



Online Learning Platform Integration and English Academic Achievement among Secondary School Students

¹Rexon C. Dunque, ²Nhelbourne K. Mohammad*

Corresponding Author: * nhelbournekm29@gmail.com

¹ Sindangan National Agricultural Integrated School, Zamboanga del Norte, Philippines

² Western Philippines University, Palawan, Philippines

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ABSTRACT

The integration of digital technologies has transformed instructional practices in secondary education. Online learning platforms provide interactive environments that support lesson delivery, collaborative learning, and digital assessment. This study examined the extent of online learning platform integration and its influence on the academic achievement of Grade 10 students in English. A descriptive–correlational research design was employed involving 347 students from selected public secondary schools in the Schools Division of Zamboanga del Norte, Philippines. Data were collected using a researcher-developed questionnaire measuring instructional use, learning activities, and assessment and feedback, while students' academic achievement was obtained from official school records. Descriptive statistics, Pearson correlation, and multiple regression analysis were used to analyze the data. Results revealed that online learning platforms were highly integrated in English instruction ($M = 3.77$). A moderate positive relationship was found between platform integration and academic achievement ($r = 0.46, p < .05$). Regression analysis showed that instructional use, learning activities, and assessment and feedback significantly predicted academic achievement, with learning activities emerging as the strongest predictor. The findings suggest that effective integration of online learning platforms can enhance students' academic performance in English.

Keywords

Academic Achievement
Digital Learning
English Language Learning
Online Learning Platforms
Technology Integration

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Introduction

The rapid advancement of digital technologies has significantly transformed teaching and learning practices in modern educational systems. In recent years, online learning platforms have become essential tools for facilitating instructional delivery and supporting students' learning experiences [1]-[3]. These digital platforms provide integrated environments that allow teachers to distribute instructional materials, conduct learning activities, administer assessments, and provide feedback through technology-mediated communication. As educational institutions continue to integrate digital technologies into classroom instruction, the role of online learning platforms in enhancing students' academic achievement has gained increasing attention from educators and researchers.

Online learning platforms have played a particularly important role in language education [4]. These platforms allow teachers to incorporate multimedia instructional materials, interactive learning activities, and collaborative communication tools that support the development of students' reading, writing, listening, and speaking skills. Through digital learning environments, students are able to access instructional content beyond traditional classroom settings and participate in learning activities that promote independent learning and active engagement [5].

The integration of online learning platforms became especially prominent during the COVID-19 pandemic when schools worldwide were required to shift toward remote and blended learning modalities. In the Philippine education system, the Department of Education implemented various digital learning initiatives to ensure the continuity of learning during school disruptions [6]. Teachers were encouraged to utilize online learning platforms and other digital technologies to support technology-enhanced learning environments. Even after the pandemic, many schools continue to adopt blended learning approaches that combine traditional classroom instruction with digital learning platforms.

Despite the increasing adoption of online learning platforms in education, the effectiveness of these digital tools depends largely on how they are integrated into instructional practices. Technology alone does not automatically improve learning outcomes. Instead, the meaningful integration of digital technologies within pedagogical strategies plays a crucial role in influencing student engagement, motivation, and academic achievement. When

teachers effectively incorporate online learning platforms into lesson delivery, learning activities, and assessment processes, students are more likely to benefit from technology-enhanced learning experiences.

Previous studies have highlighted the positive relationship between technology integration and academic achievement [7]-[9]. Research indicates that digital learning environments provide opportunities for students to engage in interactive learning activities, access multimedia resources, and receive immediate feedback on their performance. These experiences can enhance students' motivation and promote a deeper understanding of instructional content. In language learning contexts, digital learning platforms have been found to improve students' language proficiency by providing opportunities for collaborative learning and practice through authentic communication tasks.

Several scholars have examined the role of digital technologies in enhancing educational outcomes. Bond et al. [10] reported that educational technologies contribute to improved student engagement and participation in learning activities. Similarly, Al-Fraihat et al. [11] emphasized that effective implementation of online learning systems can positively influence students' academic performance when digital tools are integrated with appropriate instructional strategies. In the context of language education, studies have shown that technology-enhanced learning environments can improve students' reading comprehension, writing skills, and vocabulary development.

However, despite the growing body of literature on technology integration in education, several gaps remain in existing research. First, many studies on online learning platforms focus primarily on higher education contexts, while fewer studies examine their impact on academic achievement at the secondary school level. Second, previous research often emphasizes teachers' perceptions of digital learning environments rather than students' experiences as primary users of online learning platforms. Third, limited empirical studies have examined how the extent of online learning platform integration influences subject-specific academic achievement, particularly in English language education. In the Philippine context, localized research examining the relationship between online learning platform integration and academic achievement among secondary school students remains scarce.

Considering the increasing use of digital technologies in education, there is a need for empirical evidence that examines how online learning platforms contribute to students' learning outcomes in specific educational contexts. Understanding how these platforms influence students' academic performance can provide valuable insights for educators, school administrators, and policymakers seeking to improve teaching and learning practices through technology integration.

To address these gaps, the present study examines the extent of online learning platform integration and its influence on the academic achievement of Grade 10 students in English in the Schools Division of Zamboanga del Norte. By focusing on students' experiences of digital learning platforms in terms of instructional use, learning activities, and assessment and feedback, the study contributes localized empirical evidence to the growing body of literature on technology-enhanced learning. The findings of this study may provide insights that help educators strengthen the effective integration of digital technologies in secondary education.

This study aims to examine the extent of online learning platform integration and its influence on the academic achievement of Grade 10 students in English in the Schools Division of Zamboanga del Norte. Specifically, the study aims to:

1. Determine the extent of online learning platform integration in terms of instructional use, learning activities, and assessment and feedback;
2. Determine the level of academic achievement of Grade 10 students in English;
3. Examine the relationship between online learning platform integration and academic achievement; and
4. Identify which aspects of online learning platform integration significantly predict students' academic achievement.

To provide a theoretical and empirical foundation for the study, the following section reviews relevant literature on online learning platforms, technology integration, and their relationship with academic achievement in language education.

Literature Review

A. Online Learning Platforms in Education

Online learning platforms have become essential tools in modern educational environments, particularly in facilitating technology-enhanced and flexible learning [2],[7]. These digital platforms provide integrated systems that allow teachers to organize instructional materials, deliver lessons, conduct assessments, and facilitate communication with students. Learning management systems and other digital educational applications enable both synchronous and asynchronous learning, allowing students to access instructional content and participate in learning activities regardless of time and location [12],[13]. Research indicates that the integration of online learning platforms significantly enhances student engagement and participation in learning activities. Bond et al. [10] conducted a comprehensive review of educational technology research and found that digital learning platforms support interactive learning environments that encourage active student participation. These platforms allow teachers to incorporate multimedia resources,

collaborative discussions, and interactive learning tasks that improve students' understanding of lesson content.

Similarly, Al-Fraihat et al. [11] emphasized that successful implementation of online learning systems depends on the alignment between technological infrastructure, instructional design, and learner support systems. Their findings indicate that digital platforms contribute to improved academic performance when they are integrated effectively into teaching and learning processes. Recent studies also highlight the importance of online learning platforms in improving students' learning experiences. Hew and Bai [14] reported that well-designed digital learning environments significantly enhance student engagement and motivation, particularly when learning activities encourage collaboration and active participation. These findings suggest that online learning platforms provide opportunities for interactive and student-centered learning experiences.

B. Technology Integration and Academic Achievement

Technology integration in education has been widely examined as a factor influencing students' academic achievement. Research shows that digital learning environments provide opportunities for students to engage in interactive learning experiences that promote deeper understanding of lesson content [7],[8]. When digital technologies are integrated effectively within instructional practices, students demonstrate improved academic performance and learning outcomes. Studies indicate that technology-enhanced learning environments support students' academic achievement by promoting engagement, motivation, and active learning [15],[16]. Bond et al. [10] found that the use of digital technologies in education improves student engagement and participation, which are closely associated with improved academic outcomes.

In the context of language learning, digital technologies have been found to enhance students' language proficiency and academic performance. Zhang and Zou [17] conducted a meta-analysis examining the impact of digital technologies on language learning outcomes and found that technology-enhanced instruction significantly improves students' reading comprehension and writing skills. Their findings suggest that digital learning platforms provide opportunities for learners to engage in authentic communication and collaborative learning activities. Similarly, Kessler [18] emphasized that digital platforms enable language learners to practice communication skills through online interaction and multimedia learning activities.

1. Theoretical Foundations of Online Learning Platform Integration

The integration of online learning platforms in education can be explained through several theoretical perspectives. One of the most widely used models is the Technology Acceptance Model (TAM), which explains users' acceptance and adoption of technology.

According to Davis [19], users' willingness to adopt technology is influenced by their perceptions of its usefulness and ease of use. When students perceive online learning platforms as useful tools for learning, they are more likely to engage actively in digital learning activities and utilize technological resources effectively. Another important framework is the Technological Pedagogical Content Knowledge (TPACK) model, which emphasizes the integration of technology, pedagogy, and subject content knowledge in effective teaching practices [20]. Teachers who possess strong technological and pedagogical knowledge can effectively integrate digital tools into their instructional strategies, thereby enhancing students' learning experiences.

In addition, constructivist learning theory supports the use of online learning platforms in education. Constructivist theory suggests that learning occurs when students actively construct knowledge through interaction, collaboration, and meaningful experiences. Digital learning platforms provide environments where students can participate in collaborative learning activities, problem-solving tasks, and interactive discussions that facilitate knowledge construction.

2. Learning Activities in Online Learning Platforms

Learning activities delivered through online learning platforms play an important role in promoting active learning and improving academic achievement. Interactive activities such as online discussions, collaborative writing tasks, and multimedia learning projects encourage students to actively participate in learning processes and apply their knowledge in meaningful ways. Martin et al. [21] found that consistent engagement with digital learning activities significantly improves students' academic outcomes. Their study demonstrated that students who regularly participate in online learning activities develop stronger conceptual understanding and achieve higher levels of academic performance. Similarly, García Botero et al. [22] reported that collaborative writing activities conducted through digital platforms improve students' writing skills and language development. These interactive learning environments allow students to practice language skills in authentic contexts while receiving feedback from teachers and peers.

3. Assessment and Feedback in Digital Learning Environments

Assessment and feedback are essential components of effective teaching and learning. Online learning platforms provide opportunities for teachers to administer quizzes, assignments, and formative assessments while delivering timely feedback to students. Rasheed et al. [23] highlighted that digital assessment tools enable teachers to provide immediate feedback to students, which supports continuous learning improvement. Immediate feedback allows students to identify learning gaps and improve their understanding of lesson content. Trust and Whalen [24] also emphasized that online

feedback mechanisms help students monitor their learning progress and develop strategies for improving academic performance. Digital platforms provide teachers with tools to track students' learning outcomes and adjust instructional strategies accordingly.

C. Research Gap

Although previous studies have demonstrated the benefits of online learning platforms in education, several research gaps remain. First, many studies focus primarily on higher education contexts rather than secondary education. Second, most research emphasizes teachers' perspectives or institutional readiness for digital learning rather than students' experiences of technology integration. Third, limited empirical research has examined the influence of online learning platform integration on subject-specific academic achievement in English within the Philippine context.

To address these gaps, the present study examines the extent of online learning platform integration and its influence on the academic achievement of Grade 10 students in English in the Schools Division of Zamboanga del Norte. By focusing on students' experiences of platform integration in terms of instructional use, learning activities, and assessment and feedback, the study contributes localized empirical evidence to the growing body of literature on technology-enhanced learning.

Methods

A. Research Design

This study employed a descriptive–correlational research design to examine the relationship between the extent of online learning platform integration and the academic achievement of Grade 10 students in English. Descriptive–correlational designs are commonly used in educational research to describe variables and determine the degree of association between them without manipulating the research environment [25]. The descriptive component of the study aimed to determine the level of online learning platform integration in terms of instructional use, learning activities, and assessment and feedback. Meanwhile, the correlational component was used to determine whether a statistically significant relationship exists between platform integration and students' academic achievement.

This research design was considered appropriate because the study sought to investigate naturally occurring relationships between variables rather than establishing causal relationships. According to Fraenkel et al. [26], correlational research is useful for identifying patterns and predictive relationships among variables in educational settings.

B. Research Locale and Participants

The study was conducted in selected public secondary schools in the Schools Division of Zamboanga del Norte, Philippines. The division consists of both urban and rural schools

implementing the K–12 curriculum and utilizing online learning platforms as part of blended and technology-enhanced learning approaches.

The respondents of the study consisted of 347 Grade 10 students enrolled in English 10. The students were selected using stratified random sampling to ensure representation from the three districts of the division. Stratified sampling is widely used in educational research to ensure that subgroups within a population are adequately represented in the sample [27]. By dividing the population into strata based on district and selecting respondents proportionally, the study ensured that the sample reflected the characteristics of the larger population.

The total population of Grade 10 students in the selected schools was 2,627. Using Slovin's formula with a margin of error of 0.05, the required sample size was calculated as 347 respondents. Slovin's formula is commonly used in survey research to determine appropriate sample sizes when population variance is unknown [28].

C. Research Instrument

Data were collected using a researcher-developed survey questionnaire designed to measure the extent of online learning platform integration in English instruction. The questionnaire was constructed based on relevant literature on technology integration and digital learning environments. The instrument consisted of three dimensions:

1. Instructional Use: utilization of online learning platforms for lesson delivery and sharing instructional materials,
2. Learning Activities: tasks and exercises conducted through digital platforms to support student learning, and
3. Assessment and Feedback: use of online tools for quizzes, assignments, and feedback mechanisms

The questionnaire utilized a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Likert scales are widely used in educational research because they allow researchers to measure attitudes and perceptions quantitatively [29]. Students' academic achievement in English was measured using their official academic records obtained from school records. Academic achievement is commonly measured through grades and performance scores aligned with curriculum standards [30].

D. Validity and Reliability of the Instrument

To ensure the validity of the research instrument, the questionnaire underwent expert validation by specialists in English education, educational technology, and research methodology. Content validity ensures that survey items adequately represent the constructs being measured [31]. After validation, the instrument was subjected to reliability testing using Cronbach's alpha coefficient. Cronbach's alpha is widely used to measure the internal consistency of survey instruments in educational research [32].

Table 1. The reliability results indicated strong internal consistency for the instrument

Dimension	Cronbach Alpha	Interpretation
Instructional Use	0.89	Good reliability
Learning Activities	0.91	Excellent reliability
Assessment and Feedback	0.88	Good reliability
Overall Instrument	0.92	Excellent reliability

Cronbach's alpha values above 0.70 are generally considered acceptable for research instruments [33].

E. Data Collection Procedure

Before data collection, the researcher secured permission from the Schools Division Office of Zamboanga del Norte and the administrators of the participating schools. After obtaining approval, coordination with English teachers was conducted to facilitate the administration of the survey questionnaire. The purpose of the study was explained to the student respondents, and participation was voluntary. The questionnaires were distributed to the selected respondents and collected after completion. Students' academic achievement data were obtained from official school records through the assistance of English teachers. To ensure confidentiality, student names were replaced with coded identifiers.

F. Data Analysis

The collected data were analyzed using descriptive and inferential statistical techniques. Descriptive statistics, including mean and standard deviation, were used to determine the extent of online learning platform integration. The mean is commonly used to summarize central tendencies of Likert-scale responses, while the standard deviation indicates the consistency of responses among participants [34].

To determine the relationship between online learning platform integration and academic achievement, Pearson Product-Moment Correlation was used. Pearson correlation is appropriate for measuring the strength and direction of relationships between continuous variables [35]. To identify which aspects of platform integration significantly influence academic achievement, multiple linear regression analysis was conducted. Multiple regression is commonly used in educational research to examine predictive relationships between independent and dependent variables [33]. The regression model used in the study is expressed as:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 \quad (1)$$

Where:

Y = English academic achievement

X_1 = Instructional use

X_2 = Learning activities

X_3 = Assessment and feedback

a = constant

b = regression coefficients

All statistical analyses were conducted at a 0.05 level of significance, which is the commonly accepted threshold in educational research for determining statistical significance [25].

Results

Table 2 shows that the integration of the online learning platform was consistently rated High across all dimensions (overall mean = 3.77, SD = 0.62). Among the dimensions, Learning Activities obtained the highest mean (3.85), followed by Instructional Use (3.78), while Assessment and Feedback received the lowest, though still high, mean (3.69).

Table 2. Extent of Online Learning Platform Integration

Dimension	Mean	SD	Interpretation
Instructional Use	3.78	0.62	High
Learning Activities	3.85	0.58	High
Assessment and Feedback	3.69	0.65	High
Overall	3.77	0.62	High

Table 3 indicates that most students demonstrated satisfactory to outstanding English academic achievement. The largest proportion achieved Very Satisfactory performance (35.73%), followed by Satisfactory (27.66%) and Outstanding (22.48%). Only 10.95% were Fairly Satisfactory, while 3.18% did not meet expectations, suggesting generally favorable academic performance in English.

Table 3. Level of English Academic Achievement

Grade Range	Descriptor	Frequency	Percentage
90–100	Outstanding	78	22.48
85–89	Very Satisfactory	124	35.73
80–84	Satisfactory	96	27.66
75–79	Fairly Satisfactory	38	10.95
Below 75	Did Not Meet Expectations	11	3.18
Total		347	100

Table 4 reveals a moderate positive correlation between platform integration and English academic achievement ($r = 0.46$, $p < 0.001$), indicating that greater platform integration is associated with improved student academic performance.

Table 4. Correlation Between Platform Integration and Academic Achievement

Variables	r	p-value	Interpretation
Platform Integration & English Achievement	0.46	0.000	Moderate Positive

Table 5 shows that all three dimensions significantly predicted English academic achievement ($p < 0.05$). Learning Activities emerged as the strongest predictor ($\beta = 0.35$), followed by Instructional Use ($\beta = 0.28$). Assessment and Feedback also had a significant positive effect ($\beta = 0.17$), although its contribution was comparatively smaller.

Table 5. Regression Analysis

Predictor	β	t	p
Instructional Use	0.28	4.12	0.000
Learning Activities	0.35	5.46	0.000
Assessment and Feedback	0.17	2.38	0.018

Model Summary: $R^2 = 0.32$; $F = 54.67$; $p = 0.000$

Discussion

The findings of this study provide empirical evidence that the integration of online learning platforms significantly contributes to the academic achievement of Grade 10 students in English. The results revealed that online learning platforms were highly integrated in English instruction in terms of instructional use, learning activities, and assessment and feedback. This suggests that digital platforms have become an important component of teaching practices in secondary education [1], [2], [5].

The high level of platform integration observed in this study reflects the increasing adoption of technology-enhanced learning environments in schools. The widespread use of online learning platforms can be attributed to the growing reliance on digital technologies in education, particularly after the global shift toward remote and blended learning during the COVID-19 pandemic [3], [6], [21]. Educational institutions have increasingly recognized the potential of digital platforms in supporting instructional delivery and improving students' learning experiences [16], [36].

The results further revealed that the majority of Grade 10 students achieved satisfactory to outstanding levels of academic performance in English. This finding suggests that students in the Schools Division of Zamboanga del Norte generally meet the expected learning competencies in English language education. The presence of online learning platforms may have contributed to this outcome by providing students with access to additional learning resources and opportunities for practice beyond traditional classroom instruction [4], [22]. One of the most significant findings of this study is the moderate positive relationship between online learning platform integration and English academic achievement. The correlation result indicates that students who experience higher levels of digital platform integration tend to demonstrate better academic performance in English. This finding supports previous studies that emphasize the role of technology integration in enhancing student learning outcomes [7], [8], [17].

The result is consistent with the study of Bond et al. [10], which reported that digital technologies improve student engagement and participation in learning activities. When students actively interact with digital platforms, they become more involved in learning processes, which contributes to improved academic performance. Similarly, Al-Fraihat et al.

[11] found that well-designed e-learning systems significantly influence students' academic success when technological tools are integrated with appropriate pedagogical strategies.

The findings also align with the Technology Acceptance Model proposed by Davis [19], which explains how users adopt and utilize technology in educational environments. According to this model, students are more likely to use online learning platforms when they perceive them as useful and easy to use. When students view digital learning platforms as beneficial for accessing instructional materials and completing learning tasks, they are more likely to engage actively in learning activities, which ultimately enhances their academic performance.

Another important finding of the study is that learning activities emerged as the strongest predictor of English academic achievement. This suggests that interactive learning tasks delivered through online platforms play a crucial role in improving students' learning outcomes. Learning activities such as online discussions, collaborative writing tasks, and multimedia exercises allow students to practice language skills and apply their knowledge in meaningful ways. Previous studies have similarly highlighted that active engagement in online learning environments promotes stronger academic achievement and learner participation [14], [37], [38].

This finding supports constructivist learning theory, which emphasizes that learning occurs through active participation and interaction with learning materials. Online learning platforms provide opportunities for students to engage in collaborative learning experiences, explore instructional resources, and construct knowledge through interaction and reflection [12], [21]. When students actively participate in digital learning activities, they are able to develop a deeper understanding of lesson concepts and improve their language proficiency [17], [18].

The significant influence of instructional use on academic achievement also highlights the importance of integrating technology into instructional delivery. Teachers who effectively use online learning platforms to deliver lessons, share instructional materials, and organize learning activities create more engaging learning environments for students. The availability of digital instructional resources allows students to review lesson content, explore supplementary materials, and reinforce their understanding of course topics [15], [36].

These findings are consistent with the Technological Pedagogical Content Knowledge (TPACK) framework proposed by Mishra and Koehler [20], which emphasizes the importance of integrating technology with pedagogy and content knowledge. Teachers who possess strong technological and pedagogical competencies can effectively integrate digital tools into their teaching strategies, thereby enhancing students' learning experiences and academic performance [8], [20].

Assessment and feedback were also found to significantly influence academic achievement, although their predictive strength was lower compared to instructional use and learning activities. This suggests that while digital assessment tools contribute to improved learning outcomes, their potential may not yet be fully maximized in classroom practice. Online learning platforms provide opportunities for teachers to conduct formative assessments and deliver immediate feedback, which are essential for supporting students' learning progress. Previous research has shown that timely feedback plays a crucial role in improving student performance. Rasheed et al. [23] emphasized that digital assessment tools allow teachers to provide immediate feedback that helps students identify learning gaps and improve their understanding of lesson content. Similarly, Trust and Whalen [24] noted that digital feedback mechanisms help students monitor their learning progress and adjust their learning strategies accordingly. Effective assessment practices have also been linked to improved learning outcomes and academic achievement [30].

The regression analysis in this study revealed that online learning platform integration explains approximately 32% of the variance in students' academic achievement. While this indicates that technology integration plays a significant role in influencing learning outcomes, it also suggests that other factors contribute to students' academic performance. Factors such as students' motivation, learning strategies, socio-economic background, and access to technological resources may also influence academic achievement [9], [37]. These findings highlight the importance of adopting a holistic approach to technology integration in education. While digital platforms provide valuable tools for enhancing learning experiences, their effectiveness depends on how they are integrated within broader educational contexts [2], [16].

From a practical perspective, the findings of this study have important implications for teaching and learning practices in secondary education. Teachers should prioritize the use of interactive learning activities within online learning platforms to promote active student engagement and meaningful learning experiences. Designing collaborative tasks and multimedia learning activities can help students develop language skills and improve their academic performance [14], [17], [22].

School administrators also play a critical role in supporting effective technology integration. Providing professional development programs that focus on digital pedagogy and instructional design can help teachers develop the competencies needed to integrate technology effectively into their teaching practices [20], [24]. In addition, schools should ensure that students have access to reliable technological resources and internet connectivity to support digital learning [3], [6].

At the policy level, the findings of this study support ongoing efforts by educational authorities to strengthen technology-enhanced learning initiatives. Empirical evidence from studies such as this can help inform policy decisions and guide the development of programs aimed at promoting effective technology integration in schools [5], [15], [36].

Conclusion and Implications for Practice

This study examined the extent of online learning platform integration and its influence on the academic achievement of Grade 10 students in English in the Schools Division of Zamboanga del Norte. The findings revealed that online learning platforms were highly integrated into English instruction, particularly in terms of instructional use, learning activities, and assessment and feedback. The results further demonstrated that students generally achieved satisfactory to outstanding levels of academic performance in English. One of the most important findings of the study is the statistically significant moderate positive relationship between online learning platform integration and students' academic achievement. This result indicates that greater integration of digital learning platforms is associated with higher levels of academic performance. The findings suggest that technology-enhanced learning environments can positively influence students' learning outcomes when digital tools are integrated meaningfully into instructional practices.

Among the dimensions of online learning platform integration, learning activities emerged as the strongest predictor of academic achievement. This finding highlights the importance of interactive and task-based learning experiences in language education. Online learning platforms that provide opportunities for collaborative discussions, writing exercises, and multimedia activities can enhance students' engagement and facilitate deeper understanding of lesson content. The findings also indicate that instructional use and assessment practices contribute significantly to students' academic performance. Teachers who effectively integrate digital tools into lesson delivery and provide timely feedback through online platforms can support students' learning progress and improve their academic achievement. These results reinforce the importance of integrating technology with pedagogical strategies and subject content knowledge.

The study contributes to the growing body of literature on technology-enhanced learning by providing empirical evidence on the relationship between online learning platform integration and academic achievement in secondary education. In particular, the findings provide localized evidence from the Philippine educational context, which remains underrepresented in existing research on digital learning environments. From a practical perspective, the results of this study have several implications for educators, school administrators, and policymakers.

First, teachers should continue to integrate online learning platforms into their instructional practices to support interactive and student-centered learning. Designing engaging digital learning activities can help students develop language skills and improve their academic performance. Second, school administrators should provide professional development programs that enhance teachers' digital competencies and instructional design skills. Training programs focused on technology integration can help teachers effectively utilize online learning platforms to support teaching and learning processes. Third, educational policymakers should continue to support initiatives that promote technology-enhanced learning in schools. Investments in digital infrastructure, technological resources, and teacher training programs are essential for ensuring the effective implementation of online learning platforms in educational institutions.

Despite the contributions of this study, several limitations should be acknowledged. The study focused only on Grade 10 students in selected public secondary schools in the Schools Division of Zamboanga del Norte. Therefore, the findings may not be fully generalizable to other educational contexts. In addition, the study relied primarily on students' perceptions of online learning platform integration, which may be influenced by individual experiences.

Future research may explore the influence of online learning platform integration in other subject areas or educational levels. Researchers may also examine additional factors that influence academic achievement in technology-enhanced learning environments, such as students' digital literacy, learning motivation, and access to technological resources.

Overall, the findings of this study highlight the importance of meaningful technology integration in improving students' learning experiences and academic performance. As educational institutions continue to adopt digital technologies, the effective integration of online learning platforms will play a critical role in shaping the future of teaching and learning.

Conflict of Interest

All authors state there is no conflict of interest.

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Authors



Rexon C. Dunque is an educator affiliated with Sindangan National Agricultural Integrated School, Zamboanga del Norte, Philippines. His research interests focus on educational technology, online learning platforms, digital pedagogy, and student academic achievement. He is particularly engaged in investigating the integration of technology-enhanced learning environments to improve educational outcomes among secondary school students. Through his scholarly work, he contributes to the advancement of innovative teaching and learning practices in contemporary education. (email: rexon.dunque@deped.gov.ph).



Dr. Nhelbourne K. Mohammad    holds dual PhDs in Islamic Education from Universitas Muhammadiyah Malang, Indonesia, and Comparative Education from Shaanxi Normal University, China. is currently serving as the Research Coordinator of the College of Arts and Sciences at Western Philippines University. He specializes in assessment, Islamic education, and comparative education. His scholarly contributions include several publications, with notable articles in Scopus-indexed journals. (email: nk.mohammad@wpu.edu.ph).