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## Improving English Education at Thai Universities: Integration of Digital Learning

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### ABSTRACT

This documentary investigation primarily aims to examine the enhancement of English language teaching in Thai universities, with a focus on integrating digital language learning methodologies and supporting policies. Specifically, the study explores the role of computer-assisted language learning (CALL) programs, mobile-assisted language learning (MALL) activities, and online language learning platforms in improving language proficiency, increasing student engagement and motivation, providing access to authentic language resources, enabling personalized learning experiences, facilitating collaborative learning, and promoting professional development for educators. The implementation and integration of these digital approaches face several challenges, including infrastructure limitations, digital literacy gaps, resistance to pedagogical adaptation, limited exposure to English outside the classroom, financial and resource constraints, cultural factors, and insufficient institutional support and policy frameworks. To address these challenges, the study emphasizes the need for institutional policies to focus on several key components: clearly defined goals and objectives aligned with educational priorities; adequate infrastructural support to ensure student access to necessary resources; continuous professional development opportunities for educators and staff; curriculum integration to enhance language skills; and the creation of a supportive learning environment that fosters experimentation and collaboration. The implications of this study include enhanced English language education outcomes, equitable access to language learning resources, informed policy development, professional growth for educators, increased student engagement and motivation, improved regional and global competitiveness, employability, and advancements in research and innovation.

**Keywords:** Digital Language Learning; English Language Education; Documentary Analysis; Components of Sustainability

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## 1. Introduction

Mastering English is a critical component of effective communication and a key determinant of success in the increasingly interconnected and competitive global landscape. In Thailand, as in numerous other regions, the recruitment of highly qualified English teachers is essential not only for student development but also for driving economic growth and fostering societal progress. English proficiency is increasingly pivotal across various professional sectors. Consequently, Thai universities must rapidly enhance their language programs to align with the evolving demands of both students and the modern job market. Such advancements will not only bolster graduates' employability but also facilitate stronger international collaboration and innovation. By investing in high-quality language education, Thailand can better equip its workforce to navigate the challenges and seize the opportunities presented by a globalized economy.

While there is broad consensus on the importance of English proficiency, there remains a notable gap in research regarding the application of digital language learning strategies and policies in Thai higher education institutions. Although traditional teaching methods have been the standard for years, the rapidly advancing digital landscape offers promising and potentially transformative alternatives for English instruction. Digital tools and technologies can address several challenges inherent in conventional approaches, including resource limitations, disparities in access to high-quality instruction, and difficulties in engaging diverse student populations.

Despite various efforts to integrate digital elements into language education, there remains a significant gap in understanding effective strategies and developing supportive policies. As a result, it is crucial to explore not only the efficacy of digital language learning approaches but also the role institutional policies play in sustaining these programs over time.

In this context, comparing Thailand's digital language education strategies to those of other Southeast Asian nations—such as Vietnam, Indonesia, and Malaysia—offers valuable insights. Countries like Malaysia have implemented national policies to promote digital literacy across educational sectors, yielding both successes and

challenges, while Thailand has made strides in incorporating digital tools into language education. Vietnam, on the other hand, has made substantial progress in integrating mobile-assisted language learning (MALL) platforms into its educational infrastructure, offering key lessons on scalability and engagement in language programs. These regional comparisons strengthen both transferable best practices and unique challenges in Thailand's efforts to advance its digital language education landscape.

This study seeks to address a significant gap in the existing literature by examining the critical role of digital language learning strategies and policies in enhancing English language instruction within Thai higher education institutions. The study aims to achieve this objective through a comprehensive review of existing literature, empirical research, and policy analysis, while situating Thailand's experience within a broader Southeast Asian context. By doing so, it aims to illuminate the potential advantages, challenges, and best practices associated with incorporating digital technology into English language teaching. The overarching objective of this research is to enhance college students' English proficiency, thereby improving their opportunities for personal and professional development in an increasingly interconnected world, while simultaneously advancing the effectiveness of language instruction and policy frameworks within Thailand's higher education system.

## 2. Literature Review

The literature on English language instruction in Thai higher education presents a multifaceted landscape, characterized by both opportunities and challenges. While there is growing recognition of the necessity of English fluency for academic and professional success, various factors continue to hinder the effectiveness of language instruction programs. Traditional teaching methods often fail to fully engage students, leading to difficulties in language acquisition and fluency for many college graduates. This disconnect underscores the need for a reevaluation of instructional strategies to better meet the needs of learners in today's dynamic academic and professional environments.

In response to these challenges, researchers have explored the potential of digital tools to enhance English language instruction in Thai colleges and universities. A wide

array of online resources and tools exists that can complement traditional teaching methods, offering students more personalized, engaging, and interactive learning experiences. These include language learning apps that facilitate peer interaction, websites that provide access to instructor support, and virtual reality environments that immerse students in real-world language contexts. Integrating such technologies into the classroom allows educators to increase student engagement and create more dynamic learning environments. These methods not only expand access to diverse learning materials but also promote interactive learning through multimedia and collaborative online activities. As a result, students are better equipped to develop their language proficiency, preparing them for success in the global job market. Additionally, online resources, computer-assisted language learning (CALL) programs, and mobile apps offer students the flexibility to practice at their own pace and receive immediate feedback, thereby deepening their understanding and fostering greater autonomy in their learning. Furthermore, the integration of technology in education provides students with valuable digital literacy skills, which are increasingly vital in today's competitive job market.

## 2.1. Prior Study on CALL

Numerous studies in Thailand have explored the effectiveness of Computer-Assisted Language Learning (CALL) and its impact on English language teaching and learning. Khamkhien<sup>[1]</sup> provides a comprehensive examination of CALL in Thailand, while Yiamkhamnuan<sup>[2]</sup> investigates the relationship between the use of CALL software, student autonomy, and academic success in higher education. Additionally, Durongbhandhu and Suwanasilp<sup>[3]</sup> analyze the integration of computer-assisted English instruction in logistics education, and Pingmuang and Koraneekij<sup>[4]</sup> explore mobile-assisted language learning (MALL) strategies to enhance writing skills. Ghufon and Nurdianingsih<sup>[5]</sup> examine the application of the flipped classroom model combined with CALL in writing classes for English as a Foreign Language (EFL). Furthermore, Gyamfi and Sukseemuang<sup>[6]</sup> investigate the factors influencing EFL students' use of the computer language learning interface "Tell Me More." These studies highlight the growing interest and potential of digital tools in enhancing

language learning outcomes in Thai higher education.

## 2.2. Prior Study on MALL

Mobile-Assisted Language Learning (MALL) has been shown to significantly improve English language proficiency. Previous studies<sup>[7-9]</sup> demonstrate that digital methods play a key role in enhancing the English language skills of Thai college students. These findings corroborate the notion that digital tools are effective in improving students' language abilities. Furthermore, research by Ma and Yodkamlue<sup>[10]</sup>, Phetsut<sup>[11]</sup>, Phetsut and Waemusa<sup>[12]</sup>, Khlaisang and Sukavatee<sup>[13]</sup>, Guo<sup>[14]</sup>, Thedpitak and Somphong<sup>[15]</sup>, Geerativudhipong<sup>[16]</sup>, and Chhum and Champa-kaew<sup>[17]</sup> highlight the profound impact of incorporating MALL activities into the curriculum, particularly in improving students' speaking and listening skills.

## 2.3. Prior Study on Online Learning

Similarly, Bovornwich Rodrangsee<sup>[18]</sup> and Aumgri and Apirating<sup>[19]</sup> suggest that the use and integration of online language learning platforms—such as eLearning<sup>[20-22]</sup>, augmented reality technology<sup>[23]</sup>, and other online language learning tools<sup>[24]</sup>—have yielded positive outcomes in enhancing reading comprehension and vocabulary development. These studies emphasize the potential of digital platforms in supporting key language skills, further underscoring their effectiveness in improving English proficiency among learners.

## 2.4. Challenges of Digital Integration into Language Education

While the benefits of digital language learning methods are evident, challenges persist in their implementation and integration into Thai higher education. A significant issue is the digital divide<sup>[25-27]</sup>, where disparities in access to technology and internet connectivity hinder equal participation and academic success among students from different socioeconomic backgrounds. Additionally, concerns remain regarding the quality and relevance of digital language learning materials, as well as the necessity for comprehensive teacher training and support to effectively utilize technology in the classroom<sup>[28]</sup>. Addressing these

challenges is crucial to fully realizing the potential of digital tools in enhancing English language education.

## 2.5. Research Gap

Much of the existing research on digital language learning has not sufficiently addressed the role of institutional policies in facilitating the effective integration of these methods. This gap is evident in the scarcity of scholarly articles, research studies, or academic papers that focus on how institutional policies can support or hinder the use of digital language learning in Thai educational settings. A search through academic databases such as ScienceDirect, Scopus, or Google Scholar reveals a notable lack of research on the impact of institutional policies on the adoption and effectiveness of digital language learning in Thai schools. Furthermore, surveys or interviews with teachers, policymakers, and academics within Thailand's language education sector may reveal that institutions have not placed adequate emphasis on creating policies that foster the smooth and effective implementation of digital language learning.

Consequently, robust policy frameworks are essential to promote innovation, facilitate resource sharing, and ensure the sustainability of digital language learning programs. Effective planning and implementation of these programs require careful consideration of various factors, including pedagogical approaches, technological infrastructure, financial resources, and stakeholder engagement. Establishing supportive policies will be critical in maximizing the potential of digital tools for enhancing language education.

## 2.6. Significance of the Study

Given these considerations, it is crucial to prioritize research on the alignment of digital language learning policies and methods within the Thai higher education system. Immediate attention should be directed toward investigating how these policies and methods are currently integrated and their impact on language education. Future research should focus on exploring innovative teaching approaches, examining the effects of technology use on student outcomes, and evaluating the effectiveness of policy initiatives in making English language instruction

more sustainable and equitable. Addressing these research gaps will enable scholars to provide valuable insights into enhancing English language education in Thai institutions, ultimately contributing to students' success in an increasingly interconnected and competitive world.

It is also essential to investigate why Thailand's institutional policies have not placed sufficient emphasis on integrating digital language learning methods. This can be achieved by setting clear research objectives to address this underexplored aspect of language education. In the next section, specific research goals and questions will be outlined to examine the role of institutional policies in shaping the adoption and implementation of digital language learning methods in Thai educational settings.

## 2.7. Purpose of the Study

The purpose of our study was to:

1. Investigate the effectiveness of digital language learning tools, such as CALL programs, MALL activities, and online language learning platforms, in enhancing English instruction in Thai colleges.
2. Examine the challenges and issues that arise during the implementation of digital technologies in Thai colleges.
3. Explore how institutional policies impact the use and integration of digital language learning tools in Thai colleges.

## 2.8. Research Questions

To achieve the study's objectives, the following research questions were formulated:

1. What happens when digital language learning tools, such as CALL programs, MALL activities, and online language learning platforms, are used in combination? How does this approach influence the outcomes of English teaching in Thai colleges?
2. What are the primary challenges that hinder the effective use and implementation of digital language learning methods in Thai colleges?
3. How do these challenges affect students' language skills and motivation?
4. What are the key components of institutional policies that facilitate the use of digital language learning tools

in Thai universities?

5. How can policymakers address existing challenges to promote equitable and sustainable English language learning through digital methods?

This section will detail our research on how national and institutional policies have facilitated the integration of digital methods in language learning within Thai universities. By examining the impact of these policies on the use of digital tools, we aim to identify effective strategies to increase student engagement and improve language skills. The findings will also offer valuable insights to educational leaders, helping them create more conducive learning environments and fostering a culture of continuous improvement and innovation in language education.

### 3. Materials and Methods

#### 3.1. Design of the Study

This research uses a documentary analysis method, which is essential for examining existing materials such as policy documents, reports, and curriculum guidelines, to better understand how digital language learning strategies and policies are applied in Thai higher education institutions.

Documentary analysis is an effective qualitative research method that allows for the exploration of textual data to identify key themes, patterns, and insights. In this study, we used systematic coding, thematic analysis, and comparative methods to evaluate the effectiveness of current strategies and highlight areas where digital language learning practices can be enhanced. These techniques enabled us to assess how digital tools are utilized across various institutional contexts and to offer actionable insights for improving their integration into the English language curriculum.

#### 3.2. Document Selection

To ensure a comprehensive and representative review, we carefully selected documents from a wide array of sources. These included academic databases, institutional websites, government publications, and other relevant materials. The selection criteria for documents were as follows:

- **Time Frame:** We focused on documents published between 2015 and 2023 to capture the most recent trends, strategies, and policies regarding digital language learning in Thai higher education institutions.
- **Institution Type:** To ensure the representativeness of the findings, we selected documents from a diverse range of institutions, including both regional and metropolitan universities. This approach allowed us to compare digital language learning strategies across various institutional types and geographic regions within Thailand.
- **Inclusion/Exclusion Criteria:** We included documents that specifically addressed the integration of digital tools in English language teaching, as well as those that provided reports on the effectiveness of digital learning programs. We excluded documents that did not align with the study's focus, such as those unrelated to language education or digital tools. We also prioritized documents that were publicly accessible, ensuring transparency and availability of resources for future research.

We reviewed 71 documents in total, including policy papers, curriculum guidelines, institutional memos, and reports on student engagement and learning outcomes. This selection process aimed to provide a holistic view of how digital tools are being integrated into English language education across different Thai universities.

#### 3.3. Data Collection

The data collection process involved a systematic gathering of relevant documents to build a comprehensive database for analysis. A team comprising two researchers and one research assistant was responsible for identifying and collecting documents that met the selection criteria. The team followed a rigorous process to organize and catalog these documents, ensuring consistency and accuracy in the data collection.

The final database included the following types of documents:

- National and regional educational policies concerning the use of technology in language education.
- Institutional policies and guidelines outline the



implementation of digital language learning methods.

- Reports and evaluations on the effectiveness of technology-enhanced language education programs are available.
- We are conducting case studies and assessments of digital language learning tools, curriculum guidelines, and teaching materials.

By organizing these resources systematically, the team ensured easy access to the documents for analysis. This database not only served as a valuable resource for the study but also aimed to support the wider adoption of digital tools in language education by providing a thorough overview of current practices. Furthermore, it facilitated the dissemination of best practices across institutions and encouraged continuous improvement in the integration of technology in Thai higher education.

### 3.4. Data Analysis

During the data analysis phase, we employed content analysis and thematic coding to systematically examine the documents, identifying major themes and patterns related to the use of digital language learning methods in Thai educational institutions. The content analysis aimed to highlight key trends, themes, and policies, specifically focusing on the implications of integrating digital language learning methodologies within Thai colleges. This process involved carefully encoding and categorizing textual data to extract relevant insights.

Thematic coding was used to classify the textual material into categories based on recurring themes and patterns. This approach helped us identify significant trends in policy frameworks, challenges, and recommendations for the integration of technology in language education. The coding process was iterative, with codes being regularly refined and improved to better capture the data's complexity and nuance.

Additionally, we conducted a comparative analysis to examine the differences in policy frameworks and implementation strategies across various documents and institutional contexts. This analysis provided valuable insights into the varying approaches to technology integration in Thai higher education. Throughout the process, we adhered to ethical standards, ensuring that publicly available

materials were used appropriately and in accordance with copyright and intellectual property laws.

To ensure the credibility and reliability of the study's findings, we employed methods like member checking and triangulation. These techniques helped validate the data and conclusions, ensuring that our research on the role of institutional policies in shaping the use of digital language learning methods in Thai colleges was both accurate and robust.

### 3.5. Trustworthiness

To enhance the reliability of the analysis, multiple researchers were involved in coding and reviewing the documents independently. Any disagreements in the coding process were addressed through consensus, ensuring consistency and accuracy in the interpretation of the data. Additionally, inter-coder reliability assessments were conducted to evaluate the consistency of coding across different researchers. Triangulation with other data sources, such as interviews or focus group discussions, was employed to further support and validate the findings, enhancing the study's credibility.

This research used documentary analysis to explore how policies and institutional frameworks influence the adoption and use of digital language learning methods in higher education institutions in Thailand. The study provided valuable insights into the policy priorities, challenges in implementation, and strategies for improving technology-enhanced language learning in Thai higher education. By using rigorous methods to ensure trustworthiness, the research contributes to a more comprehensive understanding of the factors that affect the integration of digital tools in language education.

## 4. Results

It is crucial to examine how technology is incorporated into both national and higher education policies to gain a comprehensive understanding of Thailand's approach to integrating technology in language education. This in-depth analysis provides accurate and relevant information about how technology is utilized within the educational framework, shedding light on its role in shaping language education policies. Understanding these policy dynamics

helps identify strengths, challenges, and opportunities for further enhancement in the use of technology for teaching English in Thai higher education institutions.

#### 4.1. The Integration of Technology into National Policies

Thailand has been actively promoting the integration of technology in education through a variety of initiatives and policies aimed at enhancing teaching and learning practices. One of the key national policy frameworks driving this transformation is *Thailand 4.0*, which focuses on combining technological advancements and innovation to stimulate economic growth and development. Although primarily an economic strategy, Thailand 4.0 also includes initiatives to improve digital literacy and integrate technology into the education system, which can have a positive impact on English language teaching <sup>[29]</sup>.

The *Digital Thailand Development Strategy* seeks to accelerate Thailand's transition to a digital society across various sectors, including education. While the strategy does not specifically focus on language learning, its broader objectives, such as funding and promoting the use of technology in education, could indirectly benefit English language instruction <sup>[30]</sup>.

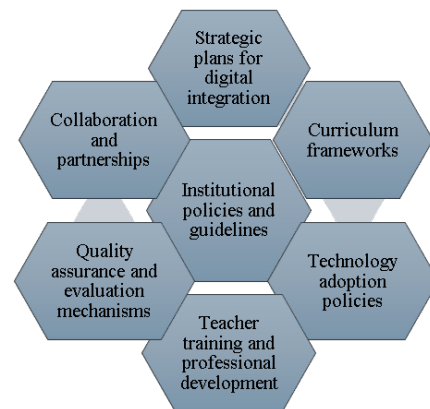
Furthermore, the *Strategic Plan for Educational Development 2017–2036* outlines long-term goals for improving the Thai educational system, with a focus on quality, relevance, and inclusivity. While this plan does not explicitly mention digital language learning initiatives, the Ministry of Education's 2017 report on digital literacy and 21st-century skills emphasizes the effectiveness of using technology in language learning <sup>[31]</sup>.

These national policies create a strong foundation for integrating technology into higher education institutions. They establish a supportive environment for the adoption of digital tools and resources aimed at enhancing language learning. Thai universities are encouraged to align with national initiatives like *Thailand 4.0* and the *Digital Thailand Development Strategy*, promoting technological innovation in classrooms and preparing students for the digital age. The next section delves deeper into how these policies have shaped institutional frameworks and practices in higher education.

#### 4.2. The Integration of Technology in University Policies

For this reason, universities can develop or revise institutional policies to facilitate the integration of technology into language classes. These policies could address key areas such as building technological infrastructure, providing teacher training, developing curricula, and determining methods for assessing students. By taking a proactive approach, these policies can enhance the quality and effectiveness of language education while ensuring that all students have equal access to the digital tools and skills needed to thrive in today's digital world.

**Figure 1** illustrates the rules and guidelines followed by Thai universities to ensure the effective use of digital language learning methods in English instruction. These policies emphasize the importance of using technology in ways that enhance learning outcomes and engage students actively. They also encourage collaboration among educators to share resources and best practices, ultimately strengthening the overall language teaching system. This framework supports a more inclusive and dynamic approach to language education, equipping students with the digital literacy required to succeed in a globalized, technology-driven society.



**Figure 1.** The institutional policies and guidelines.

**Figure 1** illustrates the rules and guidelines that Thai universities follow to facilitate the use of digital methods for English language learning in their classrooms. The success of these initiatives depends on several key elements:

- **Strategic Planning:** Thai institutions have developed comprehensive strategic plans outlining their vision, goals, and objectives for integrating digital

language learning methods into English courses. These plans include steps to enhance language skills, foster creative teaching practices, and incorporate technology to support students' academic success<sup>[32-34]</sup>.

- **Curriculum Frameworks:** English language courses now integrate digital tools and resources as part of their curriculum. These frameworks specify the learning objectives, course materials, assessment methods, and the use of technology-enhanced activities to help students improve their language proficiency and skills<sup>[35, 36]</sup>.
- **Rules and Guidelines for Digital Learning:** Universities have established policies and guidelines governing the use and adoption of digital language learning technologies. These policies define criteria for selecting appropriate digital tools, evaluate their effectiveness, and determine how to incorporate them into the curriculum. They also address concerns such as data privacy, security, and accessibility to ensure equitable access to technology resources for all students<sup>[37, 38]</sup>.
- **Training and Professional Development for Teachers:** Educational institutions provide teachers with professional development opportunities to enhance their digital literacy. These programs include conferences, seminars, and ongoing support to help educators effectively use digital tools and teaching strategies in their instruction<sup>[39]</sup>.
- **Quality Assurance Systems:** Colleges and universities have established mechanisms for evaluating the effectiveness of their digital language learning programs. This includes gathering feedback from students and teachers, assessing learning outcomes, and adjusting the curriculum and technology integration strategies based on the results of these evaluations<sup>[40]</sup>.
- **Collaborations with External Partners:** Institutions collaborate with external stakeholders, such as technology providers, educational organizations, and industry professionals, to enhance digital language learning. These partnerships include joint research projects, resource-sharing agreements, and collaborative efforts to create innovative digital learning

solutions tailored to the needs of English language learners in Thai higher education<sup>[41-44]</sup>.

Thailand is making significant progress in incorporating technology into its language education policies. As a result, Thai universities are increasingly adopting digital language learning methods to improve the effectiveness of English language teaching. National policies supporting technology integration in education empower universities to use digital tools and resources to create dynamic and engaging learning environments. This shift to digital language learning reflects teachers' awareness of evolving student needs in a tech-driven world and their commitment to equipping students with the skills required for success. The widespread use of digital language learning methods in Thai schools has the potential to significantly enhance English language education, improving student outcomes, engagement, and access across the country.

### 4.3. Digital Language Learning Approaches

Although each institution may have its own specific rules and procedures, the following elements outline a general framework for managing the integration of digital language learning methods in English instruction at Thai colleges. Many Thai universities have recognized the importance of incorporating technology into language classes to enhance student performance and prepare them for the digital age. National educational strategies often emphasize the need for technology to support language learning for students of all skill levels and backgrounds. Programs such as Computer-Assisted Language Learning (CALL), Mobile-Assisted Language Learning (MALL), and online language learning platforms are pivotal in facilitating this integration.

- **CALL Programs:** National policies may include specific guidelines for the implementation of CALL programs in educational institutions. These programs leverage computer software and digital resources to help students practice and assess their language skills. Policies might focus on the selection, deployment, and evaluation of CALL programs, ensuring that institutions invest in the right technology. Additionally, funding might be allocated to help schools acquire the necessary digital tools to implement these programs effectively<sup>[45, 46]</sup>.



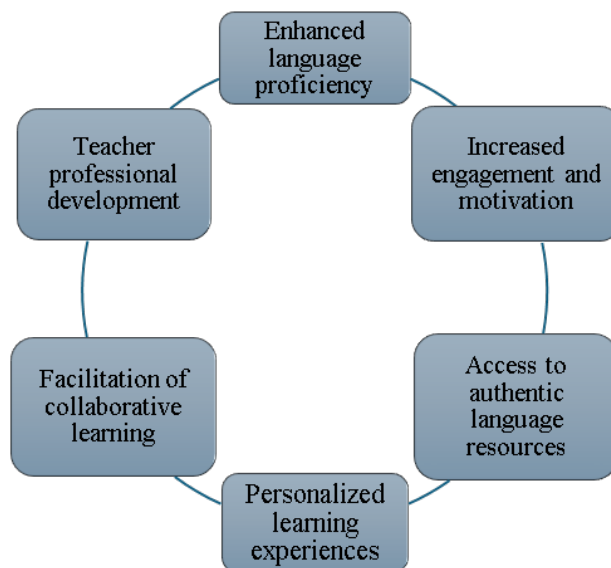
- **MALL Activities:** With the widespread use of mobile devices, national educational policies may encourage the inclusion of MALL activities in language curricula. Mobile devices such as smartphones and tablets provide learners with the flexibility to access language learning materials and participate in interactive exercises at any time and from anywhere. Policies could emphasize the creation of educational content that is mobile-compatible and offer training programs to help teachers effectively integrate mobile devices into their language classes <sup>[47]</sup>.
- **Online Language Learning Platforms:** National policies also support the use of online language learning platforms as a supplement to traditional classroom instruction. These platforms offer a wide range of content, including multimedia resources, interactive games, and opportunities for students to practice speaking with others online. Policies may foster collaborations between schools and online language learning providers to ensure that resources are of high quality and accessible to all students. Additionally, there may be initiatives to make these platforms available in a way that is easy to navigate and aligns with educational standards <sup>[48-51]</sup>.

By incorporating digital language learning methods such as CALL, MALL, and online platforms, Thai universities are gradually transforming the language learning experience. These methods leverage technology to create dynamic and interactive environments, allowing students to learn at their own pace, receive instant feedback, and access authentic language resources. Together, these initiatives enhance the quality of English language education in Thai institutions, making classrooms more engaging and effective spaces for students to learn. As we will explore further in the next section, these efforts contribute to creating a more meaningful and inclusive language learning experience.

#### 4.4. The Impact of Technology Integration on English Language Education Outcomes

The use of digital methods for learning languages in Thai universities can have substantial effects on teaching

English as shown in **Figure 2**.



**Figure 2.** Impacts of integrating digital language learning approaches in English language education.

**Figure 2** illustrates the significant impact of digital language learning methods on English teaching at Thai universities. Here are some key points that highlight the positive changes and challenges that come with the integration of these technologies:

##### Positive Effects of Digital Language Learning:

- **Interactive and Tailored Feedback:** Digital tools provide interactive activities, multimedia resources, and personalized feedback, which help improve students' language abilities. Studies like those by Banditvilai <sup>[52]</sup> and Kawinkoonlasate <sup>[53]</sup> have shown that using digital resources in language classes has led to improvements in language learning.
- **Increased Student Motivation:** Many digital platforms use game-like elements, which can make learning more engaging and motivating for students. Research by Meeprom <sup>[54]</sup> found that students were more interested in studying English through digital apps than traditional methods, suggesting that gamification can enhance student engagement and motivation.
- **Access to Authentic Language Resources:** Digital platforms provide access to authentic language materials such as podcasts, films, and online articles. This exposure to real-world language use

helps students develop their language skills and cultural knowledge. Research by authors (e.g. Shadiev et al. <sup>[55]</sup>, Andrea & Andrea <sup>[56]</sup>, Mandarsari <sup>[57]</sup>, and Joraboyev <sup>[58]</sup>) has demonstrated that such exposure is crucial for improving language fluency and cultural understanding.

- **Adaptive Learning Systems:** Digital tools with adaptive learning functionality adjust to meet the unique needs of each student, allowing for more personalized and effective learning. Studies by Chen et al. <sup>[59]</sup>, Rodriguez-Segura <sup>[60]</sup>, and Wilson et al. <sup>[61]</sup> show that adaptive learning systems significantly enhance language skills compared to traditional methods.
- **Collaboration and Interaction:** Digital platforms enable collaborative learning experiences where students can participate in virtual group discussions, provide peer feedback, and work on projects together. Research by Gan et al. <sup>[62]</sup>, Herrera-Pavo <sup>[63]</sup>, and others <sup>[64–66]</sup> supports the idea that collaborative learning through digital platforms improves students' speaking and listening skills, fostering a more interactive learning environment.
- **Educator Training and Professional Development:** The use of digital tools also provides opportunities for teacher training and professional development. Teachers can use digital methods to enhance lesson effectiveness and keep up with the latest trends in language teaching, improving overall teaching quality <sup>[67–71]</sup>.

### Challenges in Implementing Digital Language Learning:

Despite these benefits, there are several challenges in fully integrating digital language learning methods in Thai universities:

- **Infrastructural Limitations:** Many institutions face issues with outdated or insufficient technological infrastructure. This includes unreliable internet connections and limited access to digital resources, which hinders the proper implementation of digital language learning tools.
- **Faculty Resistance:** Some instructors may resist using digital tools due to unfamiliarity with technology or concerns about how it may affect their

teaching methods. There is often a lack of adequate training for faculty in utilizing technology effectively in the classroom, which can hinder the integration of digital language learning programs.

- **Unequal Access to Technology:** Not all students have the same level of access to digital devices or reliable internet. This digital divide creates disparities in students' ability to benefit from digital language learning tools, leading to unequal learning outcomes across different student groups.
- **Limited Digital Literacy:** Some students lack the digital literacy skills necessary to navigate online platforms and utilize digital learning tools effectively. This can impede their ability to fully engage with the content and develop their language skills.

### Solutions to Address Challenges:

To address these issues and ensure that all students can benefit from digital language learning, the following steps should be prioritized:

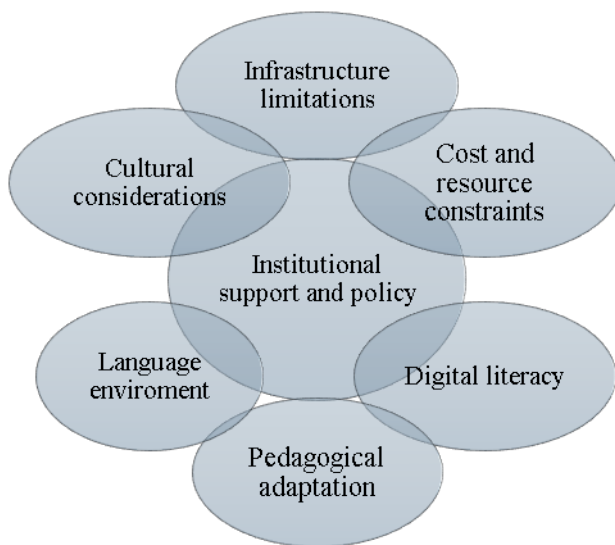
- **Investment in Infrastructure:** Universities need to invest in reliable internet connections, digital resources, and physical infrastructure to ensure that all students have equal access to digital learning tools.
- **Faculty Training:** Providing teachers with proper training in using digital technologies will enable them to integrate these tools effectively into their teaching practices. Professional development programs should focus on enhancing digital literacy and pedagogical strategies for technology-enhanced language teaching.
- **Inclusive and Accessible Policies:** Policymakers should develop strategies that prioritize inclusivity, ensuring that all students, regardless of socioeconomic status, have access to the technology and resources needed to succeed in digital language learning programs.
- **Bridging the Digital Divide:** Initiatives aimed at improving students' digital literacy and providing access to mobile devices or loan programs can help ensure that every student can participate in digital language learning.

By addressing these challenges, Thai universities

can create a more equitable and effective digital language learning environment that benefits all students and enhances their language skills. Ensuring inclusivity and accessibility will ultimately help improve students' language proficiency and prepare them for success in an increasingly interconnected world.

#### 4.5. Challenges to the Effectiveness of Implementing and Integrating Digital Language Learning

There are a lot of problems that come up when trying to use digital language learning methods in Thai colleges and universities that might make them less useful. Numerous variables contribute to these issues, as depicted in **Figure 3**.



**Figure 3.** Challenges to the Effectiveness of Implementing and Integrating Digital Language Learning.

As depicted in **Figure 3**, several challenges arise when trying to integrate digital language learning methods in Thai universities. These challenges stem from various factors that hinder the full utilization and effectiveness of digital tools in language education. Below are key issues identified from the obstacles depicted in **Figure 3**:

- **Lack of Institutional Support and Clear Guidelines:** Without adequate institutional support and clear guidelines on how technology should be used in language education, students may struggle to access high-quality digital language learning experiences. The absence of formal policies on digital integration could result in inconsistent

application and limited guidance for students, reducing the potential effectiveness of these tools in improving language skills.

- **Limited Access to Reliable Technology and Internet:** If students do not have easy access to reliable internet connections or adequate technological infrastructure, they may not be able to consistently utilize online language learning platforms and resources. This lack of access leads to uneven learning opportunities, potentially leaving some students behind in their language skills due to insufficient exposure or practice with digital tools and resources<sup>[72]</sup>.
- **Inadequate Funding for Resources and Professional Development:** Many universities may not have the financial resources or budget to provide the necessary digital tools, software, or professional development opportunities for teachers. Insufficient resources limit the range and quality of available language learning tools, making it harder for both students and educators to maximize the benefits of digital language learning methods<sup>[73]</sup>.
- **Varying Levels of Digital Literacy Among Students:** Digital literacy levels among students can vary widely, making it difficult for some to fully engage with digital learning tools. Students with lower digital competency may find it challenging to use language learning resources effectively, which could reduce their motivation and hinder their progress<sup>[74, 75]</sup>.
- **Resistance to Change from Educators:** Teachers who are reluctant to change their teaching methods to incorporate digital tools may create barriers to students' ability to use new and innovative language learning strategies. This resistance can prevent students from having access to interactive and immersive language experiences, limiting their exposure to modern methods of language acquisition<sup>[76, 77]</sup>.
- **Limited Real-Life Language Practice Opportunities:** Even if digital language learning methods are well integrated into the classroom, students may not see substantial improvement if they do not have opportunities to use English in real-life con-

texts. Language skills are best developed through regular practice and interaction, and without sufficient real-world application, students may struggle to transfer digital classroom learning into practical language use<sup>[78-81]</sup>.

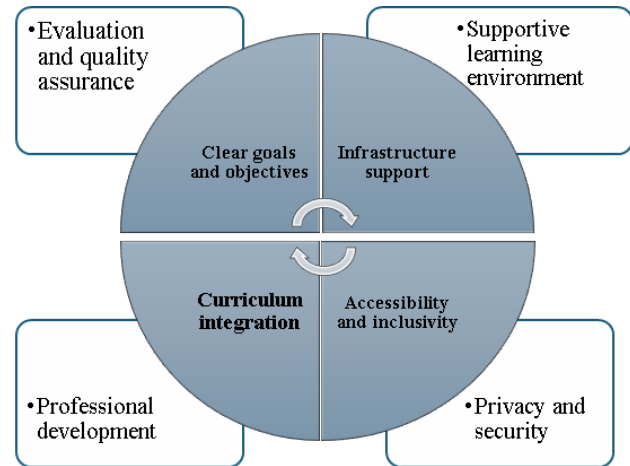
- **Cultural Preferences for Traditional Learning Approaches:** Cultural factors may also influence how students engage with digital language learning tools. In some cases, students may prioritize face-to-face interactions with instructors and prefer traditional, more personalized learning methods. This preference for interpersonal engagement can reduce their motivation to use online language learning resources, affecting their overall language development<sup>[82, 83]</sup>.

To fully harness the potential of digital language learning tools, these challenges must be addressed. Overcoming these barriers requires addressing both institutional policies and the practical realities of technology access, teacher preparedness, and student engagement. The next section will look deeper into the key components of these institutional policies that can help mitigate these challenges and ensure the successful integration of digital language learning strategies in Thai universities.

#### 4.6. Key Components of Effective Institutional Policies Supporting Technology Integration in English Education

Some important parts of effective institutional policies that make it easier to use technology in education are listed below. However, rules for integrating digital language learning methods in Thai universities may be slightly different. We design these components to create an environment that encourages the adoption and execution of digital language learning methodologies. **Figure 4** illustrates several essential components.

As illustrated in **Figure 4**, the key components of institutional policies that facilitate the use of technology in education are divided into two groups: primary and secondary components. These elements are designed to create an environment that encourages the adoption and execution of digital language learning methodologies in Thai universities.



**Figure 4.** Key components of effective institutional policies supporting technology integration in education.

##### Primary Components (Inner Circle)

- **Formulation of Explicit Goals and Objectives:** Policies should establish clear goals and objectives for integrating technology into language teaching. These objectives must align with the institution's overall educational aims and strategic priorities, ensuring that the use of technology supports the broader mission of the institution.
- **Infrastructural Support:** Successful implementation of digital language learning requires robust infrastructure. Policies should include provisions for reliable internet access, appropriate hardware and software, and technical support services. A strong technological foundation is critical for enabling effective integration of digital tools in the language learning process.
- **Accessibility and Diversity:** To ensure all students can benefit from digital language learning methods, policies must prioritize accessibility and inclusivity. This includes making digital tools available to students with disabilities or diverse learning needs, ensuring that learning spaces accommodate a range of learning styles and preferences.
- **Curriculum Integration:** Policies should promote the seamless integration of digital language learning methods into the curriculum. This may involve revising course content, incorporating digital learning activities, and integrating technology-based assessments that enhance students' language

proficiency and overall learning experience.

#### Secondary Components (Outer Circle)

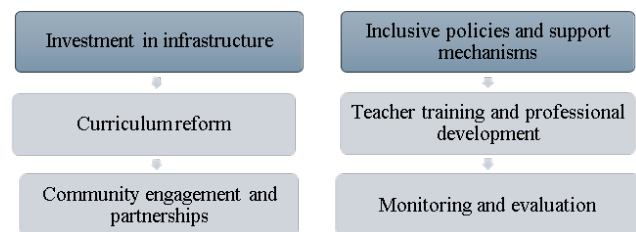
- **Professional Development:** Regular opportunities for professional development are essential for teachers and staff. Institutions should offer training programs, workshops, and conferences that focus on improving digital literacy and teaching methods for integrating technology into language learning. Peer learning networks can also help educators stay up to date with the latest advancements in digital education.
- **Conducive Learning Environment:** To foster the effective use of digital language learning tools, institutions should create a positive and supportive learning environment. This includes providing access to collaborative spaces, digital learning materials, and support networks that encourage experimentation, creativity, and teamwork among students and educators alike.
- **Assessment and Quality Assurance:** Policies should include mechanisms for evaluating the effectiveness of digital language learning programs. This includes gathering feedback from students and teachers, assessing learning outcomes, and analysing how technology integration impacts students' language proficiency. Regular evaluations ensure continuous improvement and maintain high-quality standards for digital learning.
- **Privacy and Security:** Ensuring the privacy and security of student data and digital resources is a fundamental aspect of digital learning. Institutions must implement policies and procedures that protect sensitive information, comply with data protection regulations, and safeguard against cyber threats to ensure a secure learning environment.

By incorporating these critical components into institutional policies, Thai universities can create a supportive environment that promotes the use of digital language learning methods, ultimately improving student outcomes in English language education. However, to ensure that all students benefit equally from these resources, policymakers must address existing challenges and ensure access to high-quality digital tools and opportunities for all students. The next section will discuss strategies to overcome these

obstacles and ensure equitable access to digital language learning opportunities.

### 4.7. Approaches to Promoting Sustainable and Equitable English Language Education

Several strategies and programs can help policymakers address current challenges and limitations, thereby promoting fair and sustainable English language education. **Figure 5** illustrates key proposals to consider for advancing this cause.



**Figure 5.** Approaches to promote sustainable and equitable English language education.

**Figure 5** highlights various strategies aimed at enhancing sustainability and equity in English language education. Institutions may contemplate implementing the following strategies:

- **Resource Allocation for Infrastructure:** Policymakers can focus on improving infrastructure to ensure that all students have equal access to digital resources, technology, and learning environments. This includes improving schools' facilities, internet connectivity, and access to necessary educational tools. By doing so, policymakers can help make English language instruction more accessible and enduring for all students <sup>[84]</sup>.
- **Inclusive Policies and Support Systems:** To promote fairness and inclusion, policymakers may establish support systems for marginalized or underrepresented groups, such as disabled students, refugees, and students from low-income families. By implementing inclusive policies, educators can ensure that all students, regardless of their background, have access to quality English language education.
- **Curriculum Review and Adaptation:** Policymakers



can review and update English language programs to ensure they remain relevant, inclusive, and in line with international standards. Incorporating diverse perspectives, culturally relevant content, and learning opportunities tailored to students' interests and backgrounds can enhance both the sustainability and equity of English language education <sup>[85, 86]</sup>.

- **Teacher Training and Professional Development:** Allocating resources for teacher training is crucial. Policymakers should invest in programs that develop teachers' skills in English language teaching methodologies, digital literacy, and inclusive teaching strategies. This ensures that teachers are equipped to provide high-quality education to all students, making English learning accessible to everyone <sup>[87-94]</sup>.
- **Collaborative Approaches:** Policymakers can enhance English language learning by fostering collaboration with local communities, civil society organizations, and business sectors. Collaborative efforts, as confirmed by UNESCO <sup>[84]</sup>, can draw on local knowledge, resources, and cultural assets, creating relevant and sustainable language learning opportunities that resonate with diverse groups of learners.
- **Monitoring and Evaluation:** Finally, governments and colleges can improve how they monitor and evaluate English language programs, especially with the rise of digital learning opportunities <sup>[95]</sup>. By systematically tracking key performance indicators (KPIs)—such as student English skills, use of online learning tools, and student satisfaction, decision-makers can make informed choices that promote equitable and sustainable outcomes <sup>[84]</sup>.

In monitoring and evaluation, the following KPIs are particularly pertinent in the Thai setting, as several data points highlight both the challenges and opportunities in English language instruction. For instance:

- According to the EF English Competence Index (2023), Thailand is positioned 101 out of 113 nations, signifying a markedly low competence level, hence highlighting the necessity for national benchmarks and focused reforms <sup>[96]</sup>.

- Internal evaluations indicate that less than 30% of Thai university students attain the B1 level of the Common European Framework of Reference (CEFR), which is the minimal requirement for proficient academic and professional communication <sup>[97]</sup>.
- Thailand's 85% internet penetration rate and over 90% smartphone usage among university students indicate significant digital readiness, providing a strong basis for scalable online English training <sup>[98]</sup>.
- Platforms like Thai MOOC, boasting over 1.5 million registered users, along with the implementation of learning management systems (LMSs) at over 80% of universities, offer tangible metrics for evaluating engagement and participation trends <sup>[99]</sup>.
- A 2023 poll by the Office of the Higher Education Commission indicated that 78% of students were satisfied with online and hybrid English language courses, demonstrating significant potential for sustained digital integration <sup>[100]</sup>.

Establishing regular data collection frameworks around these indicators — such as tracking MOOC completion rates, assessment results aligned with CEFR, and access to digital resources — can help evaluate how effective and fair English education improvements are. These data points inform resource allocation and identify deficiencies, ensuring that all students receive high-quality, digitally enhanced English language teaching.

By implementing these strategies and policies, policymakers can address the current challenges in English language education and work toward creating long-term, equitable outcomes for all students. The research findings shed valuable light on how digital language learning methods can improve English language education outcomes in Thai colleges, offering insights into the implications for policy, practice, and future research. Through sustained efforts and thoughtful policy design, we can foster a more inclusive, accessible, and effective language learning environment.

## 5. Discussion

This study supports the growing body of research highlighting the potential of digital language learning tools—such as Computer-Assisted Language Learning

(CALL), Mobile-Assisted Language Learning (MALL), and online platforms—in enhancing English language teaching outcomes. The findings confirm that these digital tools have a significant positive impact on students' language skills, motivation, and engagement. This aligns with previous studies by Banditvilai<sup>[52]</sup>, Kawinkoonlasate<sup>[53]</sup>, and Meeprom<sup>[54]</sup>, who demonstrated that digital resources make learning more interactive, engaging, and effective. Furthermore, the integration of digital tools offers students access to authentic language resources, personalized learning experiences, and collaborative opportunities, all of which enhance language acquisition. These findings are further supported by research conducted by Chen et al.<sup>[59]</sup>, Rodriguez-Segura<sup>[60]</sup>, and Wilson et al.<sup>[61]</sup>, which show that adaptive learning platforms can significantly improve student outcomes. A 2025 study on AI-assisted writing, for instance, reveals how students engage with AI-powered tools to revise their essays, showing increased autonomy, motivation, and reflection in the learning process<sup>[101]</sup>. These tools provide learners with immediate feedback, personalized suggestions, and iterative improvement pathways—making them valuable for enhancing English writing and learner agency in digital environments.

However, the study also revealed several challenges that hinder the successful integration of these methods in Thai universities. These challenges include infrastructure limitations, digital literacy gaps among students and faculty, resistance to changing teaching methodologies, and insufficient institutional support. These barriers echo the findings of previous research by Rofiah et al.<sup>[25]</sup>, Srinuan<sup>[26]</sup>, and Itu<sup>[27]</sup>, which highlighted the digital divide and disparities in access to technology and the internet in Thai higher education. As identified by Gan et al.<sup>[62]</sup>, Herrera-Pavo<sup>[63]</sup>, and Mallon and Bernsten<sup>[66]</sup>, the lack of access to reliable internet and digital tools can make it difficult for students to fully engage with digital language learning materials.

Referring to established theoretical frameworks like the TPACK model and Diffusion of Innovations Theory is useful for better understanding the adoption and integration of digital tools in English language teaching. The TPACK (Technological Pedagogical Content Knowledge) framework emphasizes the need for teachers to integrate content knowledge, pedagogy, and technology in a balanced way<sup>[102]</sup>. In the context of Thai universities, address-

ing the digital literacy gap through professional development programs that enhance teachers' TPACK is crucial for effective technology integration<sup>[102]</sup>. Similarly, diffusion of innovation theory highlights how new technologies spread through social systems. According to<sup>[103]</sup>, the adoption of innovations is influenced by factors such as relative advantage, compatibility with existing practices, complexity, trialability, and observability. In Thailand's context, understanding these factors can help institutions overcome resistance to new teaching methods and facilitate the broader acceptance of digital tools.

The study's findings suggest that while the benefits of digital language learning are clear, these advantages cannot be fully realized unless the associated challenges are addressed. Policymakers must prioritize the development of infrastructure, including reliable internet access and modern technological resources. Additionally, addressing the digital literacy gap is crucial to ensuring that both students and teachers can effectively engage with digital tools. Ongoing professional development and support for teachers are essential for overcoming resistance to new teaching methods and ensuring that faculty can effectively integrate technology into the classroom. This need for professional development is consistent with recommendations from studies by Chen et al.<sup>[59]</sup> and Meeprom<sup>[54]</sup>.

Moreover, the study found that a lack of exposure to English outside of school, limited access to English-language resources, and cultural preferences for face-to-face learning further impede the effectiveness of digital tools in language learning. This highlights the need for institutions to create environments that support the integration of digital methods and promote real-world language use. Encouraging students to engage with English outside the classroom, through virtual exchange programs or by providing access to authentic materials like podcasts, films, and articles, could further enhance their language proficiency. This conclusion is consistent with the findings of research by Rosé and Ferschke<sup>[65]</sup>, who highlight the importance of real-world language exposure.

In terms of policy implications, this study emphasizes the importance of clear and supportive institutional policies. Policies should focus on setting explicit goals for integrating digital language learning methods, ensuring accessibility and inclusivity for all students, and providing

ongoing support for teachers. Additionally, policies should encourage collaboration between institutions, technology providers, and the government to improve digital infrastructure and ensure equal access to learning resources. As discussed by Wilson et al.<sup>[61]</sup> and other scholars, the integration of digital platforms can be more effective when there is a strong support system for educators and a collaborative approach to resource development.

Furthermore, establishing mechanisms for regular evaluation and quality assurance will ensure that digital language learning initiatives are meeting their objectives and deliver meaningful results. Such reviews could include feedback from students and teachers, assessments of learning outcomes, and evaluations of the effectiveness of digital learning methods, as proposed by Gan et al.<sup>[62]</sup> and Herrera-Pavo<sup>[63]</sup>.

While this study makes valuable contributions to the understanding of digital language learning in Thai universities, it is not without limitations. The findings are context-specific, focusing on Thai institutions, and may not be fully generalizable to other educational contexts. Additionally, the study's cross-sectional nature limits the ability to assess the long-term impact of digital language learning tools. Future research should consider longitudinal studies to explore the sustainability of these methods and investigate how different digital platforms compare in terms of effectiveness. Moreover, further research is needed to understand the students' and teachers' perceptions of digital learning tools, as well as the specific barriers they face in adopting technology in language education.

## 6. Conclusions

This study highlights the potential of digital language learning tools—such as CALL, MALL, and online platforms—to enhance English language teaching and learning outcomes in Thai universities. The findings confirm that these digital tools can improve students' language proficiency, increase motivation and engagement, and provide access to authentic language resources, personalized learning, and collaborative learning opportunities. These results align with existing research on the positive impact of digital methods in language education.

However, the study also reveals significant challenges in implementing these methods within the context

of Thai higher education. These challenges include infrastructure limitations, disparities in digital literacy among students and faculty, resistance to changing traditional teaching methods, and cultural preferences for face-to-face instruction. Furthermore, issues such as insufficient funding, lack of institutional support, and limited exposure to English outside of the classroom pose additional barriers to the successful integration of digital tools.

To address these challenges and achieve sustainable and equitable English language education, the study suggests several key solutions. These include setting clear institutional goals and objectives aligned with educational priorities, improving access to infrastructure and resources, providing professional development opportunities for teachers, and ensuring policies are inclusive and accessible for all students, including marginalized groups. Additionally, creating a supportive and collaborative learning environment, incorporating digital learning into the curriculum, and establishing mechanisms for continuous evaluation and quality assurance are essential for long-term success.

By addressing these issues and implementing the proposed solutions, Thai universities can enhance the effectiveness of digital language learning methods, ensuring that all students have equal access to high-quality English education. The findings also highlight the importance of policy and institutional support in creating an environment conducive to the effective integration of technology in language teaching.

Finally, the study suggests avenues for future research, including exploring the long-term impact of digital language learning tools, evaluating the effectiveness of different platforms, and investigating students' and teachers' perceptions of these technologies. Research into the challenges of access, equity, and sustainability is essential to ensure that digital learning methods can be effectively used to promote language proficiency across diverse student populations.

## Author Contributions

Conceptualization, A.S. and K.M.; methodology, A.S.; software, K.M.; validation, A.S. and K.M.; formal analysis, A.S.; investigation, A.S.; resources, A.S. and K.M.; data curation, A.S. and K.M.; writing—original draft preparation, A.S.; writing—review and editing, A.S.;

visualization, A.S. and K.M.; supervision, A.S.; project administration, A.S.; funding acquisition, A.S. All authors have read and agreed to the published version of the manuscript.

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This study adopted a documentary analysis so ethical review and approval were waived for this study.

## Informed Consent Statement

This study did not involve humans so patient consent was waived.

## Data Availability Statement

The data is private. Please contact the corresponding author to request it.

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## Conflicts of Interest

The authors declare no conflict of interest.

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