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An Evidence-Based Policy Framework for Enhancing English Language Learning through Digital Technologies in Thai Higher Education

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Abstract

This study proposes a comprehensive policy framework for integrating digital technology to enhance English language acquisition in Thai higher education. The paper offers evidence-based recommendations for policymakers, educators, and stakeholders to address the need for alignment between digital change and educational practices. Based on qualitative analyses of policy documents and educational reports, the research delineates three principal findings: (1) current policies prioritize the integration of digital technologies within curricula, proficiency standards, faculty development, and institutional support services to enhance language learning outcomes; (2) institutional guidelines concentrate on language proficiency benchmarks, technology integration, and assessment practices, establishing a basis for forthcoming language education reforms; and (3) emerging trends in Thai higher education encompass the growing utilization of mobile applications, online platforms, and immersive technologies, despite ongoing challenges concerning access, equity, and quality assurance. Government initiatives such as the Digital Education Excellence Platform facilitate the integration of digital tools that offer opportunities for international collaboration and personalized learning. The research endorses the proposed policy framework, highlighting the potential of artificial intelligence-driven technology to enhance English language proficiency. This study provides a strategic framework for institutional innovation and policy alignment while contributing to the ongoing discourse on sustainable digital integration in language education.

Keywords: Blended Learning; Digital Technologies; English Language Learning; Thai Higher Education; Policy Framework

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1. Introduction

Despite their typically inconsistent and reactive incorporation into educational environments, digital technologies possess significant potential to enhance English language development. Numerous institutional systems have struggled to adapt to rapid technological advancements, resulting in discrepancies between the digital resources for language acquisition and the educational objectives. Despite the proposal of teacher-centered approaches, there is a conspicuous absence of a comprehensive and strategic policy framework to effectively guide legislators, educators, and stakeholders in Thailand. This disparity hinders the successful integration of digital technology and undermines effective English language acquisition [1]. Moreover, persistent obstacles to advancement encompass insufficient institutional support, inadequate professional development for educators, and deficient technology infrastructure [2].

Thailand offers a particularly compelling case for examining digital language learning policy reform within the broader ASEAN context. As a member of the ASEAN Economic Community (AEC), Thailand is under mounting pressure to enhance English proficiency to promote regional integration, cross-border trade, and labour mobility. Proficiency in English is essential for Thailand, especially considering the AEC, which prioritizes cross-border collaboration, trade, and mobility. Students aspiring to compete in international markets, undertake further studies overseas, and participate in other professional domains must possess proficiency in English. Thai higher education institutions have considerable hurdles in utilizing digital resources to enhance language instruction, despite the increasing demand [3, 4].

Moreover, Thailand's digital divide—characterized by disparate access to resources, especially between urban and rural institutions—exacerbates the difficulty of integrating technology into language education. This systemic inequity not only affects implementation but also reinforces long-standing educational disparities. In contrast, ASEAN neighbours such as Singapore and Malaysia have made significant progress by embedding digital learning within national education policy, setting precedents for effective practice. Thailand's relative underdevelopment in this area highlights the need for context-sensitive policy frameworks that address local limitations while drawing on regional models of success.

While the Thai government has introduced initiatives like the Digital Education Excellence Platform to promote digital education, these efforts often fail to address the specific demands of English language development in higher education. This study presents a comprehensive strategic policy framework to assist stakeholders in addressing these challenges and optimizing digital technologies for English language learning. By focusing on Thailand, this research not only targets a nationally urgent issue but also generates scalable insights applicable to similar educational contexts across Southeast Asia.

2. Literature Review

A growing body of evidence indicates that numerous higher education institutions worldwide are modifying their policies to adapt to the digital era and enhance academic performance. This study emphasizes the transformative impact of digitalization on multiple aspects and consolidates key findings from recent studies to offer essential insights for developing an effective policy framework for Thai higher education.

2.1. Digital Leadership and Research Proficiency

Recent studies [5–7] emphasize the evolving significance of digital leadership in higher education and highlight the necessity for comprehensive frameworks to assess the advancement of digital leadership research. Numerous institutions continue to experience a divergence between theoretical frameworks and practical application in current models, despite the increased focus on digital transformation programs[8]. Digital leadership is rapidly transforming administrative and academic sectors; therefore, it is essential to comprehend its institutional implications and implementation strategies. Thorough models assessing digital readiness—encompassing leadership, governance, and institutional culture—can enhance institutions' ability to achieve a successful digital transition [9].

This shift is also evident in the Thai setting. Motivated by Thailand's 4.0 strategy, Suksai, Suanpang, and Thangchitcharoenkhul developed a digital leadership model for school administrators that emphasizes digital ethics and visionary leadership [10].

Classic literature further reinforces this emphasis. Davis [11] introduced the Technology Acceptance Model, which is now widely utilized to assess institutional preparedness for technology adoption, while Bates [12] outlined initial strategies for managing technological transitions inside institutions.

2.2. Attaining Competencies for the Digital Age

Curricula must be revised to align with the Sustainable Development Goals (SDGs) and the demands of the digital era. The prevailing consensus is that multidisciplinary approaches, integrating technical expertise with management and analytical skills, would adequately prepare graduates for the contemporary workforce and foster constructive social change [13].

In other disciplines, such as nursing, proficiency in computer skills has become essential for success. Abou Hashish and Alnajjar [14] assert that the navigation of digital transformation, enhancement of health literacy, and application of artificial intelligence in healthcare are contingent upon the digital competencies of nursing students.

Blended learning techniques have demonstrated efficacy in enhancing digital competencies across several domains. Nitzke, Tardel, and Hansen-Schirra [15] discovered that integrated learning environments significantly improve the training of prospective translators by providing essential digital skills. Mukherjee [16] asserts that individuals in the digital era must synchronize the acquisition of digital skills with proactive career and life planning within comprehensive developmental frameworks.

The implementation of these adjustments primarily relies on teachers. Franklin [17] emphasized the necessity of equipping educators with contemporary pedagogical and technological resources to address the evolving demands of twenty-first-century education. Bikanga Ada [18] employed a design-based research methodology to create a mobile learning system that facilitates effective assessment feedback, thereby enhancing digital learning chances for ~~pupils~~ students.

Furthermore, it is essential to align contemporary digital learning environments with institutional and national educational frameworks. Butler, Leahy, Twining, and others [19] emphasized the necessity of systematic alignment to guarantee that students are adequately prepared to thrive in a technology-driven environment. Garrison and Vaughan [20], early pioneers of blended learning, continue to inform contemporary practice through a fundamental paradigm.

2.3. Sustainable Development Policy Framework

A recent study underscores the transformative potential of digital technology in addressing social and educational disparities and, hence, advancing the United Nations Sustainable Development Goals (SDGs). Case studies from rural China illustrate how digital innovation can support regional development. He, Chen, Chen [21] emphasized the scalability and long-term impacts of innovative-driven frameworks for digitally enhancing rural regeneration. Their research underscores the imperative of digital inclusion in sustainable development and provides a robust foundation for corresponding policy reforms within Thailand's higher education system.

Similarly, Tim, Cui, and Sheng [22] proposed that a fundamental catalyst for sustainable development is digital resilience—the capacity of communities to adapt and thrive within digital ecosystems. Their findings demonstrate how well targeted digital initiatives have assisted undeveloped rural regions in surmounting traditional obstacles. Thailand needs this resilience strategy due to the unequal access to digital technologies across urban and rural areas.

Nguyen-Anh et al. [23] analyze digital transformation policies in Vietnam and Singapore, providing a comparative perspective from Southeast Asia. Utilizing the Technology Acceptance Model, their findings provide Thailand's policy evolution with valuable parallels.

Highlighting Thailand's initiative to enhance its education system through digital technologies, Songkram, Chootongchai, Khlaisang, and Koraneekij [24] advocate for an Education 3.0 framework aimed at equipping Thai college students with essential 21st-century skills. Their methodology integrates digital literacy, creativity, and collaborative learning—attributes that are essential for tackling national development objectives and global challenges.

Pukdeewut and Setthasuravich [25] emphasize the necessity of addressing the tertiary digital gap, which pertains to disparities in technology utilization, by examining the impact of social and demographic factors on digital access and usage in Thailand. Their findings underscore

the necessity of formulating inclusive digital policies that guarantee full participation in digitally enhanced education for students across all socioeconomic strata.

Mohamed Hashim, Tlemensani, and Matthews [26] systematically investigated the alignment of digital transformation initiatives in higher education institutions with overarching sustainable development objectives. Studies indicate that successful digital transformation in education necessitates institutional adaptability, the promotion of equity, the development of technological innovation, and the effective adoption of technology.

Wang et al. [27] assert that strategically selected digital technology can significantly address broader societal challenges. Their research underscores the necessity of integrating digital tools into higher education policy to promote sustainability, diversity, and continuous educational reform in Thailand.

2.4. Adoption of Technology by Gender Diverse Individuals

Despite persistent inequities, especially concerning gender and equitable access, the integration of digital technology in higher education is increasingly acknowledged as a key factor in enhancing student success. Research has consistently emphasized the necessity of promoting digital literacy to mitigate gender disparities in technology access and utilization. Barra, Grimaldi, Muazzam, Troisi, and Visvizi [28] discovered that in entrepreneurial contexts, students' perceptions of digital competencies and their technical self-efficacy are significantly affected by their readiness to utilize information and communication technology (ICT). Their research highlighted how gender disparities in technology access exacerbate broader socioeconomic inequality, a significant issue in the Thai context.

This distinction is particularly significant in the context of English language instruction. Policies that overlook gender-based barriers may entirely hinder marginalized populations from accessing digital technology designed to enhance language fluency. Consequently, particularly in higher education contexts, inclusive digital education initiatives are essential to ensure equitable access to resources. Through gender-responsive methods, Thai institutions can facilitate active participation in technologically enhanced English language instruction for all students, regardless of their backgrounds.

Examining the gender digital divide within the broader context of Education 4.0 enabled Peláez-Sánchez, George Reyes, and Glasserman-Morales [29] to support their perspective. Their research emphasized the necessity of inclusive learning practices that facilitate equitable digital involvement for all students. These findings underscore the urgent necessity for institutional transformation to mitigate gender disparities and advance digital equity.

Examining inclusive pedagogical practices that promote flexibility, learner autonomy, and collaborative learning environments enables Filippou, Acquah, and Bengs [30] to offer further insights. These pedagogical strategies are especially pertinent in digital English language acquisition, as student success can be profoundly affected by proficiency in digital tools and confidence in their application.

A recent Boston Consulting Group analysis [31] indicates that women constitute less than 40% of the technology workforce, despite a relatively high enrollment of females in technical education in Southeast Asia. In Thailand, this disparity can be attributed to structural issues such as gender stereotypes, infrastructural inequalities, and discrepancies in digital competencies.

Moreover, a national examination of Thai institutions indicated that, although 61.73% have implemented digital literacy efforts, pronounced gender disparities persist due to varying levels of support and opportunity [32].

In the Thai context, increased participation in language-learning programs is contingent upon the promotion of gender-sensitive digital policies. By tackling structural disparities in technological access, governments and educational leaders could foster more inclusive learning environments that enhance the performance of various student demographics in the digital age.

2.5. Strategies for E-Government Engagement

Insights from e-government inclusion efforts provide valuable frameworks for enhancing digital access in higher education, particularly for marginalized populations such as the elderly. Ciesielska, Rizun, and Chabik [33] analyzed inclusive e-government strategies, highlighting the potential for legislative modifications to ensure equitable access to educational public services. Ensuring that marginalized groups, such as elderly students and individuals with dis-

abilities, are included in the digital transition can assist Thai higher education in formulating an inclusive digital education policy.

Kim and Lee [34] emphasized the necessity of improving digital service accessibility for marginalized groups, highlighting the essential role of digital inclusion in promoting equity within educational systems. Their findings underscore the necessity for Thai higher education institutions to implement inclusive policies that guarantee all students, irrespective of economic status or physical ability, may access to digital resources, particularly those utilized for English language instruction.

Gupta and Jana [35] proposed a comprehensive e-government evaluation methodology that encompasses strategic recommendations for the development and assessment of inclusive digital platforms. This concept could assist the Thai government in developing equitable digital access initiatives for higher education. These tactics particularly pertain to language acquisition, as access to digital tools and platforms can profoundly affect learning outcomes.

Wongmith and Phuengngern [36] conducted a study utilizing data from over 40,000 Thai individuals, illustrating the significant impact of socioeconomic status, educational attainment, and regional infrastructure on internet accessibility. Addressing these significant deficiencies is essential to establish an equitable digital policy in higher education.

Nookhao and Kiattisin [37] proposed a Thai e-government success model emphasizing trust, user-friendliness, and user competence—attributes that align with the needs of disadvantaged student populations, particularly in rural areas.

Thai higher education institutions can develop effective digital inclusion plans by implementing e-government best practices. These principles would facilitate equal access to educational resources and foster a more inclusive and just learning environment, particularly for English language development.

2.6. Utilization of Digital Tools in Higher Education: Educational Outlook

Research conducted in Nigeria identifies three essential criteria for the effective implementation of digital technology in higher education: adequate finance, educator proficiency, and privacy protection policies. Instruction in the English language is particularly pertinent to these concepts, as digital integration can substantially augment student engagement and the classroom atmosphere. Okekeuche [38] emphasizes the significant importance of digital technologies in enhancing creativity and augmenting research capabilities, particularly within the realm of language instruction.

Onyema [39] indicates persistent challenges, including insufficient infrastructure, inadequate teacher training, and low computer literacy among educators, challenges similar to those observed in Thailand. Addressing these institutional constraints will facilitate the successful integration of digital tools into English language instruction. A recent study emphasizes that two critical prerequisites characterize successful digital transformation in education: enhancing teacher readiness and maintaining adequate technological infrastructure.

Ogunode and Ndayebom [40] recommended investing in ICT infrastructure, providing comprehensive training for teachers, and formulating inclusive digital education policies as specific strategies to address these challenges. These concepts provide pragmatic answers tailored to the context of Thai higher education. By implementing these concepts, Thai institutions can enhance the integration and utilization of digital technology in English language instruction, thereby enhancing student outcomes and fostering greater educational equity.

Wongwuttiwat, Buraphadeja, and Tantontrakul [41] discovered in Thailand that students participating in digital curriculum courses exhibited much greater engagement, creativity, and collaboration compared to their counterparts in traditional schooling. This highlights that prompt enhancement of educational outcomes in higher education might arise from digital learning.

2.7. Research Gap

Global educational trends indicate the increasing importance of digital technology in boosting pedagogical practices, improving student outcomes, and equipping graduates for the demands of the digital era. Key areas that need focus in higher education policy, based on recent studies, include improving digital leadership, incorporating a mix of digital skills that match the Sustainable Development Goals (SDGs), closing the gender gap in technology

use, and ensuring universal access to digital learning spaces.

Despite these insights, research specifically focused on legislative frameworks that enable digital English language learning in the Thai higher education context is conspicuously absent. While broader initiatives for digital transformation are underway, limited research has examined targeted strategies for integrating digital technology to enhance English language proficiency. The lack of focused policy research hinders the development of context-specific solutions that can effectively address local issues such as infrastructure limitations, teacher readiness, and equitable access.

Despite these results, further research is essential, particularly about how legislative frameworks could facilitate digital English language acquisition in Thai higher education. Despite ongoing digital transformation initiatives, little research has examined specific ways to utilize digital technologies to enhance English language proficiency. The lack of targeted policy research hinders the formulation of context-specific solutions that can successfully tackle local issues such as infrastructural deficiencies, teacher preparedness, and equitable access.

2.8. Objective of the Study

The primary objective of this study is to create a thorough, evidence-based policy framework that utilizes digital technologies to improve English language education in Thai higher education. The study aims to align existing institutional policies with cutting-edge digital techniques, bridging the divide between conventional educational methods and contemporary, technology-driven language learning practices. The objective is to provide Thai university students with the linguistic and digital skills necessary for effective participation in both local and global communication environments.

2.9. Contribution to Current Research on Digital Language Learning Policy in Southeast Asia

This work advances the expanding body of research on digital language learning in multiple substantial ways. First, it offers regional significance by providing a contextually grounded examination of digital language acquisition in Southeast Asia, with particular emphasis on the Thai higher education framework. While global research on educational technology in language learning is growing, studies that focus specifically on institutional, cultural, and policy-related dynamics within Southeast Asia remain limited.

Second, the study contributes policy-oriented innovation by prioritizing the development of strategic educational policy rather than focusing solely on classroom practice or learner performance. It offers practical insights into how national and institutional policies can be realigned with advanced digital innovations—an approach crucial for enabling systemic reform in higher education.

Third, it addresses equity and inclusion by exploring how digital policy can help bridge the digital divide, reducing disparities in access to and quality of English language education across different regions and socio-demographic groups in Thailand. In doing so, the research supports broader goals of educational fairness and national development.

Furthermore, the report presents a scalable policy framework that can serve as a model for other Southeast Asian nations aiming to integrate digital tools into language education policy. This contributes to regional collaboration and mutual advancement through shared educational strategies.

Finally, the study is grounded in research-informed decision-making, guided by clearly defined research questions that analyse existing policies, evaluate the impact of digital methodologies, and offer actionable solutions. This evidence-based approach enhances the study's relevance and utility for policymakers, educators, and institutional leaders alike.

In summary, this paper not only proposes a pragmatic digital language learning policy for Thai higher education but also fills a critical gap in Southeast Asian research by integrating strategy, pedagogy, and technology through a culturally informed and empirically grounded lens.

This study is informed by research questions designed to operationalize its objectives and aid the creation of a strategic digital language learning policy framework.

2.10. Research Questions

The subsequent primary inquiries guide the research:

1. In what manner do existing policies and procedures related to English language acquisition at Thai higher education institutions integrate digital technologies?
2. Which innovative technologies and digital methodologies in language learning demonstrate potential to enhance English language acquisition results?
3. How can a strategic policy framework be developed to effectively and inclusively integrate digital tools into English language instruction in Thai higher education?

3. Materials and Methods

3.1. Research Design

This study primarily employed documentary analysis to examine existing policies, institutional practices, and national initiatives on English language learning in Thai higher education. The study focused on systematically analyzing a diverse array of materials, including government policy documents, institutional strategic plans, ministry reports, and peer-reviewed academic literature.

This qualitative method allowed for a thorough look at how digital technologies are used in English language teaching across the ASEAN Economic Community (AEC) and checked how well these efforts match regional needs and global best practices. The study aims to identify policy deficiencies, emerging trends, and opportunities for enhancing digital language learning through strategic policymaking by examining both historical and contemporary situations.

3.2. Definition of Key Terms

The key terms "digital transformation," "scalability," and "interdisciplinary integration" in this study are defined as follows:

In this study, "digital transformation" denotes the thorough incorporation of digital technology into institutional policies, pedagogical methodologies, and administrative frameworks to enhance English language instruction in higher education.

The term "scalability" refers to the capacity for effective digital language learning policies and technologies to be modified or extended across various educational institutions or regional contexts without compromising efficacy or quality.

"Interdisciplinary integration" means bringing together ideas, methods, and tools from different fields like education, technology, linguistics, and policy studies to create a complete strategy for learning English in digital settings.

3.3. Data Collection Methods

3.3.1. Data Collection Overview

Data collection occurred in two primary phases: initially to get a comprehensive understanding of the existing policy framework and scholarly discussions on English language acquisition and the integration of digital technologies in Thai higher education.

Stage 1 – Systematic Literature Review:

To identify main concepts and advancements in digital English language acquisition, we meticulously reviewed pertinent literature and scholarly articles. The search method encompassed government websites, institutional repositories, and scientific databases such as Scopus, Web of Science, and Google Scholar. The initial search yielded 121 results. A screening process, emphasizing relevance, recency, and compatibility with the study's objectives, yielded 19 peer-reviewed papers and policy-related documents for further evaluation.

Stage 2 – Policy Document Collection:

This phase involved the compilation of official documentation, including institutional policy declarations, strategic higher education plans, English language curriculum guidelines, and national education policies. Documents originated from the Thai Ministry of Higher Education, academic institutions, and publicly accessible sources. Resources were systematically organized and thematically categorized according to the categories established in Stage 1: digital preparation, language competency criteria, technical infrastructure, faculty development, and inclusivity.

3.3.2. Policy Document Selection, Inclusion/ Exclusion Criteria, Number of Documents

This research employed document analysis as the principal data-gathering method, concentrating on national and institutional policy papers pertaining to digital transformation and English language instruction in Thai higher education. A selective sampling technique was utilized to guarantee the inclusion of only pertinent and contemporary materials. Sources of policy documents comprised:

- The Thai Ministry of Education (MOE)
- The Office of the Higher Education Commission (OHEC)
- The Thailand Digital Government Development Agency (DGA)
- Strategic plans and internal policy documents from five prominent public universities
- Supplementary resources from the Digital Education Excellence Platform (DEEP) and pertinent ASEAN-level frameworks.

Nineteen policy documents issued from 2015 to 2025 were gathered for examination.

The criteria for inclusion were:

1. Documents specifically pertaining to digital education policy or English language instruction at the higher education level.
2. Officially released or sanctioned by governmental bodies or public and private universities.
3. Materials published within the specified decade (2015–2025) to represent contemporary and forthcoming trends.
4. Availability in Thai or English.

Exclusion criteria encompassed.

1. Policies exclusively pertaining to basic or secondary education without any connection to higher education.
2. Obsolete papers that have been replaced by more recent frameworks.
3. Informal publishing, including opinion articles or unofficial third-party reviews.

This document set offers an extensive overview of ongoing initiatives, deficiencies, and discussions about digital English language learning within Thailand's higher education system.

3.4. Data Analysis

3.4.1. Framework for Data Analysis

We proficiently addressed the study questions using a qualitative documentary analysis approach. This method enabled academic articles, strategic reports related to English language teaching in Thai universities, and relevant national and institutional policy documents, along with the key insights and implications found in them. We organized the analysis into three thematic groups corresponding to the study questions:

Research Question 1 – Policy and Practice Review: Documents were analysed to ascertain current national and institutional policies, strategic objectives, and practices related to English language acquisition and the incorporation of digital technology. The emphasis was on understanding how past policies embody contemporary objectives, difficulties, and institutional capabilities. We proficiently addressed the study questions by applying a qualitative documentary analysis methodology. This method allowed us to thoroughly review academic articles, strategic reports related to English language teaching in Thai universities, and relevant national and institutional policy documents, along with the key ideas and effects found in all these sources.

Research Question 2 – Emerging Digital Tools and Pedagogical Approaches: The second topic focused on recognizing trends in the utilization of digital technologies—such as online platforms, mobile learning, artificial intelligence, and immersive technologies—and its application in enhancing English language learning outcomes in higher education settings.

Research Question 3 – Policy Framework Development: The last analytical emphasis on synthesizing results sought to inform the development of a strategic policy framework. This phase involved assessing the alignment of present practices with global trends and regional requirements, particularly in relation to international educational standards, stemming from Thailand's participation in the ASEAN Economic Community (AEC).

This classification facilitated a clearer understanding of current digital technologies use, areas for improvement, and strategic planning to improve English language skills in Thai higher education.

3.4.2. Coding and Categorization Coding Process

After gathering the policy documents, we systematically organized them for examination using qualitative content analysis methodologies. All texts were loaded into NVivo 12 software to enable systematic coding and the-

matic analysis. The coding procedure adhered to a bifurcated methodology:

1. Deductive Coding:

Based on common themes found in the literature review, we established a preliminary coding structure.

- Digital infrastructure and access
- English language curriculum modernization
- Educator training and professional development
- Equity and inclusion
- Assessment and evaluation practices

2. Inductive Coding:

In the second step, novel themes arising from the policy texts were discerned and categorized.

The following items were included:

- Integration with regional ASEAN digital initiatives
- Blended learning and flexible instruction models
- Gaps between policy intent and institutional capacity
- Language as a tool for digital citizenship and economic development

All codes were subsequently organized into thematic groups, corresponding to the study's research questions and conceptual framework. To guarantee consistency and intercoder reliability, 20% of the coded materials were evaluated by a second researcher knowledgeable in education policy analysis. Discrepancies in interpretation were collectively addressed and resolved by consensus.

This meticulous analytical method facilitated the recognition of policy trends, strategic deficiencies, and avenues for enhancement in Thailand's digital English language training.

Categorization

Qualitative data was systematically coded and thematically categorized utilizing NVivo software to enhance organization and interpretation. In response to the three primary research topics, we established a systematic coding framework that facilitated comprehensive analysis across various document formats.

Thematic nodes were created for Research Question 1 to sort the data into three main categories: (a) teaching methods used by institutions, (b) the use of modern digital technology, and (c) current language policies. This process facilitated the identification of patterns and areas where policy alignment and pedagogical implementation were deficient.

The coding for Research Question 2 concentrated on identifying novel digital tools and methodologies for language acquisition. Technology encompasses gamification, mobile-assisted language learning (MALL), virtual and augmented reality (VR/AR), and AI-driven applications for organizing nodes. These developments facilitated an evaluation of their relevance and efficacy in improving English language acquisition.

In Research Question 3, nodes encompassed critical components necessary for constructing a strategic policy framework. The components were (a) explicitly articulated policy objectives, (b) frameworks for integrating digital technology into curricula, and (c) levels of stakeholder engagement, encompassing governmental entities, institutional leaders, educators, and students collectively.

This systematic, theoretical coding framework ensured precise identification, classification, and analysis of pertinent concepts and cognitive patterns. The coding system enhanced the comprehensiveness of the documentary investigation and facilitated the incorporation of results into coherent policy recommendations.

Table 1 presents an overview of the coding system utilized for the examination of documents relevant to Research Question 1.

Table 1. Existing Policies and Educational Practices.

No	Document Title	Nodes
1	Government Policy Document	Policies
2	Ministry Guidelines	Policies
3	Institutional Reports	Policies, Educational Practices
4	Curriculum Documents	Educational Practices
5	Research Articles	Policies, Educational Practices, Digital Technologies

The NVivo program systematically categorized each document into three primary groups:

Policies: This node encompassed national language initiatives, ministerial directives, and institutional language mandates. Documents associated with this node pertain to overarching objectives, requisite English proficiency standards, and digital learning requirements.

Educational Practices: This encompassed pedagogical strategies, curriculum formulation, and classroom interventions. The resources are rife with references to learner autonomy, assessment methodologies, teacher professional development, and cooperative learning.

This node highlights the significance of tools and platforms such as Learning Management Systems (LMS), language learning software, and virtual learning environments in English language training.

Each document was meticulously examined, and excerpts were classified into one or more nodes based on their relevance to the content. Institutional reports sometimes encompassed both policy directives and instructional methodologies, whereas research studies investigated all three domains, particularly the impact of technology-enhanced language acquisition on students.

Table 2 shows how we classified documents for Research Question 2, which looks at new digital methods for learning English in Thai schools.

Table 2. Emerging Digital Language Learning Approaches.

No	Document Title	Nodes
1	Academic Paper on Gamification	Emerging Approaches
2	Conference Presentation on Mobile Learning	Emerging Approaches, Technologies Showing
3	Institutional Reports	Policies, Educational Practices
4	Curriculum Documents	Educational Practices
5	Research Article on Virtual Reality in Language Learning	Emerging Policies, Educational Practices, Digital Technologies

To categorize the data, we established thematic nodes in NVivo using

- Innovative Methods: This node encompasses methodologies that are either currently being deve-loped or evaluated in language education. Sub-nodes were created for tactics such as gamified learning, mobile-assisted language learning (MALL), and immersive settings utilizing virtual or augmented reality.
- Promising Technologies: This node encompasses references to digital technologies and platforms deem-ed particularly beneficial for improving language acquisition. Included are language applications featuring real-time analytics, AI-based feedback mechanisms, and adaptive learning frameworks.

Specific technologies were associated with the instructional practices they facilitated in the document analysis. The scientific study of gamification is categorized under "Emerging Approaches" due to its theoretical framework and operational examples. The conference presentation on mobile learning encompassed both thematic categories by discussing educational methodologies and specific mobile applications.

Table 3 outlines the coding method used for the papers reviewed regarding Research Question 3, which focuses on creating a complete strategic policy framework for including digital technologies in English language education in Thai higher education.

Table 3. Developing a Comprehensive Policy Framework.

No	Document Title	Nodes
1	Policy Framework Proposal	Policy Components, Digital Tools Integration
2	Stakeholder Consultation Report	Policy Components
3	Educational Institution Case Study	Policy Components, Digital Tools Integration
4	Government White Paper	Policy Components

We employed a systematic approach to thematic analysis using NVivo software. Data categorization was directed by two primary nodes:

- Policy Components: This node consisted of goals and objectives: statements delineating the anticipated outcomes of policy actions, hence embodying fundamental structural elements of policy development.
- Implementation Strategies: Recommended methodologies for operationalizing the framework across various institutions. Numerous frameworks exist for monitoring, evaluating, and facilitating continuous development.
- Involvement of stakeholders: allusions to cooperation among educators, governmental bodies, and learners.
- Integration of digital tools: This node concentrated on the policies and strategies proposed for the incorporation of digital technology into governance systems. It encompassed strategies for incorporating tools such as learning management systems (LMS), artificial intelligence-based assessment platforms, and virtual learning environments into educational designs augmented by technology recommendations for the digital ecosystem essential for efficient implementation encompasses infrastructure and support systems.

We assessed each paper for alignment with these criteria. The Policy Framework Proposal provided comprehensive recommendations for integrating digital learning materials and outlined the overarching design of the policy. Although it did not concentrate on technology details, the Government White Paper was significant in delineating institutional aims and national educational priorities.

Additionally, we categorized references to regional integration through the ASEAN Economic Community (AEC) to assess the alignment between national policy objectives and international educational standards. This method ensured that the resultant framework is responsive to both regional and global concerns while being deeply rooted in Thai higher education culture.

3.5. Thematic Analysis

Through thematic analysis of the gathered policy papers, institutional reports, and scholarly literature, we systematically identified recurring patterns, themes, and insights. This study sought to elucidate the conceptualization and application of digital technology in English language training within Thai higher education. Focusing on national policy direction and global best practices, it aimed to emphasize concerns of misalignment, underutilization, or strategic oversight. **Figure 1** revealed the following key themes.

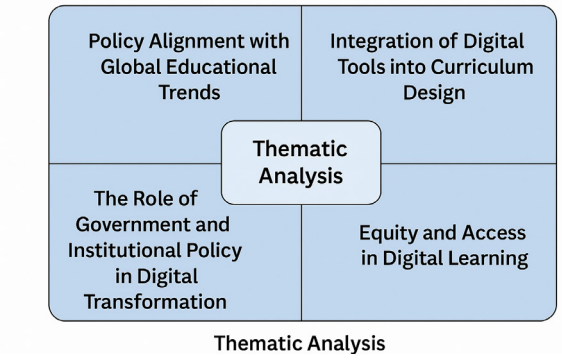

Figure 1. Thematic Analysis of Digital English Language Policy.

- **Policy Alignment with Global Educational Trends:** Numerous studies emphasized the necessity of integrating Thai higher education policies with global trends in digitalization and the cultivation of 21st-century competencies. Efforts are underway to develop comprehensive regulations that incorporate digital learning as a fundamental pedagogical tool, aligning with worldwide educational standards and the requirements of the ASEAN Economic Community (AEC).
- **Integration of Digital Tools into Curriculum Design:** A prevalent topic of debate was the necessity of integrating digital technologies into foundational English-language education. Tools such as Learn-

ing Management Systems (LMS), adaptive learning platforms, online language laboratories, and mobile-assisted language learning applications are frequently recognized as crucial for enhancing student engagement, delivering personalized feedback, and facilitating independent learning. Numerous publications emphasized the necessity of aligning Thai higher education policies with global trends in digitization and the cultivation of 21st-century competencies. Efforts continue ~~to~~ to develop comprehensive regulations that align with global educational standards and the requirements of the ASEAN Economic Community (AEC), positioning digital learning as a fundamental pedagogical instrument.

- **The Role of Government and Institutional Policy in Digital Transformation:** Numerous studies highlighted the significant importance of institutional leadership and government-initiated projects in facilitating effective digital integration. Despite the availability of national frameworks such as the Digital Instruction Excellence Platform, their specific relevance to English language instruction remains limited. Organizations with well-defined internal policies and resource allocation plans exhibit greater efficiency and involvement in utilizing digital tools.
- **Equity and Access in Digital Learning:** Significant issues of discourse emerged around digital disparities, especially between urban and rural entities. Limited access to digital infrastructure and training opportunities disproportionately impacts students from disadvantaged backgrounds. These disparities underscore the necessity for inclusive policy frameworks that emphasize fair access to digital English language learning resources.

This thematic analysis ensures that the proposed strategic policy framework is grounded in evidence and contextually relevant to the realities of Thai higher education; hence, it directs its progress. The topics provide a foundation for formulating policy recommendations aligned with national development objectives and institutional requirements.

3.6. Comparative Analysis

A comparison analysis was conducted to examine the alignment between current policies and pedagogical practices in Thai higher education and the newly identified digital language learning methodologies identified in the literature review. This study aimed to identify critical development areas and evaluate the effectiveness of existing methods in integrating digital technologies into English language training.

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The investigation yielded numerous significant findings as summarized in **Figure 2** below:

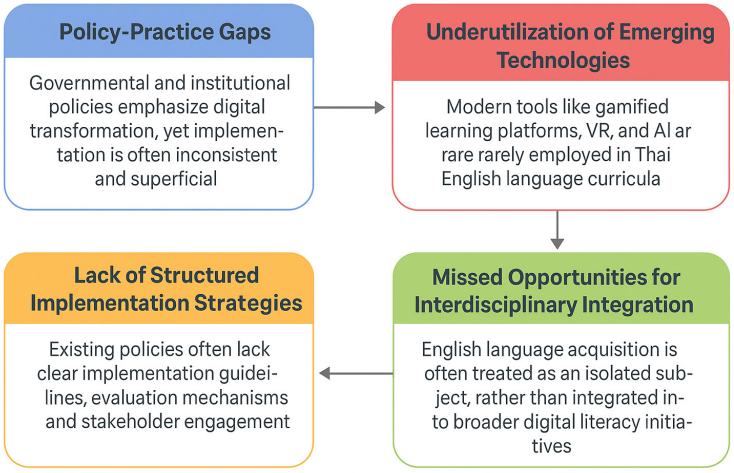

Figure 2. Summary of Key Findings from Comparative Analysis.

Policy-Practice Gaps: Governmental and institutional policies often emphasize the necessity of digital transformation; yet, actual implementation frequently falls short of expectations. For instance, while blended learning and mobile-assisted language learning are recognized in worldwide literature as effective methodologies, their implementation in Thai institutions is inconsistent and often superficial. This discrepancy demonstrates a divergence between policy objectives and their practical implementation.

Underutilization of Emerging Technologies: Although seldom used in Thai English language curricula, modern technologies such as gamified learning platforms, virtual reality (VR), and AI-driven language assessment tools are gaining significant popularity worldwide. This gap underscores the necessity to upgrade and diversify the digital resources available for educators and learners.

Lack of Structured Implementation Strategies: The scalability of digital projects is hindered by existing policy documents that frequently lack clear implementation guidelines, evaluation methods, and strategies for stakeholder engagement. In contrast, the exemplary methods noted in nations like Singapore and Malaysia emphasize the necessity of organized implementations supported by talent enhancement and regular evaluations. These nations function as significant comparative benchmarks owing to their geographical closeness, common socio-economic issues, and proven efficacy in incorporating digital technologies into language instruction. Utilizing their models provides pragmatic insights and opportunities for policy transfer to Thailand, aiding in the development of context-specific policies that can enhance digital project outcomes in Thai higher education.

Missed Opportunities for Interdisciplinary Integration: Contemporary Thai higher education practices occasionally regard English language acquisition as an isolated discipline, rather than integrating it into a broader framework of digital literacy or transdisciplinary competencies. Comparative methodologies underscore the importance of integrating English training within broader competencies suitable for occupational requirements and sustainable development goals.

This comparative analysis underscores the necessity of a clear and coherent policy framework that recognizes global trends and contextualizes them within Thailand's unique socio-educational environment. This program establishes a framework designed to connect current digital learning methodologies with existing educational systems.

3.7. Policy Framework Development

This study presents a comprehensive policy framework for integrating digital technology into English language instruction within Thai higher education institutions, based on findings from thematic and comparative studies. We designed the framework to cater to both national and international needs, especially considering the ASEAN Economic Community (AEC) and global advancements in digital education.

The following fundamental objectives drive the policy framework as shown in **Figure 3**:

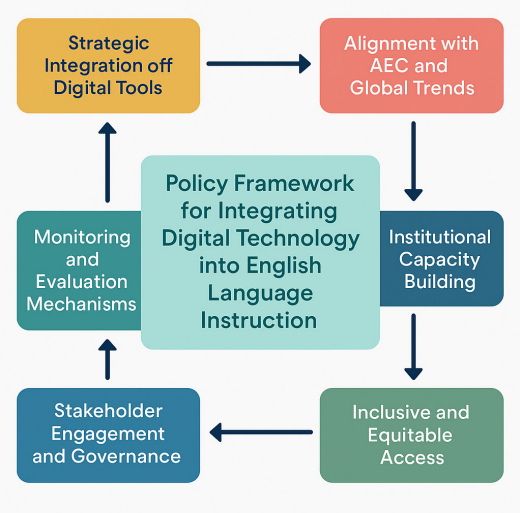

Figure 3. Policy Framework for Integrating Digital Technology in English Language Education.

This flowchart illustrates a strategic policy framework designed to guide the integration of digital technology into English language instruction within Thai higher education. Based on thematic and comparative insights, the framework addresses national educational goals, ASEAN integration, and global digital competencies. It includes strategic objectives such as digital tool integration, institutional capacity building, inclusive access, monitoring and evaluation, and stakeholder collaboration. Below are details of each objective.

- **Strategic Integration of Digital Tools:** Promote the incorporation of digital resources into the English language curriculum, including gamified platforms, mobile-assisted learning applications, Learning Management Systems (LMS), and virtual reality (VR) environments. These tools have been selected for their evident capacity to enhance learner engagement, interaction, and personalized learning.
- **Alignment with AEC and Global Trends:** Particularly regarding the AEC, ensure that English language instruction equips students with the necessary capabilities for regional and global communication. The framework emphasizes digital competency as an essential element of regional competitiveness.
- **Institutional Capacity Building:** Promote professional development initiatives for educators, focusing on digital pedagogy and instructional design. Effective digital transformation relies on investments in infrastructure and the professional development of educators.
- **Inclusive and Equitable Access:** Implement policies that provide equitable access to digital resources for students from diverse socioeconomic and geographic backgrounds, therefore reducing the digital divide. Gender-sensitive approaches and assistance for marginalized people form the foundation of the framework.
- **Monitoring and Evaluation Mechanisms:** Establish explicit criteria for the ongoing evaluation of digital language learning programs. To ensure adaptability and relevance, this process entails establishing quantifiable objectives, feedback mechanisms, and periodic policy evaluations.
- **Stakeholder Engagement and Governance:** Foster collaboration among legislators, educators, academics, students, and corporate stakeholders. A participatory governance paradigm is presented to ensure that several perspectives influence policy development and implementation.

The proposed framework serves as a strategic blueprint for Thai higher education institutions, providing pragmatic guidance onimplementing digital technologies to improve English language acquisition. It aims to address current policy challenges, facilitate sustainable enhancements in education, and elevate Thailand's status within the broader global context of technologically advanced and competitive educational institutions.

3.8. Validation and Feedback

The reliability and robustness of the proposed policy framework were assessed through a secondary data validation approach. The validation method involved comparing the current framework against various secondary sources, such as government reports, international policy research, and scientific articles about using digital technologies in learning languages.

Despite the absence of direct engagement with human stakeholders, including experts or focus groups, the validation methodology ensured the framework's alignment with international educational trends and local policy concerns. This step was essential to verify that the structure adheres to internationally recognized best practices while also addressing the specific demands and objectives of the Thai higher education sector.

The secondary validation focused primarily on guaranteeing:

- **Alignment with International Standards:** Ensuring that the framework aligns with globally acknowledged methodologies for digital integration in language education, according to documents from organizations such as UNESCO, OECD, and the ASEAN Education Sector.
- **Consistency with Thai National Policies:** Ensuring that the framework aligns with current Thai government policies on digital education and regional initiatives, including the objectives of the ASEAN Economic Community (AEC) and the Thailand 4.0 growth plan.
- **Relevance to Educational Trends:** We examined the framework in light of new trends in digital education to see how well it applies to current and future developments in learning languages, including improvements in artificial intelligence, mobile learning, and immersive technologies like virtual reality and augmented reality.

Adding secondary validation strengthened the trustworthiness of the suggested policy strategy and its ability

to support effective digital integration in English language education in Thai higher education.

3.9. Reliability and Validity Checks

We employed multiple methodological approaches to ensure the validity, reliability, and rigor of the study findings.

- **Inter-Coder Reliability:** The thematic analysis encompassed multiple coding iterations to enhance consistency and precision. Regular meetings facilitated the resolution of coding discrepancies, thereby guaranteeing consistency throughout the dataset and fostering consensus on the interpretation of significant themes.
- **Triangulation:** The analysis incorporated data from diverse sources, including government policy documents, curricular guidelines, institutional reports, and peer-reviewed research journals. This triangulation validated trends and insights across several document types: hence, reinforcing the conclusions.
- **Documentary Consistency and Transparency:** Measures were implemented to guarantee a comprehensive and impartial compilation of resources pertinent to the research inquiries. To enhance the integrity and transparency of the study process, comprehensive documentation of the data selection, coding, and analytical methodologies was meticulously preserved.

The research employed solely documentary analysis, facilitating a comprehensive assessment of contemporary rules, pedagogical approaches, and the integration of digital technologies in English language teaching in Thailand. This method facilitated a clear understanding of institutional initiatives and the policy landscape.

This research offers a validated and suitable policy plan for using digital technology in English teaching at Thai universities, based on a review of many national and institutional documents. The study significantly advances the formulation of evidence-based policies that tackle local educational issues and broader global and regional trends in digital education, especially those associated with the AEC.

4. Results

This section thoroughly examines three key topics related to studying English and employing digital technology at Thai universities: prevailing norms and pedagogical methods, institutional policies, and emerging trends, challenges, and possibilities associated with digital technology utilization.

4.1. Policies and Educational Practices for English Language Acquisition in Thai Higher Education

4.1.1. Domestic Policies

The 2017–2026 National Education Plan underscores the incorporation of Information and Communication Technology (ICT) to enhance students' digital competencies, encompassing ICT literacy, media proficiency, and adaptability to technological advancements[42]. Simultaneously, national educational policies emphasize English language ability as an essential asset for global communication and economic competitiveness. The government has initiated multiple programs to enhance English language instruction. These programs include integrating English learning goals to the national curriculum, using digital technology for teaching, and setting standard English proficiency levels to ensure consistent learning results in schools.

Nonetheless, obstacles persist concerning the uniformity and cohesiveness of policy execution. Supplementary assistance is essential to guarantee the efficient implementation of digital tools in varied educational settings.

4.1.2. Incorporation of Digital Technologies

Thai universities are progressively incorporating digital tools into language education, such as online platforms, interactive software, and multimedia materials. These innovations enhance student engagement and cultivate more dynamic learning environments. Some institutions have implemented virtual classrooms, augmented multimedia utilization, and embraced online evaluation methods to boost teaching quality and language acquisition [43–44].

Notwithstanding advancements, the extent of adoption and efficacy varies significantly. Obstacles such as disparities in institutional infrastructure, the digital preparedness of educators, and inconsistent degrees of policy support persist in hindering uniform and sustainable implementation.

4.1.3. Integration of Curriculum

The integration of English language education across several disciplines is seen in the increasing adoption of English-medium instruction (EMI), bilingual programs, and specialist courses designed for certain academic fields. This multidisciplinary integration demonstrates institutional efforts to enhance linguistic proficiency in academic and professional contexts.

Moreover, digital technologies—such as e-learning platforms and online language applications—expand educational opportunities outside the conventional classroom. These tools facilitate autonomous learning and offer authentic, interactive linguistic experiences. People often view their intentional integration as a strategy to boost student engagement and overall proficiency [45].

4.1.4. Linguistic Competence Criteria

Numerous Thai colleges have English proficiency prerequisites for graduation or admission, typically assessed by standardized examinations such as the TOEFL or IELTS. Institutions have deployed many digital resources to facilitate these objectives. These encompass diagnostic instruments featuring interactive elements, immediate feedback mechanisms, personalized progress tracking systems, and mobile educational applications.

Institutions employ these technologies to facilitate targeted skill development and enhance student preparedness for high-stakes assessments [46, 47].

4.1.5. Assistance Services

Besides formal education, colleges provide many ancillary services—such as tutoring, language laboratories, and conversation groups—that cater to students' specific learning requirements. These services are essential for improving general English competence in both academic environments and informal learning contexts [48–50].

4.1.6. Faculty Training and Development

Faculty development is a strategic focus in Thai institutions, especially in fostering digital literacy and instructional innovation. Educators receive help through many initiatives, including conferences, seminars, and specialized training sessions aimed at improving their proficiency in effectively integrating digital resources into English language instruction.

These initiatives seek to enhance faculty proficiency in using technology to augment instructional methods and elevate student learning outcomes [51].

4.1.7. Research and Development Initiatives

Higher education institutions have progressively allocated resources toward research aimed at developing and accessing innovative digital tools for English language acquisition. These efforts investigate the potential of emerging tools and their educational significance in improving language acquisition.

The findings from this research are informing educational policy and directing the incorporation of digital resources in classroom practices [52, 53].

4.1.8. Collaborative Endeavors

Thai universities have enhanced their international involvement via exchange programs, collaborative research endeavors, and cross-cultural initiatives. These joint initiatives provide students with immersive and practical language experiences that markedly improve proficiency.

Engaging with native or skilled English speakers and partaking in varied academic and cultural environments enables learners to utilize their language skills in practical situations [54]. This immersive approach boosts language proficiency and fosters a deeper understanding of different cultures, preparing students for global citizenship. As a result, learners emerge more confident in their abilities and are more effectively equipped to navigate diverse professional landscapes.

The interconnected components detailed in Sections 4.1.1. to 4.1.8. illustrate a multifaceted strategy for using digital technologies in English language education within Thai higher education. National policy directives and institutional practices, including curriculum design, faculty development, and international collaboration, jointly influence the digital language learning ecosystem. This graphic offers a synthesized visual representation of the interconnected domains and their functions in enhancing English language competency within the policy and implementation framework.

Figure 4 categorizes the eight essential components of policy and practice into four thematic pillars: 1. Policy and Strategic Direction; 2. Curriculum and Instructional Integration; 3. Institutional Support and Human Capacity; 4. External Engagement and Global Orientation. Collectively, these pillars exemplify the structural and operational aspects essential for synchronizing national digital education policies with efficient classroom execution.

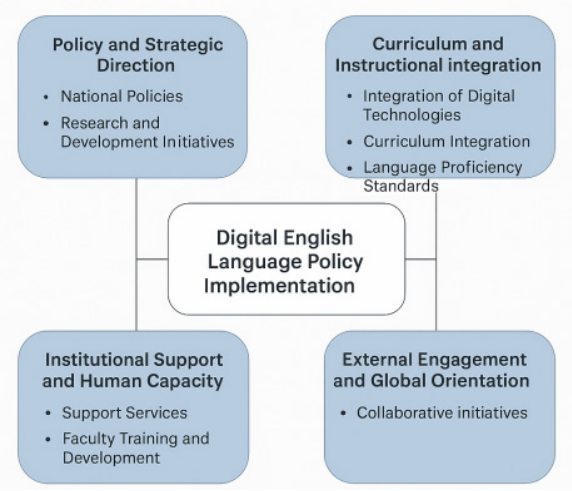

Figure 4. The Four Pillars of Digital English Language Policy Implementation in Thai Higher Education.

4.2. Institutional Guidelines for English Language Learning

An examination of institutional regulations reveals the various tactics employed by Thai colleges to align English language instruction with national educational policy. In the effort to enhance students' English proficiency, these criteria embody diverse institutional objectives and capabilities. Collectively, they represent the strategic priorities of higher education institutions. **Figure 5** provides a succinct summary of the primary institutional policies and practices commonly employed to standardize, facilitate, and enhance English language acquisition within the Thai higher education framework.

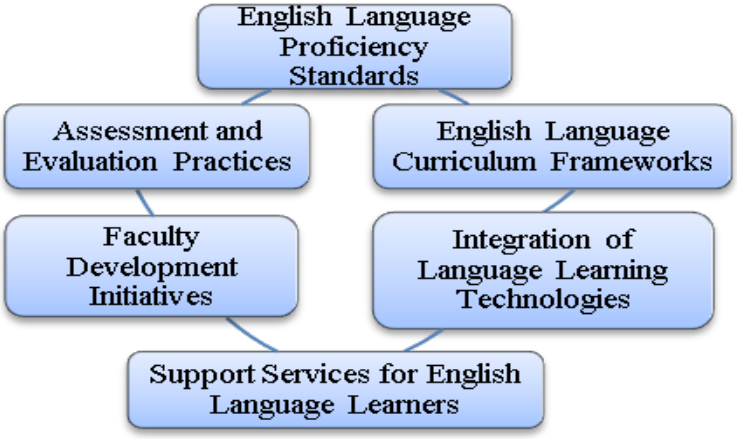

Figure 5. The Guidelines Commonly Adopted by Most Institutions.

Figure 5 illustrates the primary institutional strategies adopted by Thai higher education institutions concerning English language proficiency and curriculum design. Many universities set specific competency requirements that outline the required language proficiencies across various academic levels, thereby guaranteeing that students

acquire the necessary skills. These requirements align with institutional objectives and academic standards, encompassing clearly stated course objectives, intended learning outcomes, syllabi, and assessment methods.

Numerous organizations acknowledge the significance of technology in language teaching, leading to the implementation of regulations that incorporate digital technologies. Recommendations frequently encompass the selection and implementation of internet platforms, language learning tools, and multimedia resources designed to facilitate students' language acquisition processes [55, 56]. Additionally, support services such as language laboratories, tutoring programs, and conversation groups are sometimes recommended as supplementary tools to enhance students' possibilities for language practice and communicative connection [57, 58].

Faculty development is a crucial element of institutional frameworks. Professional development efforts, such as seminars, workshops, and digital literacy training, are designed to equip educators with the pedagogical and technological competencies essential for effective English language education [59] Also, the procedures for assessment and evaluation are explained; the guidelines stress the importance of providing requirements feedback to support student growth and set standards for testing skills [49, 51].

4.3. Trends, Patterns, Challenges, and Opportunities

The integration of digital technologies into English language instruction in Thai higher education has led to many emerging trends, patterns, challenges, and opportunities.

- **Trends:** Thai institutions are evidently experiencing a growing popularity of mobile applications and online learning platforms. These digital tools offer flexible, accessible learning environments that facilitate asynchronous engagement and remote access to educational resources. Additionally, immersive technologies such as virtual reality (VR) and augmented reality (AR) are integrated to improve language acquisition by providing more interactive and dynamic learning settings [33,34].
- **Patterns:** A discernible trend is the increasing adoption of blended learning methodologies that integrate online components with conventional face-to-face teaching. This method provides students with greater autonomy and possibilities in both in-person and self-directed study. Furthermore, gamification is currently a primary tool employed in language instruction to enhance student engagement through incentives, leaderboards, and interactive challenges, hence increasing motivation and participation [60].
- **Challenges:** Despite the advancements in digital technology, numerous issues impede its pro-per deployment. Critical concerns encompass accessibility, equity, and the quality of online resources. In disadvantaged populations, disparities in access to devices, reliable internet connectivity, and digital proficiency may undermine educational outcomes [61]. The growing quantity of digital resources raises issues about their instructional usefulness, au-thenticity, and reliability.
- **Opportunities:** Conversely, digital technologies present numerous prospects for international collaboration and personalized education [62]. Adaptive learning systems and AI-driven tutoring platforms promote diverse learning through customized resources that meet specific student needs [63, 64]. Moreover, digital tools facilitate contact between students, teachers, and classmates globally, hence enhancing educational opportunities and fostering cross-cultural communication and collaborative learning [65].

4.3.1. Emerging Approaches and Technologies for Learning Digital Languages

Innovative digital technologies, platforms, and methodologies are increasingly adopted to facilitate English language acquisition within Thai colleges. Government initiatives like Distance Learning Television, UniNet, SchoolNet, and the Smart Classroom Initiative primarily drive these advancements. These programs specifically target impoverished rural regions to improve ICT infrastructure and facilitate access to educational resources, hence improving equity in language learning chances [33].

Since 2020, the Digital Education Excellence Platform (DEEP) has offered direct access to curriculum resources for teachers and students, thus streamlining and enhancing learning interactions [34]. Numerous successful pilot projects have demonstrated the potential of new technologies; virtual reality (VR) particularly aids students in improving their speaking and listening abilities in immersive, interactive environments [66].

Additionally, various new technologies—such as mo-

bile learning apps, adaptive learning platforms, and AI-based language teaching systems—have shown promising results in improving language skills. These solutions address student needs by offering specific feedback and personalized learning trajectories; hence, they enhance overall educational achievements [24].

4.3.2. A Comprehensive Policy Framework

The results have led to a complete policy framework indicating enhancements in English language education within Thai higher education. The integration of the ASEAN Economic Community (AEC) with digital technology and resources enables it to address the global demands of the ~~twenty-first~~ 21st century. **Figure 6** delineates the principal concepts of this proposed methodology.

Figure 6. A Proposed Policy Framework.

Figure 6 illustrates the proposed legal framework designed to enhance English acquisition in Thai higher education. This approach assesses policy systems and best practices in digital language learning by integrating domestic and international perspectives. The development primarily depends on the perspectives of stakeholders, who guarantee that the framework satisfies the requirements and anticipations of all pertinent parties, including legislators, educators, administrators, and students. Moreover, the framework emphasizes the necessity of English proficiency in promoting regional collaboration, aligning with the objectives of ASEAN Economic Community (AEC) integration. In addition to English language teaching, the system facilitates the use of newly created digital tools, such as mobile applications, artificial intelligence (AI) technologies, and immersive simulations. Effective pilot projects and evidence-based research provide the foundation of the framework, since they guarantee its adaptability and efficacy in yielding outcomes in English language acquisition.

4.4. Key Findings: Thematic Insights into Infrastructure, Teacher Training, Learner Access, and Assessment

Four principal themes, derived from the investigation of national policies, institutional methods, and digital education efforts, encapsulate the fundamental results of this study. Themes such as infrastructure, teacher training, learner access, and assessment are pivotal factors affecting the efficacy and expansion of digital English language instruction in Thai higher education. Each theme highlights both progress and ongoing challenges, offering a clear understanding of the systems, teaching methods, and policies that shape today's digital language learning environment.

4.4.1. Infrastructure

Thai higher education institutions have progressively integrated digital technologies into English language training. National initiatives, including the Digital Education Excellence Platform (DEEP), Distance Learning

Television, SchoolNet, and the Smart Classroom Initiative, demonstrate efforts to enhance ICT infrastructure, particularly in rural and underprivileged areas. These programs seek to mitigate regional and socio-economic inequalities in access to digital resources [33, 34].

Notwithstanding these advancements, considerable problems endure. The deployment of digital platforms, multimedia tools, and virtual classrooms differs significantly among institutions owing to disparities in institutional preparedness, uneven governmental direction, and infrastructural deficiencies. Certain institutions have implemented online evaluation methods and interactive e-learning platforms, while others have challenges due to inadequate connectivity and digital resources [43–44]. The infrastructure divide poses a major barrier to scalable and sustainable digital change in English language teaching.

4.4.2. Teacher Training

Professional development for educators is a vital aspect of Thailand's digital language education initiatives. Numerous universities have initiated faculty development programs to improve digital literacy and pedagogical proficiency. These encompass seminars, workshops, and specialized training modules aimed at assisting instructors in the efficient integration of digital resources into their English teaching methodologies [51].

Nonetheless, inequalities persist in the accessibility and comprehensiveness of such instruction. Rural or under-resourced universities frequently lack the capability to provide ongoing professional development, resulting in variability in teaching quality. Institutional rules underscore the necessity of providing educators with both technology and pedagogical skills [59], although the execution and oversight of these initiatives are irregular. The preparedness of faculty remains a crucial factor influencing the efficacy of digital learning efforts.

4.4.3. Learner Access

Thai institutions have implemented diverse support services to enhance student access to English language education. These encompass language laboratories, tuition services, and conversational groups, frequently offered in hybrid or digital media [48–50]. The integration of mobile applications, adaptive learning platforms, and AI-driven tutoring systems has enhanced students' options for individualized and self-directed learning [24, 46].

Nonetheless, digital equity remains a significant issue. Students from disadvantaged families may experience inconsistent access to internet-enabled devices or dependable connectivity, particularly in rural regions. The digital divide affects student engagement and performance, especially when education is predominantly conducted through online channels [61]. Although several institutions have implemented inclusive policies, systemic disparities in access to technology and digital competencies persist, obstructing widespread participation in digital English language instruction.

4.4.4. Assessment

Assessment methodologies in Thai higher education have progressively used digital resources to improve the evaluation of English language proficiency. Numerous colleges mandate that students achieve standardized standards, such as TOEFL or IELTS scores, and facilitate that achievement using digital diagnostic tools, online practice platforms, and mobile applications that provide real-time feedback and individualized progress monitoring [46–47].

Learning management systems (LMS) frequently incorporate both formative and summative evaluations in digital formats. Moreover, institutions employ AI-enhanced writing assessment tools and interactive language testing platforms to accurately evaluate students' academic English proficiency [49, 51].

Notwithstanding these developments, concerns persist about the uniformity, validity, and pedagogical coherence of digital assessment systems across institutions. Faculty members are actively engaged in creating standardized feedback systems and ensuring that digital assessments are effectively matched with the targeted learning outcomes.

The four interconnected themes—Infrastructure, Teacher Training, Learner Access, and Assessment—jointly influence the incorporation of digital technology in English language education as shown in **Figure 7**.

Infrastructure	**Teacher Training**
Infrastructure disparities impede uniform digital access across institutions.	Inconsistent training hinders effective use of digital tools in education.
Learner Access	**Assessment**
Socioeconomic barriers limit student opportunities for digital learning.	Digital assessment consistency and quality need enhancement.

Figure 7. Thematic Insights into Infrastructure, Teacher Training, Learner Access, and Assessment.

Figure 7 illustrates four interrelated issues that significantly impact the efficacy of digital English language education in Thai higher education. Each theme corresponds to a fundamental aspect of policy execution: (1) ~~Infrastructure~~ infrastructure determines how easily students can access technology and the internet; (2) educator training influences how well teachers can use digital tools in their lessons; (3) student access ensures that all types of students can participate fairly; and (4) assessment helps measure learning results and supports continuous improvement in teaching methods. These topics collectively form a strategic framework to direct institutional enhancement and align policy formulation with educational realities.

5. Discussion

This research contributes to the evolving discourse on the integration of digital change in English language instruction inside Thai universities. The results support claims in previous studies that successfully adding digital tools to education is complicated and requires alignment between national policies, school initiatives, teacher abilities, and student needs [24,26]. The analysis confirms that, despite Thailand's national education plan emphasizing English proficiency and digital literacy as dual goals [42], persistent implementation gaps exist due to disparities in infrastructure, teacher preparedness, and access equity.

5.1. Digital Leadership and Institutional Readiness

A crucial factor influencing how firms implement and sustain digital transformation is digital leadership [10, 11]. The data shows that even though Thai institutions are starting to use digital tools for teaching and online assessments [41], their readiness for digital transformation varies widely, which matches what the research highlights. This fluctuation reflects the discrepancy between practical application and strategic planning [12]. Effective digital leadership, characterized by vision, inclusiveness, and ethical governance, is essential for bridging this gap and facilitating sustained transformation [23].

5.2. Teacher Development and Pedagogical Innovation

Instructional creativity is contingent upon teachers' technical proficiency, as indicated in previous studies [17, 18]. The current results emphasize substantial investments in faculty development activities designed to equip educators with the necessary tools and strategies for facilitating blended learning environments. Nonetheless, disparities persist in teacher preparedness, particularly at underfunded institutions. Virtual classrooms, flexible platforms, and multimedia resources are used because research shows that, when used well, these technologies improve engagement and language learning [15]. However, comprehensive teacher training and ongoing support systems are the determinants of the efficacy of these instruments [40].

5.3. Policy Alignment and SDG Integration

The SDGs, both in theory and empirical data, underscore the necessity for systematic alignment between institutional objectives and broader national and global development frameworks [21, 27]. Despite Thailand establishing ambitious objectives through initiatives such as Education 3.0 [24], the implementation of these aims within functional institutional frameworks exhibits considerable variability. The suggested policy framework, illustrated in **Figure 2**, utilizes comparative models from countries such as Singapore and Vietnam [23] to integrate global best practices. These suggest that inclusive governance strategies target-

ing regional disparities and promoting equitable access to education must guide digital change.

5.4. Gender Equity and Inclusive Language Education

Consistent with findings in entrepreneurial and academic settings, disparities in digital access and technological self-efficacy based on gender persist [28, 31]. Despite an increase in female enrollment in technical education, systemic barriers continue to impede the full utilization of digital resources, particularly in English language instruction. Equitable opportunities for marginalized populations rely on inclusive digital education initiatives [29, 30]. The findings validate these claims by illustrating that promoting engagement and achievement in digital language learning environments relies on inclusive digital policies that recognize and accommodate diverse student backgrounds.

5.5. Technological Innovation, Accessibility, and Emerging Trends

Reflecting contemporary assertions regarding the significance of innovation and digital competencies, developing technologies such as artificial intelligence, virtual reality, and mobile learning platforms are becoming essential to English language teaching [16, 38]. Thailand's successful deployment of these technologies—particularly in pilot programs and projects such as DEEP and Smart Classroom—demonstrates their capacity to enhance speaking, listening, and reading proficiency [34, 66]. In accordance with regional studies, the findings caution that, absent robust infrastructure support and teacher training, these technologies risk underutilization [39, 40]. Ensuring equitable opportunities for all students necessitates prioritizing the resolution of digital disparities, especially in rural and socioeconomically disadvantaged regions [25, 36].

5.6. E-Government Insights ~~for~~ into Equitable Policy Development

E-government models offer a valuable framework for the development of inclusive educational policy [33, 35]. The results underscore how Thai institutions might implement these concepts to formulate digital inclusion policies for higher education. The emphasis on user trust, accessibility, and competence aligns with the needs of disadvantaged students and promotes a more inclusive, equity-oriented approach to digital education [37]. These insights particularly pertain to language instruction, as equitable access to resources directly influences learning outcomes.

5.7. Scalability and Policy Implementation Gaps

National policies, including the 2017–2026 National Education Plan and the Digital Education Excellence Platform (DEEP), demonstrate Thailand's dedication to improving English proficiency and digital literacy; however, substantial implementation gaps at the institutional and programmatic levels impede the scalability of these initiatives.

A primary concern is the absence of explicit operational instructions for executing national directives at individual colleges. For example, although DEEP offers a centralized platform for digital content distribution, numerous institutions lack the requisite internal infrastructure—such as comprehensive Learning Management Systems (LMS), sufficient server capacity, or departmental policies—to effectively incorporate DEEP's resources into their curricula. Consequently, faculties, particularly in rural colleges, either underutilize or employ the platform inconsistently.

Moreover, variations in institutional autonomy and administrative capability exacerbate scalability challenges. Although prominent universities in Bangkok and Chiang Mai have initiated internal digital transformation units and developed policy frameworks to facilitate blended English instruction, numerous smaller institutions are deficient in personnel and financial resources to replicate these efforts. These inequalities lead to inconsistent implementation, with certain campuses utilizing advanced digital language tools and examinations, while others persist with older techniques, irrespective of national policy recommendations.

Programmatic mismatch constitutes a significant difficulty. Many schools have not properly revised their English language program plans or goals to align with digital learning aims or to include tools like online simulations, game-based vocabulary apps, or AI writing assistants. Furthermore, current national policies lack prescribed metrics or benchmarks for assessing the performance of digital integration, resulting in inconsistent monitoring and inade-

quate accountability systems at the institutional level.

This discrepancy between national aspirations and institutional implementation exemplifies the traditional "policy-practice gap" in educational reform. Without targeted training programs, clear funding mechanisms, and flexible digital language learning plans tailored to diverse institutions, efforts to improve digital transformation in English teaching will remain uneven and unsustainable.

5.8. Comparative Contextualization of Findings: Digital Language Policy and Education Reform

This study provides valuable insights into the influence of digital technologies on English language teaching in Thai higher education; however, its limitations call attention to the need for future research to utilize mixed-method or participatory approaches, include various stakeholder perspectives, and monitor technological advancements over time. The results will enable a more comprehensive, context-sensitive, and pragmatic understanding of how digital learning may evolve equitably and effectively.

5.8.1. Digital Leadership and Institutional Readiness

This research investigates the vital role of digital leadership in shaping institutional preparedness, aligning with global findings. Like studies performed in Alenezi[5], Alward and Phelps [6], and Antonopoulou et al. [7], Thai institutions exhibit inconsistent advancement due to discrepancies between strategic vision and practical execution. According to the research of Suksai et al. [10], Thai institutions are focusing more on ethical digital leadership and forward-looking planning, but the results also show that these approaches need backing from local policies and sustained funding. This aligns with the findings of Mohamed Hashim et al. [26], who asserted that effective digital transformation relies on adaptive governance and ongoing evaluation frameworks.

5.8.2. Curriculum Reform and Digital Competency Development

This study's focus on harmonizing digital policy with 21st-century competencies reflects the contributions of Franklin [17] and Nitzke et al. [15], who underscore the necessity for multidisciplinary methodologies that integrate technological, linguistic, and critical thinking abilities. In Thailand, the movement toward Education 3.0 (e.g., Songkram et al. [24]) signifies alignment with this global trend. The findings of this study substantiate these theories by demonstrating that blended learning settings and mobile technologies enhance learner autonomy and engagement while also emphasizing that ongoing teacher development is vital for successful implementation.

5.8.3. Scalability and Policy Integration

The difficulty Thailand faces in implementing a national digital policy across many agencies is not unprecedented. Similar problems have been seen in Vietnam and Singapore, where Nguyen-Anh et al. [23] pointed out that digital transformation efforts work better when national goals are aligned with those of universities and when they account for the specific context. This study, like the examples, concludes that Thailand's top-down initiatives (e.g., DEEP) necessitate enhanced alignment with institutional policies to achieve scalability and sustainability. Additionally, the lack of evaluation frameworks and performance measures found in this study matches the shortcomings noted by Butler et al. [19] in international studies on digital curriculum integration.

5.8.4. Equity, Gender, and Access Gaps

This study affirms that equity and inclusion are critical issues in Thailand's digital policy framework. The results corroborate other research highlighting disparities in digital access between genders, showing that unfair structures and specific challenges for women necessitate the creation of gender-sensitive digital education policies. Although Thailand has launched digital literacy initiatives, this study highlights that socio-demographic discrepancies persist, hindering equitable participation. These findings align with advocacy for policies of Pukdeewut and Setthasuravich [25] addressing the tertiary digital divide via inclusive design.

5.8.5. Document-Based Policy Limitations and E-Government Insights

This study's dependence on document analysis as a

principal methodology reflects the efforts of Ciesielska et al. [33] and Gupta and Jana [35] in e-government and digital inclusion research. These findings indicate that documents frequently embody idealistic policy narratives, sometimes disconnected from practical realities. This study recognizes the lack of real-time stakeholder feedback as a methodological limitation. However, the importance of e-government models, especially those that focus on trust, accessibility, and user skills, backs up this study's support for unified digital education strategies based on inclusive design principles.

5.8.6. Global Comparability and Implementation Constraints

The issues encountered by Thailand—regarding infrastructure deficiencies, teacher preparedness, and inconsistent access—reflect broader patterns observed in developing nations, such as Nigeria. Research by Onyema [39] and Ogunode and Ndayebom [40] emphasizes that the successful integration of ICT occurs only when institutional restrictions are methodically addressed. The findings of this study, especially concerning institutional discrepancies and regional implementation gaps, corroborate these conclusions and highlight the necessity for context-sensitive frameworks that consider local capability while pursuing national cohesiveness.

Table 4 below provides a comparative summary of key findings from this study alongside similar international research on digital language learning policy, highlighting shared challenges and context-specific innovations.

Table 4. Comparative Summary of Digital Language Learning Policy Studies in Global and Regional Contexts.

Study	Region/ Country	Focus Area	Key Findings	Methodology	Relevance to Present Study
Suksai et al. (2021)	Thailand	Digital Leadership	Developed digital leadership model aligned with Thailand 4.0	Model development, case study	Supports the need for institutional digital leadership models in Thai HEIs
Nguyen-Anh et al. (2023)	Vietnam, Singapore	Policy Integration	Compared policy frameworks; emphasized technology acceptance	Comparative policy analysis	Offers a Southeast Asian benchmark for policy design
Pukdeewut & Setthasuravich (2023)	Thailand	Digital Equity	Revealed disparities in digital access due to social/ demographic factors	Survey-based analysis	Validates the study's emphasis on bridging the digital divide
Mohamed Hashim et al. (2022)	Global	Sustainability & Digital Reform	Aligned HE digital reforms with SDGs	Systematic review	Informs policy framework's sustainability dimension
Onyema (2021)	Nigeria	Infrastructure & Teacher Training	Highlighted insufficient ICT infra & teacher training	Qualitative & secondary analysis	Echoes findings on institutional barriers in Thai context
Barra et al. (2022)	Global	Gender & ICT Access	Found gender-based ICT disparities impacting learning equity	Quantitative survey	Supports gender-inclusive digital policy recommendations

5.8.7. Advancing the Discourse on Digital Language Learning Policy

This study enhances the comprehension of digital language learning policy by connecting high-level strategic objectives with practical implementation realities in the Thai higher education system. It employs a multi-layered technique to integrate policy texts, global standards, and theme analyses, in contrast to previous research that frequently examines policy and practice separately. It provides a policy framework rooted in local reality while being influenced by global trends. It highlights underexplored aspects such as interdisciplinary integration, gender equity, and institutional scalability. These contributions enhance the current conversation by introducing a model that is context-sensitive and adaptive, allowing policymakers and educators to formulate more responsive and fair reforms in digital English language education.

5.9. Concluding Summary

This study has rigorously analyzed the realm of digital English language instruction within Thai higher education, emphasizing both institutional advancements and ongoing obstacles. Crucial insights highlight the necessity for cohesive policy frameworks, equitable access, and ongoing professional development to facilitate effective digital transformation. The research highlights deficiencies in policy execution, particularly on underutilized technologies and unequal resource allocation. Confronting these issues necessitates scalable techniques adaptable to many educational contexts and a purposeful shift toward interdisciplinary integration—connecting English language acquisition with broader digital competences and sustainable development objectives. Enhancing the congruence between national objectives and classroom reality is crucial for cultivating equitable, future-ready educational institutions in Thailand and worldwide.

6. Conclusion

6.1. Key Findings and Interpretations

This article underscores the essential requirement for a systematic, comprehensive, and sustainable policy framework to guide the integration of digital technology into English language education in Thai higher education. The establishment of effective digital language learning environments relies on robust digital leadership, the enhancement of digital competencies, and the formulation of policies promoting digital inclusion as education undergoes global transformation. Despite the presence of gender divisions, socioeconomic disparities, and inconsistent implementation in Thai colleges, persistent difficulties such as unequal access for all students must be addressed, even as these institutions progressively employ digital tools.

The findings emphasize the significant influence of digital leadership on the adoption of innovative technologies; hence, it affects curriculum development and facilitates faculty training. A clearly articulated digital leadership strategy aligns technological initiatives with institutional objectives and promotes a collaborative culture among educators, ultimately enhancing student engagement and language proficiency. The growing significance of blended learning approaches, which integrate traditional and digital modalities, is evident, offering students greater autonomy and enhanced access to resources for language development.

Furthermore, fostering digital resilience and social justice relies on digital learning practices that align with the Sustainable Development Goals (SDGs). Thai higher education institutions must implement inclusive policies that consider socio-demographic factors, including wealth disparity and geographical differences, to guarantee that all students have equitable opportunities to enhance their English language proficiency. Emerging technologies, such as virtual reality (VR), augmented reality (AR), and artificial intelligence-driven tutoring systems, alongside authentic, contextually rich learning opportunities, exhibit significant potential for facilitating language acquisition.

Creating a just and inclusive educational environment necessitates addressing gender and socioeconomic disparities in digital access. Employing gender-sensitive methodologies and focused interventions will facilitate bridging the digital gap, ensuring that every student, regardless of background, benefits from advancements in digital language acquisition. Moreover, academic partnerships and international collaboration offer avenues for cross-cultural engagement, thereby enhancing language development and elevating Thailand's global competitiveness.

This study establishes a robust basis for institutional planning and future policy formulation to enhance English language education in Thailand. By prioritizing digital leadership and inclusivity, together with the strategic implementation of new technologies, Thai institutions can more effectively prepare students for success in the global information economy while significantly contributing to broader national and international development goals.

6.2. Implications of the Study: Aligning Policy with Practice

This study offers vital guidance for the design and implementation of more successful digital education policies in Thai higher education, specifically regarding English language training. Connecting high-level tactics with classroom realities necessitates operational frameworks that are contextually aware, inclusive, and flexible.

6.2.1. Digital Leadership and Institutional Development

Although national initiatives like Thailand 4.0 prioritize digital progress, their execution at the institution level frequently exhibits a lack of strategic alignment. To address this disparity, national policy should mandate that each higher education institution create a specialized Digital Leadership Task Force responsible for formulating institution-specific roadmaps in accordance with national frameworks. These roadmaps must encompass standards for digital preparedness, faculty training initiatives, and internal policy evaluations.

Moreover, governmental incentives may be linked to progress reports, promoting data-informed leadership and the sustainable incorporation of digital tools throughout departments.

6.2.2. Curriculum Integration and Blended Learning Models

Despite national advocacy for blended learning, its implementation in classrooms is inconsistent. National standards ought to require the integration of digital pedagogy modules in teacher training programs and curriculum design units. Institutions must present implementation plans demonstrating the balance between digital content distribution and in-person participation.

Pilot initiatives, especially in underprivileged provinces, should receive funding to evaluate scalable blended learning models, and the outcomes should inform the enhancement of national policies.

6.2.3. Promoting Digital Inclusion and Reducing Educational Disparities

Contemporary national plans acknowledge the digital divide yet are deficient in localized enforcement measures. Policies must incorporate decentralized digital equality audits, enabling each region to evaluate infrastructure deficiencies and recommend specific actions. This can be bolstered by a national funding initiative for rural institutions, encompassing:

- Subsidized internet plans and equipment.
- Public-private partnerships to improve connectivity.
- Digital access centers that are focused on the community should be established.

National reporting frameworks should incorporate these techniques to track the elimination of geographic and socioeconomic disparities.

6.2.4. Gender Equity in Digital Education

Higher education institutions must be mandated to prepare Gender and Technology Action Plans (GTAPs) that are consistent with national gender strategies and Sustainable Development Goals (SDGs) to implement gender equity objectives. The plans must encompass:

- Collection of gender-disaggregated data on digital access.
- Reviews of inclusive content design.
- Mentoring initiatives for female students in digital and language-intensive disciplines.

National policies ought to provide specific grants to assist GTAPs in institutions exhibiting recognized gender disparities.

6.2.5. Leveraging Emerging Technologies for Enhanced Learning

While national strategies incorporate emerging technologies, they are often absent from practical education due to financial and training constraints. National policy ought to promote the establishment of EdTech Innovation Clusters in public institutions, facilitating the advancement and localization of AI, VR, and mobile learning applications for English instruction.

These clusters may partner with ministries to implement technology and create open-access repositories for adoption by other organizations. Teacher training curricula must be revised to incorporate practicum-based modules on emerging educational technology tools.

6.2.6. International Collaboration and Global Competitiveness

Policy declarations frequently endorse internationalization; nevertheless, implementation is deficient in digital preparedness. Thailand ought to implement Digital Internationalization Frameworks, delineating explicit rules for virtual exchanges, online dual degrees, and collaborative international learning settings.

This area encompasses:

- Policy frameworks for virtual mobility,
- Protocols for credit recognition in hybrid international education,
- Financial resources are available to facilitate worldwide virtual teaching collaborations.

6.2.7. Sustainable Development and Policy Alignment

The digital education policy should be aligned with Thailand's national development strategy and objectives for regional collaboration. This necessitates inter-ministerial coordination, especially among the Ministries of Education, Digital Economy, and Social Development. Policies ought to require annual SDG audits for higher education institutions, assessing the extent to which their digital learning efforts promote equity, sustainability, and ASEAN integration.

A Digital Education Policy Observatory might be created to monitor national advancements, propose modifications, and disseminate exemplary practices regionally as shown in **Table 5**.

Table 5. Policy Design Implications and Recommendations.

Policy Implication	Recommendation for Alignment
Digital Leadership and Institutional Development	Establish structured governance frameworks and strategic digital leadership roles to guide implementation and sustain faculty engagement.
Curriculum Integration and Blended Learning Models	Develop institutional guidelines that mandate blended learning practices and provide training and tools for integration into curriculum.
Promoting Digital Inclusion and Reducing Educational Disparities	Implement policies for subsidized internet access and devices in rural areas; develop inclusive infrastructure investment plans.
Gender Equity in Digital Education	Create gender-responsive digital education policies; monitor and support female students' engagement in tech-enhanced learning.
Leveraging Emerging Technologies for Enhanced Learning	Encourage the adoption of adaptive and immersive tools via pilot programs and provide teacher training to ensure pedagogical effectiveness.
International Collaboration and Global Competitiveness	Forge policy-driven international academic partnerships to enhance English proficiency through digital platforms and cultural exchanges.
Sustainable Development and Policy Alignment	Align institutional strategies with SDGs and AEC goals by integrating digital literacy and inclusive learning targets into national education plans.

In summary, for the successful implementation of digital transformation in English language education, Thailand must transition from aspirational objectives to context-sensitive, actionable policy frameworks. National strategies must be implemented via institutional mandates, financial incentives, inclusive policy instruments, and cohesive assessment systems. These measures will improve classroom efficacy and advance the overarching goals of equity, sustainability, and global competitiveness in Thai higher education.

6.3. Advancing Understanding of Digital Language Learning Policy

This study enhances the current research on digital language learning policy by providing a detailed, context-specific framework based in Thailand's higher education sector—an area that has been inadequately examined in international literature. This research links policy formulation to classroom practices, offering a comprehensive view that connects national goals, like the Thailand 4.0 policy and ASEAN integration, with the challenges faced by schools, teaching methods, and what students need, unlike earlier studies that mostly looked at broad trends in digital education or specific examples of using technology.

This study shows that digital transformation involves many different aspects, including rules and regulations, fair access to resources, teacher readiness, and reliable assessments, unlike earlier studies that only saw it as a problem with technology. This study uses thematic analysis of policy papers, institutional reports, and international examples (like Singapore and Malaysia) to carefully look at the

ongoing differences between what policies say and what happens in English language education, instead of merely advocating for adoption of digital tools.

This study provides a visual, conceptual policy framework that distinctly outlines implementation techniques, stakeholder responsibilities, and feedback loops—elements frequently absent in current studies. The study shows that we can create effective digital language learning policies that are inclusive, sustainable, and responsive to both global and local changes by focusing on combining different fields, considering gender issues, and aligning with regional skills.

The research synthesizes and contextualizes previous insights while proposing concrete avenues for transformation, advancing from theoretical conversations to policy-ready recommendations. This increases its significance for policymakers, educators, and academics seeking to transform digital language education into both internationally competitive and locally pertinent.

7. Recommendations

The subsequent recommendations aim to facilitate the effective incorporation of digital technology into English language instruction within Thai higher education, informed by the findings and implications of this research.

7.1. Establish Robust Digital Leadership Frameworks

Thai universities should develop comprehensive digital leadership frameworks to guide the strategic incorporation of digital tools into English language instruction. To facilitate genuine and enduring digital transformation, institutional leaders must prioritize governance, capacity building, and strategic planning. Effectively managing the intricacies of technology adoption and aligning digital initiatives with institutional objectives requires faculty members to assume leadership roles. Moreover, fostering collaboration among academic staff and enhancing student engagement and language acquisition outcomes will constitute a clearly articulated digital leadership strategy.

7.2. Integrate Blended Learning Models into Curriculum Design

English language classes should use blended learning methodologies that integrate traditional in-person instruction with online educational platforms. The increased flexibility and self-directed learning provided by blended models enhance personalized and efficient language acquisition for students. Explicit implementation guidelines could assist organizations in ensuring consistency and accessibility across departments. To maximize the benefits of blended learning environments, faculty members should receive targeted training on integrating digital technology into their courses.

7.3. Promote Digital Inclusion and Address the Digital Divide

Universities and governmental entities must enact inclusive policies that ensure equitable access to digital learning resources to mitigate disparities in digital access, particularly for students in rural or disadvantaged regions. This issue pertains to providing complimentary or subsidized access to e-learning platforms, educational resources, internet connectivity, and learning devices. Furthermore, to ensure full engagement with digital tools, both academics and students must receive comprehensive digital literacy training. These programs play a crucial role in mitigating socioeconomic disparities and promoting inclusive language education.

7.4. Implement Gender-Sensitive Digital Education Policies

Thai higher education institutions can rectify gender disparities in access to digital technologies by formulating gender-sensitive policies. These regulations should guarantee that, irrespective of gender, every student can equally benefit from digital learning environments. Through targeted support systems, such as specialized scholarships, training programs, or outreach initiatives, female students and other marginalized groups can be strengthened, thereby promoting broader gender equality in educational settings through digital education.

7.5. Invest in Emerging Technologies and Faculty Development

Universities should explore the integration of ad-

vanced technologies, such as adaptive learning platforms, artificial intelligence-driven tutoring systems, and virtual and augmented reality, to improve English language instruction. These resources offer instantaneous feedback, tailored learning trajectories, and authentic language practice environments. Institutions must invest in infrastructure and provide ongoing faculty development programs to ensure educators are equipped to implement new technology in their classrooms, which facilitates effective deployment.

7.6. Foster International Collaboration and Cross-Cultural Engagement

International collaborations can enhance English language proficiency by providing students with opportunities for authentic cross-cultural dialogue. Thai colleges should expand existing abroad exchange programs, collaborative research initiatives, and virtual learning opportunities, while also strengthening current collaborations. Digital platforms enable pupils to attain multicultural understanding, global perspectives, and linguistic skills, thereby promoting global engagement.

7.7. Align Digital Learning Initiatives with the SDGs

Thai higher education institutions should align their digital learning methodologies with the United Nations Sustainable Development Goals (SDGs), particularly concerning enhanced education, reduced inequality, and social inclusion. Digital resources should be utilized to facilitate accessible and equitable education, especially for children from disadvantaged neighborhoods. Through these activities, institutions can substantially advance national and international development objectives while enhancing the employability and linguistic skills of their graduates.

7.8. Encourage Ongoing Research and Policy Evaluation

The efficacy and adaptability of digital language learning methodologies rely on ongoing research and policy evaluation. Thai colleges ought to engage in national and international initiatives to share best practices and support empirical research on the impact of digital technology on learning outcomes. Through consistent evaluation and refinement of digital education policy, institutions will maintain responsiveness to evolving learner needs, technological advancements, and emerging trends.

These recommendations offer a strategic framework for enhancing English language instruction in Thai higher education through digital technology. Thai institutions may foster a more equitable and effective digital learning environment by prioritizing leadership, diversity, innovation, and global engagement. By doing so, they will facilitate the achievement of broader societal and developmental objectives while better preparing students for participation in the global information economy.

8. Limitations

This study offers a keen analysis of the prospective use of digital technology to improve English language learning in Thai higher education. Nonetheless, various limitations must be recognized to contextualize the findings and propose avenues for further research.

8.1. Geographic Scope

This study largely examined institutions in Thailand, thus constraining the applicability of its findings to other regional or global educational settings. Countries with varying socioeconomic conditions, technological infrastructures, or governmental frameworks may have unique obstacles and opportunities in digital language learning.

8.2. Institutional Variation

The study revealed differing degrees of digital integration among Thai institutions but did not systematically examine how institutional characteristics—such as governance structures, funding, institutional culture, or public versus private status—might affect the effectiveness and sustainability of digital English language instruction.

8.3. Limited Stakeholder Perspectives

The document analysis method, although effective for scrutinizing official policy narratives and institutional initiatives, omits the lived experiences of essential stakeholders, including students, frontline educators, and support personnel. In the absence of these views, the findings may

neglect essential lessons regarding actual classroom implementation, learner engagement, and localized obstacles to adoption of technology. Future research using surveys, interviews, or observational methods could provide a deeper and more personal understanding of how people learn digital languages.

8.4. Technology Usage and Access Variability

The study recognizes the utilization of digital platforms and tools but fails to investigate the exact types, quality, or institutional accessibility of these technologies. The disparity in internet infrastructure, hardware accessibility, and software utilization—especially between urban and rural institutions—affect implementation results. The conclusions may not adequately reflect the technological inequalities that influence equity and scalability.

8.5. Focus on Language Learning

The study focused exclusively on English language acquisition, potentially failing to represent the application of digital tools in other academic fields. Disciplines such as mathematics, physics, or the arts may necessitate distinct digital pedagogies, hence potentially constraining the applicability of this study's findings in those contexts.

8.6. Rapidly Evolving Digital Landscape

The fast-paced evolution of educational technology—especially in artificial intelligence, adaptive learning, and immersive technologies—renders discoveries susceptible to obsolescence. As policies, tools, and practices advance, the strategies examined in this study may necessitate re-evaluation and modification to maintain their relevance in the future.

8.7. Lack of Longitudinal Data

This research utilizes a cross-sectional design, providing an overview of present digital integration. It fails to examine long-term impacts on student learning outcomes, teacher development, or systemic transformation. Longitudinal studies are essential to assess the sustainability and efficacy of digital learning interventions across time.

8.8. Limitations of Document Analysis

Although document analysis offered a comprehensive perspective on national and institutional initiatives, it possesses intrinsic limits. Documents represent proposed policies rather than actual implementation and may convey idealistic or aspirational narratives. Such writings frequently emanate from a leadership perspective and may exhibit a deficiency in critical analysis regarding failures or unexpected repercussions. The lack of triangulation with real-time data, including classroom observations or stakeholder interviews, constrains the depth and contextual sensitivity of the results.

8.9. Potential Response Bias

The study partially depended on institutional reports and documentation produced by administrators or senior professors. These sources might show a bias from the institution, highlighting the positive aspects of digital transformation efforts while possibly downplaying problems with implementation or pushback from stakeholders.

9. Conclusion

This study provides important information about how digital technologies affect English language teaching in Thai universities, but its limitations show that future research should use a mix of methods, include different viewpoints, and observe how technology changes over time. The results will facilitate a more thorough, context-aware, and pragmatic comprehension of how digital learning might progress equitably and effectively.

Author Contributions

Conceptualization, A.S. and D.C.; methodology, A.S. and D.C; software, A.S.; validation, A.S. and D.C.; formal analysis, A.S.; investigation, A.S.; resources, A.S.; data curation, A.S.; writing—original draft preparation, A.S.; writing—review and editing, A.S.; visualization, A.S. and D.C.; supervision, A.S.; project administration, A.S.; funding acquisition, D.C.. Both authors have read and agreed to the published version of the manuscript.

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Conflict of Interest

The authors declare no conflict of interest.

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