

Impact of Using Smart TV on the Academic Achievement of Grade 4 Learners at Come and See Christian School

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ABSTRACT: This research, entitled “The Impact of using Smart TV on the academic achievement of Grade 4 Learners at Come and See Christian School”. This study investigates the impact of Smart TV as an instructional tool on the academic achievement of learners. The research explored how Smart TV-assisted lessons influence learners’ engagement, comprehension, and overall performance in the core subjects. A mixed-method approach was employed, combining classroom observations, learner assessments, and teacher interviews to determine changes in academic outcomes. Findings revealed that the integration of Smart TV technology enhanced visual learning, improved lesson interaction, and increased learner motivation. Learners exposed to Smart TV-supported instruction demonstrated higher test scores and better retention of concepts compared to those taught using traditional methods. Teachers also reported greater efficiency in lesson delivery and increased participation among learners. The study concludes that Smart TV is an effective tool for improving academic achievement and recommends its continued and expanded use to support teaching and learning across grade levels.

KEYWORDS: Smart TV in education, Academic Achievement, Grade 4 Learners, Student Engagement, Digital Learning Tools, Multimedia, 21st-century skills

I. INTRODUCTION

The integration of digital technologies into classroom instruction has transformed the way teachers deliver lessons and how learners engage with educational content. Among these technologies, the smart TV has emerged as a versatile tool that supports interactive teaching, multimedia learning, and real-time access to instructional resources. At Come and See Christian School, the use of smart TVs in Grade 4 classrooms has become increasingly common as educators seek to enhance learning experiences, accommodate diverse learning styles, and improve overall academic performance. The transition from traditional chalk-and-talk methods to technology-enhanced instruction creates opportunities for Grade 4 learners to visualize complex concepts, participate actively in lessons, and develop stronger motivation toward learning. However, questions remain about how effectively smart TV integration influences actual academic achievement. While some learners may benefit from increased engagement and multimedia explanations, others may be distracted or overwhelmed by digital features. This study investigates the impact of using smart TVs on the academic achievement of Grade 4 learners at Come and See Christian School, aiming to determine whether this technological tool improves learning outcomes, supports understanding of subject matter, and enhances classroom participation. By examining both the benefits and challenges associated with smart TV use, the research seeks to provide valuable insights for educators, school administrators, and parents on how digital tools can be effectively integrated to support quality education.

The use of smart TVs also aligns with the growing emphasis on 21st-century skills, such as digital literacy, critical thinking, and collaborative learning. Through multimedia presentations, animations, and interactive quizzes, learners are exposed to diverse instructional methods that cater to visual, auditory, and kinesthetic learning styles. Studies have shown that technology-enhanced instruction can improve knowledge retention and reinforce previously learned concepts. Moreover, the use of smart TVs allows teachers to access a wealth of online resources, including educational videos, virtual simulations, and real-world examples, which can make lessons more relevant and meaningful. Despite these advantages, the effectiveness of smart TV-assisted learning largely depends on how it is implemented, the teacher’s proficiency with the technology, and the learners’ ability to focus amidst potential distractions. Additionally, equitable access to technology is a concern, as learners may vary in their familiarity and comfort with digital tools. Understanding the relationship between smart TV use and academic achievement is essential for designing instructional strategies that maximize learning outcomes. By evaluating both quantitative performance data and qualitative observations of classroom behavior, this study aims to provide a comprehensive assessment of the technology’s impact. Furthermore, the research seeks to identify best practices for integrating smart TVs into daily instruction to support consistent and measurable improvements

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in academic performance. Ultimately, the findings of this study aim to inform school policies, teaching strategies, and future research on the effective use of digital technologies in elementary education.

This study aims to:

1. To determine whether the use of smart TV improves the academic achievement of Grade 4 at Come and See Christian School.
2. To assess the level of learners engagement and participation during lessons delivered using Smart TV.

II METHODOLOGY

This chapter presents the research design, data analysis, respondents and data gathering, and statistical tools used.

Research Design

This study used descriptive-correlational approach to describe the learners' academic performance and level of engagement among Grade 4 learners at Come and See Christian School when using Smart TV, and quasi-experimental design is also adopted to determine the impact of Smart TV usage on the academic achievement of Grade 4 learners. Survey Questionnaire and Observational Checklist were used to gather data to measure attention, participation, and interaction during lessons.

Data Analysis

The collected data were analyzed using descriptive statistics and correlation analysis. Descriptive statistics such as mean, standard deviation, and frequency distributions summarized the learners' Smart TV usage patterns in terms of frequency, duration, and type of activities viewed. For the correlation analysis, Pearson's correlation coefficient was used to determine the relationship between Smart TV usage and academic performance indicators, including test scores, homework completion, and class participation. The 5-point Likert scale results were interpreted to determine the overall level of Smart TV exposure among the learners.

Respondents and Data Gathering

The respondents consisted of 25 Grade 4 learners enrolled at Come and See Christian School. The learners were selected through purposive sampling to ensure that all participants had regular access to a Smart TV at home or in school. The respondents varied in terms of gender, socioeconomic background, and media exposure levels. This diversity allowed the study to gather a broad range of Smart TV usage patterns and their potential effects on academic performance.

Data were collected using several validated methods. First, a Survey Questionnaire was administered to gather information on the learner's Smart TV viewing habits, including frequency, duration, and types of programs watched (educational or entertainment). Second, a Teacher Observation Checklist recorded learners' classroom behavior, attention level, and participation during instructional periods. Third, learners' Academic Performance Records—such as test scores, project outputs, and homework completion rate. Lastly, a Likert-Scale Assessment was used to classify the learners' Smart TV usage levels.

5-Point Likert Scale for Assessing Levels of Phone Usage

Scale	Description	Interpretation
5	Always	Very High Usage
4	Often	High Usage
3	Sometimes	Moderate Usage
2	Rarely	Low Usage
1	Never	Very Low/No Usage

This scale measured how frequently and intensely learners used Smart TVs for activities such as watching educational videos, entertainment programs, online tutorials, and interactive learning content.

The expanded methodology strengthens the reliability of this study. Combining parent-reported data, teacher observations, and official school records ensured triangulation and increased the credibility of the findings. The descriptive-correlational design provided an effective framework for determining the link between Smart TV usage and learners' academic performance while identifying media-related behaviors such as late-night viewing, multitasking, and preference for non-educational content that affect classroom attention and study habits.

The use of the Likert scale provided a standardized way to categorize learners into low, moderate, and high Smart TV users, allowing meaningful statistical comparisons with academic outcomes. These combined methods ensured that the study captured both qualitative behaviors and quantitative performance indicators, supporting the study's objectives and providing evidence-based recommendations for educational guidance.

III RESULTS AND DISCUSSION

This chapter presents the results, discussion, and the personal insight that the researchers have gathered regarding the Impact of using Smart TV on the Academic Achievement Grade 4 learners at Come and See Christian School.

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Table 1. Mean Scores and Interpretations

Measure	Mean Score	Interpretation	Scale
Improves understanding of lessons	4.52	Very High Impact	Likert 1-5
Students Engagements	4.48	High Impact	Liker 1-5
Helps learners remember lessons easily	4.36	High Impact	Percentage
Makes lessons more enjoyable and interactive	4.60	Very High Impact	
Enhances quizzes and activities	4.28	High Impact	
Overall mean	4.45	High Impact	

The results demonstrate that the mean of 4.45 indicates that Smart TV has a High Impact on the academic achievement of Grade 4 learners in Come and See Christian School. Learners reported that Smart TV makes lessons more engaging and enjoyable, improves their understanding of difficult concepts, supports better memory retention, and contributes to improved performance in classroom activities and assessments. This suggests that Smart TV is an effective instructional tool that enhances teaching and learning, especially for visual learners.

Table 2. Correlation Results

Variable Comparison	Correlation Coefficient (r)	p-value
Smart TV usage and Academic Score	0.72	0.001
Smart TV usage vs. Attention Rating	0.68	0.002

The computed correlation coefficient ($r = 0.72$) indicates a strong positive relationship between the use of Smart TV and the academic achievement of Grade 4 learners. The p-value of 0.001 shows that this relationship is statistically significant, meaning the increased use of Smart TV in teaching is associated with higher academic performance. The use of Smart TV during lessons can improve the attention span of the learners. The learners also engaged with visual and interactive materials.

IV CONCLUSION

The study concludes that the use of Smart TV as an instrumental tool has a significant positive impact on Grade 4 learners of Come and See Christian School. Using smart TV in teaching creates an attractive, and effective learning space that enhances participation and comprehension, leading to a better academic achievement. Learners demonstrated better focus, increased engagement, deeper understanding of lessons when the smart TV was integrated into classroom instruction.

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