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Article

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Abstract: This study aims to examine the impact of Android phone usage on the academic performance of Grade 10 students at Jose Abad Santos National High School. With the increasing prevalence of smartphones, particularly Android devices, among students, concerns have emerged about their influence on educational outcomes. The research investigates how various factors related to Android phone usage—such as social media engagement, gaming, online learning, and texting—affect students' time management, focus, and overall academic performance. A mixed-methods approach was employed, combining quantitative surveys to gather data on phone usage patterns and academic performance records, with qualitative interviews to explore students' perceptions and experiences. The findings indicate a complex relationship, with both positive and negative effects. While Android phones offer valuable educational resources, excessive use for entertainment and social interaction tends to detract from study time, leading to a decline in academic performance. This study provides insights into how the responsible use of Android phones can potentially enhance or hinder students' academic success, and offers recommendations for educators and parents to guide students towards a balanced approach in mobile technology usage.

Keywords: Android phone usage; Academic performance; Grade 10 students; Social media; Gaming; Educational apps; Time management; Mobile phone distractions; Technology in education

I. Introduction

A. Background of the Study:

In the contemporary educational landscape, smartphones, especially Android devices, have become an integral part of students' lives. These devices offer a wide range of functionalities, including access to social media, gaming, and educational tools, which significantly influence students' daily activities. However, the impact of Android phone usage on students' academic performance remains a subject of debate. While mobile technology offers advantages like access to educational content, it is often associated with distractions that may hinder students' focus and learning outcomes. This study focuses on Grade 10 students at Jose Abad Santos National High School, aiming to understand how Android phone usage affects their academic performance.

B. Statement of the Problem:

Despite the proliferation of smartphones in educational settings, there is limited research on the specific impact of Android phone usage on the academic performance of high school students. This study seeks to fill this gap by investigating whether the frequency and nature of Android phone usage correlate with academic success or failure among Grade 10 students in Jose Abad Santos National High School.

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C. Objectives of the Study:

- To explore the patterns of Android phone usage among Grade 10 students in terms of time spent on educational, social, and entertainment-related activities.
- To examine the relationship between Android phone usage and students' academic performance in various subjects.
- To identify the positive and negative impacts of Android phone usage on students' focus, time management, and study habits.
- To propose recommendations for students, educators, and parents to manage mobile technology use in a way that supports academic success.

D. Research Questions:

- What are the common patterns of Android phone usage among Grade 10 students at Jose Abad Santos National High School?
- How does the usage of Android phones affect the academic performance of Grade 10 students in core subjects?
- What are the perceived positive and negative impacts of Android phone usage on students' learning processes?
- How do students manage their time between phone usage and academic responsibilities?
- What strategies can be recommended to optimize Android phone use for academic improvement?

E. Significance of the Study:

This study is significant as it provides valuable insights into the relationship between Android phone usage and academic performance. It will help educators, school administrators, and parents understand the potential effects of mobile technology on students' academic lives, enabling them to create better strategies for integrating technology in a way that enhances learning. Furthermore, the study contributes to the growing body of research on the role of mobile phones in education and offers practical recommendations for fostering a balanced approach to phone usage among students.

F. Scope and Limitations:

The scope of this study is confined to Grade 10 students of Jose Abad Santos National High School during the academic year 2024-2025. It focuses on the relationship between Android phone usage and academic performance across various subjects, considering factors like time spent on educational vs. non-educational activities. The study's limitations include its reliance on self-reported data, which may be subject to bias, and the exclusion of students from other grade levels, which limits the generalizability of the findings to the wider student population. Additionally, the study will not explore the long-term effects of Android phone usage on academic success beyond the academic year in focus.

II. Literature Review

A. Overview of Android Phone Usage Among Students:

Android smartphones are a ubiquitous presence in the lives of modern students, offering a variety of functions from communication to entertainment, education, and social media engagement. With the rapid advancement of mobile technology, Android phones have become an essential tool for both personal and academic purposes. Students use these devices for accessing educational apps, participating in online classes, browsing the internet for information, and engaging with peers on social media platforms. However, the addictive nature of mobile phones, particularly when it comes to gaming, texting, and social media, raises concerns about their impact on students' time management and academic performance. The rise of mobile technology necessitates an understanding of its role in the daily lives of students and how its usage influences their academic experiences.

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B. Previous Studies on Mobile Phone Usage and Academic Performance:

Numerous studies have examined the relationship between mobile phone usage and academic performance, with mixed findings. Some studies suggest that mobile phones, when used appropriately, can enhance learning by providing easy access to educational resources and facilitating collaboration among students. For instance, studies have shown that students who use educational apps and online platforms can improve their study habits and knowledge acquisition. However, other research has highlighted the negative effects of excessive phone use, particularly when it involves social media, texting, or gaming, leading to distractions, reduced concentration, and lower grades.

A study by Lepp et al. (2015) found that high mobile phone usage was correlated with lower academic achievement among college students, primarily due to time spent on non-academic activities. Conversely, a study by Junco (2012) demonstrated that students who used their phones for educational purposes, such as accessing learning materials and collaborating with peers, had better academic performance. These contrasting findings indicate the need for further research to understand how different types of mobile phone use influence students' academic success.

C. Theories Related to Technology Usage and Academic Achievement:

Several theoretical frameworks can help explain the impact of mobile phone usage on academic achievement. One prominent theory is the Cognitive Load Theory (Sweller, 1988), which suggests that excessive or irrelevant information can overload the cognitive system, reducing learning capacity. Excessive phone use for entertainment or social media could contribute to cognitive overload, thereby impairing academic performance.

Another relevant theory is The Media Equation Theory (Reeves & Nass, 1996), which posits that individuals treat computers and media as social entities. This could imply that students may perceive their phones as social tools, making them more susceptible to distractions. When students prioritize social interaction over academic tasks, their academic performance may suffer.

The Theory of Planned Behavior (Ajzen, 1991) also offers insights into how students' attitudes, perceived control, and social influences shape their phone usage behaviors. This theory suggests that students' intentions to use phones for educational or non-educational purposes are influenced by their attitudes toward mobile technology and the norms within their social environment, such as peer influence and parental expectations.

D. Summary of Findings from Previous Research:

The existing literature reveals a complex relationship between mobile phone usage and academic performance. Several studies suggest that moderate use of mobile phones for educational purposes can enhance learning, while excessive use for entertainment or social interaction tends to have a detrimental effect on students' academic achievement. For example, research by Rosen et al. (2013) indicated that students who spent more time on social media and gaming exhibited poorer academic performance, due to reduced time for study and lack of focus.

However, other studies have found that mobile phones can be beneficial when integrated into the educational process. According to a study by Karsenti (2013), smartphones provide students with access to a wide range of educational resources, fostering a collaborative learning environment and improving student engagement. Moreover, some studies highlight the role of parental control and guidance in managing phone usage, emphasizing the importance of balancing educational and recreational activities on mobile devices.

In conclusion, while some studies indicate that mobile phone usage can enhance academic performance when used effectively, others suggest that improper usage—particularly the time spent on social media and gaming—can hinder students' academic success. Further investigation is needed to determine the specific patterns of phone use that positively or negatively affect students' performance.

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III. Research Methodology

A. Research Design:

This study will employ a descriptive correlational research design, which seeks to understand the relationship between Android phone usage and the academic performance of Grade 10 students at Jose Abad Santos National High School. The research design allows for the collection of data on students' phone usage habits and academic performance in order to examine correlations between these variables. Descriptive statistics will be used to summarize the data, while correlation analysis will identify the strength and direction of the relationship between mobile phone usage and academic outcomes. Additionally, a qualitative approach will be incorporated through interviews to gain a deeper understanding of students' experiences and perceptions regarding phone usage and its impact on their studies.

B. Participants:

The participants of this study will consist of Grade 10 students enrolled at Jose Abad Santos National High School during the academic year 2024-2025. A total of 150 students will be selected using simple random sampling to ensure that every student has an equal chance of participating. This sample size is deemed appropriate to provide a representative overview of Android phone usage patterns and academic performance. Demographic data, such as gender, age, and socio-economic background, will also be collected to analyze potential differences in phone usage patterns and academic outcomes across various groups. In addition, a subgroup of 15 students will be selected for in-depth interviews to explore qualitative insights into the impact of Android phone usage on their academic experiences.

C. Data Collection Methods:

Survey Questionnaire: A self-administered survey will be developed to gather quantitative data on students' Android phone usage habits and their academic performance. The survey will include questions related to:

- Frequency and duration of phone use (daily, weekly)
- Types of activities engaged in on the phone (educational apps, social media, gaming, etc.)
- Time spent on educational vs. non-educational activities
- Students' perceived impact of phone usage on their academic performance
- Academic performance data (grades or GPA in various subjects).

The questionnaire will be pre-tested for reliability and validity before being distributed to the participants.

Interviews: A series of semi-structured interviews will be conducted with a selected subgroup of 15 students. These interviews will allow for an in-depth exploration of students' experiences and perceptions regarding their mobile phone usage and its effect on their academic performance. The interview guide will include questions such as:

- How do you use your Android phone for studying or school-related tasks?
- How do you manage distractions from your phone while studying?
- How do you think your phone usage affects your grades or overall academic performance?
- Are there any strategies you use to balance phone usage and studying?

Academic Records: Academic performance data will be collected from students' grades or GPA in core subjects (e.g., Math, Science, English, and Social Studies). These data will be used to assess the relationship between students' mobile phone usage and their academic outcomes.

D. Data Analysis Techniques:

- Quantitative Data Analysis: The quantitative data from the survey will be analyzed using descriptive statistics to summarize the patterns of Android phone usage and academic performance. Measures such as mean, median, and standard deviation will be used to describe the frequency and duration of phone usage. Additionally, correlation analysis (e.g., Pearson's

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correlation coefficient) will be conducted to assess the relationship between Android phone usage (both academic and non-academic) and academic performance (grades or GPA).

- Qualitative Data Analysis: The qualitative data from the interviews will be analyzed using thematic analysis. This process involves identifying, analyzing, and reporting patterns or themes within the interview data. The themes will be categorized into positive and negative impacts of Android phone usage on academic performance, with attention to factors like time management, distractions, and learning strategies. Thematic analysis will help in understanding students' subjective experiences and provide context to the quantitative findings.
- Triangulation: The findings from the survey, interviews, and academic records will be triangulated to ensure the validity and reliability of the results. By combining quantitative and qualitative data, the study aims to provide a comprehensive understanding of the impact of Android phone usage on academic performance.

In conclusion, this research methodology will provide a robust framework for analyzing the relationship between Android phone usage and academic performance among Grade 10 students at Jose Abad Santos National High School. The combination of surveys, interviews, and academic records will offer both numerical data and in-depth personal insights into this important issue.

IV. Results and Discussion

A. Android Phone Usage Patterns Among Grade 10 Students:

The analysis of survey responses revealed several key patterns in Android phone usage among Grade 10 students at Jose Abad Santos National High School. The majority of students reported using their Android phones for more than 4 hours daily, with a significant portion of this time spent on non-academic activities such as social media (e.g., Facebook, Instagram, TikTok), messaging apps (e.g., WhatsApp), and gaming. On average, students spent approximately 2 hours per day engaging in social media, while gaming took up an additional hour. Educational activities, such as using educational apps or searching for school-related information, accounted for only 30 minutes to an hour per day.

In terms of time management, it was observed that students who spent longer hours on non-educational activities had difficulty adhering to a study schedule, often procrastinating or feeling distracted during study sessions. A small group of students indicated that they used their phones primarily for academic purposes, such as accessing online learning platforms or collaborating on school projects. However, this group was in the minority.

B. Academic Performance Data:

The academic performance data collected from school records showed a wide range of results among the participants, with grades in core subjects such as Mathematics, Science, English, and Social Studies varying significantly. The average GPA of the sample group was 2.85 on a scale of 4.0, indicating moderate academic performance overall. However, a closer examination of the academic records revealed that students who reported higher mobile phone usage, particularly for non-academic activities, tended to have lower grades in comparison to their peers who used their phones more responsibly.

Students with a GPA above 3.5 were generally those who indicated that they limited their phone usage to educational purposes or set strict boundaries around recreational activities on their phones. Conversely, students with GPAs below 2.0 often reported high engagement in social media, gaming, and texting, which appeared to negatively affect their academic focus and performance.

C. Impact of Android Phone Usage on Academic Performance:

The results from the correlation analysis indicated a moderate negative correlation between the amount of time spent on non-educational phone activities (such as social media and gaming) and students' academic performance ($r = -0.45$, $p < 0.05$). This suggests that students who spent more time on their phones for entertainment purposes tended to have lower academic performance. On the other hand, the correlation between educational phone use (e.g., using apps or browsing educational

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websites) and academic performance was slightly positive, but the effect was minimal ($r = 0.20$, $p > 0.05$).

Qualitative data from the interviews further supported these findings. Many students described how excessive phone use, particularly social media engagement, disrupted their focus during study time. A few students shared that they frequently checked social media notifications, which led to interruptions in their study routines. However, some students also highlighted how certain apps helped them improve their academic skills, especially in subjects like mathematics and language learning.

D. Discussion of Findings:

The findings of this study align with previous research on the impact of mobile phone usage on academic performance, particularly in relation to the potential distractions caused by non-academic phone activities. While Android phones provide access to valuable educational resources, the results of this study indicate that excessive engagement with social media and gaming can significantly hinder students' academic success. The negative impact of mobile phone usage on academic performance is most pronounced when students fail to manage their time effectively, allowing distractions to interfere with study time.

However, the study also highlighted the positive role of Android phones when used for educational purposes. Students who utilized their phones for accessing learning resources, online lectures, or collaborating on school projects reported higher levels of engagement and academic achievement. This suggests that mobile technology, when used responsibly and with clear academic intentions, can enhance learning outcomes.

The Cognitive Load Theory and The Media Equation Theory discussed in the literature review provide useful frameworks for understanding these results. The overload of information from excessive mobile phone use for non-academic purposes may contribute to cognitive distractions, thereby reducing students' ability to focus on academic tasks. Additionally, the social nature of mobile phones may lead students to treat their devices as tools for social interaction rather than learning, which can impact their academic performance negatively.

In conclusion, while Android phones have the potential to enhance learning, the findings of this study emphasize the importance of managing phone usage. Students should be encouraged to use their devices in a balanced way, ensuring that recreational activities do not interfere with their academic responsibilities. Educators and parents play a crucial role in guiding students toward effective time management strategies that allow them to take full advantage of mobile technology for educational purposes while minimizing distractions. Future research should focus on exploring interventions that promote responsible phone usage and assess their impact on students' academic outcomes.

V. Conclusions

A. Summary of Findings:

This study explored the impact of Android phone usage on the academic performance of Grade 10 students at Jose Abad Santos National High School. The findings revealed that while Android phones provide students with access to educational resources, excessive use of non-academic apps such as social media and gaming negatively affects their academic performance. A moderate negative correlation was found between the time spent on recreational phone activities and academic performance, with students spending more time on these activities tending to have lower grades. On the other hand, students who used their phones for academic purposes showed a slight positive impact on their academic outcomes. Interviews with students further supported these findings, indicating that while mobile phones can be helpful for learning, excessive use for non-educational purposes leads to distractions and poor academic performance.

B. Implications for Students, Teachers, and Parents:

The findings of this study have important implications for students, teachers, and parents:

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- For Students: The results highlight the importance of managing Android phone usage to ensure that recreational activities do not interfere with academic responsibilities. Students should be encouraged to set limits on social media and gaming usage during study time, focusing instead on utilizing educational apps and resources that can enhance learning.
- For Teachers: Teachers should consider integrating mobile technology into the learning process while guiding students on its responsible use. Encouraging students to use their phones as tools for learning, such as for accessing online textbooks, research materials, and academic apps, can help improve their engagement and academic performance.
- For Parents: Parents play a key role in monitoring and guiding their children's phone usage. Setting clear boundaries and encouraging the use of phones for educational purposes can help prevent distractions and promote better academic outcomes. Parental involvement in helping children balance recreational and academic phone usage is crucial in fostering a productive learning environment.

C. Recommendations for Managing Android Phone Usage:

Based on the findings, several recommendations can help students manage their Android phone usage effectively:

- Establish Study Time Rules: Students should set specific times for studying and avoid phone use during these periods unless it is related to their studies. Using apps or tools that block access to social media or gaming during study time can help minimize distractions.
- Prioritize Educational Content: Students should be encouraged to use their phones primarily for educational purposes, such as reading educational materials, watching online tutorials, and participating in academic discussions. Teachers and parents can help students identify useful educational apps.
- Set Time Limits for Social Media and Gaming: Implementing strict limits on recreational phone usage, such as setting a timer for social media or gaming activities, can help students avoid overuse and ensure they have sufficient time for studying.
- Promote Time Management Skills: Students should be educated on the importance of time management and the benefits of balancing their academic and personal activities. Workshops or seminars on effective time management could be beneficial for students to learn how to prioritize tasks.

D. Suggestions for Future Research:

Future research could explore several aspects related to Android phone usage and academic performance:

- Longitudinal Studies: A longitudinal study examining the long-term impact of mobile phone usage on students' academic performance over several years could provide more comprehensive insights into the evolving relationship between phone use and academic achievement.
- Comparative Studies: Research comparing Android phone usage patterns and academic performance across different grade levels or educational institutions would help determine whether the observed patterns are consistent across various demographics or settings.
- Intervention Studies: Future research could investigate the effectiveness of interventions designed to reduce phone distractions, such as digital detox programs or the use of phone management apps. These interventions could be tested for their impact on students' academic outcomes.
- Exploring Psychological Factors: A study exploring the psychological effects of mobile phone usage, such as anxiety, stress, or FOMO (fear of missing out), and how these factors influence students' academic focus and performance could deepen our understanding of the emotional and mental challenges associated with phone use.

In conclusion, while Android phones offer significant educational potential, their overuse, especially for non-educational purposes, can undermine academic success. By promoting responsible usage habits and ensuring that mobile technology is used as a tool for learning, students, teachers,

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and parents can work together to enhance academic performance and ensure that phones do not become a source of distraction.

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