Student Engagement in Technology- Enhanced Social Studies Instruction among Grade 10 Students in Selected Public Secondary Schools in District of Ilog I: A Descriptive Study

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ABSTRACT

Integrating technology into Social Studies is seen as key to enhancing student learning and engagement, yet its impact on different engagement dimensions in developing regions is underexplored. This study investigated the level of student engagement in technology- enhanced Social Studies instruction and its relationship with the extent of technology integration among Grade 10 students in the District of Ilog I, Negros Occidental. Utilizing a quantitative descriptive- correlational research design, data were gathered from 158 students across two public secondary schools using a researcher- made Likert- scale questionnaire. The findings revealed an overall "High" level of student engagement, with cognitive and social dimensions rated as High, while behavioral and emotional engagement remained "Moderate". Technology integration was rated at an "Advanced" level, primarily driven by the use of instructional platforms and digital learning resources. Correlation analysis using Pearson's indicated a strong positive and statistically significant relationship between technology integration and student engagement, leading to the rejection of the null hypothesis. The study concludes that while advanced technology integration significantly boosts cognitive and social involvement, pedagogical strategies must be further refined to improve behavioral participation and emotional connection. Recommendations include providing continuous professional development for teachers and enhancing digital infrastructure to support more transformative and student- centered learning experiences.

Keywords: Student Engagement, Technology Integration, Social Studies, Technology- Enhanced Instruction, Descriptive- Correlational Study

INTRODUCTION

Background of the Study

The integration of technology in education has become a central component of 21st century teaching and learning. Educational technologies, when effectively implemented, enhance educational delivery, facilitate access to diverse learning resources, and promote interactive and student- centered learning environments (Koehler & Mishra, 2009). In Social Studies education, technology enables learners to access primary sources, engage in virtual simulations, participate in collaborative discussions, and analyze real- time global events, thereby deepening historical understanding and civic competence (NCSS, 2013).

Student engagement is widely recognized as a critical predictor of academic achievement and school success (Fredricks, Blumenfeld, & Paris, 2004). It is a multidimensional construct encompassing behavioral, emotional, and cognitive dimensions. Later models expanded this framework to include social engagement, particularly in collaborative and digitally mediated environments (Fredricks et al., 2016). Behavioral engagement refers to students' participation in academic tasks, emotional engagement includes students' interest and sense of belonging, cognitive engagement reflects strategic learning and investment in understanding complex content, and social engagement highlights interaction and collaboration with peers.

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Technology- enhanced instruction has been shown to positively influence student engagement when aligned with pedagogical goals (Bond et al., 2020). Digital tools such as learning management systems, multimedia presentations, interactive simulations, and online assessments can increase motivation, participation, and critical thinking skills (Schindler et al., 2017). However, the effectiveness of technology integration depends on its level and quality of implementation (Puentedura, 2014). In the Philippine educational system, the Department of Education (DepEd) has promoted digital transformation initiatives through the use of Learning Management Systems (LMS), DepEd Commons, online modules, and interactive digital platforms to support classroom instruction (DepEd, 2022).

Despite the growing body of research on technology integration, limited empirical studies focus specifically on student engagement in technology- enhanced Social Studies instruction within local public secondary school settings. Furthermore, contextual factors such as access to digital devices and internet connectivity may influence students' engagement levels, particularly in developing regions.

Despite the growing implementation of technology in Philippine public secondary schools, variations exist in terms of infrastructure, access to digital devices, and teacher readiness. In the District of Ilog I, public secondary schools vary in terms of technological infrastructure and student access to digital resources. Understanding how technology integration relates to student engagement in this context is essential for improving instructional practices and informing policy decisions.

This study aims to investigate the level of student engagement in technology- enhanced Social Studies instruction and examine its relationship with the level of technology integration among Grade 10 students in selected public secondary schools in the District of Ilog I, Municipality of Ilog, Negros Occidental.

Research Problem and Gap

Numerous international studies have examined the impact of educational technology on student engagement (Bond et al., 2020; Henrie, Halverson, & Graham, 2015). However, limited empirical research focuses specifically on student engagement in technology- enhanced Social Studies instruction within local public secondary school contexts in the Philippines.

Furthermore, while previous research has explored technology integration, fewer studies have examined engagement across its four dimensions such as behavioral, emotional, cognitive, and social engagement within a municipal- level educational setting.

This gap highlights the need for a contextualized study in the District of Ilog I to determine the following:

1. The level of student engagement in technology- enhanced Social Studies instruction;
2. The extent of technology integration utilized;
3. The difference in students' engagement levels according to specific profiles; and
4. The relationship between the level of student engagement and extent of technology integration utilized.

Purpose and Objectives of the Study

The purpose of this study is to examine student engagement in technology- enhanced Social Studies instruction among junior high school students in selected public secondary schools in the Municipality of Ilog.

Specifically, this study aims to:

1. Determine the level of student engagement in terms of:

    A. Behavioral engagement
    B. Emotional engagement
    C. Cognitive engagement
    D. Social engagement

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2. Identify the types and levels of technology integration utilized in Social Studies instruction in terms of:

A. Instructional platforms used
B. Digital learning resources
C. Interactive and collaborative tools
D. Assessment technologies

3. Examine whether there is a significant relationship between technology integration and student engagement.

Research Questions

This study aims to answer the following research questions:

1. What is the level of student engagement in technology- enhanced Social Studies instruction in terms of behavioral, emotional, cognitive, and social engagement?
2. What is the level of technology integration in Social Studies instruction in terms of instructional platforms, digital learning resources, interactive tools, and assessment technologies?
3. Is there a significant relationship between the level of technology integration and student engagement?

Hypotheses

H_{01}: There is no significant relationship between the level of technology integration and student engagement.

THEORETICAL FRAMEWORK

This study is anchored on three major theoretical foundations:

1. Student Engagement Theory (Fredricks et al., 2004)

This theory conceptualizes engagement as behavioral, emotional, and cognitive participation in learning activities. It emphasizes the students who are actively involved, emotionally invested, and cognitively committed demonstrated higher academic achievement.

2. Constructivist Learning Theory (Vygotsky, 1978)

Constructivism posits that learners construct knowledge through interaction, collaboration, and meaningful experiences. Technology- enhanced Social Studies instruction supports constructivist principles by facilitating inquiry- based learning, digital collaboration, and interactive tasks.

3. SAMR Model of Technology Integration (Puentedura, 2014)

This SAMR model categorizes technology use into Substitution, Augmentation, Modification, and Redefinition. It explains how varying levels of technology integration influence instructional transformation and student learning experiences.

These theories collectively explain how technology integration may influence student.

Conceptual Framework

The conceptual framework of the study illustrates the relationship between technology- enhanced Social Studies instruction and student engagement. The framework assumes that the level and type of technology integration influence students' engagement in Social Studies instruction.

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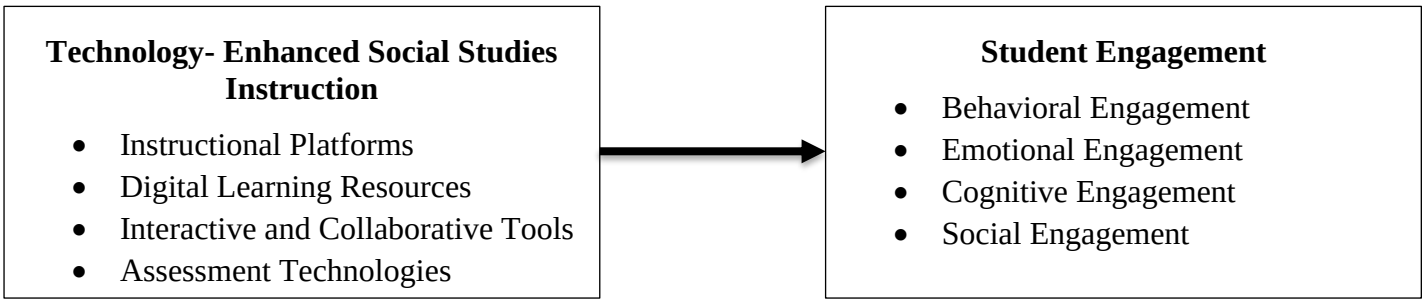

(Figure 1. Student Engagement in Technology- Enhanced Social Studies Instruction: A Descriptive Study)

Significance of the Study

This study is significant to the following:

Students. It might provide insight into how technology- enhanced instruction influences their engagement and learning experiences.

Teachers. It will offer evidence- based information to improve technology integration strategies in Social Studies instruction.

School Administrators. It may inform policy decisions regarding digital infrastructure and professional development programs.

Department of Education. It may contribute localized data to support digital transformation initiatives in public secondary schools.

Future Researchers. It will serve as a reference for further studies on technology integration and student engagement in municipal- level educational contexts.

Scope and Limitations

This study will focus on junior high school students enrolled in selected public secondary schools in the Municipality of Ilog during the academic year 2025- 2026.

It examines student engagement in terms of behavioral, emotional, cognitive, and social dimensions and technology integrations in terms of instructional platforms, digital resources, interactive tools, and assessment technologies.

The study is limited to self- reported data gathered through a Likert- scale questionnaire. It does not measure actual classroom observations or academic performance outcomes. Findings are generalizable only to the selected schools involved in the study.

METHODOLOGY

Research design

This study will employ a quantitative descriptive- correlational research design to examine the relationship between technology integration and student engagement in Social Studies among junior high school students.

The descriptive method will be used to determine the level of technology integration and the level of student engagement in Social Studies instruction. Meanwhile, the correlational approach will be utilized to determine whether a significant relationship exists between technology integration and student engagement.

Participants and inclusion criteria

The participants of the study consisted of 158 Grade 10 students enrolled in selected schools in the District of Ilog I, Municipality of Ilog, Negros Occidental. Specifically, Bocana National High School (64 students) and Tabu National High School (94 students) during the school year 2025- 2026.

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These students were selected to represent learners who experience technology- enhanced Social Studies instruction.

Sampling techniques

A stratified sampling strategy is employed. The samples were the two public secondary schools in the District of Ilog I such as Bocana National High School and Tabu National High School.

After identifying the samples, respondents were selected proportionally based on the total population of each school. The final sample size of 158 respondents was determined using a Slovin's formula for descriptive studies.

Stratified sampling was considered appropriate because the population was naturally group by schools and it allowed the researcher to collect data efficiently from geographically separated groups.

Data collection instrument

This study utilized a researcher- made questionnaire consisting of two major parts with six items each subscale. Part I: Student Engagement, this section measured the student engagement in Social Studies instruction using a 5- point Likert scale (5- Strongly Agree, 4- Agree, 3- Neutral, 2- Disagree, 1- Strongly Disagree) covering four dimensions such as behavioral, emotional, cognitive, and social engagement. Each dimension contained six statements assessing students' participation, motivation, thinking processes, and collaboration during technology- enhanced instruction. Another is Part II, which measured the level of technology integration in Social Studies instruction in terms of instructional platforms, digital learning resources, interactive and collaborative tools, and assessment technologies.

Validity and Reliability of the Data

The questionnaire underwent content validation by experts in educational research and Social Studies education to ensure that the items were relevant and appropriate for measuring student engagement and technology integration.

To determine the reliability of the instrument, a pilot test was conducted among students who were not included in the final respondents. The responses were analyzed using the Cronbach's Alpha to determine internal consistency. The reliability results indicated that the instrument had acceptable reliability, making it suitable for data collection.

Data gathering procedure

The researcher first sought permission from the school administrators of Tabu National High School and Bocana National High School to conduct the study.

After approval was granted, the researcher administered the questionnaires to the selected respondents. Students were given clear instructions on how to answer the questionnaire, and sufficient time was provided to complete the survey.

The completed questionnaires were collected, checked for completeness, and encoded for statistical analysis.

Data analysis procedure

After the collection of the completed questionnaires, the responses were carefully checked, organized, and encoded into statistical software program for analysis. Descriptive statistics were used to summarize the data and describe the level of student engagement and technology integration in Social Studies instruction.

For problem 1 and 2, mean and standard deviation were used to determine the level of student engagement in terms of behavioral, emotional, cognitive, and social engagement, as well as the level of technology integration

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n terms of instructional platforms, digital learning resources, interactive and collaborative tools, and assessment technologies. Mean was used to determine the average responses of the respondents, while standard deviation measured the variability of responses from the mean. These descriptive statistics are commonly used in educational research to summarize and interpret Likert- scale data (Creswell, J. & Creswell, D., 2018).

For problem 3, to determine whether there is a significant relationship between the level of technology integration and student engagement, the Pearson's r was utilized. This parametric statistical test, including correlation coefficients, is acceptable for Likert- scale data under typical research conditions (Norman, G., 2010). This computed correlation coefficient was interpreted based on the strength of association, while the level of significance was set at 0.05. A p- value less than 0.05 indicates that the relationship between the variables is statistically significant. The results were then presented in tables and interpreted according to the objectives of the study.

Ethical considerations

Ethical standards were strictly observed throughout the conduct of the study. Prior to data collection, permission to conduct the research was obtained from the school principals of the selected public secondary schools in the Municipality of Ilog, Negros Occidental. Participation of the respondents was voluntary, and the purpose of the study was clearly explained to them before the administration of the questionnaire. Informed consent was obtained from the respondents, and they were assured that their participation would not affect their academic standing.

To ensure confidentiality and anonymity, the questionnaire did not require the respondents to disclose their names or any identifying information. All collected data were used solely for academic and research purposes and were handled with strict confidentiality. The researcher also ensured that the results of the study were reported honestly and objectively, without misrepresentation of data. These procedures were consistent with established ethical principles in educational research, particularly the protection of participants' rights, voluntary participation, and responsible data management as recommended by the American Educational Research Association and the ethical principles outlined in The Belmont Report.

RESULTS AND DISCUSSION

This chapter presents the analysis, interpretation, and discussion of the data gathered in the study Student Engagement in Technology- Enhanced Social Studies Instruction Among Grade 10 Students in Selected Public Secondary Schools in District of Ilog I: A Descriptive Study. The findings were organized according to the research questions, focusing on the level of technology integration, the level of student engagement across behavioral, emotional, cognitive, and social domains, and the relationship between the two variables. The results were presented in tabular form and are supported by interpretations and discussions anchored on relevant theories and related studies.

Table 1 presents the level of student engagement across behavioral, emotional, cognitive, and social domains.

Table 1 Level of Student Engagement in Technology-Enhanced Social Studies Instruction

Domains of Engagement	*n*	Mean	*SD*	Verbal Description
Behavioral engagement	158	3.44	.47	Moderate
Emotional engagement	158	3.38	.46	Moderate
Cognitive engagement	158	3.65	.50	High
Social engagement	158	3.70	.53	High
Engagement in general	158	3.54	.40	High

Note: *4.51-5.00 Very high; 3.51-4.50 High; 2.51-3.50 Moderate; 1.51-2.50 Low; 1.00-1.50 Very low*

The overall mean score of 3.5 (SD= 0.40) is interpreted as High which indicates that students are generally engaged in technology- enhanced Social Studies instruction. Among domains, social engagement (M= 3.70,

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SD= 0.53) and cognitive engagement (M= 3.65, SD= 0.50) are both rated High. This suggests that technology facilitates collaboration and enhances higher- order thinking skills. Students are able to interact, exchange ideas, and process information more deeply through digital tools. This supports the findings of Frericks et al. (2024), who emphasized that engagement is multidimensional and that cognitive and social engagement are crucial for meaningful learning.

In contrast, behavioral engagement (M= 3.44, SD= 0.47) and emotional engagement (M= 3.38, SD= 0.46) were rated Moderate. This indicates that students' participation and emotional connection to the lesson are not as strong as their cognitive and social involvement. According to Skinner et al. (2008), emotional engagement plays a significant role in sustaining motivation and participation, suggesting that technology integration alone may not fully address students' affective needs.

In addition, Bond (2020) noted that while technology can enhance engagement, its effectiveness depends on how it is used pedagogically. If not designed carefully, digital tools may lead to distraction rather than sustained participation, which may explain the moderate levels observed in behavioral and emotional engagement.

Overall, the results suggest that technology- enhanced instruction is effective in promoting thinking and collaboration but requires improvement in fostering motivation and consistent participation.

Table 2 presents the level of technology integration in Social Studies instruction in terms of instructional platforms, digital learning resources, interactive and collaborative tools, and assessment technologies.

Table 2 Level of Technology Integration in Social Studies Instruction

Dimensions of Technology Integration	*n*	Mean	*SD*	Verbal Description
Instructional platforms	158	3.77	.57	Advanced
Digital learning resources	158	3.76	.54	Advanced
Interactive and collaborative tools	158	3.53	.61	Advanced
Assessment technologies	158	3.61	.61	Advanced
Technology integration in general	158	3.67	.48	Advanced

Note: *4.51-5.00 Transformative; 3.51-4.50 High; 2.51-3.50 Moderate; 1.51-2.50 Basic; 1.00-1.50 Minimal*

The overall mean score for technology integration is 3.67 (SD= 0.48), verbally interpreted as High. This indicates that technology is effectively utilized to enhance instruction and deepen students' understanding. At this level, teachers are able to integrate digital tools in ways that promote meaningful learning experiences and student- centered activities.

Among the dimensions, instructional platforms (M= 3.77, SD= 0.57) and digital learning resources (M= 3.76, SD= 0.54) obtained the highest mean scores. This suggests that teachers widely use learning management systems and online materials such as videos, digital modules, and readings to facilitate instruction. According to Koehler and Mishra (2009), effective technology integration occurs when teachers combine content, pedagogy, and technology to enhance learning, which aligns with the findings of this study.

On the other hand, interactive and collaborative tools (M= 3.53, SD= 0.61) and assessment technologies (M= 3.61, SD= 0.61), while still at an advanced level, obtained relatively lower mean scores. This indicates that although these tools are utilized, their full potential for fostering collaboration and real- time feedback may not yet be maximized. As stated by Dede (2024), interactive technologies are most effective when they promote active learning and collaboration, suggesting an area for further enhancement.

As a whole, the findings indicate that teachers have progressed beyond basic technology use, however, the absence of a transformative level suggests that opportunities for innovation, creativity, and student- generated learning experiences remain limited.

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The relationship between technology integration and student engagement is shown in Table 3.

Table 3 Significant Relationship Between the Level of Technology Integration and Student Engagement

Variable	Technology integration	Student engagement
Technology integration	-	.704**
Student engagement	.704**	-

Note. $n = 158$. Values are Pearson's r. ** $p < .01$ (2-tailed).

The computed Pearson correlation coefficient ($r = 0.704$, $p < 0.01$) indicates a strong positive and statistically significant relationship between the level of technology integration and student engagement. This indicates that as technology integration increases, student engagement also tends to increase.

This finding is consistent with the study of Schindler et al. (2017), who found that the use of educational technology significantly enhances student engagement, particularly when it promotes interaction, collaboration, and active learning. Similarly, Henrie et al. (2015) emphasized that well- integrated technology supports multiple dimensions of engagement, including behavioral, emotional, and cognitive aspects. The strong correlation in this study confirms that technology is a key factor in improving students' overall learning experience.

Given the statistical significance of the results, the null hypothesis is rejected, confirming that there is a meaningful relationship between technology integration and student engagement.

CONCLUSION

Based on the results of the study, the advanced technology integration contributes significantly to high levels of student engagement, particularly in cognitive and social domains. This indicates that digital tools are effective in promoting deeper understanding and collaboration among students.

However, the moderate levels of behavioral and emotional engagement suggest that technology alone does not guarantee full student involvement. As emphasized by Deci and Ryan (2000), motivation and engagement are influenced by autonomy, competence, and relatedness. Thus, teachers must design technology- enhanced activities that not only deliver content but also foster interest, participation, and emotional connection.

Moreover, while the level of technology integration is already advanced, the absence of transformative practices indicates a need to move toward more innovative approaches. This includes allowing students to create content, solve real- world problems, and take greater ownership of their learning.

In summary, the study demonstrates that technology integration is a powerful tool in enhancing student engagement. However, its effectiveness depends on how it is implemented. To maximize its impact, educators should focus on designing interactive, meaningful, and student- centered learning experiences that address all dimensions of engagement.

RECOMMENDATIONS

Based on the findings of this study, the following are suggested:

First, teachers are encouraged to strengthen the use of technology by designing interactive, learner- centered, and engaging activities that promote not only cognitive and social engagement but also improve students' behavioral participation and emotional involvement. Emphasis should be given to the use of digital tools that foster collaboration, critical thinking, and creativity.

Second, school administrators should provide continuous professional development and capacity- building programs focused on effective and innovative technology integration. They should also ensure the availability

of adequate digital resources, including stable internet connectivity and access to appropriate devices to support teaching and learning.

Third, curriculum planners and education supervisors are encouraged to integrate technology- enhanced competencies in the Social Studies curriculum and align instructional materials with 21st century skills, particularly those that develop higher- order thinking and meaningful student engagement.

Fourth, students should be encouraged to actively participate in technology- enhanced learning activities, develop responsible use of digital tools, and engage in collaborative and meaningful learning experiences to maximize the benefits of technology in education.

Finally, future researchers are encouraged to conduct further studies that explore other variables affecting student engagement, utilize qualitative or mixed- method approaches for deeper insights, and examine the impact of transformative technology integration on learners' academic performance and overall learning outcomes.

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