

Enhancing Thai Language Instruction for Chinese Students through Animation Media: A Developmental Approach Using the ADDIE Model

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การวิจัยครั้งนี้มีความมุ่งหมายเพื่อ 1) พัฒนาสื่อแอนิเมชันการสอนภาษาไทยสำหรับชาวจีนโดยใช้ ADDIE Model 2) เพื่อประเมินประสิทธิภาพจากการใช้แอนิเมชันในการเรียนรู้ภาษา 3) เพื่อศึกษาผลสัมฤทธิ์ทางการเรียนและความพึงพอใจของการใช้สื่อแอนิเมชัน เครื่องมือที่ใช้ในการวิจัยประกอบด้วย แบบทดสอบวัดผลสัมฤทธิ์ แบบประเมินประสิทธิภาพ และแบบประเมินความพึงพอใจ กลุ่มตัวอย่างเป็นนักศึกษาชาวจีนชั้นปี 2 จำนวน 28 คน ซึ่งเรียนภาษาไทย ณ Yuxi Normal University สาธารณรัฐประชาชนจีน วิเคราะห์ข้อมูลจากการหาค่าเฉลี่ย ร้อยละ และส่วนเบี่ยงเบนมาตรฐาน

ผลการพัฒนาสื่อแอนิเมชันการสอนภาษาไทยสำหรับชาวจีนแสดงให้เห็นถึงความสำเร็จของการวิจัยที่มีการออกแบบและพัฒนาสื่อที่มีเนื้อหาครอบคลุมทักษะการสื่อสารที่จำเป็นของผู้เรียนทั้ง 12 เรื่อง ผลการประเมินประสิทธิภาพสื่อแอนิเมชัน จากผู้เชี่ยวชาญมีประสิทธิภาพในระดับสูง ผลประเมินผลสัมฤทธิ์ทางการเรียนจากการใช้สื่อแอนิเมชัน พบว่ามีประสิทธิภาพสูงกว่าเกณฑ์มาตรฐานที่กำหนดไว้ นอกจากนี้ ผลการประเมินความพึงพอใจของผู้เรียน อยู่ในระดับมากที่สุด แสดงให้เห็นว่างานวิจัยนี้มีส่วนสำคัญในการยกระดับการจัดการเรียนการสอนภาษาไทยสำหรับชาวต่างชาติผ่านนวัตกรรมดิจิทัล โดยเพิ่มประสิทธิภาพในการเรียนรู้ และช่วยส่งเสริมความสนใจของผู้เรียน การวิจัยนี้จึงเป็นแนวทางในการพัฒนาเนื้อหาทางการศึกษาในการสอนภาษาไทยให้แก่ชาวต่างประเทศต่อไปในอนาคต

คำสำคัญ: สื่อแอนิเมชัน ภาษาไทยสำหรับชาวจีน การสอนเชิงนวัตกรรมการสอน รูปแบบ ADDIE

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(Received: 28 December 2025; Revised: 19 March 2026; Accepted: 2 June 2026)

Abstract

This research focuses on the development and evaluation of animation media as an innovative approach to teaching the Thai language to Chinese students using the ADDIE Model. The study aims to achieve three primary objectives: 1) to develop animation media that effectively enhance Thai language instruction for Chinese learners, 2) to assess the efficiency gained from using animations in language learning, and 3) to examine the learning achievement and satisfaction associated with the use of animation media. The research employed an achievement test, an efficiency assessment form, and a satisfaction assessment form as instruments for data collection. The sample group consisted of 28 second-year Chinese students studying Thai at Yuxi Normal University. Data analysis involved calculating the mean, percentage, and standard deviation.

The results demonstrate the successful development of animation media covering 12 essential communication areas. Expert evaluations confirm the media's high effectiveness, while the assessment of learning achievement yields an efficiency result that surpasses the standardized benchmark. Moreover, learners' satisfaction is at the highest level. These findings highlight the study's contribution to enhancing Thai language instruction for foreign learners through digital innovation, demonstrating that animation media not only enhances learning efficiency but also promotes learner engagement. This study serves as a valuable guideline for future content development in Thai language instruction for international students.

Keywords: Animation media, Thai language for Chinese, innovative teaching approach, ADDIE Model

Introduction

The development of teaching Thai as a foreign language has been influenced by various factors, including religious and commercial aspects. Historical trade connections between Thailand and China during the Sukhothai and Ayutthaya periods, as well as interactions with Portugal and American missionaries, played a role in the early exposure of Thai language to foreigners. Furthermore, the American imperial era necessitated the learning of Thai by American officials for effective communication with Thai people.

In the era of globalization, Thailand's expanding economy led to increased trade, resulting in the Thai language being learned as a foreign language in higher education institutions. Additionally, Thai language instruction was provided to foreign employees working in Thailand. As Thai businessmen invested in neighboring countries and the tourism industry flourished, the demand for Thai language instruction for foreigners further increased. Plangsorn (2017) notes that in recent years, the Asian higher education wave has brought a significant number of Chinese students to Thailand to study Thai. Thai higher education institutions have responded by offering Thai language classes to cater to the growing foreign student population. Moreover, the Thai government has actively promoted the teaching of Thai language as a foreign language to support its integration into the ASEAN Community and expand Thai cultural influence abroad.

Regarding institutional cooperation, Putthasatien (2017) highlights that Nakhon Ratchasima Rajabhat University has entered into an academic cooperation agreement with Yuxi Normal University, China, fostering the teaching of Thai language to Chinese students through a collaborative program that has been ongoing since 2010. The outbreak of the Covid-19 pandemic in early 2020 prompted a shift to online teaching and learning, where innovative educational technologies, such as animation media, emerged as efficient tools for enhancing remote education. Animation media, which combines visuals, audio, and explanatory

content, has been successfully integrated into language teaching, captivating learners' attention and making the learning experience more engaging.

Research conducted by Anan and Kunwong (2018); Suchanavanich (2018); Wiboolyasarin (2015) focused on designing web-based instructional models using the ADDIE framework to teach fundamental Thai conversation to foreign language learners. Similarly, Hidayati (2022) explored the development of animation media to enhance learning outcomes in understanding the characteristics and competencies of elementary school children. In a different context, Muyassaroh et al. (2021) developed an interactive animation using the Waterfall Systems Development Cycle method to facilitate comprehension of Directional Complements. Additionally, Wiboolyasarin (2015) created an engaging application for learning basic English vocabulary to supplement language learning materials. These studies highlight the use of technology and innovative approaches to enhance language learning and educational outcomes.

This study addresses the current research gap by integrating 2D animation with bilingual Thai-Chinese subtitles, specifically designed to overcome linguistic barriers through the ADDIE Model, a framework that McGriff (2000) describes as a systematic instructional design process. This distinguishes the proposed media from traditional materials. Given this context, the research team is motivated to develop animation media as an innovative approach to teaching Thai language for Chinese communication. This endeavor aligns with the Sustainable Development Goals (SDGs), specifically Goal 4, which emphasizes inclusive and equitable quality education and lifelong learning opportunities for all learners, regardless of nationality.

Research Objectives

1. to develop animation media as an innovative tool for teaching Thai language to Chinese learners using the ADDIE Model.
2. to examine the efficiency gained through the utilization of animations in the language learning process.
3. to evaluate the learning achievement and satisfaction levels of students who utilize animation media for Thai language instruction.

Scope of the Study

The research team has categorized the scope of the study into four primary dimensions, as detailed below:

Content Scope: The content focuses on 12 essential Thai communication topics for everyday life, including greetings, introductions, food ordering, shopping, and emergency situations.

Population and Sample: The sample group consists of 28 second-year Chinese students studying Thai at Yuxi Normal University, selected through purposive sampling to represent learners preparing for their further studies in Thailand.

Variable Scope:

Independent Variable: The use of animation media and electronic books developed through the ADDIE Model.

Dependent Variables: 1) Media efficiency (E1/E2), 2) Learning achievement (pre-test and post-test scores), and 3) Learner satisfaction.

Time Scope: The research was implemented during the second semester of the academic year.

Methods

This study, entitled “Enhancing Thai Language Instruction for Chinese Students through Animation Media: A Developmental Approach Using the ADDIE Model,” employed a one-group pretest–posttest developmental research design to evaluate the efficiency of the animation media. The details of the research methodology are as follows:

1. Participants and Sampling

The target population consisted of second-year Chinese students majoring in Thai at Yuxi Normal University, People's Republic of China, who were enrolled in the 2+2 collaborative Thai language curriculum between Yuxi Normal University and Nakhon Ratchasima Rajabhat University. This group was specifically selected through purposive sampling because they were in a transitional phase completing their first two years of study in China prior to their scheduled transfer to continue their 3rd and 4th years of study at Nakhon Ratchasima Rajabhat University, Thailand. Understanding their communicative needs and improving their skills at this stage is crucial for their academic preparation.

Initially, the research team collected data from 36 students. However, following a rigorous data validation process, 8 participants were excluded based on incomplete participation criteria, such as incomplete test submissions and inconsistent engagement in the assessment phases. Consequently, the final analysis was conducted with a total of 28 participants ($N = 28$).

2. Instructional Design: The ADDIE Model

The research team employed the ADDIE Model as the core instructional design framework to ensure the systematic development of the animation media:

Analysis: The team analyzed the learning needs of Chinese students, focusing on 12 essential Thai communication topics. This included identifying linguistic challenges such as Thai phonology and daily vocabulary relevant to their future study in Thailand.

Design: Based on the analysis, the team developed storyboards for each animation module. This stage included designing characters, scripts, and interactive components, as well as drafting the pre-test and post-test assessments.

Development: The animation media and electronic books were produced using digital software. The team integrated Thai-Chinese subtitles and audio. The developed materials were then reviewed by a panel of three experts for quality assurance.

Implementation: The media was used as an instructional tool with the 28 participants via a hybrid learning environment (online and in-class). This allowed the team to measure real-time efficiency and engagement.

Evaluation: The effectiveness was assessed through the E1/E2 efficiency formula, learning achievement comparisons, and satisfaction surveys to determine the overall impact of the innovation.

3. Research Instruments

The instruments used to collect and evaluate data included:

An Achievement Test: A 10-item sentence-completion test used to measure pre-and-post learning outcomes. The test items were designed to cover the core communicative competencies of the 12 lesson topics.

Media Efficiency Evaluation Form: A 5-level Likert scale form used by experts to assess the instructional quality and media design.

Satisfaction Questionnaire: A questionnaire used to gauge learner engagement and feedback.

All instruments underwent quality verification by a panel of three experts specializing in Thai language instruction, educational technology, and curriculum design. The content validity was assessed using the Index of Item-Objective Congruence (IOC), which ranged from 0.67 to 1.00, indicating that all items were appropriate. Additionally, the reliability of the achievement test and the questionnaire was determined using Cronbach's Alpha coefficient, yielding a value of 0.85), which confirmed the internal consistency of the instruments.

4. Ethical Considerations

The research was conducted in strict accordance with international ethical standards for human research. The study protocol underwent a formal review and received ethical approval from the Human Research Ethics Subcommittee of Nakhon Ratchasima Rajabhat University (Certificate No. HE-RDI-NRRU.085/2565). All participants were informed of the research objectives and provided voluntary consent before participating in the study, ensuring the confidentiality and anonymity of their data throughout the process.

5. Data Analysis

The collected data were analyzed using descriptive statistics, including mean ($\bar{X}$), standard deviation (S.D.), and percentage. The efficiency of the animation media was determined using the E1/E2 formula. E1 (Process Efficiency) was calculated from the scores obtained from exercises and activities conducted during the 12 lesson modules, while E2 (Product Efficiency) was derived from the post-test scores administered after the completion of all lessons. Additionally, a paired-samples t-test was performed to compare pre-test and post-test scores to determine the statistical significance of the learners' achievement. Furthermore, Cohen's d was calculated to measure the effect size of the instructional media on Thai language acquisition.

Results

1. The development of animation media as an innovative tool for teaching Thai language to Chinese learners using the ADDIE Model.

For the development of animation media, the researchers used the ADDIE Model in four steps: 1) Analysis, 2) Design, 3) Development, and 4) Implementation. The details are as follows:

An analysis of demand for animation media, content and format found that the total mean ($\bar{X}$) was 4.12, the standard deviation (S.D.) was 0.92, at a high level. Survey respondents answer "There should be content to learn Thai – Chinese

related to food and food ordering” as much as possible. Pattern part Survey respondents answer “There should be illustrations such as images of objects, places, food, and various products that can create a correct understanding in language learning through animation media” as much as possible.

In designing to develop Thai language teaching animation media for Chinese people. The researchers used the data obtained from the analysis to design animation media and e-books. The content is divided into 12 topics as follows: 1) Greetings 2) Introductions 3) Thanks and Apologies 4) Food Ordering 5) Lost my wallet, 6) Shopping, 7) Asking for directions, 8) Traveling, 9) Do you have classes tomorrow, 10) What time are you going to school, 11) Emotions, likes/dislikes, and 12) Going to the hospital. Each chapter contains components: Have a conversation in Thai animated cartoon images with background music There are texts in Thai and Chinese.

In developing this Thai teaching animation media for Chinese people, the research team has developed from the website. <https://www.canva.com/> by designing characters to suit the dialogue in the lessons and writing their own cartoon images to be used as illustrations in the lessons. Record conversations for use in creating animation materials. As well as bringing copyrighted images and sound effects to use in this work Then bring all images and sounds to edit VDO with Windows Movie Maker program.

Then disseminate animation media through the website. <https://www.youtube.com/>, which is the most popular video distribution website for Thais and other foreigners who are interested to have access to innovative media as much as possible which can be accessed at <https://shorturl.asia/ye4VK> However, because the Youtube website is blocked from the People's Republic of China. making the Chinese unable to access such media The research team therefore published animation materials on the website. <https://www.ixigua.com/>, which is a Chinese website So that Chinese people living in the People's Republic of China can access this innovative media. as show in Figure 1.



Figure 1. Examples of animation media for teaching the Thai language for foreigners.

Source: Created by the authors

During the implementation phase, the research team integrated the animation media into the Thai Language for Foreigners Program at the Faculty of Humanities and Social Sciences, Nakhon Ratchasima Rajabhat University. The media served as a primary instructional tool for Chinese students across various subjects. Beyond classroom application, the team actively disseminated the research findings and distributed the learning materials to various educational institutions specializing in Thai language instruction for foreigners. The key implementation activities included:

- Academic Dissemination: The research team presented a peer-reviewed article entitled "An Analysis of Demand for Using Animation Media and Electronic Books as an Innovation in Teaching Thai Communication for Chinese People" at the National Academic Conference on Rambhai Barni Research to share insights on local wisdom and innovative development.

- Instructional Application: The animation media was formally integrated into the Thai Language Teaching Skills for Foreigners course (Course Code: 227312). This application allowed for real-world testing of the media's effectiveness in enhancing pedagogical skills and student engagement.

- Knowledge Sharing Workshops: A specialized seminar titled "From Teaching Experience to Innovation: Developing Animation and E-Books for Thai Language Instruction" was organized via online platforms. This session served as a forum for sharing the developmental process and the research-based innovations with educators and researchers.

- Institutional Distribution: The research results and the innovative media, including both animation and electronic books, have been published and distributed to various educational agencies. This outreach ensures that the developed innovations are accessible to institutions managing Thai language programs for international learners.

2. The examination of the efficiency gained through the utilization of animations in the language learning process.

The examination results of animation media efficiency for teaching Thai language for communication to foreigners, as assessed by general users, indicate positive feedback across various aspects. Users evaluated the content to be comprehensive, presented in a logical sequence, and easily understood. Overall, the animation media was deemed appropriate for its intended purpose. The evaluation results revealed a high level of effectiveness, with an average rating ($\bar{X}$) of 4.55 and a standard deviation (S.D.) of 0.24.

Furthermore, the characters depicted in the animation media were recognized as accurate and suitable, receiving an average rating ($\bar{X}$) of 4.64, with a standard deviation (S.D.) of 0.40. The system's performance in terms of working accuracy was also commendable, with clear and easily understandable icons within the animation media, earning an average rating ($\bar{X}$) of 4.68 and a standard deviation (S.D.) of 0.48.

The feedback received regarding additional suggestions for improving the teaching of Thai language to foreigners was highly positive. Several valuable recommendations were provided, including the need for an easily accessible and user-friendly format. It was suggested to use simple and memorable words, incorporate Thai culture to enhance foreign learners' understanding, and provide relevant examples of dialogues for better comprehension. The lesson contents were praised for their accuracy, clarity, and applicability to everyday life vocabulary.

Regarding the editing of animation media for teaching Thai language to foreigners, numerous ideas were proposed. One prominent suggestion was to include subtitles in international languages like English or incorporate karaoke-style text for the convenience of learners from different countries. This would ensure that individuals from various backgrounds could benefit from the materials while studying the language.

Overall, these examinations of the efficiency findings indicate that the animation media exhibited high performance across all three considered aspects.

3. The evaluation of the learning achievement and satisfaction levels of students who utilize animation media for Thai language instruction.

The research team conducted a pre-and-post achievement test using animation media and e-books to assess Chinese students' proficiency in learning Thai. The test covered various topics relevant to everyday language use, including greetings, self-introduction, expressions of gratitude and apology, food, numbers,

money, shopping, discussing dates, illness, and hospital visits. Each test consisted of 10 sentence completion questions.

Prior to using the animation media, question 1 received 14 correct responses, representing 50%. Question 2 had 15 correct responses, accounting for 53.57%. For question 3, there were 15 correct responses, equivalent to 57.14%. In question 4, 18 participants answered correctly, representing 64.29%. Question 5 had 17 correct responses, totaling 60.71%. In question 6, 20 participants answered correctly, representing 71.43%. Question 7 had 14 correct responses, accounting for 50%. Question 8 had 15 correct responses, representing 53.57%. Question 9 had 20 correct responses, accounting for 71.43%. Finally, question 10 had 13 correct responses, representing 46.43%.

After utilizing the animation media, the post-test results showed a significant improvement. Question 1 received 28 correct responses, accounting for 100%. Question 2 also had 28 correct responses, totaling 100%. In question 3, 27 participants answered correctly, representing 96.43%. For question 4, 26 participants answered correctly, accounting for 92.86%. Question 5 had 28 correct responses, totaling 100%. In question 6, 28 participants answered correctly, representing 100%. Question 7 had 27 correct responses, accounting for 96.43%. Question 8 received 25 correct responses, representing 89.29%. Question 9 had 28 correct responses, accounting for 100%. Finally, question 10 received 28 correct responses, totaling 100%. As show in Table. 1

Table 1 Summarize the test scores before and after using animation media

Question Order	Score before using the media	Percentage	Score after using the media	Percentage
Question 1	14	50.00	28	100
Question 2	15	53.57	28	100
Question 3	6	21.43	27	96.43
Question 4	18	64.29	26	92.86
Question 5	17	60.71	28	100

Table 1 Summarize the test scores before and after using animation media
(continue)

Question Order	Score before using the media	Percentage	Score after using the media	Percentage
Question 6	20	71.43	28	100
Question 7	14	50.00	27	96.43
Question 8	15	53.57	25	89.29
Question 9	20	71.43	28	100
Question 10	13	46.43	28	100
Total	152	542.86	273	975.00
Average	15.2	54.28	27.3	97.50

Subsequently, the research team conducted an analysis to evaluate the effectiveness of animation media and e-books in teaching Thai language to foreigners. The analysis involved calculating the mean and percentage scores obtained from the pre and post-tests administered before and after utilizing the animation media. The data were then used to assess the process efficiency (E1) and result efficiency (E2) of the animation media for teaching Thai language, employing the formula E1/E2 with an efficiency benchmark of 80/80.

The process efficiency (E1) was evaluated based on the students' performance in the exercises provided within each of the 12 animation modules. The product efficiency (E2) was evaluated based on the post-test results.

The latter "80" signifies the average learning achievement score achieved by the sample group in the post-test, where a percentage of 80 or higher was deemed desirable. To determine the process efficiency, the following formula was employed. As show in Table. 2

Table 2 Efficiency of animation media based on 80/80 performance criteria.

Question Order	E ₁	E ₂
Question 1	75.99	100
Question 2	81.41	100
Question 3	56.46	96.43
Question 4	97.70	92.86
Question 5	92.26	100
Question 6	95.11	100
Question 7	75.99	96.43
Question 8	81.41	89.29
Question 9	98.10	100
Question 10	70.56	100
Total	824.99	975.01
Average	82.50	97.50

The analysis of the efficiency of animation media to promote Thai language teaching for Chinese students, using the efficiency criteria E1/E2 of 80/80, found that the animation media had an efficiency of 82.50/97.50 which surpassed the specified criteria. The process efficiency E1 of 82.50 was derived from the average scores of exercises and activities conducted during the lessons, while the product efficiency E2 of 97.50 was obtained from the post-test results.

Table 3 Comparison of Achievement Test Scores Before and After Using Animation Media (N = 28)

Assessment	Mean ($\bar{X}$)	S.D.	t	p-value	Cohen's d
Pre-test	5.43	1.85	22.14*	< .001	4.18
Post-test	9.75	0.52			

The results of the paired-samples t-test (Table 3) indicated a significant improvement in Thai language achievement among Chinese students. The mean score increased from 5.43 (S.D. = 1.85) in the pre-test to 9.75 (S.D. = 0.52) in the post-test. The statistical analysis yielded a t-value of 22.14 with a p-value of $< .001$, indicating that the learning gains were statistically significant at the .05 level. Furthermore, the calculated Cohen's d was 4.18, which represents a very large effect size. This confirms that the developed animation media had a substantial and positive impact on the students' Thai language communication skills.

Discussion and Conclusions

Conclusions

The development of animation media for teaching the Thai language to Chinese learners using the ADDIE Model proved to be a successful and innovative approach. The five-step systematic process, comprehensive of Analysis, Design, Development, Implementation, and Evaluation, was effectively applied to address specific linguistic barriers. The evaluation phase confirmed that the media achieved an efficiency of 82.50/97.50, which surpassed the 80/80 standardized benchmark. Most importantly, the statistical analysis through a paired-samples t-test revealed a significant improvement in learning achievement ($t = 22.14$, $p < .001$), with a very large effect size (Cohen's $d = 4.18$). These results underscore the media's high effectiveness in enhancing communicative competence for the target group.

Discussion

The findings of this research indicate that the animation media significantly improved the learning achievement of Chinese students. The E1 value (82.50) reflects the learners' consistent engagement and high performance during the formative learning process, while the E2 value (97.50) indicates excellent knowledge retention after the intervention. The substantial difference between pre-test and post-test scores, supported by a very large effect size, confirms that the integration

of 2D animation with bilingual subtitles is a potent tool for overcoming language barriers.

These results are consistent with the study by Wiboolyasarin (2015), which emphasizes that a systematic instructional design for teaching Thai to foreigners effectively enhances learning outcomes. Furthermore, the selection of content focusing on real-life communication aligns with the findings of Lerdsuwan and Thaima (2022), whose research demonstrated that multimedia integration specifically designed for Chinese learners' linguistic challenges can significantly enhance vocabulary acquisition. The effectiveness of digital tools in this study is further supported by Teeranon (2020), who found that using digital applications provides measurable improvements in language perception and accuracy.

Interestingly, the success of interactive digital activities in this research also resonates with Sringam (2021), who noted that digital platforms are effective for reinforcing vocabulary and assessing proficiency. Moreover, the high performance of this animation media aligns with Keadplang et al. (2025), who argued that integrating digital technology creates an interactive atmosphere that fosters long-term motivation. By employing a learner-centered approach, this method effectively addresses cultural diversity and enhances academic achievement for 21st-century learners.

Regarding user satisfaction, the high ratings for content completeness ($\bar{X} = 4.55$, S.D. = 0.52) and design appropriateness ($\bar{X} = 4.64$, S.D. = 0.48) suggest that the visual elements were crucial to the media's success. This pedagogical approach aligns with Jamsai and Pilanthananon (2019), who emphasized that engaging in active processes such as watching and listening allows students to simulate authentic language usage.

Suggestions

Suggestions for the application

1. Platform Adaptation: Instructional media for international learners should be adapted to country-specific platforms to ensure accessibility. For instance, providing resources via accessible local websites (e.g., ixigua.com for Chinese learners) is essential when international platforms like YouTube are restricted.

2. Diversification of Media Formats: Future instructional design should explore various popular formats, such as Japanese Manga-style animations, interactive games, or contemporary digital storytelling, to further increase learner engagement and retention.

Suggestions for further studies

1. Deep Cultural Integration: Subsequent studies should further investigate the integration of "Culture-Based Language Learning." Focusing on how cultural nuances impact language acquisition will help learners use Thai more accurately and confidently in appropriate social contexts.

2. Long-term Skill Sustainability: Further research should explore the long-term impact of using animation media on students' language proficiency and their ability to apply these skills in real-world professional environments.

References

- Anan, T., & Kunwong, S. (2018). Computer-assisted instruction with 2D cartoon animation on Baibok and Bua Bua for Prathomsuksa 1 students, Thai language learning group, case study: Ban Saew Pradu School. *Academic Journal of Information Technology Applications*, 2(1), 49-59.
<https://ph02.tci-thaijo.org/index.php/project-journal/article/view/152767>
- Hidayati, A. (2022). Development of "Kenalada" animation media as a learning media during the Covid-19. *International Journal of Applied Guidance and Counseling*, 3(1), 31-38. <https://doi.org/10.26486/ijagc.v3i1.2291>

- Jamsai, R., & Pilanthananon, N. (2019). The development of English self-learning media for taxi drivers of Sripatum International Language and Culture Institute, Sripatum University. *Humanities and Social Sciences Journal, Ubon Ratchathani Rajabhat University*, 10(1), 104-118. <https://so01.tci-thaijo.org/index.php/humanjubru/article/view/172056>
- Keadplang, K., Ngamnikorn, T., & Huanarom, Y. (2025). Creating a Supportive and Engaged Environment for Foreign Language Learning: a Comparative Perspective on Learning English, Thai, and Chinese. *Journal of the Graduate Network of Northern Rajabhat University (GNRU)*, 15(1), 99-112. <https://so02.tci-thaijo.org/index.php/JGNRU/article/view/275744>
- Lerdsuwan, K., & Thaima, W. (2022). A development of multimedia with active learning management in Thai conversation courses for Chinese students. *Journal of Modern Learning Development*, 7(11), 223–239. <https://so06.tci-thaijo.org/index.php/jomld/article/view/258026>
- McGriff, S. J. (2000). *Instructional System Design (ISD): Using the ADDIE Model*. <https://snazlan.wordpress.com/wp-content/uploads/2017/03/instructional-system-design-isd-using-the-addie-model.pdf>
- Muyassaroh, L. U., Mardasari, O. R., Ventivani, A., Z. R.A., N. A., & Mahardika, T. (2021). Development of learning media for Chinese language based on interactive animation videos on directional complement. In W. Strietkowski, J. M. Black, S. A. Butterfield, C. Chang, J. Cheng, F. P. Dumanig, R. Al-Mabuk, R. Al-Mabuk, M. Urban, & S. Webb (Eds.), *Proceedings of the International Seminar on Language, Education, and Culture (ISOLEC 2021)* (pp.186-188). Atlantis. <https://doi.org/10.2991/assehr.k.211212.035>
- Plangsorn, R. (2017). *The science of teaching Thai as a foreign language*. Chulalongkorn University Press.

- Putthasatien, K. (2017). The Development of Thai Tonal Pronunciation Exercise: A Case Study of Chinese Students, NRRU. *Journal of Language, Religion and Culture*, 6(1), 1-12.
<https://so03.tci-thaijo.org/index.php/gshskku/article/view/80349>
- Sringam, P. (2021). Development of an application for testing basic Thai vocabulary activities for foreign students. *RMUTSB Academic Journal (Humanities and Social Sciences)*, 6(2), 248–260.
<https://so05.tci-thaijo.org/index.php/rmutsb-hs/article/view/250709>
- Suchanavanich, J. (2018). Teaching Chinese as a Foreign Language by Information and Communication Technology (ICT): A Case Study of the People's Republic of China. *KKU Research Journal (Graduate Studies) Humanities and Social Sciences*, 6(2), 1-13. <https://so04.tci-thaijo.org/index.php/gskkuhs/article/view/130967>
- Teeranon, P. (2020). Chinese Learners Learning Thai Language with an Application: Evidence from an Acoustic Study and a Perception Test. *Asian Journal of Education and Training*, 6(2), 330–340.
<https://doi.org/10.20448/journal.522.2020.62.330.340>
- Wiboolyasarin, W. (2015). A web-based instructional design principle based on ADDIE model to teach fundamental Thai conversation for foreigners. *Srinakharinwirot Research and Development Journal of Humanities and Social Sciences*, 6(12), 192-205.
<https://ejournals.swu.ac.th/index.php/swurd/article/view/5050>