



EFFECT OF SOCIAL MEDIA LEARNING PLATFORMS ON STUDENTS' PERFORMANCE IN COMPUTER STUDIES IN SECONDARY SCHOOLS

BY

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Abstract

The purpose of this study was to examine the effect of Social Media Learning Platforms on students' performance in Computer Studies in selected secondary schools in Ekiti State, Nigeria. Specifically, the study aimed to identify the types of social media devices used by students for social networking and determine the factors affecting the use of Social Media Learning Platforms in teaching and learning. A quasi-experimental research design involving pre-test, post-test, and control groups was adopted. The population comprised all Senior Secondary School Two (SSS II) students in Ekiti State, totaling 16,585 across 205 public secondary schools. A multistage sampling technique was used to select 83 students from two mixed secondary schools from two Local Government Areas, randomly assigned to experimental and control groups. The instrument for data collection was the Computer Studies Performance Test (CSPT), consisting of 40 multiple-choice questions adapted from WAEC and NECO examinations. The instrument was validated by experts in Computer Education and Tests and Measurement, with a reliability coefficient of 0.83 obtained using the test-retest method. Data were collected over eight weeks in three stages: pre-test, treatment, and post-test, and analyzed using mean, standard deviation, and t-test at a 0.05 level of significance. Findings revealed that smartphones were the most commonly used devices, while poor internet connectivity and limited device access hindered effective use. The results also showed no significant difference in pre-test mean scores but a significant improvement in post-test scores among students taught using the Social Media Learning Platform compared to those taught conventionally. The study recommended that teachers integrate social media tools into teaching, while the government provides adequate internet facilities, digital devices, and training to enhance technology-based instruction.

Keywords: Computer Studies, Digital Devices, Social Media, Learning Platforms, Students' Performance, Technology-Based Instruction,

Introduction

In the 21st century, technology has become an indispensable component of education, transforming how teaching and learning take place across the world. The integration of digital tools and internet-based applications has created

opportunities for interactive, flexible, and learner-centered instruction (Anderson & Dron, 2017). Education is no longer confined to the traditional classroom setting; instead, it extends to virtual and online spaces where students can



collaborate, access information, and share ideas in real time. Digital technologies, such as computers, smartphones, and internet-enabled devices, have enhanced communication and access to educational materials, thereby improving students' engagement and academic outcomes (Alalwan et al., 2019). Among these technologies, social media platforms—including WhatsApp, Facebook, YouTube, Telegram, and Google Classroom have evolved from mere social interaction tools to powerful learning environments that support collaboration, participation, and knowledge sharing.

The increasing adoption of social media for educational purposes demonstrates a shift toward digital learning ecosystems, where students and teachers can engage in continuous learning beyond the physical classroom. This shift aligns with global educational goals that emphasize the use of Information and Communication Technology (ICT) to promote innovation, inclusivity, and lifelong learning (UNESCO, 2022). Consequently, understanding the role of social media in modern education is crucial for improving teaching effectiveness and student performance, particularly in subjects like Computer Studies, where technology is both the medium and the content of instruction.

Computer Studies plays a critical role in preparing students for the demands of the digital age. It equips learners with essential digital literacy and ICT competencies required to function effectively in a technology-driven society. Through the study of computer systems, software applications, programming, and data management, students gain practical skills that enhance their ability to solve problems, think critically, and adapt to new technological innovations (Nwosu & Ogbuanya, 2020). In today's world, where almost every aspect of human

activity—from education and commerce to healthcare and governance—is influenced by technology, Computer Studies has become a foundational subject for secondary school students. It fosters an understanding of how digital tools operate and encourages creativity in using technology for productive purposes (Adeoye & Olatoye, 2019). Moreover, the subject supports the development of 21st-century learning skills, including communication, collaboration, critical thinking, and digital citizenship. These competencies are vital for students to participate meaningfully in a globalized knowledge economy. Integrating social media learning platforms into Computer Studies instruction further enhances these outcomes by creating opportunities for interactive learning, peer collaboration, and real-world application of ICT skills. Thus, the inclusion and effective teaching of Computer Studies in the school curriculum not only promote technological proficiency but also prepare students for future academic and career pursuits in an increasingly digital environment.

Social media learning platforms have revolutionized the teaching and learning process by creating interactive and collaborative digital environments that foster deeper student engagement. In the context of Computer Studies, these platforms provide teachers and students with dynamic tools for communication, content delivery, and real-time interaction. Platforms such as Google Classroom, WhatsApp, YouTube, Telegram, and Facebook groups allow teachers to share instructional materials, video tutorials, and multimedia resources that make abstract computer concepts more tangible and relatable (Amin et al., 2021). Through these digital spaces, learning becomes more student-centered, as learners can ask questions, participate in discussions, and exchange ideas



beyond the physical classroom. This kind of interaction not only supports constructivist learning, where students actively construct knowledge through collaboration, but also enhances problem-solving and critical thinking skills essential in Computer Studies (Vygotsky, 1978; Rahman & Ahmed, 2020).

Additionally, social media learning platforms support real-time feedback and assessment, allowing teachers to monitor students' progress and provide immediate clarification on difficult topics. For example, instructors can post quizzes, share coding exercises, or upload practical demonstrations, while students can respond, comment, or collaborate on group tasks instantly. This two-way communication helps bridge the traditional gap between teachers and learners and fosters a sense of community and motivation to learn. The use of social media learning platforms in teaching Computer Studies enriches the learning experience by promoting interactivity, collaboration, accessibility, and continuity of learning, all of which are crucial for mastering ICT skills in the 21st century.

Despite the widespread availability and accessibility of social media tools, many teachers in secondary schools continue to depend heavily on traditional (conventional) teaching methods, such as lecture-based instruction and note dictation. These approaches, while useful for information delivery, often limit student participation, engagement, and creativity, particularly in a practical-oriented subject like Computer Studies (Okoye & Adigwe, 2021). The inability to integrate modern digital tools into the classroom has resulted in a persistent gap between technological advancement and instructional practice, thereby reducing the effectiveness of teaching and learning outcomes. Furthermore, several

studies have shown that students tend to perform poorly in Computer Studies because the subject is often taught theoretically rather than through interactive or hands-on approaches that encourage exploration and collaboration (Ogunleye & Akinbola, 2019). Teachers who are unfamiliar with or untrained in the use of social media learning platforms may also feel reluctant to adopt them, leading to missed opportunities for enhancing digital literacy and problem-solving skills among students. In addition, institutional challenges such as inadequate internet connectivity, lack of digital infrastructure, limited access to smartphones or computers, and poor awareness of the educational potential of social media further hinder its effective use in classrooms (Eze, 2020). Consequently, while students are actively engaged with social media in their personal lives, its integration into academic learning especially in Computer Studies remains underutilized, contributing to low interest and suboptimal performance in the subject.

Over the years, numerous studies have explored the integration of Information and Communication Technology (ICT) into education, emphasizing its potential to improve teaching effectiveness and student learning outcomes (Adu & Galloway, 2019; Yusuf & Afolabi, 2020). These studies have highlighted the benefits of ICT in promoting digital literacy, enhancing communication, and fostering learner-centered approaches in various subjects. However, most of the existing research has focused broadly on ICT use in education or on other subjects such as Mathematics, Science, and English Language, with limited attention given to Computer Studies as a distinct field of investigation. Furthermore, while several scholars have examined the role of e-learning platforms and virtual classrooms, relatively few have



investigated the specific impact of social media learning platforms such as WhatsApp, Telegram, YouTube, and Google Classroom on students' performance in Computer Studies at the secondary school level in Nigeria. This gap is significant because Computer Studies inherently relies on digital engagement and practical applications, making it an ideal context for studying the influence of social media-assisted instruction.

Existing literature has not sufficiently addressed how factors such as students' access to digital devices, teachers' digital competence, and institutional support shape the effectiveness of social media learning platforms in enhancing student outcomes. Hence, there is a pressing need for empirical research that focuses on how the use of social media learning platforms influences students' engagement, participation, and academic performance in Computer Studies within Nigerian secondary schools. This study, therefore, seeks to fill this gap by providing evidence-based research into the educational value of social media platforms in Computer Studies instruction.

Statement of the Problem

In today's technology-driven world, the role of digital tools in education continues to expand, offering new possibilities for improving teaching and learning processes. Social media learning platforms such as WhatsApp, YouTube, Telegram, and Google Classroom are increasingly recognized for their potential to support collaboration, communication, and resource sharing among teachers and students. However, in many secondary schools, particularly in Nigerian, the extent to which these platforms are used in the teaching and learning of Computer Studies appears limited. Instruction in

Computer Studies is often conducted through conventional methods that emphasize lectures and note-taking rather than interaction and exploration. This approach may not fully support students in developing the practical and problem-solving skills required for digital literacy and ICT competence. Consequently, students' interest and performance in Computer Studies may be influenced by the teaching method and the level of exposure to interactive learning environments. Certain factors may contribute to this situation, including insufficient awareness of the educational value of social media tools, limited teacher training in technology-enhanced instruction, inadequate infrastructure, and the diversion of social media use toward non-academic activities. While research has been conducted on ICT integration in education, fewer studies have explored the specific use of social media learning platforms in enhancing learning outcomes in Computer Studies at the secondary school level. It is within this context that the present study is situated, focusing on how the use of social media learning platforms may influence students' performance in Computer Studies compared with conventional instructional approaches.

Purpose of the Study

The main purpose of this study is to examine how the use of social media learning platforms influences students' performance in Computer Studies at the secondary school level. Specifically, the study aims to:

- i. Identify the types of social media devices commonly used by students for social networking and learning purposes.
- ii. Examine the factors that affect the use of social media learning platforms in the teaching and learning of Computer Studies.



- iii. Compare the performance of students taught Computer Studies using social media learning platforms with those taught through conventional instructional methods.
- iv. Determine whether there are significant differences in students' pre-test and post-test performance when exposed to social media learning platforms and traditional teaching methods.

Research Questions

The following research questions guided this study:

- 1. What are the types of social media devices used by students for social networking?
- 2. What are the factors affecting the use of Social Media Learning Platforms in the teaching and learning of Computer Studies?

Research Hypotheses

The following null hypotheses were formulated and tested in this study:

- 1. There is no significant difference in the pre-test mean scores of students exposed to the Social Media Learning Platform and those taught using the conventional method.
- 2. There is no significant difference in the post-test mean scores of students exposed to the Social Media Learning Platform and those taught using the conventional method.

Methodology

The study adopted a quasi-experimental design involving pre-test, post-test, and

Table 1: Frequency Counts and Percentages of the social media devices used by Computer Studies students for Social networking

control groups to determine the effect of social media learning platforms on students' performance in Computer Studies. The design allowed for comparing students' learning outcomes before and after exposure to different teaching methods. The population consisted of all Senior Secondary School Two (SSS II) students in Ekiti State, totaling 16,585 across 205 public schools (Ministry of Education, Ekiti State, 2022). A multistage sampling procedure was used to select two Local Government Areas (LGAs) from two senatorial districts, from which two mixed secondary schools were purposively chosen and randomly assigned to experimental and control groups. The research instrument used for data collection was the Computer Studies Performance Test (CSPT), which consisted of 40 multiple-choice questions adapted from WAEC/NECO examinations. The instrument was validated by experts in Computer Education and Tests and Measurement, and a reliability coefficient of 0.83 was obtained using the test-retest method. The experiment lasted eight weeks: one week for pre-test, six weeks for treatment, and one week for post-test. The experimental group was taught using social media platforms, while the control group was taught using conventional classroom methods. Data collected were analyzed using descriptive statistics such as mean and standard deviation to answer research questions, and inferential statistics, specifically the t-test, to test the hypotheses at a 0.05 level of significance.

Results

Research Question 1: What are the types of social media devices used by students for social networking?

Devices	Frequency (N = 83)	Percentages (%)
Smartphone	83	100.00
Tablet	54	65.06
Laptop	42	50.60
Desktop Computer	41	49.40
Smart watch	23	27.71
Other:	15	18.07

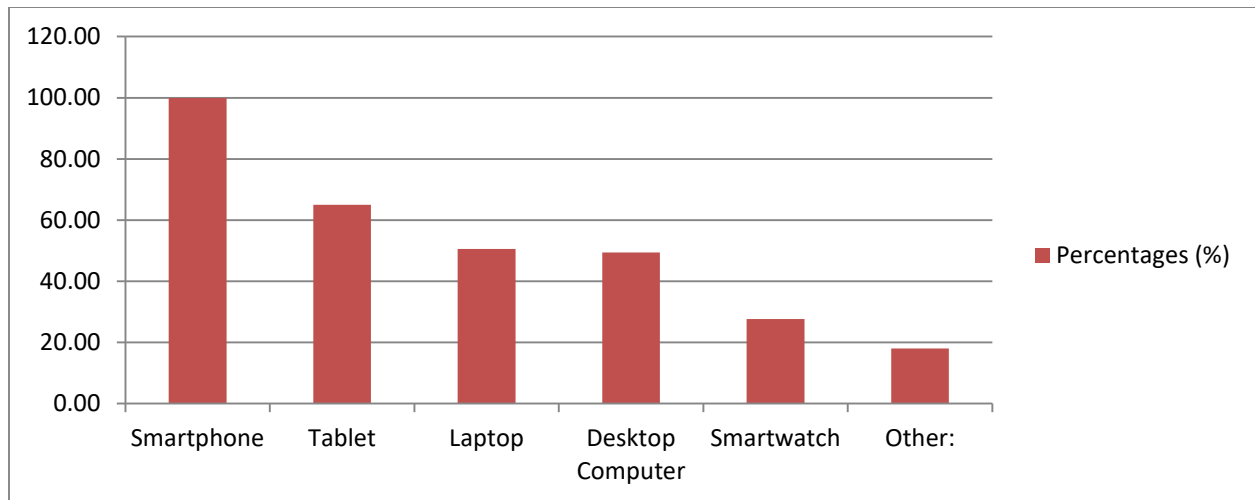


Figure 1: Bar Chart showing Social Media device used by Computer Studies students for social networking

The data from table 1 and figure 1 reveals that all Computer Studies students use smartphones for social networking, making it the most prevalent device among them. Tablets and laptops are also commonly used, with 65.06% and 50.60% of students, respectively, utilizing these devices. Desktop computers are used by nearly half of the students, while

smart watches and other devices are less common, with 27.71% and 18.07% of students using them, respectively. This further depicted by figure 1 below;

Research Question 2: What are the factors affecting the use of Social Media Learning Platforms in the teaching and learning of Computer Studies?

Table 2: Frequency counts and Percentages of the factors affecting the use of Social Media Learning Platform in the teaching and learning of Computer Studies

Factors	Frequency (N=83)	Percentages (%)
Ease of access	73	87.95
Quality of content	56	67.47
Engagement with instructors	31	37.35
Interaction with peers	67	80.72
Availability of resources	78	93.98

Platform features (e.g., video, forums)	65	78.31
Technical issues (e.g., slow internet, device limitations)	83	100.00
Privacy and security concerns	67	80.72
Other	47	56.63

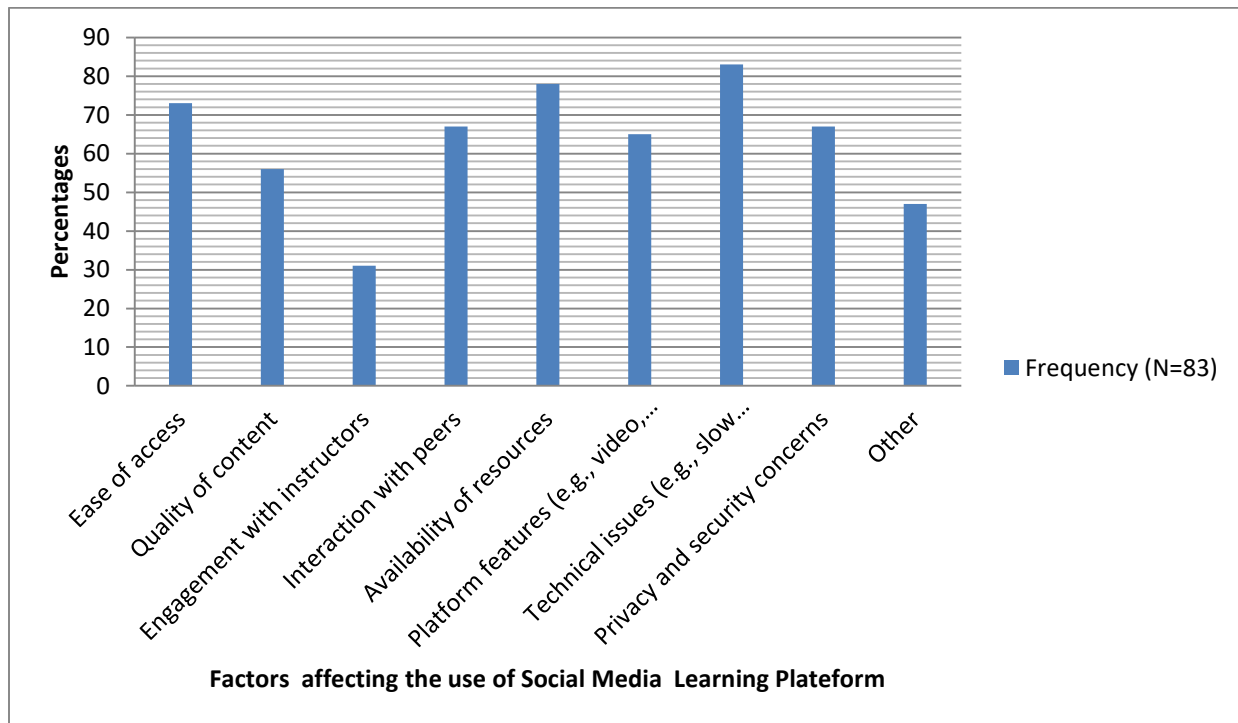


Figure 2: Bar Chart showing factors affecting the use of Social Media Learning Platform in the teaching and learning of Computer Studies

Table 2 and figure 2 highlights several key factors affecting the use of Social Media Learning Platforms in Computer Studies. Technical issues, such as slow internet and device limitations, are the most significant factor, affecting all students. Availability of resources is also highly influential, with 93.98% of students acknowledging its importance. Ease of access and interaction with peers are crucial factors, with 87.95% and 80.72% of students respectively, considering them significant. Platform features, such as videos and forums,

contribute to 78.31% of students' experience. Qualities of content and privacy/security concerns are relevant factors for 67.47% and 80.72% of students, respectively. Engagement with instructors, while important, is the least mentioned factor, affecting 37.35% of students. This is also shown on figure 2 below.

Hypothesis 1: There is no significant difference in the pre-test mean scores of students exposed to the Social Media Learning Platform and those taught using the conventional method.

Table 3: T-test Analysis of the pre-test means scores of students exposed to Social Media Learning Platform and the conventional group

<i>Variables</i>	<i>N</i>	<i>Mean</i>	<i>S.D</i>	<i>df</i>	<i>t-cal</i>	<i>p-value</i>
Social Media Platform	44	49.71	6.66	81	0.871	0.387
Conventional Group	39	51.33	10.20			

Table 3 reveals that since the p-value exceeds 0.05, the hypothesis is therefore not rejected indicating that there is no significant difference in the pre-test mean scores between students exposed to the Social Media Learning Platform and those in the conventional group. This suggests that both groups had similar

performance levels before the intervention.

Hypothesis 2: There is no significant difference in the post-test mean scores of students exposed to the Social Media Learning Platform and those taught using the conventional method.

Table 4: t-test Analysis of the post-test means scores of students exposed to Social Media Learning Platform and the conventional group

<i>Variables</i>	<i>N</i>	<i>Mean</i>	<i>S.D</i>	<i>df</i>	<i>t-cal</i>	<i>p-vale</i>
Social Media Platform	44	82.77	8.37	81	18.409	0.000
Conventional Group	39	54.94	4.62			

$P < 0.05$

The result on table 4 reveals that since the p-value is well below 0.05, the hypothesis is therefore rejected indicating that there is a statistically significant difference in the post-test mean scores between students exposed to the Social Media Learning Platform and those in the conventional group. This significant difference suggests that the Social Media Learning Platform had a substantial positive impact on the students' performance compared to the conventional learning approach.

Discussion

The findings of the study revealed that smartphones were universally used by all Computer Studies students for social networking, highlighting their dominance as the most accessible and multifunctional digital tool among learners. This outcome reflects the growing penetration of mobile technology among Nigerian students, who often rely on smartphones

for both academic and social engagement. Tablets and laptops were also commonly used, suggesting that some students have access to additional devices that enhance online learning and research activities. Desktop computers, however, were only moderately used, likely because they are stationary and primarily found in school laboratories rather than for personal use. Smartwatches were less common, as their educational functionality remains limited, while other unspecified devices were the least used. This finding supports the observation of Adebayo (2020) and Owolabi & Ajayi (2019), who reported that mobile phones, particularly smartphones, are the most widely used ICT tools among Nigerian secondary school students due to their affordability, portability, and internet connectivity. Similarly, Ogunlade and Adeyemi (2019) emphasized that the increasing use of smartphones for educational purposes in Nigeria demonstrates students' adaptation to digital learning environments despite



infrastructural and economic challenges. Overall, the result underscores the central role of mobile technology in shaping students' learning experiences and interactions in Computer Studies classrooms across Nigeria.

The study identified technical issues, such as slow internet connectivity and device limitations, as the most significant factors affecting the effective use of Social Media Learning Platforms in the teaching and learning of Computer Studies. These challenges hindered students' ability to fully engage with online learning resources and participate in interactive activities. This finding aligns with Ogunlade and Adeyemi (2019), who observed that unreliable internet access and inadequate digital infrastructure remain major barriers to e-learning adoption in Nigerian secondary schools. Similarly, Adu and Galloway (2015) reported that many schools in Nigeria face challenges such as poor bandwidth, frequent power outages, and outdated devices, which negatively impact the integration of ICT tools into classroom instruction. Furthermore, Ajayi and Ekundayo (2018) noted that while teachers and students recognize the potential of social media for learning, technical and infrastructural constraints often limit its pedagogical effectiveness. Thus, the findings of this study reinforce the need for improved internet facilities, provision of reliable digital devices, and better technical support systems to enhance the successful use of Social Media Learning Platforms in Nigerian schools.

The finding of the study revealed that there was no significant difference in the pre-test mean scores between students exposed to the Social Media Learning Platform and those in the conventional group, indicating that both groups had similar performance levels before the treatment. This suggests that the students

were relatively homogeneous in their prior knowledge of Computer Studies at the beginning of the study. The result implies that any subsequent difference observed in the post-test performance could be attributed to the effect of the instructional strategies rather than pre-existing differences in ability. This finding supports the position of Olatoye and Adekoya (2019), who emphasized the importance of establishing group equivalence in experimental studies to ensure that variations in post-test outcomes can be confidently linked to the intervention applied. Similarly, Ogunniyi and Adegoke (2020) noted that comparable pre-test results between experimental and control groups strengthen the internal validity of quasi-experimental studies in educational research.

The finding of the study showed that the Social Media Learning Platform had a substantial positive impact on students' performance in Computer Studies compared to the conventional learning approach. Students who were taught using the Social Media Learning Platform demonstrated improved understanding, engagement, and retention of concepts, as reflected in their higher post-test scores. This improvement can be attributed to the interactive and collaborative nature of social media platforms, which promote active participation, real-time feedback, and peer learning. The finding aligns with Adebayo and Olatunji (2021), who reported that integrating social media tools into classroom instruction enhances students' motivation and academic achievement. Similarly, Ajayi and Ekundayo (2018) observed that technology-based learning environments foster better comprehension and creativity among secondary school students compared to traditional teacher-centered methods. Furthermore, Ogunlade and Adeyemi (2019) emphasized that social

media-based instruction encourages learner autonomy and collaboration, which are essential for developing digital competence and higher-order thinking skills. Hence, the study underscores the effectiveness of Social Media Learning Platforms as a valuable pedagogical tool for improving students' academic performance in Computer Studies.

Conclusion

Based on the findings, the study concluded that the use of Social Media Learning Platforms improved students' performance in Computer Studies more than the conventional method. It also concluded that smartphones were the main devices used for learning, while poor internet connectivity and limited access to devices hindered effective use. The study affirmed that when properly utilized, Social Media Learning Platforms can enhance students' engagement and achievement in Computer Studies.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. Teachers should integrate Social Media Learning Platforms into the teaching of Computer Studies to enhance students' engagement and academic performance.
2. Schools should provide reliable internet access and adequate digital devices to support effective online learning.
3. Government and educational authorities should organize regular training programs for teachers on the use of social media tools for instructional purposes.
4. Students should be encouraged to use social media responsibly for academic purposes rather than for non-educational activities.
5. School administrators should develop policies that promote the safe and productive use of social

media in teaching and learning environments.

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