The Impact of Technology on Learning Outcomes in Thai Secondary Schools: An Educational Psychology Perspective

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Abstract

The integration of technology in Thai secondary schools has significantly influenced learning outcomes, shaping the educational landscape in alignment with global trends. This study explores the impact of technology on student engagement, motivation, and achievement from an educational psychology perspective. By examining digital tools such as interactive learning platforms, multimedia content, and artificial intelligence-driven assessments, the research assesses how these innovations enhance cognitive and social learning processes. Utilizing a mixed-methods approach, this study incorporates both quantitative surveys and qualitative interviews with students and educators to gauge the effectiveness of technology-driven instruction. Findings indicate that technology fosters active learning, improves critical thinking skills, and facilitates personalized learning experiences. However, challenges such as digital literacy gaps, unequal access to resources, and the need for teacher training persist. The study applies educational psychology theories, including constructivism and cognitive load theory, to explain how technology influences student comprehension and retention. It highlights the role of motivation, self-regulation, and feedback mechanisms in optimizing learning outcomes. Additionally, policy recommendations are provided to address technological disparities and ensure equitable access to digital resources across diverse socio-economic backgrounds. The study concludes that while technology enhances learning experiences, its effectiveness depends on proper implementation, teacher training, and student adaptability. Future research should explore longitudinal effects of digital learning environments on student performance and emotional well-being. This research contributes to the discourse on technology-enhanced education, offering insights for policymakers, educators, and researchers seeking to refine instructional strategies in Thai secondary education.

Keywords: Technology integration, learning outcomes, educational psychology, student motivation, Thai secondary education

1. Introduction

In the last few years, technology being added rapidly to schools has made people think again about old teaching methods, especially in Thailand's high schools. This change is part of a bigger trend worldwide where digital tools help to improve learning and results. Thailand's special culture and political situation create both chances and difficulties for this tech shift. By looking at how new digital platforms work with current education systems, we can learn

important things about how technology can increase student interest, motivation, and success in school. This paper will show what these tech changes mean for learning outcomes and will use theories from educational psychology to support our points. In the end, knowing how technology and education connect will help identify ways to better teaching methods in Thai secondary schools.

In today's schools, technology includes many tools, methods, and processes that help with learning and improve educational experiences. It broadly covers items like computers, software, and new teaching approaches that use these tools for better student involvement. The changing role of technology in education shows a major shift toward encouraging creativity, innovation, and teamwork among students. As noted in (Phanphim Siriphatcharachot et al., 2025), teachers who focus on technology stress the need to develop these skills, which are very important for getting students ready for the challenges of today's workforce. Also, the changing relationship between technology and teaching affects how schools design their courses. It is important to meet student needs and preferences, as shown in (Chantima Pathamathamakul et al., 2023), which indicates that different groups of students have different learning motivations and levels of confidence. Therefore, understanding technology in education needs to include how it influences both student learning results and how schools operate, highlighting the importance of a thorough understanding.

The secondary education system in Thailand focuses on learning and uses technology a lot. It has changed to meet the needs of modern education. Recent studies show that high school students need skills like creativity, innovation, and teamwork, which technology teachers have pointed out as important for good learning (cite3). With digital media rising, old ways of giving information are being combined with new interactive platforms that make learning more engaging for students. These changes are important as schools move to more flexible and complex environments. Additionally, research shows that digital content plays a key role in making information easy to access and interesting, which can help students understand and remember things better (cite4). As technology grows more common in education, it is important to understand how it affects the structure and success of Thailand's secondary education system to prepare a workforce that can handle 21st-century challenges.

Learning outcomes are important measures for looking at how well educational efforts work, especially with technology. As schools in Thailand adjust to fast tech changes, setting clear learning outcomes is essential to boost student engagement and achievement. Good learning outcomes not only help in checking student growth but also shape teaching methods suited for different learning styles. For example, studies show that knowing what drives and interests' students can greatly improve learning experiences (Chantima Pathamathamakul et al., 2023). Furthermore, matching learning outcomes with tech-driven settings helps students handle digital content better, promoting a deeper understanding and use of knowledge ((Randa Kanabsak et al., 2023)). In the end, strong learning outcomes play a key role in building a more adaptable and effective education system that addresses the changing demands of learners in a digital world.

Understanding the complex nature of learning is very important for developing good educational practices, and educational psychology gives valuable insights into this area. This field looks at cognitive, emotional, and social aspects that affect learning behaviors, offering a way to understand student participation and success. By using theories like constructivism and behaviorism, teachers can adjust their teaching methods to fit different learning styles and requirements, leading to a more inclusive learning environment. For example, understanding how intrinsic and extrinsic motivation works shows how technology can be used to enhance engagement in Thai secondary schools, blending teaching methods with tech tools. Additionally, using educational psychology aids in identifying learning challenges and applying solutions, which improves overall student success by meeting specific needs and

fostering resilience and adaptability within the learning environment (Michael Grahame Moore et al., 2003). This comprehensive understanding is crucial for improving the use of technology in modern teaching.

The study of how technology helps improve educational results in Thai high schools is important for teaching methods and policy making. This research is key because it can show how different technological tools work in classrooms and guide educational leaders on how to use these tools best. Knowing the impact of technology on learning can help create strategies that suit different learning styles, promoting a more inclusive education system. Additionally, this study connects educational psychology with real-world use, providing feedback on motivation, engagement, and thinking development in tech-based teaching. In the end, the results aim to add to the discussion on educational fairness and effectiveness, showing that technology is not just a goal but a tool to improve learning experiences in our digital age (Ee Ling Low et al., 2012).

2. Theoretical Framework of Educational Psychology

In looking at the basic ideas of educational psychology, it is clear that learning is affected by many factors from the environment and the mind. Important to this study are theories like constructivism, which says that learners create knowledge through their experiences and social interactions. This shows how collaborative technology is important for creating engaging learning spaces in Thai high schools. Also, behaviorist views highlight how reinforcement influences learning results, indicating that feedback from technology can greatly improve student motivation and success (Yueh-Min Huang et al., 2021). By combining these ideas, the framework shows the complex connection between personal mental processes and the outside technological world. This connection highlights how educators need to change their teaching methods to use technology not just as a tool but as a driver for deeper learning experiences. In the end, considering these psychological theories gives useful ideas for improving teaching methods in classrooms that increasingly use technology.

The study of learning outcomes in educational psychology is greatly shaped by several important theories, each providing insights into how learners connect with and absorb information. Constructivist theories, especially those by Piaget and Vygotsky, stress the importance of social interaction and thought processes in learning. They argue that students build knowledge through experiences and discussions with others. Additionally, Bandura's social learning theory focuses on learning through observation, showing that students can gain new skills and knowledge by watching others, which highlights the role of technology in facilitating these observations. These theories suggest that using digital tools in Thai secondary schools might not only improve access to information but can also change how students interact and engage with each other. Therefore, grasping these theoretical foundations is key for assessing how technology can effectively improve learning outcomes in varied educational settings, as explained in the following sections (Chun Lai, 2023).

In technology-enhanced learning, motivation is a key factor that affects educational results, especially in Thai high schools. Proper use of technology can boost students' intrinsic motivation by giving them engaging, interactive, and customized learning experiences. This approach not only increases engagement but also promotes self-regulated learning, as shown by the advantages of advanced technology mentioned in (Saiwaroon Chumpavan et al., 2024). For example, when students have access to various digital tools and resources, they often gain a feeling of independence and skill that improves their academic motivation. At the same time, group inquiry-based methods, which are outlined in (Krittawaya Thongkoo et al., 2024), can greatly increase motivation by encouraging peer interaction and teamwork in problem-solving. This not only strengthens the learning material but also builds vital teamwork abilities, creating a more complete educational setting. In the end, recognizing and utilizing the importance of

motivation in technology-enhanced learning is essential for improving educational practices and student success in Thailand's changing educational environment.

Cognitive load theory gives important ideas about how learners get and keep information, especially with technology. It splits cognitive load into three types: intrinsic, extraneous, and germane. Educators can use this to make learning better by using students' mental resources effectively, improving their performance in school. In Thai high schools, digital tools offer both chances and problems; complicated multimedia can accidentally raise extraneous load, which can hurt learning results. On the other hand, well-planned technology can help with germane load, using interactive simulations and teamwork tools that help students understand better and develop skills. Knowing these factors helps educators build better learning spaces that consider their students' mental limits and improve educational outcomes with today's technology challenges (Hung Phu Bui et al., 2023). Therefore, using cognitive load theory is essential in shaping teaching methods in this changing environment.

The connection between social constructivism and collaborative learning is very important for understanding how education works in today's classrooms. Social constructivism highlights that knowledge is built socially, with students working together to create knowledge through peer interactions. This helps develop a mutual understanding and skills for solving problems together. This method is different from older, individual-focused learning models and stresses how important context and conversation are for getting students to think more deeply. In Thai secondary schools, using collaborative learning methods has been found to boost student motivation and involvement, with students engaging in group work that encourages discussion and critical thinking. Additionally, adding technology to these collaborative settings enhances these advantages, providing various communication tools that link students across distances and cultures, which ultimately improves the educational experience (Hung Phu Bui et al., 2023).

Emotional factors are very important in how students use technology in schools, impacting their learning results a lot. Studies show that when students have good social and emotional skills, like making responsible choices and being self-aware, they can better deal with the challenges of digital learning environments (Phiphatanun Theppitak et al., 2023). These skills help students manage emotional issues that come from using technology, which lets them stay focused and motivated. On the other hand, if they struggle with emotional control, students might feel more stressed, which can hurt their engagement and satisfaction with learning (RICHMOND P. ILAO et al., 2022). Overall, it is important to understand how emotional intelligence interacts with using technology, as being emotionally resilient can help students adapt and improve their learning experience. This underscores the need for education systems that not only focus on technology skills but also develop emotional skills to maximize learning results in Thai secondary schools.

3. Current State of Technology Integration in Thai Secondary Schools

In Thai secondary schools, using technology is complicated, showing both progress and challenges. Many teachers see technology's ability to improve learning experiences and foster critical thinking among students. For example, recent research shows that using digital tools in English instruction helps students look for information, assess sources, and express their ideas well (Sathaphon Rungsawang, 2022). Yet, there are still problems; many teachers say they lack enough training and resources for effective use. Findings show that not having manuals and guidelines for including Islamic perspectives in the curriculum also leads to a disjointed approach to curriculum development (Solihah Hayeesama-ae, 2023). Therefore, while integrating technology has the potential to enhance education, it is crucial to tackle the underlying issues that weaken its success in Thai secondary schools.

In today's classroom, many technologies help to improve learning results, addressing

different learning needs and styles. For example, interactive whiteboards make teaching more engaging by combining multimedia resources that grab student attention and encourage participation. Also, tablets and laptops allow for tailored learning experiences, giving students access to digital materials and the ability to work together on projects that go beyond traditional teaching methods. Learning management systems (LMS) are crucial for organizing lessons and improving communication between teachers and students, creating a more unified learning environment. New technologies like virtual and augmented reality apps offer immersive learning experiences that can enhance understanding of complicated topics, which is beneficial for visual and hands-on learners (1989-02). In conclusion, using these various technology tools not only makes the classroom experience richer but also leads to better learning results, especially in Thai secondary schools.

Teacher professional development is very important for making good learning environments, especially when adding technology into education. Programs designed to improve teacher skills are proven effective in many studies, like those that looked at leadership training for thinking skills in schools in Thailand. For example, (Janis MacEwan et al., 2022) shows a leader teacher program that not only made educational results better but also increased teacher happiness. Likewise, (Worapapha Arreerard, 2022) demonstrates the positive effects of technology transfer models that encourage teamwork among education participants. These programs give teachers the necessary skills to use technology well in their teaching methods. The steady progress in teacher abilities and student learning results indicates that focused training and ongoing professional development are crucial for creating an educational setting that adjusts to new technologies. Putting money into these areas is vital for lasting educational quality and student achievement.

In today's schools, differences in access to technology have serious effects on student learning, especially in Thai secondary schools. A large number of students do not have steady access to devices or reliable internet, which limits their ability to interact with course materials and important online resources. This gap keeps educational inequalities in place, as students with good access tend to perform better academically and develop stronger critical thinking skills than those in schools with fewer resources. Additionally, not having technology restricts educational chances and hinders the growth of digital skills that are important for succeeding in the modern world. With schools more often using technology in classes, the need to solve these issues is clear, pushing policymakers and educators to create programs that guarantee fair access for all students (Timothy Teo, 2011). These actions are crucial to close the technology divide and encourage inclusive learning environments.

In the fast-changing world of educational technology, government rules and programs are very important in determining how well students learn in Thai secondary schools. By setting up rules and providing funding, these policies strive to improve access to technological resources, leading to fair learning situations. Programs that bring digital tools into classrooms help make teaching more active and cater to different students' learning needs, encouraging involvement and inclusivity. Still, effective execution depends on ongoing training for teachers and strong systems to back up the use of technology. To get the most out of these policies, it's essential to watch their effects on student results and make needed changes based on real data. In this setting, working together with government agencies, schools, and tech companies is a key approach to achieving lasting improvements in educational success in Thailand (1989-02).

Putting technology into schools, especially in Thai secondary schools, has many problems that make it hard to use and implement well. One big issue is the difference in digital skills between teachers and students, which creates a gap in how technology is used in the classroom. Some teachers may have strong skills, while others may only know basic functions. This leads to uneven teaching practices and varying levels of student participation. Also, not having enough support, like consistent internet and good devices, makes this gap worse and

limits chances for engaging and interactive learning. Moreover, many teachers and schools often resist change, preferring old-fashioned teaching methods, which slows down the use of new tools and techniques. It is important to deal with these problems to fully take advantage of technology's benefits for improving learning results (1969).

4. Effects of Technology on Student Engagement and Motivation

Using technology in schools has changed how students get involved and stay motivated. By using interactive websites and online tools, teachers can create a space that supports active learning, which is important for building self-motivation in students. Studies show that these tech tools can help improve grades, especially when they fit students' personal needs, like feeling connected to others and having some control over their learning (Kyin Kyin Su, 2023). Also, online quizzes and assessments in mixed learning environments greatly help students better assess their own progress, which boosts their motivation and engagement (Thi Phuong Vy Nguyen et al., 2023). This relationship between technology and tailored learning experiences indicates that when students connect well—with the material and each other—they are likelier to take charge of their education, leading to better results. Therefore, using technology wisely is crucial for enhancing student involvement and motivation in high school education.

Using interactive learning environments has shown to help get students more involved, especially in high school. By changing from old-fashioned lectures to more interesting, group work methods, teachers can create a better setting for active learning. For example, using team inquiry-based online systems showed noticeable gains in students' programming abilities, proving that these frameworks can really improve motivation and personal interest in learning (Krittawaya Thongkoo et al., 2024). Moreover, creating organized training programs for teachers highlights the need for encouraging critical thinking and open discussions among students, thus enhancing their education overall. The results indicate that programs using student-centered methods not only increase achievement but also build skills necessary for good teamwork and communication, reinforcing the importance of interactive learning in today’s education system (Janis MacEwan et al., 2022). Adopting these approaches can have great advantages, ultimately changing learning results in Thai high schools.

In modern education, using gamification ideas has become a strong way to increase student motivation, especially in tech-heavy learning settings. By adding game-like features to educational situations, like challenges, rewards, and group tasks, teachers can really boost engagement and create friendly competition among students. This is especially noticeable in higher vocational education, where gamification methods have been shown to raise intrinsic motivation and improve student success (Minshuang He et al., 2024). Furthermore, studies show that well-planned gamification can greatly enhance creative and innovative thinking skills. For instance, one study found that graduate students made significant progress in these skills after using gamified learning methods (Sawanan Dangprasert, 2023). These results highlight that gamification can not only motivate but also improve learning results, making it an important tool for effective teaching practices in Thai secondary schools.

Using technology in education makes learning experiences better by customizing them for each student's needs and preferences. With adaptive software and smart tools, teachers can make tailored learning paths that keep students engaged and effective. For example, a self-regulated online learning system showed positive effects on students' views of math education, showing that technology can improve how useful and easy learning feels (Thanyaluck Ingkavara et al., 2024). Additionally, using AI models like Chat GPT not only encourages personalized interactions but also results in noticeable gains in language skills for students, highlighting how technology can fit various learning styles and speeds (Saifon Songsiengchai et al., 2023). These developments show how technology can change education methods,

helping to enhance learning results and overall student achievement in Thai secondary schools.

In today's schools, using multimedia has become important for getting students interested. By adding different types of media like videos, audio, and interactive simulations, teachers can make a learning space that grabs students' focus and suits different ways of learning. This varied method not only helps students understand and remember complicated ideas but also encourages them to think critically and be creative. For example, when students watch videos or take part in simulations, they are more likely to understand the material better, since hands-on experiences support the information learned. In addition, multimedia's lively nature promotes teamwork and communication among students, creating a classroom that is more welcoming and appreciates different viewpoints (Hung Phu Bui et al., 2023). In conclusion, using multimedia effectively is a strong method to boost student interest and enhance overall learning results in Thai high schools.

The use of technology in schools has changed how students see things, often affecting how they get involved and feel motivated to learn. Many students think that technology makes learning better by giving quick access to information and allowing for more hands-on activities that keep them interested in class. Yet, not all students react the same way to tech in education. Some feel annoyed by tech problems or feel disconnected from the usual ways of learning. Additionally, how useful students think technology is can depend on their individual learning styles, showing that teachers need to recognize and deal with these different views. Research shows that good technology use in schools should be about more than just having the right tools; it should also take into account what students think about how useful and relevant the tech is for their learning (1988). Therefore, it is important to carefully look at these views to create teaching methods that make the most of technology in learning.

5. Assessment of Learning Outcomes in Technology-Enhanced Environments

To measure how technology affects learning well, it is important to use strong assessment methods that fit the special nature of technology-based settings. Common evaluation techniques often do not accurately reflect the detailed learning results driven by digital tools. Therefore, a varied assessment system is necessary, including both numerical data like standardized test results and digital interaction statistics, as well as qualitative data such as student input and observation reports. This combined method not only highlights the clear link between using technology and effective learning but also reveals the mental and emotional aspects of the learning process. By using these different assessment methods together, teachers can better determine if technology improves understanding and knowledge retention, offering valuable information for future curriculum design and teaching strategies in Thai secondary schools (Roberto Carneiro et al., 2012). Ultimately, having a thorough assessment framework is essential to make sure that educational technology enhances student learning and leads to valuable educational results.

Technology use in schools has changed how academic performance is assessed, especially in Thai secondary education. Digital tools like online tests, learning management systems, and educational apps let both teachers and students participate in a more active evaluation process. These tools help provide quick feedback and allow for a personalized learning approach, making it easier to track students’ strengths and weaknesses. New data analysis features can show trends that traditional grading methods might miss, helping teachers create targeted support for different learning needs. Additionally, using technology in assessments promotes formative evaluations, focusing on the learning process and development instead of just the final results. This shift creates a more well-rounded educational setting that supports learning (James A. Bellanca, 2010). In summary, technology's role in assessing academic performance marks an important step in aligning teaching methods with modern learning theories.

In education, assessments are very important for understanding and improving how well students learn, especially with technology being used in Thai secondary schools. Formative assessments happen all the time and give teachers important information about how well students understand and acquire skills. This ongoing feedback helps shape teaching and allows students to take charge of their own learning, promoting a mindset for growing and improving. On the other hand, summative assessments are used to evaluate what knowledge and skills students have gained by the end of a teaching period. These assessments are crucial for checking how effective educational programs and interventions are, as they provide data that can encourage improvements and changes in the curriculum. Together, formative and summative assessments form a complete evaluation system that supports not only immediate educational results but also long-term learning goals in an environment rich with technology (UNESCO, 2017).

The growth of technology in education clearly changes how people learn, especially how critical thinking skills are formed. While having access to many information sources lets students look at different views and data, it also risks making their engagement with the content shallow. The ease of using digital tools can often lead to rote memorization and repetition instead of real analytical thinking, as students might depend on technology to provide answers without critically processing the information. This situation shows that technology can either help or hurt intellectual involvement, based on how it is used in the learning space. Teachers need to be aware of these factors, using methods that promote deeper questioning and thought. To use technology well, curriculum plans should focus on skills like evaluation, synthesis, and application of knowledge, making sure that students go beyond just being information consumers and become skilled critical thinkers who can handle the challenges of today's world (Hung Phu Bui et al., 2023).

Using longitudinal studies gives educators and researchers important knowledge about how learning outcomes change over time. These studies help understand how different factors, like technology use, affect students' academic progress and mental health. For example, a study of international graduate students in Thailand showed that self-esteem played a role in how Emotional Intelligence impacted learning results, highlighting the complex nature of student growth (Yejin Kim et al., 2024). In the same way, creating a solid assessment system for junior high students showed how specialized evaluations can shed light on important skills students need in today's education system (Chalunda Podjana et al., 2024). By tracking the same students for long periods, longitudinal studies can show how students develop, helping to create educational strategies that adapt to their needs and environments, which can improve learning in technology-rich classrooms. These results highlight the need for continuous research to better understand effective educational methods.

In modern tech-based learning environments, feedback systems are crucial elements that greatly affect student involvement and their learning results. These systems, whether they are formative or summative, give students prompt information about how they are doing, helping them spot their strengths and weaknesses. Good feedback not only supports self-management but also encourages a growth mindset, pushing students to take on challenges and keep going despite difficulties. Studies show that personalized feedback, which closely matches the unique needs and situations of learners, is especially helpful in fostering a better understanding and remembering of knowledge. Also, technology enables new feedback methods, like instant messaging and interactive platforms, making assessments more immediate and relevant (1989). Therefore, using these feedback systems in tech-based learning can help connect theory with real-world application, leading to better educational results in Thai secondary schools.

6. Conclusion

The results from this research show that using technology is important in improving educational results in Thai secondary schools. By looking at tools like digital media and distance learning, it is clear that these resources not only offer access to a lot of information, such as what can be found on Google and YouTube, but also help create different learning methods that fit student needs in different situations (Randa Kanabsak et al., 2023). Also, the use of cooperative models, like those made for the eDLTV media, highlights the need for teamwork among education partners to build effective learning settings (Worapapha Arreerard, 2022). As shown, these methods can greatly improve teacher skills and student participation, leading to a more efficient teaching environment. In the end, effectively using technology, based on solid educational psychology principles, offers a way to tackle issues in today's Thai education and enhance overall learning experiences.

The results of this study show a clear link between using technology and better learning outcomes in Thai high schools. The use of digital media platforms has notably changed how education is done, helping to boost student engagement and understanding. In particular, the creation of a digital content system, mentioned in (Randa Kanabsak et al., 2023), has proven that well-crafted content can improve how well students understand and remember information because it is accessible and interactive. Additionally, using eDLTV media in schools with fewer resources, as pointed out in (Worapapha Arreerard, 2022), highlights how technology can help close educational gaps, encourage participation, and support teamwork in learning. In general, these findings indicate that effective integration of technology not only encourages teaching innovation but also is important for improving educational fairness and effectiveness in Thailand's high school system.

The field of education is changing a lot, especially with how technology is included in learning, forcing teachers and decision-makers to adjust quickly. Research from technology teachers shows that it's very important to develop creativity, innovation, and teamwork (CIT) skills in students to get them ready for future difficulties (Phanphim Siriphatcharachot et al., 2025). Also, the effects of the COVID-19 pandemic have made it clear that there is an urgent need to invest in digital tools and training for teachers to manage remote and hybrid learning successfully (Vimala Govindaraju et al., 2024). Decision-makers should focus on creating thorough professional development programs that give teachers the right tools and methods to use technology well in the classroom. By matching teaching strategies with the changing tech world, educators and policymakers can create helpful settings that improve learning results and build resilience against future challenges. This forward-thinking mindset will ensure that education is not just adjusted to technology but flourishes with it.

Future research must focus on studies that look at how technology affects learning over a long time, especially in Thai secondary schools. While previous studies show short-term results, how these results last over time is not well studied. Finding out if using technology in learning leads to ongoing academic success or knowledge retention could give important information about teaching methods and curriculum design. Also, research that examines the experiences of teachers and students can help understand how well technology meets different learning needs and possibly fixes uneven access to resources. Working with local schools to develop research plans may also make the findings more relevant, creating a system where theories are linked to real-world situations (Filip Dochy et al., 2018-02-13). In the end, these paths could help create better strategies for using technology that improve educational fairness and support effective learning in Thailand's changing educational environment.

This study looks at how technology affects learning results in Thai high schools and notes a few limitations that could impact the results and how widely they can be applied. One key limitation is the geographic focus of the participants, mainly involving students and teachers from specific urban and rural areas, which may not reflect the entire Thai education system. For example, the research by (Chantima Pathamathamakul et al., 2023) points out

different learning styles and motivations among students, indicating that results may vary greatly in other cultural and socio-economic situations in Thailand. Furthermore, while the effectiveness of the eDLTV media, as mentioned in the research from (Worapapha Arreerard, 2022), offers a useful way to improve teaching methods, challenges in applying the model in various classroom situations may restrict its wider use. These issues highlight the need for careful consideration of the results and suggest that more research is necessary to confirm the relevance of these findings in different educational settings.

Looking forward, the use of technology in Thai education holds great promise, but it requires careful thought about teaching methods to make the most of its benefits. Moving from old teaching styles to tech-focused approaches means that teachers need to help build digital skills in both themselves and their students. This change boosts interest and also gets students ready for a fast-evolving global situation. Additionally, it's important to tackle differences in technology access to guarantee fair educational chances across various economic backgrounds in Thailand. The effort to create a welcoming setting where all students can take advantage of tech advancements will be crucial in determining future learning results. In the end, how technology develops in Thai education depends on teamwork among government leaders, teachers, and communities, with the goal of building lasting systems that encourage ongoing growth and flexibility.

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