



Beyond the Screen: The Effects of Video Gaming on the Academic Performance of Intermediate School Pupils

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DOI : <https://doi.org/10.55248/gengpi.07.0926.2925>

ABSTRACT :

This study aimed to determine the perceived positive and negative effects of video gaming on the academic performance of intermediate schools' pupils across different profile variables at Andres C. Ruiz Elementary School. Specifically, it examined how factors such as type of device used, type of video game played, hour spent gaming, and academic averages relate to pupils' perceptions of gaming effects.

A descriptive-comparative research design under a quantitative approach was employed. The study involved 51 Grade IV to VI pupils, who were surveyed using a printed questionnaire validated for content and reliability. Data were analyzed using frequency and percentage distributions to describe pupils' profiles, weighted means to assess levels of agreement on the positive and negative effects of gaming and one-way ANOVA to examine differences across multiple categories.

Findings revealed that smartphones were the most commonly use device for gaming, while pupils preferred Puzzlers and Party games and Multiplayer Online Battle Arena (MOBA) games. Nearly half of the respondents played 0-2 hours per day, and the majority achieved high academic averages (90-100). Pupils strongly agreed that gaming enhanced learning new English words or concepts, practicing problem solving skills, and improving planning and strategizing for school tasks, while acknowledging some negative effects such as procrastination, rushing assignments and skipping reading or studying tasks. However, no significant differences were found in perceptions of positive and negative effects when respondents were grouped according to type of device, type of game, hours spent gaming or academic averages.

Based on these results an educational infographic was designed and developed to summarize the perceived effects of video gaming and promote responsible gaming habits. The infographic was distributed and discussed by the pupils' advisers to raise awareness and encourage a balance approach between leisure and academic responsibilities.

It is recommended that educators integrate discussions on digital literacy and responsible gaming within the curriculum and consider employing game-based learning strategies to support academic engagement. The study highlights that with proper management, video gaming can be a constructive activity that foster cognitive, social and academic growth among intermediate schools' pupils.

INTRODUCTION

The rise of video gaming among pupils has become one of the most noticeable changes in today's learning environment. Video gaming, refers to playing electronic games on mobile devices, computers, or gaming consoles. This study explores pupils' perceptions of the positive and negative effects of video gaming on their academic performance. Academic performance in this study includes not only grades but also pupils' engagement with academic responsibilities, such as completing assignments, participating in class, managing time efficiently, and maintaining focus. The study also examines how these perceptions vary across different profile variables- including type of device used, types of games played, hours spent gaming, and pupils' academic averages. Understanding these patterns can help educators, parents, and policymakers support children in balancing gaming with school responsibilities while fostering overall learning and development.

Globally, video gaming has become a prevalent pastime with billions of players across all age groups. Research shows that video games can have both positive and negative effects on children. On the positive side, gaming may enhance problem-solving skills, creativity, social interaction, and certain cognitive abilities (Adachi & Willoughby, 2017; Nagasaki et al., 2020). However, excessive gaming can also lead to reduced motivation for academic tasks, poor time management, and decreased focus on schoolwork (Gentile et al., 2017; Domoff et al., 2019). These findings highlight that video gaming is a complex activity with potential benefits and risks, depending on frequency, context, and the individual child.

In the Philippine context, children frequently play popular games such as Mobile Legends, Minecraft, Roblox, and Clash of Clans (GMA News, 2023). While these games can support social engagement and creativity, there is growing concern among parents and educators about the negative effects of prolonged gaming on academic performance, such as incomplete homework and lower classroom participation. Studies also indicate that balanced gaming can develop certain skills and cognitive abilities beneficial to pupils' learning (Adelantado-Renau et al., 2019).

Given the observable rise in video gaming habits among children, this study aims to determine effects of video gaming on the academic performance of intermediate school pupils across different profile variables. By understanding the full range of impacts and how they vary by demographic profiles, this research provides valuable insights for pupils, educators, and parents in developing balanced approaches to digital gaming and school responsibilities. This study is entitled “Beyond the Screen: The Effects of Video Gaming on the Academic Performance of Intermediate School Pupils.”

Research Questions

The primary purpose of this study was to determine the effects of video gaming on the academic performance of intermediate school pupils at Andres C. Ruiz Elementary School across different profile variables.

Specifically, this research sought to answer the following questions:

1. What is the respondents' profile in terms of?
 - 1.1 Type of device use to play video games
 - 1.2 Type of video game usually play
 - 1.3 Hours spent playing video games per day
 - 1.4 General average during the 1st quarter of the academic year 2025–2026
2. What are the levels of agreement on the positive and negative effects of video gaming to the academic performance of the pupils as perceived by themselves?
3. Is there any significant difference between the positive and negative effects of video gaming when grouped according to their type of device they use to play, type of video game they usually play, hours they spent in playing video games per day, and their general average during the 1st quarter of the academic year 2025–2026?
4. What educational material can be developed to raise awareness on the effects of video gaming on the academic performance of the pupils?

Related Literature

The influence of video gaming on the academic performance of children has been a subject of growing international concern. Cheng, Liu, and Wang (2022) explored the psychological and attentional consequences of immersion in role-playing and violent video games, reporting increased attention fatigue and behavioral dysregulation in school-aged children. Similarly, Gentile et al. (2017) discussed the adverse academic outcomes associated with excessive gaming time, highlighting a negative correlation between hours spent gaming and school performance.

The World Health Organization (2019) officially recognized "Gaming Disorder" as a clinical condition, noting its potential to impair daily functioning in children, including academic responsibilities. Health West (2022) highlighted how excessive screen time and video gaming can lead to negative psychological outcomes such as reduced social skills, dependency, and depressive symptoms. The study recommended that parents and educators collaborate to monitor gaming habits and encourage balanced routines that promote well-being.

Mobile devices are increasingly the main platform for gaming among children, which aligns with findings from Anderson and Jiang (2018) regarding technology use among youth.

The Mayo Clinic (2020) stressed the importance of limiting screen time, reporting that children who engage in gaming for more than four hours per day are more likely to experience disrupted sleep and poor academic focus. The Child Mind Institute (2023) further emphasizes the importance of setting healthy limits on video gaming, recommending 30 to 60 minutes on school days and up to 2 hours on non-school days to prevent sleep disturbances, academic challenges, and reduced physical activity. Establishing clear and consistent guidelines helps in preventing excessive gaming and promotes a balanced lifestyle for children.

Despite these warnings, certain types of games, such as puzzle-based and educational games, have been noted for their cognitive benefits. A feature in Parents Magazine (2019) suggested that games requiring strategic thinking and memory enhancement can boost spatial awareness and decision-making among children. Complementing this, Silva (2020) demonstrated that educational games significantly improved memory and reasoning skills in Brazilian elementary students. The preference for puzzle and casual games is consistent with research showing that younger players often choose games that are simple, engaging, and supportive of cognitive skills (Granic, Lobel, & Engels, 2017).

Moreover, video games have a social dimension. According to Pew Research Center (2018), multiplayer and online games can support the development of teamwork and communication skills. Lee and Park (2020) examined the influence of game avatars on behavior, concluding that children often mirror the personalities and decisions of their in-game characters, which may shape their social interactions and values. This result aligns with previous research suggesting that cognitive and social benefits of gaming do not depend heavily on age or gender but rather on how games are played and how time is managed (Granic, Lobel, & Engels, 2017).

From a local perspective, concerns about mobile gaming in the Philippines have intensified. Reports by GMA News (2019) highlighted behavioral changes among Filipino children playing violent games, such as increased irritability and defiance. The Philippine Daily Inquirer (2021) emphasized

how extended gaming hours lead to sleep deprivation and lower academic engagement. Similarly, the Philippine Star (2020) linked excessive screen time to higher rates of anxiety and attention-related issues in school settings.

Filipino parents have become increasingly alarmed at the impact of games like Mobile Legends, as detailed by ABS-CBN News (2020), noting a decline in students' homework submission rates and class participation during the rise in mobile gaming. GMA News (2020) also pointed out that the collaborative nature of some games could have both positive and negative consequences, with children sometimes prioritizing digital friendships over academic duties.

The use of infographics as an instructional tool is supported by Mayer's Cognitive Theory of Multimedia Learning (2019), which assumes that students learn more effectively when information is presented through combined visual and verbal channels. Similarly, Ibrahim and Khalid (2016) note that infographics enhance comprehension, engagement, and retention, particularly among younger learners. In the context of digital behaviors, Hamari et al. (2019) emphasize that visual learning materials are effective in guiding children toward healthier media use and self-regulation.

Overall, these findings suggest that video gaming can contribute to cognitive, social, and motivational development when used appropriately (Granic, Lobel, & Engels, 2017; Drummond & Sauer, 2019). Despite potential negative effects, research indicates they are generally moderate and manageable. When properly monitored and balanced with other activities, gaming can provide cognitive stimulation, social engagement, and motivational benefits, complementing traditional learning methods in a child's development journey.

METHODOLOGY

This section presents the study's research methodology, including the research design, study site and participants, population, sample size and sampling method, research instrument, data-gathering procedure, statistical tools, and the ethical considerations.

Research Design

The research design that effectively assisted the researchers in finding, formulating, and gathering information from the respondents to determine the effects of video gaming on the academic performance of intermediate school pupils at Andres C. Ruiz Elementary School (ACRES) for the academic year 2025–2026 was a descriptive-comparative research design with a quantitative approach. This design was well-suited for the study because it provided an in-depth view of the topic. A descriptive-comparative research design described the characteristics of a group or population and examined the relationships between variables without manipulating them, aiming to identify patterns and associations rather than establish cause-and-effect relationships (Copeland, 2022).

Study Site and Participants

The study was conducted at Andres C. Ruiz Elementary School, located in Zone 03, Napaliong, Jones East District, Jones, Isabela. The school was situated near the river that served as the boundary between Barangays Napaliong and Linomot.

The target participants were pupils from Grade IV, Grade V, and Grade VI enrolled during the Academic Year 2025–2026. These grade levels were selected because pupils in this age group were more likely to have developed an interest in video gaming, making them suitable for providing insights aligned with the study's objectives. It was anticipated that the pupils' familiarity with video games would contribute meaningful data to the research.

Population, Sample Size, Sampling Method

The population of the study consisted of all Grade IV, Grade V, and Grade VI pupils at Andres C. Ruiz Elementary School during the Academic Year 2025–2026. A total enumeration sampling technique was employed, meaning all available pupils from the identified grade levels were included as respondents. Specifically, the sample included 20 pupils from Grade IV, 16 pupils from Grade V, and 15 pupils from Grade VI, resulting in a total sample size of 51 participants. This method was appropriate given the manageable size of the population and the researchers' intention to gather comprehensive data. However, the actual number of respondents could have varied depending on unforeseen circumstances that affected pupil availability on the day of data collection.

Research Instrument

Since this was a quantitative research study, the researchers used a survey questionnaire as the sole tool to gather the information needed to determine the effects of video gaming on the academic performance of intermediate school pupils across different profile variables. The questionnaire included general instructions, personal information, and the main section, which contained the specific questions the research aimed to answer. The researchers divided the questionnaire into two parts: the first part collected the demographic profile of the respondents, including type of device used for playing video games, types of video games usually played, the hours spent playing video games per day, and the general average during the 1st quarter of the Academic Year 2025–2026, which was adapted from the research entitled "The Effects of Excessive Video Gaming on the Academic Performance of Maritime Students of Isabela College of Arts and Technology, Inc., Academic Year 2024–2025" (Balbido et al., 2025). The second part consisted of 20 questions using a Likert scale to assess the respondents' level of agreement on the positive and negative effects of video gaming. This section helped determine the effects of video gaming on the performance of intermediate school pupils at ACRES, which was adapted from the research entitled "The Effects of Technology on the Behavior of Grade IV Pupils in Dubinan West Elementary School, Santiago City" (Barcoma & Sinco, 2019).

The questionnaires were modified by adjusting the terms and removing items that were not applicable to this study to suit its specific needs; they then underwent content validation by experts, which scored 1, and a pilot test, which yielded a Cronbach's alpha score of 0.925, indicating excellent reliability.

Data Gathering Procedure

While data collection and analysis were closely integrated throughout the study, they were presented separately for clarity. The primary data were gathered through printed survey questionnaires that were distributed to Grade IV, Grade V, and Grade VI pupils.

The process began with the submission of a letter of approval to conduct the study addressed to the Dean of the College of Teacher Education. After securing this permission, a letter was submitted to the research adviser to formally request approval and permission to serve as the official adviser for the study. The researchers consulted the university statistician to determine the next steps in the research process. This was then followed by the content validation of the questionnaire, ensuring that the instrument was appropriate and relevant. A letter was then sent to request the conduct of a pilot test among selected pupils from Grades IV, V, and VI at the University of La Salette Grade School to determine the reliability of the instrument prior to its final administration. Once the questionnaire was finalized, a letter requesting permission to administer the survey was submitted to the Teacher-In-Charge of Andres C. Ruiz Elementary School. After approval, the researchers approached the advisers and proceeded with floating the questionnaires to the respondents. During this process, the researchers introduced themselves as Fourth-year Bachelor of Elementary Education students from the University of La Salette Inc., and explained the purpose of the study, the procedures involved, and the respondents' rights, including voluntary participation and the option to withdraw at any time. Since the respondents were minors, their parents or legal guardians were also duly informed about the study and gave their consent for their children's participation. Confidentiality was also emphasized. A letter addressed to the respondents, together with the questionnaire and the informed assent, was distributed.

During the survey administration, the researchers assisted the pupils in answering the questionnaire and translated or explained certain terms in Filipino as needed to ensure full comprehension, after which all participants answered the questionnaire simultaneously. The researchers used one day to float and retrieve the questionnaires from the respondents.

Data Analysis

Statistical Tools

A statistical tool was employed to arrive at a valid interpretation of data. To assess the demographic profile of respondents, **frequency and percentage distributions** were used. This approach helped summarize the data by counting how many students fell into specific categories based on their demographic characteristics, such as Type of Device Used to Play Video Games, Type of Video Game Usually Played, and Hours Spent Playing Video Games per Day. By presenting the data in a clear format, it allows for an easy understanding of the composition of the student population and highlights any predominant trends (Kaliyadan & Kulkarni, 2019).

The study also utilized the **weighted mean** to analyze responses from Likert scale questions, which measured the levels of agreement on the positive and negative effects of video gaming on the academic performance of the pupils as perceived by themselves. The mean is a statistical measure that represents the central value of a dataset by calculating the sum of all values divided by the total number of values. It is commonly used in research to analyze trends and patterns in data, providing insights into overall tendencies (Bhandari, 2020).

The study also utilized the **One-Way Analysis of Variance (ANOVA)** to determine whether there was a significant difference between the positive and negative effects of video gaming on the academic performance of the respondents when grouped according to the type of device used to play video games, the games they usually played, the number of hours spent playing video games per day, and their general average during the first quarter of the academic year 2025–2026. The One-Way ANOVA is a statistical method used to compare the means of three or more independent groups to determine whether at least one group differs significantly from the others. This test is commonly applied in hypothesis testing to examine differences across multiple categories, evaluate patterns in the data, and support evidence-based conclusions (OpenStax, 2022).

Ethical Considerations

The researchers embodied the various ethical principles expected of an acceptable and effective researcher. First, informed consent was considered the primary ethical requirement in conducting research, ensuring that all participants voluntarily agreed to take part with a full understanding of the study's purpose and procedures. Second, beneficence, in its simplest essence, implied that the study provided meaningful benefits to pupils, teachers, parents, game developers, the school administration, and future researchers. Third, the issue of anonymity was given careful attention. This concept went hand in hand with the idea of confidentiality, as anonymity ensured that respondents' identities were not linked with their

responses. Fourth, respect for confidentiality was upheld throughout the research process. This was closely related to anonymity and referred to the responsible management of private information, ensuring it was not disclosed without the respondents' consent. Fifth, respect for privacy was essential, as it suggested that respondents had the right to refuse to provide personal information they considered invasive, and researchers honored these boundaries. Lastly, all participation was entirely voluntary, and respondents could withdraw at any stage of the study without penalty. Data were securely stored and accessed only by the researchers to protect the rights and privacy of all participants.

RESULTS AND DISCUSSION

This section presents and discusses the results of the study following the sequence of the research questions. The data are shown in tables, each introduced in statement form and explained through the most salient findings arranged from highest to lowest, with corresponding numerical values in parentheses.

PROFILE OF THE RESPONDENTS

Table 1. Frequency and percentage distribution of respondents in terms of Type of Device They Used to Play Video Games

Type of video game usually played	Frequency	Percentage
Laptop	2	3.9%
PC	0	0%
Smartphone	41	80.4%
Tablet	5	9.8%
PSP	0	0%
Television	3	5.9%
TOTAL	51	100%

Table 1 shows that the smartphone is the most commonly used gaming device with 41 pupils (80.4%). This is followed by the tablet with 5 pupils (9.8%) and the television with 3 pupils (5.9%). The least used device is the laptop with 2 pupils (3.9%), while both the PC and PSP have no users (0%). The study revealed that most respondents used smartphones as their device for gaming (80.4%). Research shows that mobile gaming on smartphones is a dominant form of gaming due to its convenience, portability, and accessibility, making it a preferred platform for entertainment among children and adolescents (Syvertsen et al., 2022).

Table 2. Frequency and percentage distribution of respondents in terms of Type of Video Game Usually Played

Type of video game usually played	Frequency	Percentage
Multiplayer Online Battle Arena (MOBA)	18	35.3%
Simulation and Sports	9	17.6%
Shooters (FPS and TPS)	1	2.0%
Puzzlers and Party Games	23	45.1%
Television	3	5.9%
TOTAL	51	100%

Table 2 shows that 23 pupils (45.1%) play Puzzlers and Party Games, followed by 18 pupils (35.3%) who usually play Multiplayer Online Battle Arena (MOBA), 9 pupils (17.6%) who usually play Simulation and Sports, and only 1 pupil (2.0%) who usually plays Shooters (FPS and TPS). The study revealed that most respondents prefer playing Puzzlers and Party Games (45.1%), which aligns with research showing children often choose games that are simple, engaging, and suitable for their age (Hou et al., 2022).

Table 3. Frequency and percentage distribution of respondents in terms of Hours Spent Playing Video Games per Day

Hours spent playing video games per day	Frequency	Percentage
0-2 hours	25	49.0%
3-4 hours	18	35.3%
5-6 hours	6	11.8%
7 hours- above	2	3.9%
TOTAL	51	100%

Table 3 shows that 25 pupils (49.0%) spend 0–2 hours per day playing video games, followed by 18 pupils (35.3%) who spend 3–4 hours per day, 6 pupils (11.8%) who spend 5–6 hours per day, and 2 pupils (3.9%) who spend 7 hours or more per day. The study revealed that most respondents spend only 0–2 hours playing video games (49.0%), suggesting that the majority engage in gaming in moderation. According to The Sydney Children's Hospital Network (2022), children and young people aged 5–17 years are recommended to have no more than two hours of sedentary recreational screen time per day, indicating that most pupils are within the advised limit.

Table 4. Frequency and percentage distribution of respondents in terms of their General Average during 1st Quarter A. Y. 2025-2026

General Average during 1st Quarter A. Y. 2025-2026	Frequency	Percentage
75 and below	2	3.9%
76-79	4	7.8%
80-84	9	17.6%
85-89	15	29.4%
90-100	21	41.2%
TOTAL	51	100%

Table 4 shows that the highest number of pupils falls within the 90–100 range with 21 pupils (41.2%). This is followed by the 85–89 range with 15 pupils (29.4%), and the 80–84 range with 9 pupils (17.6%). 4 pupils fall under the 76–79 range (7.8%). The least number of pupils are in the 75 and below category with 2 pupils (3.9%). The study revealed that most respondents fall within the highest grade range, which indicates that a significant portion of pupils demonstrate outstanding academic performance.

LEVELS OF AGREEMENT ON THE POSITIVE AND NEGATIVE EFFECTS OF VIDEO GAMING TO THE ACADEMIC PERFORMANCE OF THE PUPILS AS PERCEIVED BY THEMSELVES

Table 5. Levels of Agreement on the Positive Effects of Video Gaming to the Academic Performance of the Pupils as Perceived by Themselves

Descriptors	M	SD	Interpretation
1. Playing video games helps me think faster when solving Math problems.	3.43	0.50	Strongly Agree
2. Video games help me learn new English words or concepts.	3.69	0.47	Strongly Agree
3. Video gaming makes me better at teamwork for school group projects.	3.37	0.49	Strongly Agree
4. I feel more alert and focused on my schoolwork after a short gaming break.	3.29	0.58	Strongly Agree

5. Playing video games improve my ability to plan and strategize for assignments or exams.	3.51	0.61	Strongly Agree
6. Video games help me understand maps, directions, or spatial thinking for subjects like Araling Panlipunan.	3.14	0.66	Agree
7. I am more motivated to achieve goals in school because of my experience with video gaming.	3.33	0.65	Strongly Agree
8. Playing games improves my hand-eye coordination, which helps with drawing and performing activities in P.E.	3.31	0.65	Strongly Agree
9. Some video games have taught me facts or concepts that are useful in my History or Science classes.	3.47	0.50	Strongly Agree
10. Video games help me practice problem-solving skills that I use in my school tasks.	3.63	0.49	Strongly Agree
Category Mean	3.42	0.21	Strongly Agree

Legend: 1.00-1.74= SD; 1.75-2.49= D; 2.50-3.24= A; 3.25-4.00= SA

Table 5 shows the levels of agreement on the positive effects of video gaming on the academic performance of the pupils as perceived by themselves. The highest mean indicates that they **strongly agree** that video games help them learn new English words or concepts ($M = 3.69$, $SD = 0.47$). This is followed by **strongly agree** that playing video games helps them practice problem-solving skills used in school tasks ($M = 3.63$, $SD = 0.49$), and **strongly agree** that video games improve their ability to plan and strategize for assignments or exams ($M = 3.51$, $SD = 0.61$).

They also **strongly agree** that some video games have taught them facts or concepts useful in their History or Science classes ($M = 3.47$, $SD = 0.50$), **strongly agree** that playing video games helps them think faster when solving Math problems ($M = 3.43$, $SD = 0.50$), **strongly agree** that video gaming makes them better at teamwork for school group projects ($M = 3.37$, $SD = 0.49$), **strongly agree** that video gaming increases their motivation to achieve goals in school ($M = 3.33$, $SD = 0.65$), **strongly agree** that video games improve their hand-eye coordination for drawing and P.E. activities ($M = 3.31$, $SD = 0.65$), and **strongly agree** that video games help them feel more alert and focused on their schoolwork after a short gaming break ($M = 3.29$, $SD = 0.58$).

The lowest mean shows that they **agree** though to a lesser extent that video games improve their understanding of maps, directions, or spatial thinking for subjects like Araling Panlipunan ($M = 3.14$, $SD = 0.66$), which serves as the uncommon finding.

Overall, the respondents **strongly agree** on the positive effects of video gaming on their academic performance, as reflected in the Category Mean ($M = 3.42$, $SD = 0.21$).

These results are supported by Granic, Lobel, and Engels (2017), who concluded that video games can improve cognitive skills, problem-solving abilities, motivation, memory, and social cooperation. The study also aligns with Drummond and Sauer (2019), who reported that video game use does not automatically harm academic performance and may support certain learning processes. This explains why pupils in this study reported strong positive effects.

Table 6. Levels of Agreement on the Negative Effects of Video Gaming to the Academic Performance of the Pupils as Perceived by Themselves

Descriptors	M	SD	Interpretation
1. I often feel sleepy or tired in class because I played games late the night before.	2.78	0.86	Agree
2. I procrastinate on homework or studying because I want to play video games.	3.22	0.64	Agree
3. Thinking about a video gaming makes it hard for me to pay attention to the teacher.	2.84	0.61	Agree
4. My grades have dropped because I spend too much time gaming.	1.86	0.63	Disagree
5. I rush my school assignments just so I can play video games sooner.	3.12	0.68	Agree
6. Playing games sometimes makes me feel stressed or anxious instead of helping me relax for school.	2.94	0.73	Agree
7. I skip reading required school material because I prioritize playing video games.	3.10	0.67	Agree

8. I often get into trouble at home for not studying because of gaming.	2.71	1.03	Agree
9. My eyes hurt or feel strained, which makes it hard to focus on reading textbooks.	2.29	0.73	Disagree
10. I miss out on school activities or studying with friends because I prefer to game alone.	2.73	0.72	Agree
Category Mean	2.76	0.27	Agree

Table 6 shows the levels of agreement on the negative effects of video gaming on the academic performance of the pupils as perceived by themselves. The highest mean indicates that they **agree** that they procrastinate on homework or studying because they want to play video games ($M = 3.22$ $SD = 0.64$). They also **agree** that they rush their school assignments just so they can play video games sooner ($M = 3.12$ $SD = 0.68$), and **agree** that they skip reading required school material because they prioritize playing video games ($M = 3.10$ $SD = 0.67$). Respondents **agree** that playing games sometimes makes them feel stressed or anxious instead of helping them relax for school ($M = 2.94$ $SD = 0.73$), **agree** that thinking about a video game makes it hard for them to pay attention to the teacher ($M = 2.84$ $SD = 0.61$), **agree** that they often feel sleepy or tired in class because they played games late the night before ($M = 2.78$ $SD = 0.86$), **agree** that they miss out on school activities or studying with friends because they prefer to game alone ($M = 2.73$ $SD = 0.72$), and **agree** that they often get into trouble at home for not studying because of gaming ($M = 2.71$ $SD = 1.03$). The respondents **disagree** that their eyes hurt or feel strained, which makes it hard to focus on reading textbooks ($M = 2.29$ $SD = 0.73$), and **disagree** that their grades have dropped because they spend too much time gaming ($M = 1.86$ $SD = 0.63$), which is the lowest mean in the table and serves as the uncommon finding.

Overall, the respondents **agree** on the negative effects of video gaming on their academic performance, as reflected in the Category Mean ($M = 2.76$, $SD = 0.27$).

These findings support research indicating that moderate gaming is generally safe, while excessive or unmanaged gaming can lead to academic and behavioral challenges (Alzahrani & Griffiths, 2024). Pupils in this study appear to experience mostly the positive aspects of gaming while managing potential risks.

SIGNIFICANT DIFFERENCE BETWEEN THE POSITIVE AND NEGATIVE EFFECTS OF VIDEO GAMING WHEN GROUPED ACCORDING TO THEIR DEMOGRAPHIC PROFILE

Table 7. Results of One-way ANOVA on the Effects of Video Gaming in terms of Type of Device Used to Play Video Games

Effects of Video Gaming	Types of Device use to Play Video Games	M	SD	df	F	p- value	Interpretation
Positive Effects	Laptop	3.40	0.14	3	0.134	0.939	Not Significant
	Smartphone	3.41	0.22				
	Tablet	3.46	0.29				
	Television	3.47	0.15				
Negative Effects	Laptop	2.65	0.21	3	1.567	0.210	Not Significant
	Smartphone	2.74	0.26				
	Tablet	2.76	0.26				
	Television	3.07	0.31				

Table 7 revealed that the respondents were not significantly different on the Positive ($F(3) = 0.134$, $p = 0.939$) and Negative ($F(3) = 1.567$, $p = 0.210$) Effects of Video Gaming when Respondents were categorized according to types of devices to play video games. Thus, the null hypothesis must be accepted at a 0.05 significance level. This indicates that the type of device used does not significantly influence how pupils perceive the positive and negative effects of video gaming.

Table 8. Results of One-way ANOVA on the Effects of Video Gaming in terms of Type of Video Game They Usually Play.

Effects of Video Gaming	Types of Video Game Usually Played	M	SD	df	F	p- value	Interpretation
Positive Effects	Multiplayer Online Battle Arena (MOBA)	3.42	0.21	3	1.435	0.244	Not Significant

	Simulation & Sports	3.53	0.22				
	Puzzlers and Party Games	3.37	0.21				
Negative Effects	Multiplayer Online Battle Arena (MOBA)	2.75	0.24	3	1.295	0.287	Not Significant
	Simulation & Sports	2.90	0.29				
	Puzzlers and Party Games	2.70	0.27				

Note: The Respondent who answered Shooters was excluded from the Study

Table 8 revealed that the respondents were not significantly different on the Positive ($F(3) = 1.435$, $p = 0.244$) and Negative ($F(3) = 1.295$, $p = 0.287$) Effects of Video Gaming when Respondents according to Type of Video Game Usually Play. Thus, the null hypothesis must be accepted at a 0.05 significance level. This indicates that the type of video game played does not significantly affect pupils' perceptions of its positive and negative effects.

Table 9. Results of One-way ANOVA on the Effects of Video Gaming in terms of Hours Spent Playing Video Games Per Day

Effects of Video Gaming	Hours	M	SD	df	F	p- value	Interpretation
Positive Effects	0-2 Hours	3.42	0.24	3	0.594	0.622	Not Significant
	3-4 Hours	3.39	0.17				
	5-6 Hours	3.43	0.12				
	7- hours and above	3.60	0.42				
Negative Effects	0-2 Hours	2.70	0.26	3	1.643	0.192	Not Significant
	3-4 Hours	2.78	0.26				
	5-6 Hours	2.82	0.23				
	7- hours and above	3.10	0.42				

Table 9 revealed that the respondents were not significantly different on the Positive ($F(3) = 0.594$, $p = 0.622$) and Negative ($F(3) = 1.643$, $p = 0.192$) Effects of Video Gaming when Respondents were categorized according to hours spent playing video games per day. Thus, the null hypothesis must be accepted at a 0.05 significance level. This indicates that the amount of time spent playing video games does not significantly influence pupils' perceptions of its positive and negative effects.

Table 10. Results of One-way ANOVA on the Effects of Video Gaming in terms of General Average during 1st Quarter A. Y. 2025-2026

Effects of Video Gaming	General Average	M	SD	df	F	p- value	Interpretation
Positive Effects	75 and below	3.40	0.14	4	2.320	0.071	Not Significant
	76 to 79	3.30	0.14				
	80 to 84	3.27	0.24				
	85 to 89	3.50	0.21				
	90 to 100	3.45	0.19				
Negative Effects	75 and below	2.60	0.14	4	0.982	0.427	Not Significant
	76 to 79	2.95	0.34				
	80 to 84	2.69	0.23				
	85 to 89	2.73	0.27				
	90 to 100	2.79	0.27				

Table 10 revealed that the respondents were not significantly different on the Positive ($F(4) = 2.320$, $p = 0.071$) and Negative ($F(4) = 0.982$, $p = 0.427$) Effects of Video Gaming when Respondents were categorized according to General Average. Thus, the null hypothesis must be accepted at a 0.05 significance level. This indicates that pupils' overall academic performance does not significantly affect their perceptions of the positive and negative effects of video gaming.

Conclusion

The purpose of this study was to determine the effects of video gaming on the academic performance of intermediate pupils at Andres C. Ruiz Elementary School across different profile variables.

Based on the results and discussion, the following conclusions are drawn:

1. Smartphones were the most commonly used gaming device, and the pupils preferred Puzzlers and Party games as well as MOBA games. Nearly half of the pupils played for 0–2 hours per day, while the most of the pupils achieved high academic averages ranging from 90–100. This profile indicates that pupils engage in manageable gaming habits that allow them to balance leisure activities with academic responsibilities.
2. Pupils perceived strong positive effects of video gaming, including learning new English words or concepts, practicing problem-solving skills, and improving planning and strategizing for school tasks. Other benefits included teamwork, hand-eye coordination, alertness, focus, and subject-related knowledge. These findings suggest that video gaming can contribute to cognitive, social, and motivational development when used appropriately. Pupils also recognized negative effects, such as procrastination, rushing assignments, skipping reading tasks, and occasional stress or distraction. However, serious academic consequences, such as significant grade drops or eye strain, were not observed. Overall, the negative effects were moderate, indicating that while gaming has some drawbacks, they do not outweigh its benefits.
3. No significant differences were found in the perceived effects of gaming when respondents were grouped by device used, type of game, hours played, or general average. This suggests that the cognitive and social benefits of gaming, as well as the potential minor drawbacks, are generally consistent across different pupil groups.
4. An infographic was developed based on the key findings of the study to raise awareness about the effects of video gaming on pupils' academic performance. It included a brief definition of video gaming, followed by the main positive effects such as learning new English words, improving problem-solving skills, and enhancing planning and strategizing, as well as negative effects like procrastination, rushing assignments, skipping reading tasks, and experiencing stress or distraction. It also emphasized that moderate gaming is safe, while excessive gaming may lead to challenges, and was designed in a simple visual format to promote responsible gaming among pupils.

The study was limited to 51 intermediate pupils from a single school, which may affect the generalizability of the findings. Data collection relied on self-reported perceptions, and the study did not track actual academic performance over time. Additionally, only a few gaming habits were considered. Despite these limitations, the study provides important insights into the effects of video gaming on pupils' academic performance. The findings indicate that moderate video gaming can support cognitive, social, and motivational development when balanced with school responsibilities. Educators and parents can use this information to guide pupils toward responsible gaming practices. The infographic developed in this study offers a practical tool for raising awareness of both the benefits and drawbacks of video gaming, which can be applied in classrooms or at home to promote learning and well-being.

Overall, pupils can enjoy video gaming as a constructive activity if it is managed appropriately and integrated with their academic routines. Understanding the positive and negative effects of gaming allows pupils, parents, and educators to foster a balanced approach, ensuring that pupils gain enjoyment from gaming while maintaining focus on their learning and personal development.

Recommendations

Based on the findings and conclusions of this study, the researchers offer the following recommendations:

1. Pupils are encouraged to engage in video gaming in moderation, balancing gameplay with academic responsibilities and other activities. Awareness of both the positive and negative effects of gaming can help them make informed decisions, prioritize schoolwork, and develop skills such as problem-solving, planning, and teamwork while enjoying gaming as a constructive activity.
2. Parents and guardians should guide and monitor their children's gaming habits, ensuring that gameplay does not interfere with school responsibilities or well-being. They can use the infographic developed in this study as a tool to facilitate discussions about responsible gaming, time management, and the potential effects of gaming on learning and behavior.
3. Educators are encouraged to integrate discussions on digital literacy and responsible gaming within the curriculum. The infographic can be employed as an instructional material to raise awareness and encourage pupils to reflect on their gaming habits. Educators may also integrate appropriate game-based learning activities that harness the positive aspects of video gaming to support motivation, problem-solving, and engagement in academic tasks. Schools may further consider organizing workshops or activities that promote both learning and healthy gaming practices.
4. Game developers are encouraged to create educational and age-appropriate games that support cognitive, social, and problem-solving skills for intermediate pupils. Games should include features that enhance learning, teamwork, strategic thinking, and hand-eye coordination while minimizing addictive elements that may lead to excessive gaming or procrastination. Collaboration with educators to align games with curricular objectives can further ensure that gaming becomes an interactive and academically supportive experience.
5. Future studies may consider larger sample sizes across multiple schools to improve generalizability. Researchers could explore longitudinal designs to track actual academic performance over time and investigate additional variables, such as personality traits, family support, motivation, or socioeconomic status, in relation to gaming habits and academic outcomes. Moreover, experimental or mixed-method designs could be employed to examine the causal effects of specific types of games on learning and cognitive development.

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