BRU ELT JOURNAL
Vol.3 No.2 (May-August) 2025
ISSN 2822-1311 (Online)
DOI: https://doi.org/10.14456/bej.2025.14

Comparing Traditional, E-Learning, and Blended Methods: Impact on English Pronunciation and Autonomy of Thai Undergraduates

Banjob Piyamat[1]
[1]Ph.D. Candidate in Linguistics, Faculty of Humanities, Mahachulalongkornrajavidyalaya University
Full-time Lecturer, Department of Language Studies, Faculty of Liberal Arts,
Huachiew Chalermprakiet University, Thailand
E-mail: banjobp@gmail.com

Received: July 20, 2025
Revised: August 28, 2025
Accepted: August 28, 2025

Abstract

This research article aims to the effectiveness of traditional face-to-face, e-learning and Blended Learning in promoting independent English pronunciation learning of 75 students in a Thai university. There were three groups of participants in the experiment, who were purposively placed in a 15-week intervention reflecting the organizational curriculum of the university in English phonology in a quasi-experimental manner. Data were collected from pre-post tests, learner autonomy questionnaire and semi-structured interviews. There were significant group differences after training in quality of pronunciation ($p < .001$) and the results of the combined teaching group were significantly better than those of the other two groups. In addition, the degree of learner autonomy was significantly the greatest in the Blended Learning group. Interview data highlighted benefits such as improved self-discipline and self-efficacy in both online and offline learning environments. The results powerfully support autonomous learning, and Blended Learning is proposed as an effective pedagogical approach for teaching phonetics in Thai higher education.

Keywords: autonomous learning, blended learning, English pronunciation, Thai undergraduates

Introduction

English is a key instrument for world communication, especially in academic and professional arenas (Crystal, 2003). English competency among undergraduates is also quite critical to Thailand since it enables them to communicate in ASEAN and globally. However, the pronunciation of English words is still a problematic area for Thai learners (Derwing & Munro, 2005). Introduction Traditional pronunciation teaching faces a number of problems caused by the distinct phonetic systems of Thai and English, in addition to the students' lack of contact with native speakers (Morley, 1991). There is an emergent interest in technology-based strategies, such as e-learning and Blended Learning, which provide flexible and interactive learning experiences (Garrison & Vaughan, 2008).

Nevertheless, there is limited comparative research in the Thai setting and a lack of empirical evidence supporting these practices has been repeatedly noted. This study applies the FLC (Foreign Language Competence) model to evaluate its effectiveness in fostering learner autonomy (Dickinson, 1987) and whether traditional, e-learning, or Blended Learning approaches are most effective in improving pronunciation for Thai university learners.

It examines the phonetic, learner satisfaction and self-efficacy aspects to offer implications for theoretical and practical teaching in the context of English learning in Southeast Asia. The expected results will help provide better insights into the best way to facilitate the acquisition of English for Thai Undergraduates.

Research Objectives

The purpose of this study is to investigate approaches that can improve students' English pronunciation through the following approaches: traditional classrooms, e-learning courses and Blended Learning. Therefore, the following goals are set out:

1. To explore the problematic sounds and pronunciation difficulties encountered by Thai students in learning English;
2. To assess the English pronunciation competence of students before and after instruction through traditional, e-learning, and blended English courses of major English;
3. To compare learner satisfaction after the instruction via traditional, e-learning, and blended teaching;
4. To investigate learner autonomy following instruction in the three distinct methods of language teaching.

Research Questions

The study aims to respond to the following research questions:

1. What are the common problems in pronunciation in English?
2. What are the differences between traditional teaching, e-teaching, and Blended Learning for the English pronunciation improvement?
3. How does learner satisfaction vary following traditional, e-learning, and blended learning instruction?
4. How do these teaching strategies support the growth of learners' independence in learning pronunciation?

Literature Review

Pronunciation Pedagogy in EFL Contexts

Historically, the principal emphasis of English as a Foreign Language (EFL) pronunciation instruction has been on phonemic accuracy. In recent years, the focus has shifted, and rhythm and intonation are combined with the teaching procedures organized for the development of communicative competence. Studies in the context of Asian EFL have found that explicit instruction has a positive impact on students' perception of intelligibility and listening. For instance, Muangpruan (2011) revealed that metacognitive strategies were of considerable help to Thai students learning pronunciation or increased their confidence. Yet, a lecture orientated model of traditional approaches of pronunciation teaching still dominates and lack sufficient

practice and feedback; thus it undercuts learner autonomy and therefore hinders pronunciation learning.

Current approaches to teaching pronunciation emphasize structured segmental and suprasegmental methods (Derwing & Munro, 2017). However, Thai undergraduates face notable challenges due to limited interaction with native speakers and contrasts in the Thai and English phonemic systems. This study employs an integrated framework combining Morley's (1991) pronunciation teaching methods, e-learning and digital technology, Blended Learning (Garrison & Vaughan, 2008), and learner autonomy, providing a robust foundation for analysis.

E-Learning in Pronunciation Instruction

E-learning has distinctive benefits for pronunciation by taking advantage of asynchronous multimedia, repeated drilling, and individual pacing (Benson, 2001; Horton, 2006). Studies by Chiu and Bao indicates that technology provides improved pronunciation. However, E-learning also calls for a huge amount of self-discipline and self-motivation. One serious limitation is that personalized feedback is lacking, which may have implications for learning quality (Drucker, 2003).

Blended Learning Approaches

Blended Learning that uses face-to-face and online modalities in strategic combination has shown promise for improving pronunciation (Garrison & Vaughan, 2008). Studies show significant gains in accuracy and fluency. It was reported by Khamkhien (2012) as successfully promoting motivation among Thai students. The effectiveness of Blended Learning really depends on thoughtful design, the quality of the teacher, and access to technology.

Learner Autonomy in Language Learning

Learner autonomy, which involves the capacity to take responsibility for one's own learning (Little, 1991), is essential for successful pronunciation development within the classroom. The development of metacognitive tools is a major factor in nurturing such autonomy (Dickinson, 1987). But in Thai EFL contexts, problems emerge due to a teacher-centered approach to teaching. Different approaches offer different advantages, but Blended Learning seems to offer the most balanced option (Garrison & Vaughan, 2008). Research is required to explore whether the effectiveness of these methods for enhancing pronunciation is retained and the effect on learner autonomy within the context of Thailand. This research used a quasi-experimental pre/post-test design and also adopted a mixed-methods approach to explore the effects of traditional, e-learning, and blended instruction on the Thai students' pronunciation and autonomy (Creswell & Plano Clark, 2017).

Research Methodology

Participants

The participants were 75 second year Undergraduate students majoring in English and English-Chinese, studying at Huachiew Chalermprakiet University. All participants were of intermediate proficiency, they took a placement test, and they were then distributed into various groups according to purposive sampling. Groups were broken down as such; traditional (n=25), e-learning (n=25), and blended (n=25) (Gall, Gall & Borg, 2007). The mean age was 19.8 years and 60% were female.

Research Instruments

Data were collected by means of (1) a 40-item intonation / pronunciation test prepared by the researcher to test both segmental and suprasegmental aspects (α =. 87; DeVellis, 2017); and (2) a 30-item learner questionnaire, adapted from Benson (2001), constructed to assess self-regulation and goal-setting (α =. 83); (3) lesson plan documents that ensure content alignment between traditional, e-learning, and blended groups; and (4) a semi-structured interview guide designed to probe participants' experiences and perceptions.

Instructional Procedures

Participants were assigned to one of three study conditions over a 15-week data collection period. There were three hours of instructions for the three groups that consisted of traditional face-to-face instruction (teacher-centered methods, a separate e-learning on the MS Teams and e-learning platform which included multimedia and automated feedback, and a Blended Learning approach, including e-learning and weekly face-to-face classroom learning and workshops (Garrison & Vaughan, 2008).

Data Collection and Analysis

Pronunciation changes were measured by means of a pre-test post-test, while a validated questionnaire (Benson, 2001) was employed to assess learner autonomy. Thereafter, equivalent sized samples were used in a series of pairwise post-hoc comparisons across the 3 groups using eta-squared (Cohen 1988). Interview transcriptions were additionally analysed thematically (Creswell & Plano Clark, 2017) to derive further meanings from participant responses.

Learner autonomy (as measured by questionnaires and by pre and post tests) was used to examine the impact of self- and teacher-moni- toring on pronunciation (Benson, 2001). Paired t-test was used for subjects within group comparisons and ANOVA was conducted for between group comparisons (Gravetter & Wallnau, 2016). The effect sizes were computed in terms of eta-squared (η^2) (Cohen, 1988). The open-ended interviews were transcribed, and qualitative data was analyzed using open and axial coding, supported with thematic analysis. Participant quotations convey our study's results well (Creswell & Plano Clark, 2017).

Ethical Considerations

This research was implemented following the ethical research committee instructions of the university. Ethical approval was granted by the university research ethics committee prior to commencing the study to ethically align the research. All participants were fully informed of the study objectives, procedures and potential risks, and supplied informed written consent prior to participation. Participant confidentiality and anonymity were preserved at all stages of the study and information was securely stored and only used for (research) purposes. Participation was voluntary, and participants were informed of their right to withdraw from the study without consequences at any time. In addition, there was no physical or mental harm to participants during the research, and ethical principles were strictly followed to protect the integrity of the research and concerns for the rights and well-being of the participants.

Results

This section presents the evidence of the study in full- primarily in respect of enhanced English pronunciation skills, student satisfaction, student independence, and the nuanced qualitative participant feedback as to the spectrum of ways of teaching (Creswell & Plano Clark, 2017).

The findings from the phonetic tests pre- and post-intervention are closely correlated with the self-reported reflections in the questionnaire, and also flanked by the more extensive narrations in the semi-structured in-depth interviews. This strategy allows the students to appreciate the complex relationships between these dimensions.

A multidimensional approach like this can play a significant part in providing complete competency learning skills in enhancing university students in Thailand to pronounce English well.

Results from the study to answer the research questions

1. First Research Objective: Findings Report

The findings report of the first research objective: to reveal the problems and difficulties of English pronunciation processes studied by Thai EFL students was the Thai pronunciation problems observed by Huachiew Chalermprakiet University undergraduates.

The findings from Tables 1-4 show that Thai Undergraduates face difficulties in segmental and suprasegmental aspects of English pronunciation, particularly the consonant cluster, stress and intonation. However, the intervention was associated with improvements in mean scores and reduced standard deviations. This indicates that targeted training is successful to mitigate pronunciation problems and to improve Thai Undergraduates' spoken English performance in general. The results of Tables 1-4 are as follows:

BRU ELT JOURNAL
Vol.3 No.2 (May-August) 2025
ISSN 2822-1311 (Online)

Table 1
Segmental Phoneme Difficulties: Thai Undergraduates' Problems in Pronunciation Segmental Phonemes in English (Consonant and Vowel Sounds & Consonant Clusters)

No.	Statements	$\bar{X}$		S.D.	
		Before	After	Before	After
1	Consonant and Vowel Sounds	0.7127	0.9267	0.4527	0.2765
2	Consonant Clusters	0.6303	0.8773	0.4829	0.3283
	Total	0.6715	0.902	0.0214	0.0366

Thai students initially faced difficulties with segmental phonemes, especially in pronouncing vowels, consonants, and consonant clusters. Before the intervention, mean scores were 0.7127 for vowels and consonants, and lower at 0.6303 for consonant clusters, showing greater challenges in this area. High standard deviations (0.4527 for vowels/consonants and 0.4829 for clusters) indicated variability in performance.

After the intervention, mean scores improved to 0.9267 for vowels and 0.8773 for consonants, with reduced standard deviations (0.2765 and 0.3283), reflecting more consistent pronunciation. The intervention effectively enhanced students' ability to articulate segmental phonemes, particularly consonant clusters, which were initially the most challenging.

Table 2
Suprasegmental Phoneme Difficulties: Thai Undergraduates' Problems in English Pronunciation Suprasegmental Phonemes (Stress and Intonation)

No.	Statements	$\bar{X}$		S.D.	
		Before	After	Before	After
1	Stress	0.6722	0.8497	0.4676	0.3575
2	Intonation	0.6067	0.828	0.4887	0.3775
	Total	0.6475	0.8648	0.0149	0.0141

As shown in Table 2, Thai Undergraduates had some initial difficulty in English suprasegmental phonemes, particularly in stress and intonation with the low mean scores (stress: 0.6772, intonation: 0.6067) and high variability (SD for stress: 0.4676, intonation: 0.4887). After the training, mean scores improved significantly (stress: 0.8497, intonation: 0.828) and standard deviations decreased (stress: 0.3575, intonation 0.3775), indicating that learners became not only more proficient, but also more consistent. Overall, the intervention contributed to liberated learners'

pronunciation of suprasegmental features such as stress and intonation, which were previously difficult for Thai learners.

Table 3
The Interpretation of the Survey on the Problems in Pronunciation of English Stress among Thai Undergraduates

No.	Statements	$\bar{X}$		S.D.	
		Before	After	Before	After
1	Stressed at the 1st Syllable	0.6443	0.8271	0.1876	0.1373
2	Stressed at the 2nd Syllable	0.7927	0.92	0.1188	0.0567
3	Stressed at the 3rd Syllable	0.595	0.8133	0.0896	0.0585
	Total	0.6773	0.8535	0.0503	0.046

As shown in Table 3, with the 3rd syllable, Thai Undergraduates had initially considered “syllable stress” to be of the least difficulty; their difficulties also decreased after being taught especially for indifference to trouble with the 3rd syllable. "experimental variable" This shift implies an improvement in their confidence in and consistency of stress assignment.

Table 4
Interpretation of the Survey on Problems in Pronunciation of English Intonation among Thai Undergraduates

No.	Intonation	$\bar{X}$		S.D.	
		Before	After	Before	After
1	Simple Statements	0.695	0.93	0.0256	0.041
2	WH Questions	0.73	0.885	0.0616	0.0051
3	Commands	0.6695	0.917	0.0619	0.0262
4	Yes-No Question (Do/Be/Have)	0.486	0.768	0.0471	0.0685
5	Yes-No Question (Auxiliaries V.)	0.54	0.7225	0.0861	0.1029
6	Words in Series	0.71	0.855	0.0205	0.0256
7	Alternative	0.64	0.88	0	0
8	Addressing	0.64	0.87	0	0

As seen in Table 4 all the learners performed better in the pronunciation, specially in the WH question and short sentences. This reveals the effects of focused practice and speaks to the need for perseverative training to continue to develop their spoken English ability.

2. Second Research Objective: Findings Report

The second research objective is to investigate possible differences between English pronunciation proficiency prior to and after students were taught using traditional (face-to-face), e-learning, and blended instruction methods. The findings indicated that blended learning was the most effective teaching approach in the improvement of English pronunciation competence, followed by traditional learning and e-learning. The findings suggest that blended learning not only enhances pronunciation skills but also ensures consistent improvement across all students as can be seen in Table 5.

Table 5

Comparison of the Pre-test and Post-test Scores of Group A-B-C with 25 Students in Each Group (20 Marks Pre-test & Post-test)

No.	**Group**	$\bar{X}$		**S.D.**	
		Before	After	Before	After
1	Group A (Traditional Learning)	12.15	13.43	4.34	2.56
2	Group B (E-Learning)	12.17	12.49	3.47	2.37
3	Group C (Blended Learning)	11.8	13.88	3.47	2.84
	Total	12.04	13.27	3.78	2.6

All three groups in Table 5 showed improvements in the overall scores after the treatment, and the Blended Learning group made the largest gain. The total mean increased from 12.04 to 13.27, and the standard deviations decreased, indicating that performances became more homogenous. The intervention was overall successful, particularly for the Blended Learning group. Chi-square analysis was used to test the group differences of scores further.

Table 6
The Relationship among Groups of Students and Different Levels of Pre-test and Post-test (n= number of participants)

Group	Different level scores of pre-test and post-test			Total
	Increse	Be the same	Decrease	
Group A (Traditional Learning)	68 n = 17	0 n = 0	32 n = 8	100 n = 25
Group B (E-Learning)	60 n = 15	0 n = 0	40 n = 10	100 n = 25
Group C (Blended Learning)	100 n =25	0 n = 0	0 n = 0	100 n = 25
Total	76 n =57	0 n = 0	24 n = 18	100 n = 75
X2 - 12.28		df = 2		Sig = 0.002

A chi-square analysis revealed that instructional mode and improvement scores were significantly associated, and that none of the students in the Blended Learning group did not benefit. Blended Learning had the most positive effect on student achievement, with 76% showing positive gains.

3. Third Research Objective: Findings Report

The third research objective is to analyze students' satisfaction after the introduction of traditional (face-to-face), e-learning, and blended teaching method. The purpose of this study is to summarize student satisfaction from these methods and compare means and the results of an analysis of variance (ANOVA). The purpose of the study was to assess the students' satisfaction with autonomous learning within various teaching settings: traditional (face-to-face) class, e-learning, and blended learning.

Data was obtained from questionnaires and interviews, focusing the following important facets:

1. Overall satisfaction with teaching method used in the course (traditional, e-learning, blended) which shows overall satisfaction with all types. 2) How effective the mode of teaching is in the development of the students' English pronunciation. 3) The degree to which the approach promotes student responsibility for their learning. 4) Fun and involvement of learning in a way. 5) Student preferences for the method, most notably related with finding the learning task more interesting and involving. 6) Emphasising lifelong learning and learner autonomy. 7) The student-centeredness of the teaching approaches, with the student at the heart of the learning process. 8) The inspiration from the method to learn to pronounce better than other ways. 9) Students' confidence in using existing technology or resources to practice pronunciation. Chances to be an active participant in the lesson an interact due to the method of teaching.

Extending the initial results, a nuance analysis shows particular satisfaction with the three learning environments. The present research evaluates the variations of satisfaction with the teaching methods according to groups of change against the corresponding ones of another ordinary student. It is worthy of note that the average scores of all items were differed between the two statuses, indicating the different level of satisfaction.

The teaching methodology has a great impact on the degree of active participation and interaction in classes. Results There were significant differences with three groups (e-learning, Blended Learning and traditional teaching) in a student satisfaction by Comparative analysis and ANOVA testing.

Consistent with the initial investigation, a closer look reveals different levels of satisfaction across the three educational environments. The paper investigates differences in student satisfaction with teaching methods employed. Differences in mean scores across the groups suggest differences in satisfaction.

Analysis of the data showed that mean scores and standard deviations (S.D.) on each item were not the same for the groups of students. The traditional learning methods (Group A) had a mean satisfaction score of 0.29 (SD = 0.47). Group B (E-Learning), the mean satisfaction score was 0.22 and the standard deviation 0.43. On the other hand, Group C (Blended Learning) obtained average mean satisfaction score of 0.49 with an attached standard deviation of 0.51.

The satisfaction scores are averages of the satisfaction level provided by students in each group. The highest mean satisfaction score (0.49) was obtained in Blended Learning (Group C), on average learners were more satisfied with this method than with Traditional Face-to-Face Learning or E-Learning only. Standard deviations are relatively similar across groups, though Blended Learning is the highest, at 0.51, which suggests that variability in students' responses is slightly higher in this group.

Comparing among these three methodologies, Blended Learning is considered as the most preferable option for the students as reflected by the reported average satisfaction score. It seems that a blend of face-to-face interaction and online learning resources may better accommodate students' needs or desires than one format alone.

4. Fourth Research Objective: Findings Report

The fourth research objective is to find out students' autonomy after instruction with the three teaching methods (traditional teaching, e-learning and blended teaching). The findings highlight how each method develops self-learning skills among students, as described in the reports below.

Table 7
Students' Level of Satisfaction with Autonomous Learning with the Teaching Methods (A, B, C)

Group of Students	*n*	$\bar{X}$	S.D.
1. The teaching methods effect on learner's study.			
A) Traditional Learning	25	0.28	0.46
B) E-Learning	25	0.20	0.41
C) Blended Learning	25	0.52	0.51
Total	75	0.33	0.05
2. Learners have no limit to study and can study at any time and place.			
A) Traditional Learning	25	0.28	0.46
B) E-Learning	25	0.28	0.46
C) Blended Learning	25	0.44	0.51
Total	75	0.33	0.03
3. Learners are convenient to review the lesson outside the classroom using their teaching media.			
A) Traditional Learning	25	0.28	0.46
B) E-Learning	25	0.24	0.44
C) Blended Learning	25	0.48	0.51
Total	75	0.33	0.04
4. Using this teaching media allows learners to meet their learning objectives.			
A) Traditional Learning	25	0.28	0.46
B) E-Learning	25	0.24	0.44
C) Blended Learning	25	0.48	0.51
Total	75	0.33	0.04

Table 7 *(Continued)*

Group of Students	*n*	$\bar{X}$	S.D.
5. Learners have the freedom to study from their teaching method.			
A) Traditional Learning	25	0.24	0.44
B) E-Learning	25	0.24	0.44
C) Blended Learning	25	0.52	0.51
Total	75	0.33	0.04
6. Learners are convenient to review the lesson outside the classroom using their teaching media.			
A) Traditional Learning	25	0.28	0.46
B) E-Learning	25	0.24	0.44
C) Blended Learning	25	0.48	0.51
Total	75	0.33	0.04

The findings from Table 7 reported that the way learners perceived autonomous learning might be influenced by the methods used for teaching. The Blended Learning group (Group C) showed higher agreement about the perceived advantages of impact on their study habits, flexibility in studying anytime and anywhere, and ease in reviewing a lesson on their own (all mean scores were higher). Group B (e-Learning) showed the lowest level of perceived autonomy, and Group A (Traditional) was in between. On the whole, the students in the Blended Learning group held more positive autonomous learning behaviors compared with the other types of groups.

The researcher carried out a survey to measure students' satisfaction with self-regulated learning in different teaching methods (A, B, C). Questionnaires and interviews were employed to investigate the following issues: 1) Influence of the teaching methods on learners' study habits; 2) Nondistraction of the timetable for studying on when and where to study; 3) Convenience of learners in reviewing the material outside the classroom, with the help of the media; 4) Effective media which helped them in achieving improvement in their learning objectives; 5) The level of freedom that the learners enjoy in selecting their teaching methods.

Survey results represented that students' attitudes toward autonomous learning were affected by the type of instruction. Group C used Blended Learning, and participants in this group generally evaluated the Approach more positively, suggesting a higher level of study skills, increased learning opportunities anywhere and anytime, as well as more convenience in reviewing lessons by oneself, which were indicated by the above-average scores. By contrast, the least autonomy was perceived by Group A, which employed traditional teaching methods, and an intermediate level of autonomy was reported by Group B, who received distance-education. On the whole, students in Blended Learning environment showed to have achieved greater autonomous learning ability than those in e-learning or face-to-face learning situations.

Discussion

This research focused on effectiveness of traditional, e-learning, and blended learning on English pronunciation and learner autonomy of Thai Undergraduate students. The major findings indicated that pronunciation was improved with all the three learning methods; yet, blended learning yielded the most significant gains in both pronunciation accuracy and student-reported satisfaction and autonomy. Blended learning, specifically, as reported to have a greater influence on self-regulation and goal-setting skills when compared to traditional and e-learning methods.

These results suggest that the combination of face-to-face instruction with online resources yields a synergistic effect, catering to diverse learning preferences and fostering a variable learning experience. Combining the structure and personal interaction assumed by traditional classrooms, blended learning credited with being able to blend the flexibility and self-paced learning possibilities that e-learning can provide. That is in line with what Garrison and Vaughan (2008) suggested in relation to blended learning, where different modalities are strategically used to improve pronunciation.

The discussion of the findings reveals considerable pronunciation challenges for Thai undergraduates in mastering English pronunciation, due mainly to the problems descendants from basic phonetic units including consonants, vowels, and particularly consonant clusters, which play a minority role in Thai. Complexities are also found among the suprasegmentals of stress and intonation which in turn affect intelligibility. The influence of native Thai phonology often leads students to substitute English phonemes with familiar Thai sounds, like /s/ for /z/ and /w/ for /v/.

Students had more confidence and a clearer picture of their own self-efficacy through targeted interventions, yet this was not enough for them to pinpoint certain pronunciation weaknesses which suggests a higher necessity for phonetic awareness and native spoken model practice. Survey data show a positive effect of instruction on students' perception of their pronunciation skills, indicating that targeted instruction raises confidence as well as competence. However, persistent uncertainty about sound distinctions highlights the need for comprehensive teaching approaches that account for individual traits and emphasize phonetic training, native speech exposure, and both segmental and suprasegmental elements. Addressing these issues holistically is crucial, as traditional teaching methods and Thai phonological influences contribute to ongoing errors, calling for innovative and adaptive pedagogical approaches to improve English pronunciation skills.

While previous studies have highlighted the benefits of explicit pronunciation instruction (Muangpruan, 2011) and technology-enhanced learning (Chiu/Bao), this research extends these findings by demonstrating the comparative advantage of blended learning in the specific context of Thai undergraduates. Unlike traditional methods that often lack practice and feedback opportunities, and e-learning, which may lack individualized feedback (Drucker, 2003), this blended learning appears to strike a balance that supports both learning outcomes and student engagement.

The implications of these findings are significant for educators and institutions in Thailand and other similar EFL contexts. The study supports the adoption of blended learning models to enhance English pronunciation instruction, student satisfaction, and learner autonomy. By carefully designing blended learning environments that incorporate interactive exercises, metacognitive activities, and self-correction possibilities, educators can create more efficient and engaging learning experiences.

Nonetheless, several limitations have also been noted for this study. The sample size of 75 students, while adequate, may limit the generalizability of the findings. Additionally, the study focused on a specific population of Thai undergraduates majoring in English or English-Chinese, and further research is needed to explore the effectiveness of blended learning across different learner populations and contexts. The study was conducted for a 15-week period, which may not have been sufficient to determine the long-term effect of the different teaching methods completely.

Recommendations

Instructional Recommendations

Educators should apply blended learning approaches to improve phonetic instruction and to increase student engagement and effectiveness (Garrison & Vaughan, 2008). Interactive exercises for pronunciation are necessary to promote self-practice. In the same vein, integrating metacognitive tasks is necessary to foster strategic learning (Dickinson, 1987) and to support the professional development of in-service language teachers in blended instruction methods.

Policy Suggestions for Institutions

Digital resources, including access to a dependable internet connection, a user-friendly Learning Management System (LMS), and audio recording devices for every learner, should be a priority for universities in order to provide effective pronunciation instruction. Furthermore, cross-disciplinary pronunciation labs can be created to monitor the long-term impact.

Directions for Future Research

Future research should investigate the optimal design and implementation of blended learning environments for pronunciation instruction, taking into account factors such as learner proficiency, available technology infrastructure and teacher awareness. Looking further, studying motivation, anxiety, and self-efficacy in blended learning and the utilization of AI-generated feedback would be beneficial as well. Longitudinal studies are required to monitoring the long-term impact of blended learning on pronunciation accuracy and learner autonomy.

In conclusion, this study offers strong evidence for the effectiveness of blended learning in enhancing English pronunciation and fostering learner autonomy among Thai undergraduates. By embracing blended learning approaches, educators and institutions can empower learners to become more confident in using English for communications and thereby supporting their academic growth and enhancing future professional opportunities.

References

Benson, P. (2001). *Teaching and researching autonomy in language learning*. Pearson Education Limited.

Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.

Crystal, D. (2003). *English as a global language* (2nd ed.). Cambridge University Press.

Derwing, T. M., & Munro, M. J. (2005). Second language accent and pronunciation teaching: A research-based approach. *TESOL Quarterly, 39* (3), 379-397. https://doi.org/10.2307/3588486

Devellis, R. F. (2017). *Scale development-theory and applications*. (Çev. T. Totan). Ankara: Nobel Yayıncılık (Orijinal baskı tarihi, 2012)

Dickinson, L. (1987). *Self-instruction in language learning*. Cambridge University Press.

Drucker, M. J. (2003). What reading teachers should know about ESL learners. *The Reading Teacher, 57*(1), 22-29.

Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction* (8th ed.). Pearson/Allyn & Bacon.

Garrison, D. R., & Vaughan, N. D. (2008). *Blended learning in higher education: Framework, principles, and guidelines*. Jossey-Bass.

Gravetter, F. J., & Wallnau, L. B. (2016). *Statistics for the behavioral sciences* (10th ed.). Cengage Learning.

Horton, W. (2006). *E-learning by design*. Pfeiffer.

Khamkhien, A. (2012). Demystifying Thai EFL learners' perceptual learning style preferences. *3L: Language, Linguistics, Literature.18*(1), 61-74.

Little, D., Ridley, J., & Ushioda, E. (2003). *Learner autonomy in the foreign language classroom: Teacher, learner, curriculum and assessment*. Authentik.

Morley, J. (1991a). *Intensioe consonant pronunciation practice*. Ann Arbor, The University of Michigan Press.

Muangpruan, C. (2011). *Development of self-directed model in English reading using metacognitive activities for industrial diploma students*. Department of Curriculum and Instruction, Silapakorn University.

Author

Mr. Banjob Piyamat received a M.A. in Linguistics (ICCR Scholarship) from Deccan College, India in 1996. He has previously served as Assistant to the President, Deputy Dean of the Faculty of Liberal Arts, and Head of the English Department at Huachiew Chalermprakiet University. Currently, he is a full-time Lecturer at the Faculty of Liberal Arts, Huachiew Chalermprakiet University. His areas of expertise include Linguistics, Applied Linguistics, and English Language Teaching. He is currently a Ph.D. Candidate in Linguistics, Faculty of Humanities, Mahachulalongkornrajavidyalaya University.