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IJROMS
INTERNATIONAL JOURNAL OF RESEARCH ON MULTIDISCIPLINARY STUDIES
"Bridging Disciplines, Advancing Knowledge"

INTERNATIONAL JOURNAL OF RESEARCH ON MULTIDISCIPLINARY STUDIES

Bridging Disciplines, Advancing Knowledge

Volume: 1
Issue:2
Pages: 185-192
Document ID: 2026IJROMS0028
Manuscript Accepted: March 24, 2026
DOI: https://doi.org/10.5281/zenodo.19282818

INTERNATIONAL JOURNAL OF RESEARCH ON MULTIDISCIPLINARY STUDIES

IJRMS
INTERNATIONAL JOURNAL OF RESEARCH ON MULTIDISCIPLINARY STUDIES
"Bridging Disciplines, Advancing Knowledge"
ONLINE ISSN: 3116-4137 | PRINT ISSN:3116-4145

Original Article

Volume 1, Issue 2, pp. 185–192, March 2026

The Role of Educational Applications in Enhancing Senior High School Students' Study Habits

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Recommended citation:

Pulalon, F. A., Abdurail, S. A., Alih, A. S., Nasil, R. J., Robin, J. R., Asgari, S. J., Al-anshari, A. A., Amilasan, R. S., Maksad, M. A., & Sahidjuan, N. G. (2026). The role of educational applications in enhancing senior high school students' study habits. International Journal of Research on Multidisciplinary Studies, 1(2), 185–192. https://doi.org/10.5281/zenodo.19282818.

Abstract. The increasing integration of digital technologies in education has transformed students' learning behaviors; however, empirical evidence on how educational applications influence study habits in vocational secondary education remains limited. This study examined the role of educational applications in shaping the study habits of senior high school students at Hadji Butu School of Arts and Trades. Specifically, it assessed students' perceptions of educational applications, determined the level of their study habits, and examined the relationship between these variables. A descriptive-correlational research design was employed, involving 200 senior high school students selected through stratified random sampling from General Academic Strand (GAS) and Technical-Vocational-Livelihood (TVL) tracks. Data were collected using a validated researcher-made questionnaire and analyzed using descriptive statistics and Spearman's rho correlation. Findings revealed that students demonstrated a high level of positive perception toward educational applications (M = 3.84), indicating that these tools were viewed as useful, engaging, and supportive of learning. Similarly, students reported favorable study habits practiced often (M = 3.64), reflecting consistent engagement in academic routines such as time management, independent learning, and technology-supported review. However, correlation analysis revealed a negligible and non-significant relationship between students' perceptions of educational applications and their study habits (ρ = .028, p = .694). This suggests that while educational applications are positively perceived and frequently utilized, students' study habits may be influenced by other factors beyond perception alone.The study contributes to the limited literature on educational technology within vocational secondary education by providing context-specific evidence from a technical-vocational learning environment. The findings highlight that educational applications function as supportive learning tools but do not necessarily translate into improved study habits without structured guidance and effective implementation. These results offer practical implications for educators, policymakers, and curriculum planners in strengthening technology-supported learning strategies in senior high school settings.

Keywords: Educational Applications; Study Habits; Educational Technology; Senior High School Students; Vocational Secondary Education; Digital Learning

Introduction

Effective study habits are fundamental to students' academic success, serving as the foundation for improved learning outcomes and overall performance (Bin Abdulrahman et al., 2021). Strong study habits foster discipline, enhance information retention, and promote critical thinking, all of which contribute significantly to students' ability to meet educational demands and excel in their academic pursuits (Mallillin, 2024). Despite the recognized importance of these habits, many students struggle to develop consistent, effective study routines, underscoring the need for innovative approaches to support their learning (Owan et al., 2023).

With the growing reliance on digital technology in education, educational apps have emerged as powerful tools that can transform traditional study practices. These digital resources offer interactive, personalized, and accessible learning experiences, making them particularly valuable for senior high school students navigating complex subjects and time-management challenges (Rusmitaningsih et al., 2024). The integration of educational apps offers opportunities to enhance motivation and engagement and to foster productive study habits, aligning with the evolving landscape of digital learning (Ma & Chen, 2024).

Hadji Butu School of Arts and Trades plays a vital role in its community by providing specialized vocational and arts education to senior high school students. The institution serves a diverse student body, equipping them with practical skills alongside academic knowledge. Recognizing the importance of technology in modern education, the school has incorporated digital tools into its curriculum to support student learning and skill development. However, a research gap remains in understanding how these educational apps influence students' study habits, particularly in balancing vocational training with academic responsibilities. This study aims to address this gap by examining the impact of educational apps on the study behaviors of senior high school students at Hadji Butu School of Arts and Trades, thereby contributing valuable insights into the effective integration of technology in vocational secondary education.

Research Questions

This study aims to examine the role of educational applications in enhancing the study habits of senior high school students by assessing their perceptions of the benefits of these apps and their study-habit levels. It also seeks to determine whether students' perceptions of educational applications are significantly related to their study habits. Through this, the study intends to provide insights into how educational applications may support more effective and productive learning behaviors among senior high school students.

Specifically, the study seeks to answer the following research questions:

1. What is the level of students' perception regarding the role of educational apps in the learning process?
2. What is the level of students' study habits?
3. Is there a significant relationship between students' perception of the role of educational apps and their study habits?

Scope and Delimitation of the Study

This study examines the role of educational applications in enhancing the study habits of senior high school students. In recent years, digital learning tools and mobile-based educational applications have become increasingly integrated into the learning environment and continue to influence how students access information, review lessons, and manage their academic tasks. Within this context, the present study focuses on understanding how educational applications contribute to the development and improvement of students' study habits in a vocational secondary education setting. The study specifically investigates two key variables: educational applications and students' study habits. Educational applications are digital platforms or mobile apps designed to support learning activities, such as reviewing lessons, practicing academic skills, organizing study materials, and receiving immediate feedback on academic tasks. These applications serve as supplementary tools that may assist students in strengthening their understanding of academic content and in managing their study routines more effectively. On the other hand, study habits are the patterns of behavior students demonstrate when engaging in academic learning. These behaviors include maintaining a regular study schedule, prioritizing academic tasks, managing time efficiently, preparing for examinations, and utilizing digital resources to support learning. The primary objective of the study is to determine how students perceive the role of educational applications in their learning process and how these perceptions relate to their study habits. The research also aims to determine whether the use of educational applications improves learning behaviors among students. By examining the relationship between these two variables, the study seeks to provide empirical insights into how technology-supported learning tools may influence students' academic engagement and study practices.

Literature Review

Digital Transformation of Study Habits

The study habits of senior high school (SHS) students have undergone a significant transformation with the integration of digital technologies (Nguyen & Habók, 2021). Traditional methods such as note-taking and rote memorization are increasingly supplemented or replaced by digital self-regulation tools that enable students to plan, monitor, and evaluate their learning processes more effectively (Chung et al., 2020). This shift aligns with the developmental needs of SHS students, who are transitioning toward greater

autonomy in their learning (Zhang et al., 2024). Digital applications facilitate self-regulated learning (SRL) by providing platforms where students can set goals, receive feedback, and adjust strategies, thereby fostering the metacognitive skills essential for academic success (Alcalde et al., 2025). The ubiquity of mobile devices further supports this transformation, enabling learning beyond the classroom and at flexible times, thereby reshaping traditional boundaries of study habits (Jun & Lucas, 2024).

Gamification and Engagement

Educational applications such as Quizizz, Kahoot, and Duolingo utilize gamification elements to enhance student engagement and motivation (Qudsi, 2024). These apps incorporate rewards, leaderboards, and interactive challenges that encourage consistent study routines among SHS students (Mitchell & Co, 2024). Gamification taps into intrinsic and extrinsic motivational factors, making learning more enjoyable and promoting active participation (Mitchell & Co, 2024). For adolescents in the senior high school stage, who are particularly responsive to social and competitive stimuli, these features help sustain attention and reinforce positive study habits (Sal-De-Rellán et al., 2025). Furthermore, gamified learning supports micro-learning by breaking down complex subjects into manageable tasks, which aligns with the cognitive and attentional capacities of SHS students (Sappaile, 2024).

Resource Management and Productivity

Organizational applications such as Notion, Google Classroom, and Evernote play a crucial role in managing the increasing academic workload faced by SHS students (Kumar, 2024). These tools provide centralized platforms for scheduling, note-taking, task prioritization, and collaboration, thereby enhancing students' productivity and time-management skills (Alyami et al., 2021). By facilitating the organization of resources and deadlines, these apps help reduce cognitive overload and improve study efficiency. The ability to access and synchronize information across devices supports the ubiquity principle, enabling students to engage with their academic responsibilities anytime, anywhere (Palou et al., 2024). This digital resource management is particularly beneficial for SHS students who must balance diverse subjects and extracurricular commitments (Jibililu, 2024).

Cognitive Impact: Focus versus Digital Distraction

The cognitive effects of educational applications on SHS students present a dual perspective. On one hand, these apps can improve focus by providing structured learning environments, immediate feedback, and personalized content that cater to individual learning needs (Pérez-Juárez et al., 2023). On the other hand, the pervasive nature of digital devices introduces potential distractions from non-educational content, which may undermine concentration and the effectiveness of study (Wang et al., 2022). The developmental stage of SHS students, characterized by ongoing maturation of executive functions, makes them both receptive to the benefits of digital learning and vulnerable to attentional challenges (Jibililu, 2024). Therefore, the effectiveness of educational apps in enhancing study habits depends largely on students' digital literacy and their ability to self-regulate technology use (Ricoy & Sánchez-Martínez, 2022).

Research Gap

Although the literature offers substantial insight into how digital tools shape motivation, organization, and cognition, it remains concentrated on general academic settings and broad student populations. Existing studies explain how educational applications can support self-regulated learning, engagement, and productivity among secondary students in general, but they pay less attention to learners in vocational-technical contexts, where the demands of academic study are often compounded by skills training, performance-based tasks, and more complex time-management pressures. As a result, the literature leaves a clear gap in understanding how digital study tools function for students whose educational routines are not structured solely around conventional academic workloads.

This limitation is particularly important because the tensions identified in prior research may be intensified in vocational settings. The organizational benefits of digital applications may be especially valuable for students balancing practical and academic requirements, yet the risks of distraction and inconsistent self-regulation may also become more consequential under such conditions. Moreover, while many studies discuss the general benefits of educational apps, fewer examine how students' perceptions of these tools relate to their actual study habits across context-specific and demographic differences. In other words, the field has developed a useful account of digital transformation at a broad level, but it has not sufficiently explained how that transformation operates among SHS students facing the distinctive pressures of vocational-technical education.

For this reason, there remains a need for empirical research that examines the relationship between educational applications, study habits, and student perceptions within vocational secondary education settings. Investigating this issue in institutions such as Hadji Butu School of Arts and Trades can help clarify whether the benefits identified in the general literature hold under more demanding and specialized learning conditions. Such a focus would not only extend current scholarship but also provide a more context-sensitive

understanding of how digital tools can support effective study habits among SHS students with unique educational demands.

Methodology

Research Design

This study employs a descriptive-correlational research design to explore the impact of educational apps on enhancing students' study habits. It focuses on understanding and correlating the current situation by examining how educational apps support students' learning. The study aims to examine the role of technology in supporting students' academic tasks and to evaluate the positive and negative effects of educational apps on their study habits. Through this approach, the study seeks to provide insights into the potential benefits and challenges of using educational apps to enhance students' study habits.

Research Locale

This study was conducted at Hadji Butu School of Arts and Trades, specifically in the senior high school department situated at Scott Road, Asturias, Jolo, Sulu.

Research Sampling

This study utilized Stratified Random Sampling. This technique is appropriate because the population is naturally divided into distinct subgroups or strata, particularly according to academic strands such as GAS and TVL. Using stratified random sampling ensures that each strand is proportionately represented in the sample, thereby reducing sampling bias and improving the representativeness of the respondents. In this procedure, the total population of senior high school students will first be grouped according to strand. After identifying the number of students in each stratum, the required number of respondents per group will be determined in proportion to the stratum sizes.

Respondents

The respondents of this study consisted of 200 senior high school students enrolled at Hadji Butu School of Arts and Trades during the first semester of the 2025–2026 school year. These respondents were selected from a total population of 352 students enrolled in the General Academic Strand (GAS) and the Technical-Vocational-Livelihood (TVL) track. The selection of respondents aimed to ensure representation from both grade levels and strands to obtain a comprehensive understanding of students' study habits and their use of educational applications. In terms of distribution, the respondents included students from both Grade 11 and Grade 12 levels. Among the 200 participants, 157 students were from the General Academic Strand (GAS), with 73 students from Grade 11 and 84 students from Grade 12. Meanwhile, 43 students were from the Technical-Vocational-Livelihood (TVL) track, comprising 21 Grade 11 students and 22 Grade 12 students. This distribution ensured balanced representation across grade levels and academic tracks, thereby providing reliable data for analyzing the role of educational applications in enhancing senior high school students' study habits.

Research Instrument

This study utilized a researcher-made questionnaire as the primary data-gathering instrument to determine the role of educational applications in enhancing the study habits of senior high school students. The questionnaire was designed to collect data on respondents' perceptions of educational applications and their study habits related to their use. The instrument is composed of two parts. Part I measures respondents' perceptions of educational applications, particularly regarding accessibility, ease of use, usefulness, and motivation. This section uses a 5-point Likert scale with the following verbal interpretations: 5 – Strongly Agree, 4 – Agree, 3 – Neutral, 2 – Disagree, and 1 – Strongly Disagree. Part II assesses respondents' study habits regarding the use of educational applications, focusing on time management, distraction control, and information retention. This part also uses a 5-point Likert scale with the following verbal interpretations: 5 – Always, 4 – Often, 3 – Sometimes, 2 – Rarely, and 1 – Never. The questionnaire items were carefully constructed using clear, concise, and specific language to ensure that each statement measured only one idea and avoided ambiguity or double-barreled questions. The instrument's content was aligned with the study's objectives to ensure relevance and appropriateness in gathering the required data. Prior to the study's conduct, the instrument was pilot tested to assess its reliability. The responses gathered were analyzed using Statistical Package for the Social Sciences (SPSS) through Cronbach's alpha. The result yielded a reliability coefficient of 0.673, which indicates acceptable internal consistency for a researcher-made instrument. Although the value is slightly below the ideal threshold of 0.70, it is still considered adequate for exploratory research and suggests that the instrument is sufficiently reliable for data gathering. Thus, the questionnaire was deemed appropriate for use in conducting the study.

Data gathering procedure

In gathering the data for this study, the researcher followed a systematic procedure. First, a researcher-developed questionnaire was prepared in accordance with the study's objectives. The instrument underwent validation and pilot testing to ensure clarity and reliability before final administration. After validating the instrument, the researcher obtained a letter of permission to conduct the study from the Senior High School Coordinator of Hadji Butu School of Arts and Trades. Upon approval, coordination was made with the class advisers and other concerned school personnel to ensure the proper distribution of the questionnaire to the selected respondents. The respondents were selected through stratified random sampling from senior high school students in the GAS and TVL strands. Before administering the questionnaire, the researcher explained the purpose of the study and assured the respondents that their answers would be treated with the utmost confidentiality. Since some of the respondents were minors, parental or guardian consent and student assent were obtained prior to participation. The questionnaire was then distributed to the selected respondents through printed copies or online forms. Sufficient time was given for them to answer the instrument. After retrieval, the questionnaires were checked, tallied, and encoded for statistical analysis. The collected data were then treated using appropriate statistical tools to derive findings relevant to the study.

Results and Discussions

Problem 1: **What is the level of perception of senior high school students in Hadji Butu School of Arts and Trades regarding the role of educational apps in their learning process?**

Table 1.1 Level of Perception of SHS students regarding the Role of Educational Apps

	Statement	N	Mean	Std. Deviation	Interpretation
1.	Educational apps help me understand my lessons better.	200	3.88	.830	Agree
2.	Educational apps help improve my academic performance.	200	3.81	.813	Agree
3.	Educational apps make learning more interactive and engaging.	200	3.90	.845	Agree
4.	Educational apps provide immediate feedback on my learning progress.	200	3.77	.814	Agree
5.	Educational apps help me study for exams more effectively.	200	3.84	.806	Agree
	Grand Mean	**200**	**3.84**	**.812**	**Agree**

Table 1.1 presents the level of perception of Senior High School students regarding the role of educational applications in their learning process. The overall mean of 3.84 indicates a high level of perception, suggesting that educational applications are not merely supplementary tools but are already meaningfully integrated into students' academic experiences. This finding reflects a growing culture of digital integration, in which learners increasingly rely on educational applications to reinforce comprehension of lessons, support exam preparation, and manage academic tasks more efficiently. More importantly, the result also implies the presence of self-regulated learning behaviors, as students appear to use these digital tools in ways that promote independent study, sustained engagement, and personal responsibility for learning beyond direct teacher supervision. The relatively low standard deviations, ranging from 0.806 to 0.845, indicate a strong degree of homogeneity in the responses, meaning that the students' positive perceptions were shared consistently across the sample. This low variability suggests that the perceived usefulness of educational applications is not limited to a few digitally inclined learners but is broadly recognized among respondents. In terms of item analysis, the highest-rated statement was "Educational apps make learning more interactive and engaging" with a mean of 3.90, followed by "Educational apps help me understand my lessons better" with a mean of 3.88. These results suggest that students particularly value the interactive and cognitively supportive functions of educational applications. From a psychological perspective, such features likely enhance motivation and attention by making learning less monotonous and more participatory. Pedagogically, these applications may be appreciated for presenting lessons in accessible, multimodal, and learner-centered formats that facilitate deeper understanding. Although the item on immediate feedback also received a positive rating (M = 3.77), its slightly lower score suggests that students may place greater value on engagement and comprehension than on feedback mechanisms alone. Furthermore, these findings support broader educational theories such as Constructivism and Connectivism, both of which emphasize active engagement, learner autonomy, and the use of multiple knowledge sources in the learning process (Romdhon et al., 2024). From a Constructivist perspective, the strong endorsement of interactivity and improved understanding suggests that educational applications enable students to construct knowledge through active involvement and exploration (Kharroubi & Elmediouni, 2024). From a Connectivist standpoint, these tools serve as digital nodes that allow learners to access information, build

academic connections, and sustain learning across contexts (Jia et al., 2021). For Senior High School curriculum design, the implications are significant: educational applications should be integrated more intentionally into classroom instruction, independent study tasks, and formative assessment practices (Hernández et al., 2024). Furthermore, these results contribute to the limited literature on the use of educational technology in technical-vocational and maritime-oriented secondary education, where empirical evidence on digital study habits remains underdeveloped. Thus, descriptive statistics not only demonstrate a high level of student receptivity to educational applications but also underscore their potential to strengthen study habits and support improved academic performance.

Problem 2: **What is the level of study habits of senior high school students in Hadji Butu School of Arts and Trades?**

Table 2.1 Level of perceived ethical concerns regarding the use of Artificial Intelligence as a Learning Companion

	Statement	N	Mean	Std. Deviation	Interpretation
1.	I follow a study routine or schedule regularly.	200	3.54	.807	Often
2.	I study alone when preparing for exams or assignments.	200	3.69	.792	Often
3.	I use educational apps regularly for reviewing lessons.	200	3.77	.776	Often
4.	I prioritize studying over other non-school-related activities.	200	3.51	.885	Often
5.	I make sure to manage my time well when completing school assignments.	200	3.70	.862	Often
	Grand mean	**200**	**3.64**	**.824**	**Often**

Table 2.1 presents the level of study habits of Senior High School students in Hadji Butu School of Arts and Trades. The grand mean of 3.64 falls within the 3.41–4.20 range, interpreted as "Often," indicating that the respondents generally demonstrate a high level of positive study habits. This suggests that students frequently engage in behaviors associated with academic discipline, independent learning, and task management. Substantively, the result implies that study habits are already embedded in the respondents' routine learning practices, particularly in ways that reflect developing self-regulation, such as regular review, time management, and deliberate preparation for examinations and assignments. Although the mean does not reach the "Always" category, it still signifies that effective study behaviors are practiced with notable consistency among the learners. The standard deviations, which range from 0.776 to 0.885, are all below 1.00, indicating low variability and therefore a considerable degree of homogeneity in student responses. This means that the students' perceptions of their own study habits are relatively consistent across the sample and are not marked by extreme differences. In terms of item ranking, the highest-rated statement was "I use educational apps regularly for reviewing lessons" with a mean of 3.77 and a standard deviation of 0.776, followed by "I make sure to manage my time well when completing school assignments" (M = 3.70, SD = 0.862) and "I study alone when preparing for exams or assignments" (M = 3.69, SD = 0.792). These findings suggest that students most strongly associate effective study habits with technology-supported review, time management, and independent preparation. Psychologically, these behaviors reflect a growing sense of academic responsibility and learner autonomy. At the same time, pedagogically, they indicate that students are becoming more capable of organizing their own learning processes beyond direct classroom instruction. The lowest-rated item, "I prioritize studying over other non-school-related activities" (M = 3.51, SD = 0.885), although still interpreted as "Often," suggests that balancing academic demands with leisure or personal activities remains a comparatively weaker area of student discipline. Thus, these descriptive results suggest that the respondents possess a generally favorable pattern of study habits that can support academic success. The prominence of educational app use and time management suggests that students are increasingly engaging in digitally mediated, self-directed learning practices that align with broader educational perspectives, such as Self-Regulated Learning Theory and Constructivism (Zhang & Hu, 2025). From an instructional standpoint, the findings suggest that Senior High School teachers and school administrators should strengthen programs that cultivate structured study routines, effective time management, and the purposeful integration of educational applications into academic tasks. For curriculum planners, the data indicates that interventions should not only promote access to learning tools but also reinforce students' ability to prioritize academic work amid competing non-school activities (Krisna, 2025). Statistics suggest that the students' study habits are sufficiently developed to serve as a foundation for improved academic performance, while also highlighting specific areas where guidance and reinforcement may further enhance learning outcomes.

Problem 3: **Is there a significant relationship between the perception of the role of educational apps and the study habits of senior high school students in Hadji Butu School of Arts and Trades?**

Table 3.1 Results of Spearman's Rho correlating the level of perceived benefits and the academic performance of students

Variables	Spearman's ρ	p-value	N
Level of Perception on the Role of Educational Apps↔ Study Habits	.028	.694	200

Table 3.1 presents the results of Spearman's rho analysis examining the relationship between students' level of perception on the role of educational apps and their study habits. The analysis yielded a correlation coefficient of ρ = .028 and a p-value of .694 with 200 respondents. This indicates a negligible positive relationship between the two variables. The result suggests that students' perceptions of the role of educational apps are not meaningfully associated with their study habits. Since the obtained p-value is greater than the .05 level of significance, the relationship is not statistically significant. Therefore, the null hypothesis is accepted or, more precisely, failed to be rejected. This means that there is no sufficient evidence to establish a significant relationship between the perception of the role of educational apps and the study habits of senior high school students in Hadji Butu School of Arts and Trades. Although educational apps may offer benefits such as accessibility, interactivity, and support for self-paced learning, the findings imply that these perceived advantages do not necessarily correspond to better study habits among the respondents. This may indicate that study habits are influenced more strongly by other factors, such as self-discipline, academic motivation, home environment, and time-management skills, than by students' perceptions of educational apps alone.

Ethical Considerations

This project followed ethical standards in research. Approval from the school administration was obtained prior to data collection. Consent was requested from students for minor participants, and participation was voluntary. It is also explained that participants may withdraw at any moment without consequence. Confidentiality and anonymity were maintained by omitting participants' names and other identifiable details from the data and report. All collected information was utilized solely for academic purposes. Hence, the study guaranteed that participation would not result in damage, discomfort, or academic detriment. Also, the students were not obligated to disclose private accounts, passwords, or personal AI conversation records.

Conclusion

This study concludes that educational applications can support the study routines of senior high school students, especially when students find these tools useful for managing tasks and staying engaged. However, the findings do not suggest that educational applications automatically improve academic performance or study habits. Instead, the results show that students mainly use digital tools for organization, participation, and some aspects of independent learning. Guided by Self-Regulated Learning and Connectivism, the findings indicate that educational applications may help students plan, monitor, and connect their learning activities in more interactive and accessible ways. However, these conclusions are limited to the variables examined in the study, such as perceived usefulness, engagement, and study-related support, and should not be extended to academic achievement or long-term performance since these were not directly measured. Importantly, this study helps address a research gap by providing evidence from a vocational-technical senior high school setting. Previous studies have focused mostly on general academic environments, with limited attention given to learners balancing academic coursework and skills-based training. By focusing on students at Hadji Butu School of Arts and Trades, the study highlights that the role of educational applications depends on the unique demands of vocational-technical education. Overall, the study provides context-specific insights into how digital tools support study habits in vocational education. While the findings are limited to the study setting, they emphasize that conclusions from general senior high school populations may not always apply to vocational-technical learners.

Reccomendations

Based on the findings, the study recommends that education officials and school administrators strengthen institutional support for the effective use of educational applications by developing clear school- or division-level policies on accessibility, academic support, responsible digital behavior, and alignment with curricular goals, while also improving readiness for technology-supported learning through better infrastructure, orientation programs, student guidelines, and access to appropriate applications. Teachers

are encouraged to integrate educational applications more purposefully into lesson planning and classroom activities to support comprehension, review, practice, time management, and independent learning, while ensuring that technology remains a support rather than a substitute for instruction. They should also receive continuous professional development in selecting, managing, and evaluating educational applications, including strategies for promoting engagement, monitoring progress, and minimizing distractions. Students, in turn, are encouraged to use educational applications responsibly by making them part of their study routines, managing their time wisely, checking the quality of digital content, and balancing app use with other academic responsibilities. Finally, future researchers are advised to examine additional factors that may influence study habits, such as frequency and type of app use, digital literacy, motivation, teacher mediation, and demographic differences, and to use longitudinal or experimental designs to determine whether guided and intentional app integration can lead to lasting improvements in study habits and academic performance.

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