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| RESEARCH ARTICLE

Electronic Gadget Usage and Its Relationship to Learners' Attention and Focus in Classroom Setting

Abundia Cardines[1], Helen Revalde[2], Kaitlin Marie Opingo[3], Veronica Calansang[4], and Dennis Plando[5]
[1]*Naga Central Elementary School*
[2,3,4,5] *Cebu Technological University*
Corresponding Author: Abundia Cardines, **E-mail**: abundiacardines@gmail.com

| ABSTRACT
This descriptive-correlational study delved into the impact of electronic gadget use on the attention and focus of kindergarten learners. The research was carried out at Naga Central Elementary School, Cebu, involving 60 kindergarten teachers who assessed the learners using a validated survey tool. The study's setting encompassed a blend of urban and rural environments, reflecting varying levels of access to technology. Data analysis was conducted using weighted mean and Pearson correlation to establish relationships between variables. The findings revealed that the majority of the learners were six years old, female, and came from families with two to three children, primarily guided by authoritative parenting styles. Gadget usage was reported as occasional, with entertainment being the primary purpose. Despite this, the learners demonstrated robust attention spans and task completion abilities. The study found that the engagement levels showed minimal association with the extent of gadget exposure. Interestingly, a weak but statistically significant positive correlation was observed between gadget use and both attention duration and task completion. The study concludes that the guided and moderate use of gadgets may support certain attention-related behaviors in young children. Based on these findings, the study recommends the implementation of structured digital activities under adult supervision.

| KEYWORDS

Electronic gadget use, Kindergarten pupils, Attention and focus, Early childhood education

| ARTICLE INFORMATION

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Introduction

In today's digital age, electronic gadgets such as smartphones, tablets, and laptops have become integral to daily life, with even young children increasingly exposed to them. Research from 2020 to 2025 reveals growing concerns about how this exposure affects kindergarten pupils' attention and focuses in the classroom. Excessive gadget use has been linked to reduced attention span, impaired classroom responsiveness, and social interaction issues among young children (Hayat, 2024). Studies show that children who spend over two hours per day on devices often exhibit signs of irritability, reduced discipline, and disinterest in academic or social activities (Widya et al., 2021). Additionally, frequent gadget use has been found to negatively affect emotional development, self-awareness, and prosocial behavior in children aged 5–6 years (Siregar & Nurhafizah, 2022). A separate study also confirmed a strong correlation between the intensity of gadget use and attention deficit symptoms in school-aged children, reinforcing the need for monitoring screen time (Daryanti & Fitriahadi, 2022). While many educators support the use of gadgets for instructional purposes, concerns persist that children often exceed recommended screen time both at home and in school environments (Putimtseva, 2024). Collectively, these findings emphasize the importance of creating structured guidelines and enhancing parental and educator awareness to balance the benefits of technology with its potential developmental risks.

Furthermore, Kindergarten is a vital stage in a child's development, especially in terms of cognitive skills like attention, memory, and focus. At this stage, children are not only learning academic content but also developing social and emotional skills that are crucial for their future success (Shonkoff & Phillips, 2000). However, with the increased use of gadgets especially during remote learning in the wake of the COVID-19 pandemic it is important to understand whether gadgets help or hinder children's ability to focus and engage in class activities (Achtman, 2020). For instance, a study by the World Health Organization (WHO, 2019) highlighted that excessive screen time, particularly for children under 5, has been linked to a range of developmental concerns, including disruptions in sleep patterns, poor physical health outcomes, and difficulties in attention regulation. The WHO has set guidelines that recommend children under 2 years should have no screen time, and those between 2 and 4 years should have no more than one hour per day. Yet, many countries have struggled with enforcing these recommendations, as technology is often seen as both a tool for education and entertainment, further complicating the issue (WHO, 2019).

In the Philippines, the use of digital devices for learning has become more common where gadgets are often seen as tools for educational advancement. However, there is a pressing need to understand how the use of these gadgets might impact young learners' attention during traditional classroom sessions. Attention span is critical for young children, and any distractions caused by gadgets could affect their learning experience (Hancock & Dufresne, 2019). Understanding this relationship is crucial for improving the way digital tools are used in education. Although there is a wealth of research on the effects of electronic devices on older children and adolescents, there is very little focused specifically on the impact of gadget usage on kindergarten children's attention and focus, especially in the context of the Philippines. Most studies on technology and children's attention look at older students, leaving a gap when it comes to younger children (Radesky et al., 2020).

Additionally, the situation in the Philippines is unique. There is a wide variation in how and how much technology is used in classrooms, with rural areas having different access to digital devices compared to urban areas. This makes it all the more important to study the impact of gadgets on young learners in this context, as the effects may vary depending on factors like socioeconomic status or the type of gadget used (Cruz, 2022). Moreover, the Department of Education (DepEd) has recognized the importance of technology in education through the National Policy on the Integration of ICT in Basic Education (Republic Act No. 10650, 2015). This law encourages the use of digital tools in classrooms to improve learning outcomes. However, it does not specifically address the potential downsides of technology, such as its effect on the attention span of young children. As the government continues to push for digital learning, it is essential to investigate these potential drawbacks. Furthermore, the K to 12 Basic Education Curriculum emphasizes developing 21st-century skills, including critical thinking and focus (DepEd, 2016). Yet, it does not provide clear guidelines on how to manage screen time for younger children, particularly in the early grades. This study will help bridge that gap, offering insights that could inform future educational policies and practices.

From the description of this phenomenon, the researcher opted to conduct this research that likewise assesses the relationship between electronic gadget usage and the attention and focus of kindergarten pupils in Elementary School in City of Naga, Cebu. Meanwhile, understanding how gadgets influence kindergarten pupils' attention and focus, this research will provide valuable insights that could guide the development of more balanced teaching strategies. It will also help policymakers create a more informed approach to integrating technology into early childhood education. This research will also contribute to the broader discussion on the effects of technology on young learners, particularly in developing countries like the Philippines

Literature Review

Parental perception plays a crucial role in understanding the extent of electronic gadget usage among kindergarten pupils. Several studies report that most parents view their children's gadget use as primarily recreational, with smartphones and tablets being the most common devices. In many cases, children are allowed screen time for entertainment purposes such as watching cartoons or playing games, with some parents believing that gadgets can also support learning if used in moderation (Ramirez, 2024). However, concerns persist among parents regarding the risks of overexposure to digital media, particularly the development of dependency and reduced interest in non-digital play or interaction (Hayati, 2023). Despite recognizing the potential educational value of gadgets, parents have reported difficulties in maintaining balanced use without negatively affecting children's behavior (Salvador, 2022).

In terms of attention and focus, parent-respondents often observe a decline in their children's ability to sustain attention during non-digital activities when gadget use is frequent. While some children maintain the ability to complete tasks and appear attentive during structured learning, studies have shown that increased screen time correlates with reduced classroom engagement and responsiveness (Putri, 2023). Children who regularly use gadgets tend to exhibit signs of distraction, restlessness, and a preference for fast-paced visual stimuli, which can undermine their capacity to focus on traditional

classroom tasks (Ningsih, 2024). These findings highlight a growing concern among parents and educators alike regarding the subtle yet significant impact of gadgets on cognitive engagement in early childhood education.

Methodology

This study used a quantitative research method with a correlational design and a cross-sectional approach to find out if there is a relationship between the use of electronic gadgets and the attention and focus of kindergarten pupils. This method allowed the researcher to collect and analyze data at one point in time to see if the two variables are related. According to Creswell (2014), this type of research is helpful when trying to understand the connection between two things using numbers and statistics. The study was conducted at Naga Central Elementary School in the City of Naga, Cebu, Philippines. The school serves students from different backgrounds, making it a good place to study gadget use and learning behavior. The respondents were parents of kindergarten pupils, selected using purposive sampling a method where participants are chosen based on specific characteristics needed for the study. To gather data, the researchers used a survey questionnaire. The questions focused on how often the children used gadgets and how parents perceived their children's attention and focus. The survey used a 5-point Likert scale, where parents rated their level of agreement or disagreement with different statements. For data analysis, the Pearson Correlation Coefficient (r) was used to test whether there is a significant
relationship between the extent of gadget use and the pupils' attention and focus.

Table 1. Age and Gender of the Kindergarten Pupils

Age (in years)	Female		Male		Total	
	f	%	f	%	f	%
4 years	0	0	0	0	0	0
5 years	12	37.50	9	32.14	21	35
6 years	20	62.50	19	67.86	39	65
7 years	0	0	0	0	0	0
Total	32	100.00	28	100.00	60	100.00

Results

As shown in Table 1, it reveals that the kindergarten group is composed of 60 pupils, of whom 32 (53.33%) are female and 28 (46.67%) are male. The most common age is 6 years old, comprising 65% of the total population. Meanwhile, only 35% are 5 years old. This indicates that most of the learners are within the expected age bracket for kindergarten level, with a slightly higher representation of females.

Table 2. Parents' Highest Educational Attainment

Parent's Educational Attainment	f	%
Doctorate Graduate	0	0
With Doctorate Units	0	0
College Graduate	5	8.33
College Level	6	10.00
High School Graduate	43	71.67
High School Level	3	5.00
Elem. Graduate	2	3.33
Elem. Level	1	1.67
Total	60	100.00

Table 2 revealed that the majority of the parents are high school graduates (71.67%), followed by college-level completers (10%) and college graduates (8.33%). A small portion completed only the elementary level or did not finish high school. This suggests that most parents have attained at least a basic secondary education, which may influence their perceptions and practices regarding technology use at home.

Table 3. Number of Siblings

Number of Siblings	f	%
1	6	10
2	33	55
3	12	20
4	8	13.33
5 and above	1	1.67
Total	60	100.00

Table 3 presented a significant percentage of the pupils (55%) have two siblings, followed by 20% with three siblings. This implies that most children are from moderately sized families, which may affect the amount of individual attention they receive at home and their access to digital devices.

Table 4. Parenting Style

Parental Style	f	%
Authoritative	51	85
Authoritarian	7	11.67
Permissive	2	3.33
Neglectful	0	0
Total	60	100.00

Table 4 presented that a large majority (85%) of the respondents identified their parenting style as authoritative. Authoritarian and permissive parenting styles were reported at 11.67% and 3.33% respectively, while no parents reported a neglectful style. The dominance of the authoritative style suggests a generally balanced and responsive parental approach, which may impact children's behavior toward gadget use and attention.

Table 5. Extent of Engagement in the Use of Electronic Gadgets

S/N	Indicators	WM	Verbal Description
1	My child uses a smartphone or tablet at home.	3.12	Frequent
2	My child uses gadgets primarily for entertainment (watching videos, playing games, etc.).	3.38	Frequent
3	My child uses gadgets for more than 2 hours per day.	3.28	Frequent
4	Gadget usage affects my child's regular sleep schedule.	3.08	Occasional
5	Gadget usage affects my child's eating habits.	3.17	Occasional
6	My child insists on using gadgets during mealtime or family time.	3.12	Occasional
7	My child prefers using gadgets over interacting with peers or siblings.	3.12	Occasional
8	My child becomes irritable, angry, or upset when gadgets are taken away or restricted.	3.08	Occasional
9	My child uses gadgets without adult supervision.	3.10	Occasional
10	My child asks for gadgets immediately after waking up or arriving home from school.	3.08	Occasional
Aggregate Weighted Mean		3.15	Occasional
Standard Deviation		0.10	

Table 5 shows how often kindergarten pupils use electronic gadgets, based on what their parents observed. Most of the individual statements received a weighted mean (WM) between 3.08 and 3.38, which means parents generally see gadget use as frequent or occasional. The highest-rated item was that children use gadgets mainly for entertainment like watching videos and playing games (WM = 3.38), followed by using gadgets for more than 2 hours a day (WM = 3.28), which suggests that screen time can be quite long. Children also use smartphones or tablets at home regularly (WM = 3.12). However, for behaviors like gadget use affecting sleep, eating habits, and social interaction, the ratings fall under "occasional". For example, children sometimes get irritable when gadgets are taken away (WM = 3.08) or ask for gadgets right after waking up or getting home (WM = 3.08), but these are not seen as constant issues. The aggregate weighted mean is 3.15, which falls under the "occasional" category, meaning that while gadget use is common, its impact on daily routines and behavior is not extreme in most cases. The standard deviation of 0.10 shows that responses from parents were fairly consistent. Overall, the data suggests that most children use gadgets regularly, especially for entertainment, but the negative effects on behavior and daily routines happen only sometimes, not all the time.

Table 6. Level of Attention and Focus among Kindergarten Pupils in terms of Duration

S/N	Indicators	WM	Verbal Description
1	My child stays focused on an activity (e.g., playing or drawing) for several minutes without shifting.	3.72	High
2	My child remains seated and attentive during family activities like mealtime or storytelling.	3.87	High
3	My child continues an activity (e.g., puzzle, toy play) without frequently getting up or stopping.	3.85	High
4	My child can focus on a task or play independently for at least 5–10 minutes.	3.90	High
5	My child does not need frequent reminders to stay in one place while doing an activity.	3.90	High
Aggregate Weighted Mean		3.85	High
Standard Deviation		0.08	

Table 6 presents data on the level of attention and focus among kindergarten pupils based on how long they can stay engaged in activities, as reported by their parents. All indicators received high ratings, with weighted means (WM) ranging from 3.72 to 3.90. This suggests that most children are generally able to maintain attention for short periods during common tasks like playing, drawing, storytelling, or mealtime. The highest ratings (WM = 3.90) were for two indicators: the child's ability to focus on a task or play independently for at least 5–10 minutes, and the ability to stay in one place without needing constant reminders. These results indicate that children are able to concentrate well for age-appropriate durations. The lowest-rated item, though still rated as "High" (WM = 3.72), was about staying focused without shifting attention during free play showing some natural tendency for distraction in less structured activities. The aggregate weighted mean is 3.85, classified as "High", meaning most children can stay attentive and focused for suitable periods. The standard deviation of 0.08 indicates consistent responses among the parent-respondents.

Table 7. Level of Attention and Focus among Kindergarten Pupils in terms of Task Completion

S/N	Indicators	WM	Verbal Description
1	My child finishes household routines or simple tasks (e.g., putting away toys, brushing teeth) when asked.	3.72	High
2	My child completes activities like coloring or building blocks without leaving them unfinished.	3.80	High
3	My child usually completes one task before starting a new one.	3.87	High
4	My child returns to a task after being interrupted or distracted.	3.85	High
5	My child follows simple directions (e.g., "pack away your toys") until the task is fully done.	3.77	High
Aggregate Weighted Mean		3.80	High
Standard Deviation		0.06	

Table 7 highlights the level of attention and focus among kindergarten pupils in terms of how well they complete tasks, based on parent observations. All five indicators received a "High" verbal description, with weighted means (WM) ranging from 3.72 to 3.87, indicating a consistently strong ability among children to finish age-appropriate tasks. The highest-rated behavior was that children usually complete one task before starting another (WM = 3.87), suggesting good focus and self-regulation. Close behind was the ability to return to a task after being distracted (WM = 3.85), which shows that children are able to recover their focus after interruptions. Completing creative or play-based tasks like coloring or building blocks also scored highly (WM = 3.80), as did following simple directions (WM = 3.77) and finishing daily routines when asked (WM = 3.72). The aggregate weighted mean is 3.80, which is in the "High" range, meaning that overall, children are capable of maintaining attention long enough to complete tasks reliably. The standard deviation of 0.06 reflects very little variation in responses, showing that most parents had similar observations. In summary, the data suggests that kindergarten pupils show strong attention and task completion abilities. They are generally able to finish what they start, follow instructions, and return to tasks even after distractions skills that are important for both learning and daily routines.

Table 8. Level of Attention and Focus among Kindergarten Pupils in terms of Engagement Level

S/N	Indicators	WM	Verbal Description
1	My child shows excitement or joy when doing play or learning activities at home.	3.95	High
2	My child willingly joins in family conversations or activities like storytelling or singing.	3.93	High
3	My child pays attention and responds when spoken to (e.g., looks, answers, or nods).	4.05	High
4	My child initiates learning activities on their own (e.g., looking at books, asking questions, building toys).	3.93	High
5	My child shows curiosity about new things (e.g., asking "why" or exploring how things work).	4.08	High
Aggregate Weighted Mean		3.99	High
Standard Deviation		0.07	

presents the level of attention and focus among kindergarten pupils in terms of engagement, based on parents' observations at home. All indicators received a "High" verbal description, with weighted means (WM) ranging from 3.93 to 4.08, showing that most children are actively involved and interested in both learning and family activities. The highest-rated indicator was that children show curiosity about new things (WM = 4.08), such as asking questions or exploring how objects work an important sign of cognitive engagement. Another high-scoring behavior was that children respond when spoken to (WM = 4.05), showing active attention and social engagement. Similarly, parents noted that their children show excitement during play or learning activities (WM = 3.95), and often initiate learning tasks on their own, like reading or building toys (WM = 3.93). The same score was given for children willingly participating in family conversations or group activities. With an aggregate weighted mean of 3.99, this domain also falls under the "High" level, indicating that overall, children are highly engaged in their environment. The standard deviation of 0.07 shows that parent responses were very consistent across the board. In summary, the data reveals that kindergarten pupils are highly engaged, showing enthusiasm, curiosity, and responsiveness in both learning and social settings. These behaviors reflect a strong level of attention and focus, particularly in interactive and exploratory situations.

Table 9. Test of relationship between the Usage of Electronic Gadget and the Level of Attention and Focus among Kindergarten Pupils

Variables	r-value	Strength of Correlation	p - value	Decision	Remarks
Usage of Electronic Gadgets and Duration	0.330	Weak Positive	0.010	Reject Ho	Significant
Usage of Electronic Gadgets and Task Completion	0.347	Weak Positive	0.007	Reject Ho	Significant
Usage of Electronic Gadgets and Engagement Level	0.045	Negligible Positive	0.734	Do not reject Ho	Not Significant

*significant at $p<0.05$ (two-tailed)

Table 9 shows the statistical results of the Pearson correlation test to determine the relationship between the usage of electronic gadgets and the level of attention and focus among kindergarten pupils across three aspects: duration, task completion, and engagement level. The results show a weak but significant positive correlation between gadget usage and duration of attention ($r = 0.330$, $p = 0.010$), as well as with task completion ($r = 0.347$, $p = 0.007$). Since both p-values are less than 0.05, the null hypothesis (Ho) is rejected, indicating that there is a statistically significant relationship although weak between gadget use and these two attention-related variables. This means that children who use gadgets more frequently may show slightly increased or altered attention span and task-following behavior, but the effect is not strong. However, the correlation between gadget uses and engagement level is negligible ($r = 0.045$) and not statistically significant ($p = 0.734$). In this case, the null hypothesis is not rejected, suggesting that gadget use has little to no relationship with how engaged children are during learning or social activities. In summary, while gadget use shows a weak but significant effect on attention duration and task completion, it does not significantly influence children's overall engagement levels. This implies that other factors beyond screen time may play a bigger role in determining a child's enthusiasm, curiosity, or social involvement.

Discussion

Based on the findings it is evident that electronic gadget usage is moderately present among kindergarten pupils, with an aggregate mean of 3.15, categorized as "Occasional." The most common use is for entertainment, including games and videos. Interestingly, the Pearson correlation analysis shows a weak but significant positive relationship between gadget use and both attention duration and task completion. This suggests that while gadget use is not entirely harmful, its impact is limited and nuanced. This finding aligns with results from Domoff et al. (2019), who found that moderate screen use may not drastically harm attention in young children, but excessive use especially without adult guidance can contribute to attention-related issues and behavioral challenges. Moreover, Madigan et al. (2019) pointed out that excessive screen time in early childhood is associated with later problems in attention and executive functioning, especially if screen use exceeds two hours per day. On the other hand, gadget use did not significantly correlate with engagement levels ($r = 0.045$, $p = 0.734$), which means that the frequency of gadget exposure does not strongly influence a child's interest, curiosity, or active participation in learning and social tasks. This aligns with the findings of Christakis et al. (2018), who argued that while some educational apps may boost specific cognitive skills, passive screen use does not foster deeper engagement or social-emotional development. These findings suggest that while gadgets are a common part of children's lives, their benefits for attention and focus are limited and likely depend on how they are used. Therefore, parents and educators should monitor not just the amount but the quality of screen time and encourage interactive, age-appropriate digital content to minimize negative effects and support healthy development.

Conclusions

The findings of this study underscore the role of electronic gadget usage, learner attention, and focus as key variables in understanding early childhood classroom behavior. The measured dimensions of attention duration, task completion, and engagement provided meaningful insight into how young learners respond in structured learning environments. The data suggest that while technology can complement learning when used in moderation, its effectiveness greatly depends on the quality of supervision and purpose behind its use. These results affirm that attention and focus are not solely influenced by the presence of digital tools, but are also shaped by the supportive practices of both educators and parents. In practice, this calls for intentional strategies that integrate technology with active, guided learning to reinforce focus and maintain learner engagement, particularly in the foundational years of education.

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