, adolescence and technology are inextricably linked. This study aimed to describe the characteristics of gadget users and how social and religious factors influenced them. The findings explained: (1) the characteristics of adolescences in Junior High School X as gadget users, gadget ownership characteristics, usage duration, how to obtain internet access, internet use, and the most used application; and (2) the impact of gadget use on the social life of the adolescent, such as pornographic content, social interaction, studying concentration, and religious aspects. This study shows that the gadget has harmful and sound effects depending on the users' qualities. Furthermore, it is vital to have attention and guidance from the connected stakeholders to be concerned about adolescents' mental health and the social-religious (Herdianto & Syahidin, 2020). Between the pages of Cariaga's research from 2022 to 2024, there's more than just data—there's a story, one that feels as real and urgent as a courtroom drama. It's the story of students trying to learn in the middle of a pandemic, of parents trying to help, and of teachers doing their best with what they had. In Cariaga (2022), we see how electronic gadgets became lifelines during COVID-19, especially in teaching Mathematics. It wasn't about having the latest tablet or fastest internet—it was about survival. The message was clear: technology can help, but only if schools and teachers know how to use it well and if students are guided with care. Then there's Cariaga, Pospos, and Dagunan (2024), who looked at rural classrooms where gadgets weren't distractions—they were windows to opportunity. With creative teaching and a little structure, students who once struggled with numbers began to catch up. But the research also reminds us that just handing a student a gadget isn't enough. The bigger question is: are they using it to learn—or to escape? This is where Cariaga (2023) steps in, showing that parents have a powerful role to play. When parents are involved—checking in, cheering on, setting limits—students use technology more responsibly. It's not just about monitoring screen time. It's about being present. And in his 2024 work, Cariaga pushes even further, talking about the kind of skills students need today: critical thinking, creativity, communication, and collaboration. These aren't just buzzwords—they're survival tools in a world where information is everywhere, but attention is fleeting. If gadgets are going to help students grow, they need to be part of something bigger—a teaching approach that's human, hands-on, and future-ready. Finally, Cariaga et al. (2024) remind us of what really matters: connection. When students feel supported at home and cared for in school, their learning behavior improves—even in a digital world. In the end, the research tells us something simple but powerful: technology doesn't define students. The people around them do. And when those people—teachers, parents, and leaders—work together, even a screen can become a doorway to something better.

Learning Behavior. Behavior plays a necessary role in learning. The study of Mazur (2015) on the factors affecting students' learning behavior in elementary education showed teachers' influence, personal attitude, and parental influence. Students' motivation to acquire in-depth knowledge of students. Learning outcomes are the realization of a person's potential skills or capacities after participating in learning activities (Priyatna & Ngalimun, 2021). Mastery of learning outcomes by a person can be seen from their behavior, both in the form of mastery of knowledge, thinking skills, and motor skills (Irawati, 2018). Many things affect student learning outcomes, such as the teaching strategies given by the teacher, the ability of the teacher to teach, the time and place of learning, and learning facilities (Irawati, 2018). Excessive use of gadgets can negatively affect student learning outcomes; for example, student learning outcomes will decrease (Das et al., 2018). In essence, all that is excessive will not positively impact the individual. But if individuals can adjust their use, gadgets also positively influence student learning outcomes (Harahap et al, 2018). Additionally, the findings of the study conducted by Astuty, Marbun and Rosnija (2018) on the factors affecting students' learning behavior in participating within the speaking activity in speaking for particular purposes class showed that there have been five factors that affect students' habit in participating within the speaking activity, the factors are integrative subsystem, self-confidence, course-specific components, Teacher-specific components and group motivational components.

Furthermore, the study conducted by Svobodová (2019) on the Empirical studies suggested that Internet Addiction, like other well-researched addictive behaviors, has an effect on many facets of a person's life, including academic or work performance, relationships, and physical and mental health (Goldberg, 2018). Internet addiction occurs when an individual is unable to control their use of the internet for non-academic or non-essential purposes, which eventually causes some physical, social, psychological, and work-related problems in one's life. Nalwa and Anand (2023) conducted a research study in India that showed that the dependent group found to delay work when they spent more time on online activities and lost sleep due to late-night online habits.

Some respondents accepted that their lives would be boring without the internet. The dependent group spent more hours online than the non-dependent group. Furthermore, Barthakur (2021) researched the connection between internet use and mental health problems. Of the 268 respondents, 24.6% were tested with frequent issues due to internet use. The researchers found several adverse effects of internet addiction. A large sample population accepted that excessive internet use affected their work, social life, and anticipation. Heavy users of the internet felt loneliness, depression, anxiety and other disorders. The researchers recommended screening internet users at the college and workplace and planning interventions to prevent mental health problems. In addition, Paliwal (2021) conducted a study on 480 students studying in various secondary schools of Agra city in India, who were selected using purposive sampling. It was concluded that internet use for academic purposes by internet users and non-users has no significant relationship with learning behavior. Moreover, Singh (2021) had conducted a study on 600 class XI and XII students from the Government and Non-Government senior secondary Schools of Hoshiarpur, Jalandhar, and Nawanshahar districts. It was found that there is a significant relationship among the students' different categories of learning behavior with their academic achievement in mathematics. Besides the study of Saravana, Lokesha and Shivalingappa (2017) observed that Social work students studying in various colleges in Tumkur University have very high degree of addiction to Facebook, resulting in poor learning behavior. The study revealed that the number of students having internet addiction is low, but around 32% students out of 60% fall in average. Internet addiction is more common in boys than in girls; this may be because boys are more techno-friendly and like to explore things than girls. Around 75% of the students spend less than 1 hour a day, and around 10 % spend more time on the internet. But in the study, it has been shown that it impacts learning difficulty.

A study revealed that many adolescents are becoming overly influenced by the appeal of the internet, leading to addiction primarily for entertainment purposes. This overuse negatively impacts their ability to develop and maintain effective study habits across subjects. A moderate negative correlation was found between excessive internet use and proper study behavior. Teachers, parents, and school administrators must properly guide students. Conducting diagnostic assessments for Internet Addiction can help determine the extent of students' internet use. Taking timely and appropriate action can help steer them in the right direction. While technology should serve humanity, it must not be allowed to harm or control human lives (Gulati and Bakliwal, 2019). Almost 20 years ago, Al-Hilawani and Sartawi (n.d.) defined study skills as the skills and habits necessary for getting to know and retrieving information. Competencies of the process of studying are: to acquire and to record information, to record appropriate responses to that information, to locate the required information, to organize and to manage information, to synthesize these to create adequate responses, and to memorize and to retrieve information on demand. Suerte et al. (2024) investigated the relationship between electronic gadget use and the study habits of STEM students in mathematics, using a descriptive-correlational quantitative approach with 206 respondents. Most participants were 17-year-old male Grade 12 students who primarily used mobile phones to study math for 1–2 hours daily. The study revealed that students strongly agreed that gadgets influenced their study habits, especially in test preparation. Statistical analysis showed no significant differences in demographics, time management, or note-taking. Furthermore, the correlation between gadget use duration and its impact on study habits was negligible.

In addition, Zain et al., (2022) highlighted the critical need to balance children's use of gadgets, acknowledging their educational and entertainment value. While gadgets offer convenience and support learning, excessive and prolonged use can negatively affect children's health, social interactions, physical and mental development, and cognitive abilities. These findings emphasize the responsibility of parents, caregivers, and teachers to manage and limit gadget use actively. By promoting alternative social and educational activities, such as enrolling children in extra classes or encouraging offline interaction, adults can support the holistic development of children across cognitive, affective, and psychomotor domains. Ultimately, this reinforces the importance of guided and moderate use of technology in children's lives. Students' performance at school and work will suffer if they fail to manage their time effectively. These students must schedule their time effectively to catch up on lessons, assignments, projects, and other school requirements. On the other hand, they must maintain good work performance to keep their jobs, as losing them would hurt their studies. Every person's ability to manage time is essential. Regardless of one's position in life, time management and utilization are equally important (Jalagat Jr, Dalluay, and Bashayre, 2019). Many Filipino students choose part-time jobs to help support their studies. They are primarily hired as caregivers and household help by their relatives and teachers. In exchange, they send them to school and provide financial support. Though they are not required to work for long periods, work pressure may affect their school activities, particularly in subjects that most students consider complicated, such as mathematics. As a result of not having enough time to focus on their studies, their math performance may be

compromised. If they can manage their work and study time, they may achieve their goals due to their ability to manage a hectic schedule. The competitive environment we all live in today encourages people to plan and manage time effectively (Hamal, 2018). Motivation is a drive that pushes an individual to act and perform specific tasks and actions. An individual who is motivated will attain good results compared to others who lack motivation (Pinder, 2019). Motivation can either be intrinsic, which is concerned with the rewards of the job itself, or extrinsic, which is related to the rewards surrounding a job. Intrinsic rewards are more satisfying and motivating to an individual (Alshmemri, Shahwan-Akl, and Maude 2017).

Teachers' motivation becomes crucial to enhance classroom teaching (Carson & Chase, 2019). The quality of instruction by the teacher determines the knowledge gained by the students and the achievement of the learning outcomes. The factors contributing to teaching effectiveness are the teaching styles, the pedagogy adopted by teachers, and how the instructions are given to the students. These behaviors relate to the teachers' motivation factors, resulting in a practical teaching-learning experience for the students (Han, 2020). The teacher's motivation indirectly influences the quality of teaching practice through the teacher's engagement in the professional learning activities (Thoonen, 2021). Such professional learning activities may be related to the adoption and use of technology in the class. Through ICT teaching, the learning process becomes more effective and motivates teachers and students to improve their performance. Technologies offer anywhere and anytime learning, but now the learner determines the time and place. Digital technologies are a symbol of a new era in education. It introduces new methods of teaching and new models for training. These latest learning methods motivate the learners to be self-directed, independent, and self-disciplined. These methods also move content-centered curricula to competency-based curricula and teacher-centered delivery forms to student-centered ones (Talebian, 2019). They further explained that digital technology is considered a milestone for motivation and performance in education, especially in higher education. ICT helps develop course content, sharing information and content, learner-to-learner interaction, and contact with teachers worldwide. Today, ICT includes laptops, wirelessly connected internet, video cameras, and mobile devices at a low cost and is accessible to everyone. The technology in education enables students to participate in the rapidly changing world. ICT also promotes digital resources in education, so students, teachers, and other persons can access course material, articles, and scholarly material anywhere, anytime (Das et al., 2018).

The same study emphasizes that while digital technologies have the potential to enhance education greatly, current investments in ICT infrastructure and teacher training have yet to yield significant improvements. True digital transformation in schools is a complex and ongoing process that demands a shared vision among all stakeholders and readiness for change. The literature review reveals that the impact of ICT goes beyond student performance, influencing multiple overlooked aspects of school life. It also highlights that digital tools constantly evolve, requiring adaptive educational strategies (Timotheou et al., 2023). Gottschalka and Weise (2023) argued that digital technology can enhance education for all students and promote equity and inclusion, but only if digital inequalities and inclusive design are appropriately addressed. Without this support, technology can become a barrier. Policymakers must ensure that their strategies promote digital equity and inclusion, separately or in combination. Inclusive digital education requires flexible, personalized tools grounded in strong pedagogy, which can support both academic achievement and student well-being. While research shows promising benefits, challenges remain. Current policies often lack coherence, highlighting the need for more comprehensive and coordinated approaches involving governance, resources, capacity-building, and effective monitoring. While developed countries are rapidly advancing toward a knowledge-based society, developing nations struggle with economic, political, and human resource challenges, making it difficult to bridge the digital divide. Despite these barriers, ICT is recognized as a powerful tool in education. It supports teacher development, reduces isolation in rural areas, and enriches learning with global resources. Schools may be their only access to technology for students in developing countries, helping them build essential skills for future work or study. However, investing in ICT is a complex and costly decision, requiring long-term commitment to provide adequate infrastructure for students, teachers, and communities (Saheb, n.d.)

Winzenried, Dalgarno, and Tinkler (2010) found that teachers who completed ICT training were more effective in integrating technology into their teaching than those without such training. In Ireland, it was observed that teachers lacking confidence tended to avoid using ICT in the classroom. Similarly, in Canada, some teachers admitted hesitating to use ICT out of fear that their students might be more knowledgeable about the technology, potentially causing embarrassment (Hennessy, 2018). Moreover, the study of Marsh (2019) contended that some teachers support the importance of evaluation to improve teaching outcomes. However, some educational people negate students' involvement in evaluation or question students' evaluations to be included in making important

decisions by the school management. This might be the attitude because they see student evaluators lacking integrity and reliability. However, taking all things equal and important towards making educational opportunities wholesome and complete for students, they (students) have the extreme right to evaluate teachers' performance, as they are the most reliable evaluators of curriculum delivery inside and outside of the school campus.

Theoretical Framework

This study was anchored on the Social Learning Theory of Bandura (1965), which posited that students learn behavior through observation. Based on this premise, the researcher believed that extended use of electronic gadgets could influence how students talk, think, act, and communicate. What learners saw, heard, and observed from others, including digital content, became integrated into their behavior and daily lives. At their developmental stage, proper modeling was crucial. Constant exposure to electronic gadgets was detrimental to their learning behavior, values, and social interactions. This study also conceptualized that excessive exposure to electronic gadgets significantly affected students' learning behavior, values, and social aspects. While these devices allowed students to access social networking sites and search for information relevant to their studies, many students were observed to have become addicted to using gadgets for non-educational purposes. These included frequent use of Facebook, TikTok, online games, and other entertainment platforms. The researcher observed that electronic gadgets influenced students to spend most of their time searching for information aligned with their interests, often unrelated to academics; moreover, the use of gadgets extended beyond school hours and encroached upon their study time. Many students could not balance their time properly, resulting in excessive gadget use. This phenomenon rapidly affected even elementary pupils, leading to observable changes in values, diminished peer interaction, and reduced engagement with classmates and family members. While the researcher acknowledged that electronic gadgets could be valuable tools to enhance knowledge, their misuse—particularly when not geared toward informative or educational content—was believed to adversely affect students' behavior, values, and social development. In addition, this study was also anchored on the Technology Acceptance Model developed by Fred Davis (1989), which explains users' acceptance and utilization of technology. This theory asserts that two primary factors, perceived usefulness and ease of use, shape a person's attitude toward using technology, ultimately affecting actual usage behavior. In the context of this study, students who perceived gadgets as helpful and easy to use were more likely to use them, both for educational and non-educational purposes. This behavioral intention to use gadgets influences how often and in what manner the devices are integrated into their daily routines, shaping their learning habits, attention spans, and social interactions. Thus, the technology acceptance model supported the analysis of the motivational and behavioral aspects of gadget use among learners.

Statement of the Problem

This study aimed to determine the effects of the use of electronic gadgets on the learning behavior of the students In Banlag Elementary School for school year 2024-2025.

1. What is the profile of the students' responses in terms of:
   1.1 Number of hours spent
   1.2 Reasons of the use of electronic gadget
2. What is the level of students learning behavior in terms of:
   2.1 behavior;
   2.2 social aspect;
   2.3 Maka-Diyos; and Maka-Tao.
3. Is there an association between the reasons for the use of electronic gadget and the level of learning behavior of students?
4. Is there a significant relationship between number of hours used of electronic gadget and the domains of learning behavior?

Null Hypotheses

In order to treat the problems extensively and accurately, the following hypotheses are formulated:

There is no association between the reasons of using of electronic gadget and the level of learning behavior.

There is no relationship between the number of hours spent using electronic gadgets and the level of learning behavior.

There is no significant relationship between the use of electronic gadgets and the learning behavior of the students.

Scope and Delimitation of the Study

This study focused on the impact of the use of electronic gadgets to the learning behavior of the students in Banlag Elementary School. The electronic gadget includes indicators such reasons of use and number of hours spent. Learning behavior limits to behavior, social aspects, Maka-Diyos, and Maka-Tao. Additionally, the result of this study limits from the 106 elementary learners from Banlag Elementary School, Monkayo West District, Division of Davao de Oro of School Year 2024-2025.

MATERIALS AND METHODS

Locale

This study was conducted in Banlag Elementary School, located in Barangay Banlag, Monkayo, Davao de Oro, along the Philippine-Japan Friendship Highway. As the school enrollment increased, a shortage of classrooms became a significant problem. To accommodate the growing number of students, the PTA and barrio officials jointly represented the community. They facilitated the donation of a semi-permanent classroom building, which consisted of three classrooms. Banlag Elementary School became a complete elementary school in SY 1970-1971. Over time, the school progressed from having only one teacher to 10 teachers.

Research Design

This study employed a quantitative correlational design. According to McCombes (2020), a descriptive quantitative design involves observing and measuring without manipulating the variables. This design focused more on "what" than "why" and was used to describe or measure specific characteristics or perceptions. In this study, the researcher determined the effects of the use of electronic gadgets on the learning behavior of students, including their values and social aspects. The correlational method was deemed the most appropriate research design because it established the significant relationship between the use of electronic gadgets and students' learning behavior. The main instrument used in gathering data was an adapted questionnaire, administered to the study's respondents.

Research Respondents

The respondents of this study were the Grades 4, 5, and 6 learners who were enrolled at Banlag Elementary School for the school year 2024-2025. They were selected using purposive sampling, wherein all learners from Grades 4, 5, and 6 were considered. The typical age range of the respondents for each respective grade level was as follows: Grade 4: 9–10 years old, Grade 5: 10–11 years old, and Grade 6: 11–12 years old. The respondents' experience using gadgets for gaming, social media, and educational apps was also considered. The learners' participation in the data collection process was completely voluntary, and they were free to withdraw at any time if they felt any discomfort. Table 1 below shows the distribution of the respondents per grade level.

Table 1. Respondents of the Study

Grade Level	**Number of Respondents**
Grade 4	34
Grade 5	27
Grade 6	45
Total	**106**

Research Instrument

This study was conducted at Banlag Elementary School. Its focus was to determine the correlation between the use of electronic gadgets and the learning behavior of Grades 4, 5, and 6 in Banlag Elementary School for the school year 2024-2025. An adapted survey questionnaire was used to gather data. This survey questionnaire was adapted from Ayao's (2018) study. The survey questionnaire covered two major parts: first, the profile of students, which asked about the reasons and the number of hours spent using electronic gadgets. The second part is the effect of electronic gadgets on the students' behavior and social aspect, including their values regarding Maka Diyos, and Makatao. A four-point Likert scale below was used for this.

Scale	Description	Interpretation
3.60 – 4.00	Always	It means that the respondents used electronic gadgets at all times.

2.60 – 3.50	Often	It means that the respondents used electronic gadgets most of the times.
1.60 – 2.50	Sometimes	It means that the respondents sometimes used electronic gadgets.
1.00 – 1.50	Never	It means that the respondents never used electronic gadgets.

Validation of Instrument

A panel of external and internal validators was assigned to check the instrument before it was administered to the respondents. To test the validity of the instrument, 15 selected students who were not involved in the study were chosen. The instrument was trialed to determine if the questions would indeed measure what was intended. If any issues arose during the testing, the researcher immediately made modifications.

Research Procedures

The researcher followed the proper protocol, specifically during the data gathering process. Before the study was conducted, the researcher sought permission from the ethics committee for an ethics review of the study, after which an endorsement letter was requested from the graduate school. This letter was then submitted to the Schools Division Superintendent, along with a personal letter from the researcher. The researcher also asked permission from the district supervisor and the school principal of Banlag Elementary School to conduct the study. Once the necessary permissions were granted, the researcher promptly distributed the questionnaire to the selected respondents.

Administering the Questionnaire

The researcher was responsible for administering the questionnaire. To ensure the respondents understood the questions clearly, the researcher thoroughly explained the items and allowed ample time for them to complete their responses.

Data Gathering

Data were collected using questionnaires. The data collection involved contacting and meeting the respondents to gather the required information. The students from Grades 4, 5, and 6 were universally chosen as the study's respondents and were asked to complete the survey questionnaires. The data obtained from the questionnaires were tallied, encoded, and analyzed using the appropriate statistical tools.

Statistical Treatment of Data

In analyzing the data, the researcher used simple yet reliable statistical tools to better understand the patterns and relationships within the study. To get a sense of how often students used their electronic gadgets and how they behaved in terms of learning, social interaction, and values, the mean was used. This gave a clear picture of the general trends among the students at Banlag Elementary School. To dig deeper into whether there was any meaningful connection between the amount of time students spent on their gadgets and their learning behavior, the Pearson Product-Moment Correlation Coefficient was applied. This tool helped the researcher find out if using gadgets more—or less—had any real influence on how students learned or behaved in school. All these tests were done with care, using a standard level of significance to ensure the results were accurate and trustworthy.

Ethical Considerations

In carrying out this study, the researcher made sure that every step was guided by strong ethical principles to protect the rights, dignity, and well-being of all participants. From the beginning, permission to conduct the study was secured, and care was taken to ensure participants fully understood their involvement. The study focused on a real and growing concern—the increasing use of electronic gadgets among pupils at Banlag Elementary School—and aimed to contribute helpful insights for schools in today's technology-driven learning environment. Before participating, students and their guardians received informed consent forms that clearly explained the purpose of the study, who was conducting it, and what it involved. Participation was completely voluntary, and no one was pressured to take part; students were free to ask questions or leave the study at any time if they felt uncomfortable. The questionnaires were translated into the local dialect to ensure everyone could understand them, and the researcher patiently clarified anything that was unclear. Special attention was given to protecting

the students, recognizing their young age and ensuring that they felt safe and respected at all times. The study did not involve any risks or offer material rewards, but the hope was that its findings would help improve educational practices in schools. Personal information and responses were handled with strict confidentiality, stored securely, and scheduled for deletion after the study's completion, in compliance with the Data Privacy Act of 2012. Throughout the process, the researcher was transparent and honest, avoided any conflicts of interest, and remained committed to conducting the study with fairness and integrity. The researcher properly informed respondents of the objectives and significance of the study. The study was free from intentional misrepresentation of actions, fabrication of data, or false conclusions. All procedures and findings were presented truthfully and transparently.

RESULTS AND DISCUSSIONS

Reasons for Students' use of electronic Gadgets and the Number of Hours spent

Table 2. Reasons for Using Electronic Gadgets

Indicators	Weighted Rating	Quality Index
Educational Purposes	2.4	Occasionally
Entertainment	3.4	Often
Gather Friends	2.5	Often
Gather Information	2.7	Often
Social Media	2.4	Occasionally
Communication	2.6	Often
Overall	**2.7**	**Often**

The data presented in Table 2 outlines the various reasons why students use electronic gadgets. The highest weighted rating was recorded for entertainment at 3.4, interpreted as "Often," indicating that students frequently use their gadgets for leisure activities. This is followed by gathering information with a weighted rating of 2.7, communication with 2.6, and gathering friends with 2.5, all of which are also interpreted as "Often," suggesting that gadgets are commonly used for research, staying connected with others, and socializing. On the other hand, educational purposes and social media both received the lowest weighted ratings of 2.4, with corresponding quality index of "Occasionally." This implies that although students recognize gadgets' potential academic and social uses, they do not engage with them as frequently for these purposes. The overall mean weighted rating is 2.7, which falls under the "Often" interpretation. This suggests that, in general, students frequently use electronic gadgets, with a stronger inclination toward entertainment and social interaction, and relatively less for academic activities.

Table 3. Number of Hours Spent Using Electronic Gadgets

Binomial Test

	Level	Counts	Total	Proportion	p
No. of Hr.	2	2	106	0.019	< .001
	3	12	106	0.113	< .001
	4	7	106	0.066	< .001
	5	18	106	0.170	< .001
	6	26	106	0.245	< .001
	7	14	106	0.132	< .001
	8	13	106	0.123	< .001
	9	8	106	0.075	< .001
	10	6	106	0.057	< .001

Note. Proportions tested against value: 0.05.

Table 3 presents the distribution of the number of hours students spend using electronic gadgets, analyzed using a binomial test with the proportion tested against a value of 0.5. The sample consists of 106 students, and the results show that the number of students spending various amounts of time on electronic gadgets is significantly lower than the reference proportion of 0.5 across all hour categories. The most frequently reported duration is 6 hour, with 26 students (24.5%) selecting this option. This is followed by 5 hours (17.0%), 7 hours (13.2%), and

8 hours (12.3%). Notably, only 2 students (1.9%) reported spending just 2 hours using electronic gadgets, indicating that minimal usage is rare. All p-values are reported as being less than 0.001, suggesting that the proportions in each time category significantly differ from 0.5. This consistent significance implies that students' gadget usage is not evenly distributed and is skewed toward the mid-range of 5 to 7 hours per day. Overall, the data indicates that a substantial number of students spend between 5 to 7 hours daily on electronic devices, highlighting a potential area of concern for screen time and its implications on learning.

Level of Students' Learning Behavior

This section presents the results of the second statement of the problem which examines the level of learning behavior among students in terms of behavior, social aspect, Maka-Diyos and Maka-Tao. Table 4 presents the students' responses regarding their behavioral trat related to electronic gadget use. The highest score was recorded for the item 10 with weighted rating of 3.0, interpreted as "High". This implies a strong emotional independence on access to social media platforms. On the other hand, item 5 had the lowest weighted rating of 2.3, which is interpreted as "Low", suggesting a potential challenge in emotional self-regulation among students.

Table 4. Behavior

Indicators	**Weighted Rating**	**Descriptive Equivalent**
1. I can immediately empathize with the feelings of my parents, friends, classmates, and other people around me.	2.5	High
2. I easily get irritated when someone is talking to me especially when I am using the computer, tablets or cell phone.	2.7	High
3. It is very easy for me to express my bad feelings to others.	2.5	High
4. It is difficult for me to enjoy life without Facebook,TikTok, YouTube and Instagram.	2.8	High
5. It is easy for me to control my temper.	2.3	Low
6. I have always bad feelings to others which I could not control.	2.7	High
7. I respect myself and also other people closer to me.	2.7	High
8. I choose people whom I want to talk to.	2.6	High
9. I have good feelings to others.	2.6	High
10. I can hardly adjust any situation when I failed to open my Facebook, YouTube, TikTok and Instagram account	3.0	High
Overall Mean	2.7	High

Reflected in the table is the overall domain achieved a mean score of 2.7, interpreted as "Hugh", indicating that students generally display high behavioral tendencies in response to gadget use. These behaviors include empathy, self-respect, and social selectiveness, although some areas, such as emotional control show weaker development.

Table 5. Social Aspect

Indicators	Weighted Rating	Descriptive Equivalent
1. I establish good communication with people I meet in Facebook, TikTok and Instagram.	3.0	High
2. With the use of Facebook, YouTube, TikTok and Instagram, I have more friends.	3.3	High
3. I learned more unwanted materials that are irrelevant to my studies.	3.5	High

4.	My oral and written communications are improved with the guidance of my friends in Facebook, YouTube, TikTok and Instagram.	2.6	High
5.	I developed my self-confidence through the approval of my social media friends.	2.9	High
6.	I can interact with the bigger world without hesitations.	3.0	High
7.	I share experiences, publish photos, chat and interact to people who are strangers to me.	2.8	High
8.	I earn approval from my circle of friends in the social media even if my actions are negative.	2.1	Low
9.	I maintain social contact outside of the day-to-day face-to-face conversation that hinders me to face the real world	2.6	High
10.	I learned more of the negative things rather than the positive.	2.3	Low
Overall Mean		2.7	High

Table 5 shows the students' social behaviors in relation to their use of social media platforms like Facebook, Tiktok, and Instagram. The highest rating was given to item 3 with a score of 3.5, interpreted as "High", which may highlight the risk of exposure to distracting or inappropriate content. Items 2 and 1 also received high ratings of 3.3 and 3.0, respectively. These responses reflect a positive perception of social connection. However, items 8 and 10 scored "Low" with a weighted rating of 2.1 and 2.3, respectively, which may suggest a degree of self-awareness regarding online influence and content. Furthermore, the overall mean of this domain has a mean score of 2.7, interpreted as "High", showing that students feel socially engaged and supported through their online interactions, despite the presence of some negative content and influence.

Table 6. Maka-Diyos

Indicators		Weighted Rating	Descriptive Equivalent
1.	I post gospel phrases in Facebook, TikTok and Instagram.	2.1	Low
2.	.I often read gospel phrases from Facebook, YouTube, TikTok and Instagram.	2.2	Low
3.	I download and read at least 1 bible version and reflect during my free time.	2.1	Low
4.	I return borrowed things in good condition.	2.4	Low
5.	I demonstrate intellectual honesty.	2.3	Low
6.	I aspire to be fair and kind to all.	2.4	Low
7.	I identify personal biases.	2.4	Low
8.	I recognize and respect one's feeling and those of others.	2.3	Low
9.	I always tell the truth.	2.4	Low
10.	I respect religious beliefs of others.	2.5	High
Overall Mean		2.3	Low

Table 6 presents the results of students' Maka-Diyos values, which relate to their spiritual, moral, integrity and religious practices. Items 1 and 3 scored 2.1 the lowest among all indicators. These responses suggest limited engagement with religious or spiritual content through electronic platforms. Moreover, only item 10 received a "High" rating of 2.5, indicating tolerance and respect for others' beliefs. Furthermore, the overall mean of this domain is 2.3, interpreted as "Low", implying that the use of electronic gadgets does not strongly support the development of Maka-Diyos values among students. This suggests a need to encourage more meaningful and value-oriented digital engagement.

Table 7. Maka-Tao

Indicators		Weighted Rating	Descriptive Equivalent
1.	I show respect for all and waits for one's turn.	2.7	High
2.	I view mistakes as learning opportunities.	2.5	High
3.	I uphold respect the dignity and equality of all including those with special needs.	2.6	High

4.	I volunteer to assist others in times of need.	2.4	Low
5.	I recognize and respect people from different economic, social and cultural background.	2.6	High
6.	I cooperate during school activities.	2.7	High
7.	I recognize and accept the contribution of others toward a goal.	3.0	High
8.	I accept defeat and celebrate other's success.	2.6	High
9.	I speak out against and prevent bullying.	2.6	High
10.	I communicate with respect to everyone I talk to.	2.7	High
Overall Mean		2.6	High

Table 7 presents the results for the Maka-Tao domain, focusing on interpersonal skills, cooperation, and ethical interaction. Among the ten indicators, the highest weight rating of 3.0 was recorded for item 7, indicating a strong sense of teamwork. Most items fall within the "High" category, such as items 1, 3, and 9 that got a weighted rating of 2.7, 2.6 and 2.6 respectively. This only suggests that students generally exhibit strong social responsibility and sensitivity. On the other hand, only item 4 scored slightly lower at 2.4 interpreted as "Low", pointing to a possible area for growth in proactive altruistic behavior. Additionally, the overall mean of 2.6 indicated a "High" level of Maka-Tao values, reflecting positive attitudes toward social fairness, empathy, and responsible citizenship.

Significant Association Between Reasons for the Use of Electronic Gadgets and Level of Learning Behavior of Students

Table 8. Reasons for the Use of Electronic and the Level of Learning Behavior

Pearson's Correlations

Variable		COR_BE	COR_SA	COR_ MD	COR_MT	REASONS
1. COR_BE	Pearson's r	—				
	p-value	—				
2. COR_SA	Pearson's r	0.139	—			
	p-value	0.156	—			
3. COR_ MD	Pearson's r	-0.152	0.104	—		
	p-value	0.121	0.288	—		
4. COR_MT	Pearson's r	-0.032	0.140	0.122	—	
	p-value	0.745	0.153	0.213	—	
5. REASONS	Pearson's r	0.057	0.107	0.091	0.010	—
	p-value	0.563	0.273	0.355	0.915	—

Table 8 presents the Pearson correlation coefficients or five variables: students for using electronic gadgets and their levels of learning behavior across fouuur domains – Behavior (COR_BE), Social Aspect (COR_SA), Maka-Diyos (COR_MD), and Maka-Tao (COR_MT). The "REASONS" variables refer to various motivations for using gadgets such as entertainment, communication, and information gathering. The correlation between "REASONS" and the Behavior domain (COR_BE) is r=0.057 with a p-value of 0.563, indicating a weak and statistically nonsignificant association. Similarly, "REASONS" and Social Aspect (COR_SA) have a correlation of r=0.107 with a p-value of 0.273, again showing no strong association. The Maka-Diyos domain (COR_MD) yielded r= 0.091 with p = 0.355, and Maka-Tao (COOR_MT) showed an even weaker correlation at r = 0.010 with p = 0.915. All p-values exceed the 0.05 threshold, which suggest that the observed relationships between the students' reasons for using gadgets and their level of learning behavior are likely due to chance. Therefore, the results do not provide sufficient evidence to suggest a significant association between these variables. Thus, the null hypothesis Ho1a, which stated that there is no association between the use of electronic gadgets and the learning behavior of students, is accepted. The results indicate that students' motivations for gadget use do not significantly relate to how they behave, interact socially, or demonstrate moral and ethical behavior.

Significant Relationship Between Number of Hours Spent of Electronic Gadgets and the Domains of Learning Behavior

Table 9. Number of Hours Spent and Domains of Learning Behavior

Pearson Correlations

		Behave	Social As	Maka Diyos	Maka Tao	No. of Hr.
Behave	Pearson's r	—				
	p-value	—				
Social As	Pearson's r	0.170	—			
	p-value	0.168	—			
Maka Diyos	Pearson's r	-0.121	0.104	—		
	p-value	0.327	0.288	—		
Maka Tao	Pearson's r	-0.039	0.140	0.122	—	
	p-value	0.756	0.153	0.213	—	
No. of Hr.	Pearson's r	-0.096	-0.021	0.046	0.051	—
	p-value	0.438	0.830	0.639	0.602	—

Table 9 illustrates the Pearson correlation coefficients between the number of hours students spend using electronic gadgets and their learning behavior across four domains. The variable "No. of Hr." measures daily gadget use ranging from 2 to 10 hours, while the behavioral domains remain: Behavior, Social Aspect, Maka-Diyos, and Makka-Tao. The correlation between "No. of Hr" is r = -096 with a p-vaue of 0.48 indicating a weak negative and nonsignificant relationship. Similarly, its correlation with the Social Aspect is r = -021 and p = 0.830, also insignificant. The Maka-Diyos domain correlates at r = 0.046, p = 0.639, and Maka-Tao shows r = 0.051 with p = 0.602. All correlations are weak, and none are statistically significant at the 0.05 level. The p-values demonstrate that the time spent on gadgets does not significantly influence students' learning behavior across the measured domains. These results imply that variations in screen time are not strong predictors of changes in learning behavior. Thus, the null hypothesis Ho1b, which states that there is no significance between the use of electronic gadgets and the level of learning behavior of students when grouped according to a number of hours spent, is also accepted. The evidence suggests that time spent on gadgets has no significant bearing on students' behavior, engagement, spirituality, and or ethical conduct.

Significant Relationship Between the Use of Electronic Gadgets and the Learning Behavior of Students

The null hypothesis HO_3 posits that there is no significant relationship between the use of electronic gadgets and the learning behavior of students. This relationship was examined using Pearson correlation analysis, drawing from variables that measured both the purpose of (reasons) and duration (number of hours) of gadget use, and the four domains of learning behavior: Behavior, Social Aspect, Maka-Diyos, and Maka-Tao. As shown in Tables 8 and 9, all correlation coefficients were weak and statistically nonsignificant, with p-values well above the 0.05 significance level. For instance the highest observed correlation was between gadget use and Social Aspect (r = 0.107, p = 0.273), and between hours of use and Maka-Tao (r = 0.051, p = 0.602). These values suggest that neither the reasons for using gadgets nor the time spent on them were meaningfully associated with students' learning behaviors. The p-values indicate that any observed relationships are likely due to chance rather than a real statistical association. The data do not provide sufficient evidence to conclude that gadget use significantly influences learning behavior in the different domains. Therefore, based on the results, the null hypothesis HO_3 is accepted.

Reasons for students' use of electronic gadgets and the number of hours spent

The results indicate that the most common reason students use electronic gadgets is for entertainment, which received the highest weighted rating followed by gathering information, communication, and socializing. Educational purposes and social media had the lowest scores. These results are consistent with the study of Margeta, Yusnadi, and Machmud (2023), which suggests that while students recognize the academic potential of electronic gadgets, their primary use centers on leisure and interpersonal connection. Thus, parents should play a pivotal role in guiding their children in the responsible use of gadgets by setting appropriate time limits and ensuring that gadget use is focused primarily on activities that support the students' learning and overall development. The majority of students reported spending between 5 to 7 hours per day on electronic gadgets, with 6 hours being the most common response. The consistent significance in the binomial test results suggests that students' gadget usage is not evenly distributed but concentrated in a range that may interfere with other productive activities, such as studying or sleeping. This finding aligns with the study conducted by Bhatti et al. (2022), which revealed that excessive use of gadgets may be linked to a decline in academic performance, thereby negatively impacting their learning capabilities.

Level of Students' Learning Behavior

The result of the present study revealed that among the four domains of learning behavior, students scored the highest in social and ethical conduct, while Maka-Diyos domain received the lowest overall mean. This indicates that the values related to spirituality and moral integrity are less developed or less prioritized in students' daily digital activities. These findings support to the study conducted by Hasanah et al. (2022), which reported a similar low level of spiritual engagement among students. Both present and previous studies highlight a concerning trend that, despite the digital technology for learning and social connectivity, it may inadvertently lead to reduced emphasis on spiritual development and religious observance among students.

Significant Association Between Reasons for the Use of Electronic Gadgets and Level of Learning Behavior of Students

The study also examined whether there is a significant relationship between students' use of electronic gadgets and their learning behavior. Pearson correlation analyses revealed no statistically significant association between gadget usage (in terms of reasons and duration) and learning behavior across all four domains. All p-values exceeded the 0.05 threshold, confirming the null hypotheses (HO_1, HO_2, and HO_3). This indicates that although students actively use electronic gadgets, such usage does not significantly influence their learning behavior. This finding is consistent with the study of Arfapo (2019), which revealed that the use of electronic gadgets does not have a significant relationship with students' learning behavior. Similarly, the findings of Balbaguio et al. (2021), support this conclusion. Their study affirmed that while students frequently use electronic gadgets for both academic and non-academic purposes, such usage does not significantly predict or influence learners' academic performance or study habits. Their research highlighted that learners' perceived benefits of gadget use do not necessarily translate to improved academic outcomes or more effective learning behaviors. The authors emphasized that the quality and purpose of gadget use rather than frequency matters more in shaping academic success. Despite the widespread use of gadgets among young learners, their influence on core learning behaviors remains limited. Nonetheless, electronic gadgets can still serve as valuable tools when used appropriately, providing students with faster and more convenient access to educational resources and learning opportunities.

Conclusion and Recommendations

The study revealed how deeply electronic gadgets had become a part of students' daily routines. Most students reported spending 5 to 7 hours each day on their devices, primarily for entertainment and social interaction, with academic use receiving much less attention. While it was promising that students still demonstrated strong social interaction and positive behavioral traits (Maka-Tao), their engagement in spiritual and moral development (Maka-Diyos) appeared low. Despite the high usage, the study found no significant relationship between the amount of time spent on gadgets and students' learning behavior. This suggested that access to technology alone did not directly influence their behavioral, social, or spiritual growth—what truly mattered was how the technology was being used.

In light of these findings, it was recommended that students be guided more intentionally in their use of digital tools. Schools were encouraged to educate learners on responsible gadget use, not only for academic purposes but also to promote balance and discipline. Integrating digital citizenship and media literacy into the curriculum could have helped students become more critical and purposeful in their online activities. Likewise, teachers and parents needed to collaborate in setting realistic screen time limits and encouraging students to engage with digital content that nurtured values and character. Promoting inspirational media, community service through online platforms, and reflective digital exercises could have addressed the weak engagement in the Maka-Diyos domain. Future studies were advised to examine more closely the types of content students accessed and how these might influence different aspects of their learning behavior, possibly incorporating students' personal reflections and experiences for deeper insights.

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