

Research Article

Enhancing Students' Speaking Ability Through Role Play Integrated with Interactive Digital Flashcards at a Thai Secondary School

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Abstract: In Thai EFL classrooms, limited vocabulary knowledge, low confidence, and high speaking anxiety often hinder students' oral participation and reduce opportunities for meaningful communication in English. These challenges highlight the need for instructional approaches that simultaneously strengthen vocabulary mastery and encourage active speaking practice in authentic contexts. This study aims to investigate the effectiveness of integrating role play with interactive digital flashcards to support students' speaking ability in a Thai secondary school. The study employs a mixed-methods approach with a quasi-experimental design using a one-group pre-test and post-test model. Quantitative data are collected through speaking tests assessing fluency, pronunciation, vocabulary use, and interaction, while qualitative data are gathered through classroom observations to explore students' engagement, participation, and responses during the learning process. The instructional treatment combines vocabulary preparation through interactive digital flashcards with communicative role-play activities to promote active language use, increase students' confidence, and create a more engaging learning environment. It is expected that this integrated approach will improve students' speaking performance and motivation. Furthermore, this study is expected to contribute to EFL speaking pedagogy by providing empirical insights into the integration of communicative strategies and digital vocabulary support in secondary school contexts.

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1. Introduction

In today's increasingly interconnected world, the ability to communicate effectively in English has become an essential competence for students to participate in academic, professional, and social interactions. Speaking ability is a core component of English as a Foreign Language learning (Pratiwi et al., 2024). Learners often associate language proficiency with the ability to communicate ideas orally in real situations (Toro et al., 2019). In secondary school contexts, speaking becomes increasingly important because students are expected to participate in discussions, collaborative tasks, and communicative activities that reflect authentic language use. However, speaking remains one of the most challenging skills for EFL learners to develop (Omar, 2023). In many EFL contexts, including Thailand, secondary school students experience persistent difficulties in speaking English. These difficulties include limited vocabulary, inaccurate pronunciation, low fluency, and high levels of speaking anxiety (Shen, 2019). Students often hesitate to speak because they fear



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making mistakes or being judged by peers. As a result, oral participation in English classrooms remains low, and students tend to rely on written tasks rather than spoken interaction. The Thai secondary school English curriculum emphasizes communicative competence and student-centered learning (Jongsermtrakoon & Vibulphol, 2010). Despite this emphasis, classroom practices often fail to provide sufficient opportunities for meaningful speaking practice. Instruction frequently focuses on grammar explanation, textbook exercises, and examination preparation (Kelasi, 2025). These practices limit students' exposure to communicative use of English and reduce opportunities for language production. Consequently, many students possess passive knowledge of English but struggle to express themselves orally. Previous research has shown that creating interactive and communicative learning environments can positively influence students' speaking development. Emelia (2024) found that learning activities emphasizing active student participation encouraged learners to become more engaged, communicate more confidently, and participate more actively in classroom speaking tasks. These findings suggest that instructional strategies providing authentic opportunities for communication can foster a more supportive learning environment for developing speaking ability. Therefore, integrating role play with interactive digital flashcards may offer an effective pedagogical approach to address the speaking challenges commonly experienced by EFL learners.

Speaking development requires active language use. Learners need opportunities to produce language, interact with others, and negotiate meaning (Burns, 2019). According to Philips & Ehrenhofer (2015), language production plays a critical role in language development because it pushes learners to process language more deeply. Without sufficient opportunities for output, learners may understand input but fail to develop speaking fluency and accuracy. Therefore, instructional strategies that promote active speaking are essential in EFL classrooms. Role play is one instructional strategy that supports speaking development. Role play places learners in simulated real-life situations where they must use English for specific communicative purposes (Blackman & Rios, 2025). It encourages spontaneous speech, turn-taking, and interaction among learners. Jeremy (2007) explains that role play functions as a meaningful speaking task because it has a clear goal, context, and communicative outcome. Through repeated role play activities, students can develop fluency and confidence in speaking. From a communicative perspective, role play aligns with the principles of Communicative Language Teaching. CLT emphasizes the use of language for meaningful communication rather than the mastery of isolated grammatical forms (Kelasi, 2025). Role play allows students to practice functional language such as requesting, offering, and responding (Qorihah & Firdhausya, 2025). It also reduces psychological pressure because students speak as characters, not as themselves. This condition can lower anxiety and increase participation.

Despite its benefits, role play alone may not fully address students' linguistic limitations. One major obstacle to speaking is limited vocabulary knowledge. (Nation, 2001) argues that vocabulary is a fundamental component of speaking because it enables learners to express ideas accurately and fluently. Vocabulary knowledge involves understanding word form, meaning, and use. When learners lack vocabulary, they struggle to maintain speech and often stop speaking. Digital learning tools provide effective support for vocabulary development. Interactive digital flashcards present vocabulary through text, images, and audio, which supports multimodal learning. According to Mayer (2002), learning becomes more effective when information is presented through multiple channels. Digital flashcards allow learners to review vocabulary independently and repeatedly. Audio features help learners model pronunciation, while visual elements support meaning retention. Integrating interactive digital flashcards with role play offers a balanced approach to speaking instruction. Flashcards provide comprehensible input and vocabulary preparation. Role play provides opportunities for output and interaction. This integration aligns with Krashen's Input Hypothesis, which emphasizes the importance of comprehensible input for language acquisition (Krashen, 1985). Flashcards supply accessible input that prepares learners for speaking tasks. At the same time, Swain's Output Hypothesis explains that role play pushes learners to use language actively and notice gaps in their knowledge.

Interaction also plays a crucial role in speaking development. During role play activities, students ask questions, clarify meaning, and respond to peers. These interactional processes promote language development. Observing such interactions can provide valuable insight into how speaking improvement occurs in the classroom. Affective factors further influence speaking performance. Anxiety, low confidence, and fear of negative evaluation often prevent students from speaking (Krashen, 1985). Role play in small groups and the use of supportive digital tools can lower affective barriers. When students feel safe and prepared, they are more willing to participate in speaking activities. This condition supports both linguistic and emotional aspects of learning. Although previous studies have explored role play and digital media separately, limited research has examined their combined effect on speaking ability in Thailand secondary schools. Many studies focus only on test results and overlook classroom processes. Others emphasize qualitative observations without measuring measurable improvement. This gap highlights the need for a research design that captures both outcomes and learning processes. To address this gap, the present study adopts a mixed-methods approach with a quasi-experimental design as its core. A one-group pretest and posttest design is used to measure changes in students' speaking ability. Classroom observations are conducted during the treatment to examine students' participation, interaction, and responses. This approach allows the study to measure improvement while also explaining how the improvement occurs. The participants of this study are fifteen secondary school students in a Thailand school. All students participate in the intervention due to the limited population size. The instructional treatment involves role play activities integrated with interactive digital flashcards. Speaking ability is assessed based on fluency, pronunciation, vocabulary use, and interaction, which reflect widely accepted components of speaking performance (Indiani & Erlindawaty, 2025). Based on the issues identified in the previous discussion, this study seeks to answer two research questions related to the development of students' speaking ability in an EFL classroom. RQ1: Does the integration of role play and interactive digital flashcards significantly improve the speaking ability of secondary school students based on their pre-test and post-test results?. RQ2: How do secondary school students respond to the implementation of role play integrated with interactive digital flashcards during the classroom learning process?.

2. Literature Review

Speaking ability is a central skill in English as a Foreign Language learning. (Huy et al., 2024). It reflects learners' capacity to convey meaning, interact with others, and respond appropriately in spoken communication. Brown (2007) explains that speaking ability involves several interrelated components, including fluency, pronunciation, accuracy, and interaction. These components must function simultaneously during oral production, making speaking a complex skill for EFL learners.

Speaking Ability and Vocabulary Support in EFL Learning

In secondary school contexts, students often struggle to speak English fluently. One major factor contributing to this difficulty is limited vocabulary knowledge. Nation (2001) argues that vocabulary is a fundamental resource for speaking because learners need rapid access to words to maintain speech. Vocabulary knowledge includes knowing the form of a word, its meaning, and its appropriate use in context. When learners lack vocabulary, they experience frequent pauses and breakdowns in communication. Students memorize word lists but rarely apply them in oral communication (Ahmed & Yahya, 2025). This separation weakens speaking development because learners fail to transfer vocabulary knowledge into spoken use. Effective speaking instruction should therefore integrate vocabulary learning with communicative practice. Learners need structured support that prepares them linguistically before speaking tasks (Malihah, 2010). Providing vocabulary support before speaking activities helps reduce cognitive load (Dewi et al., 2025). Learners feel more prepared and confident when they know relevant words and expressions. This preparation stage is particularly important for secondary school students, who often experience anxiety when speaking English. Vocabulary support functions as a foundation for successful speaking performance (Hajiyeva, 2024).

Effective speaking instruction requires learning environments that actively engage students in meaningful communication rather than passive knowledge acquisition. Recent evidence suggests that technology-supported instruction is most effective when it functions as a pedagogical tool that enhances learner participation, interaction, and engagement instead of replacing the teacher's role. In this context, interactive learning media should encourage students to become active participants who construct knowledge through authentic communication and collaborative learning experiences. Therefore, integrating interactive digital flashcards with communicative activities such as role play provides opportunities for students to strengthen vocabulary knowledge while simultaneously developing confidence and speaking competence in meaningful classroom interactions (Manurung et al., 2026)

Role Play as a Communicative Strategy for Speaking Development

Role play is widely recognized as an effective strategy for developing speaking skills in EFL classrooms. It places learners in simulated real-life situations where they must use language to achieve specific communicative goals. Jeremy (2007) defines role play as a task-based activity that involves context, purpose, and interaction. Learners are required to select language forms that fit the situation. Role play encourages active language production. According to Liu (2013), producing language pushes learners to process linguistic forms more deeply. This process helps learners notice gaps between what they want to say and what they are able to say. Through repeated role play activities, learners gradually improve fluency and accuracy.

Interaction is another key element of role play. Yufriзал (2001) explains that language acquisition occurs through interaction, especially when learners negotiate meaning. During role play, students ask for clarification, respond to their peers, and adjust their language. These interactional moves promote language development and communicative competence. Role play also addresses affective challenges in speaking. Many EFL learners experience fear and anxiety when speaking English (Maldin et al., 2025). Speaking as a character rather than as oneself reduces personal pressure. This condition lowers anxiety and increases willingness to participate. As a result, students become more active and engaged during speaking activities.

Integrating Interactive Digital Flashcard and Role Play

Interactive digital flashcards are effective tools for vocabulary learning. They present words through text, images, and audio, which supports multimodal processing. Mayer (2002) states that learning is more effective when verbal and visual information are combined. Digital flashcards help learners remember words more easily and practice pronunciation through audio features (Saputra et al., 2025). From a language acquisition perspective, digital flashcards provide comprehensible input. Krashen (1985) argues that learners acquire language when they receive input that is understandable and slightly beyond their current level. Flashcards offer controlled and accessible input that prepares learners for speaking tasks. This preparation stage increases learners' readiness to speak.

When integrated with role play, digital flashcards function as linguistic scaffolding. Learners first acquire vocabulary through flashcards and then apply it during role play activities. This sequence supports both input and output processes. Flashcards prepare learners cognitively, while role play demands active production and interaction. This integration creates a balanced learning environment that supports speaking development.

3. Method

This study employed a mixed-methods research design, with a quasi-experimental approach as the core quantitative method and classroom observation as the qualitative component. The mixed-methods design was chosen to obtain a comprehensive understanding of both learning outcomes and learning processes (Creswell & Creswell, 2017). Quantitative data were used to measure the effectiveness of role play integrated with interactive digital flashcards on students' speaking ability, while qualitative data were used to explore students' classroom engagement, interaction, and responses during the instructional process. The quasi-experimental design was selected because the study involved a single intact group and did not allow random assignment or the formation of a control group. This condition is common in small secondary school settings. A one-group

pre-test and post-test design enabled the researcher to examine changes in students' speaking performance before and after the treatment. Classroom observation complemented the quantitative data by capturing real-time learning behaviors that could not be measured through test scores alone.

Data Collection

The participants of this study were 15 students from a Thailand secondary school. All students were enrolled in the same English class and had relatively similar levels of English proficiency based on the school's academic records. The participants were selected using total sampling, as the class consisted of only 15 students and all were involved in the intervention. The students learned English as a foreign language and had limited exposure to English outside the classroom. This context made them suitable participants for investigating the effectiveness of interactive and communicative teaching strategies aimed at improving speaking ability. Quantitative data were used to measure the effectiveness of role play integrated with interactive digital flashcards on students' speaking ability, while qualitative data were used to explore students' classroom engagement, interaction, and responses during the instructional process.

The quasi-experimental design was selected because the study involved a single intact group and did not allow random assignment or the formation of a control group. This condition is common in small secondary school settings. A one-group pre-test and post-test design enabled the researcher to examine changes in students' speaking performance before and after the treatment. Classroom observation complemented the quantitative data by capturing real-time learning behaviors that could not be measured through test scores alone. Before the intervention, all participants completed a speaking pre-test to establish their initial speaking proficiency. The intervention was then conducted over four instructional sessions in which role play activities were systematically integrated with interactive digital flashcards. In each session, students first reviewed the target vocabulary through interactive digital flashcards, including word meanings, pronunciation, and contextual examples. After the vocabulary preparation stage, students participated in pair or group role-play activities designed around everyday communicative situations. At the end of the intervention, the participants completed the same speaking test as the post-test to measure changes in their speaking ability.

Instruments

The main quantitative instrument was a speaking test designed to assess students' speaking ability. The test required students to perform short oral tasks related to daily communication topics. Students' speaking performance was assessed using a scoring rubric adapted from Brown, covering fluency, pronunciation, vocabulary use, and comprehensibility. The same rubric was used for both the pre-test and post-test to ensure consistency. For the qualitative data, an observation checklist was used as the primary instrument. The checklist included indicators such as student engagement, participation in role play, use of target vocabulary, interaction with peers, and confidence while speaking. Field notes were also taken to record notable classroom events and student behaviors that were not fully captured in the checklist.

The observation checklist was completed during every instructional session to document students' classroom behaviour while participating in the role-play activities. The observations focused on six indicators, namely participation, fluency, vocabulary use, interaction, confidence, and engagement. Each indicator was rated using a four-point scale ranging from 1 (Very Low) to 4 (Very Good). The checklist enabled the researcher to monitor students' behavioural development throughout the intervention rather than relying solely on the speaking test results.

Data Analysis

Quantitative data obtained from the speaking pre-test and post-test were analyzed using the Statistical Package for the Social Sciences (SPSS). The analysis began with descriptive statistics to summarize students' speaking performance, including mean scores, minimum and maximum values, and standard deviations for both tests. These descriptive results provided an initial overview of students' speaking ability before and after the treatment. To examine whether there was a significant difference between students' pre-test and post-test scores, a paired-sample t-test was employed. This test was selected

because the data were obtained from the same group of students measured at two different times. The paired-sample t-test allowed the researcher to determine whether the improvement in students' speaking ability after the implementation of role play integrated with interactive digital flashcards was statistically significant. The level of significance was set at 0.05. The results of the inferential analysis provided a direct and objective answer to the first research question regarding the effectiveness of integrating role play with interactive digital flashcards in improving students' speaking ability.

Qualitative data obtained from the observation checklist and field notes were analyzed using thematic analysis following Braun and Clarke (2006). The analysis began with familiarization, in which all observation records and field notes were read repeatedly to gain an overall understanding of students' classroom experiences. The researcher then generated initial codes by identifying meaningful segments related to students' participation, fluency, vocabulary use, interaction, confidence, and engagement during the instructional activities. Similar codes were subsequently grouped into broader categories to identify recurring patterns of students' responses. These categories were reviewed, refined, and developed into overarching themes that represented students' behavioural changes throughout the intervention. Finally, each theme was interpreted in relation to the quantitative findings to explain how the integration of role play and interactive digital flashcards influenced students' speaking development. The qualitative findings were then used to complement and explain the quantitative results. While statistical analysis showed whether improvement occurred, observation data explained how students responded to the instructional strategy and why the learning activities influenced their speaking development. The integration of quantitative and qualitative analyses strengthened the overall interpretation of the findings and supported the mixed-methods design of the study.

4. Results and Discussion

Improvement of Students' Speaking Ability through Role Play Integrated with Interactive Digital Flashcards

The first research question examined whether integrating role play with interactive digital flashcards significantly improved students' speaking ability based on their pre-test and post-test scores. Descriptive statistics indicated that students demonstrated considerable improvement after participating in four instructional treatments. Before the intervention, the students' speaking performance was relatively moderate, with a mean score of 61.13 (SD = 2.70), while the post-test mean increased to 75.60 (SD = 3.90). The average gain score was 14.47 points, indicating substantial improvement in students' speaking performance after the instructional treatment.

Table 1. Descriptive Statistics of Students' Speaking Scores.

Test	N	Mean	SD	Minimum	Maximum
Pre-test	15	61.15	2.70	57	66
Post-test	15	75.60	3.90	69	82

Table 1 presents the descriptive statistics of students' speaking performance before and after the implementation of role play integrated with interactive digital flashcards. The speaking assessment was conducted using Brown's speaking rubric, which evaluated five aspects of speaking performance: fluency, pronunciation, grammar, vocabulary, and comprehension. These aspects were assessed consistently in both the pre-test and post-test to examine changes in students' overall speaking ability.

Before the instructional treatment, the participants obtained a mean score of 61.13, with scores ranging from 57 to 66. These results suggest that most students had comparable levels of speaking proficiency at the beginning of the study. During the pre-test, many participants were able to communicate simple ideas but still experienced noticeable difficulties in sustaining conversations. Their speech was frequently interrupted by hesitation, limited vocabulary, grammatical inaccuracies, and uncertainty in pronunciation. Although the students generally understood the speaking tasks, they often required additional time to organize their ideas before responding. These characteristics are reflected in the relatively moderate pre-test scores obtained by the participants. Following the implementation of role play integrated with interactive digital flashcards, the mean score

increased to 75.60, while the minimum and maximum scores also improved to 69 and 82, respectively. The average gain of 14.47 points indicates that the participants demonstrated better overall speaking performance after completing the instructional activities. The improvement suggests that students were able to express ideas more effectively, communicate with greater continuity, and utilize the vocabulary introduced during the learning process more appropriately. As the same assessment rubric was applied in both tests, the higher post-test scores indicate that students showed better performance across the speaking criteria measured by the instrument rather than improvement in only one isolated aspect.

Another important finding is that every participant obtained a higher score in the post-test than in the pre-test. This pattern indicates that the instructional strategy benefited the entire class rather than only a small group of high-performing students. Although the extent of improvement varied among individuals, the consistent increase across all participants suggests that the combination of vocabulary preparation through interactive digital flashcards and communicative practice through role play provided meaningful learning opportunities for students with different levels of initial speaking ability. The descriptive findings also provide an initial indication that the instructional intervention positively influenced students' speaking development. However, descriptive statistics alone cannot determine whether the observed improvement was statistically significant. Therefore, a paired-sample *t*-test was conducted to examine whether the difference between the pre-test and post-test scores reflected a significant effect of the instructional treatment. The increase in the mean score demonstrates that students' speaking performance improved after the implementation of role play integrated with interactive digital flashcards. Furthermore, every participant achieved a higher score in the post-test than in the pre-test, suggesting that the intervention benefited all students regardless of their initial speaking proficiency. To determine whether the improvement was statistically significant, a paired-sample *t*-test was conducted.

The findings of the present study are consistent with the study conducted by Emelia (2024), which reported that implementing interactive and student-centered learning activities positively influenced students' speaking development. The study found that students became more actively engaged in classroom discussions, demonstrated greater confidence when speaking in front of their peers, and responded positively to communicative learning activities. These findings support the results of the present study, where the integration of role play with interactive digital flashcards created a more interactive learning environment that encouraged students to participate actively, communicate more confidently, and engage more meaningfully in English speaking activities.

Table 2. Paired-Sample *t*-Test.

Comparison	Mean Difference	t	df	Sig. (2-tailed)
Pre-test – Post-test	-14.47	18.50	14	< .001

The paired-sample *t*-test showed a statistically significant difference between students' pre-test and post-test scores ($t = 18.50$, $p < .001$), indicating that the improvement was not due to chance. Since the significance value was lower than the alpha level of .05, the null hypothesis was rejected. These findings suggest that integrating role play with interactive digital flashcards effectively enhanced students' speaking ability. The improvement was also reflected in students' classroom performance throughout the treatment sessions. Observation checklist scores gradually increased across the instructional meetings. During the preliminary observation, the average score was 11.67, which was categorized as Low. Following the implementation of the instructional strategy, the average observation score increased to 13.47 during Treatment 1, 14.60 during Treatment 2, 16.60 during Treatment 3, and finally 17.73 during Treatment 4. Although the observation scores remained within the moderate category, the consistent upward trend indicates continuous improvement in students' classroom speaking behavior.

Table 3. Observation Checklist Results Across the Intervention.

Meeting	Average Score	Category
Preliminary Observation	11.67	Low
Treatment 1	13.47	Moderate
Treatment 2	14.60	Moderate
Treatment 3	16.60	Moderate
Treatment 4	17.73	Moderate

The observation results suggest that students became increasingly engaged during speaking activities as the intervention progressed. The gradual increase in observation scores supports the quantitative findings obtained from the speaking tests. Table 3 illustrates the development of students' classroom performance throughout the implementation of role play integrated with interactive digital flashcards, as measured using the structured observation checklist. The observation focused on six indicators, namely participation, fluency, vocabulary use, interaction, confidence, and engagement, which were observed continuously from the preliminary observation until the fourth treatment session. The observation results reveal a steady improvement in students' classroom performance across all instructional meetings. During the preliminary observation, the average score was 11.67, which fell within the Low category. This finding indicates that many students were still reluctant to participate actively in English speaking activities. Most students produced only brief responses, depended on teacher guidance, and showed hesitation when speaking in front of their classmates. These initial classroom behaviours are consistent with the challenges identified in the introduction, where Thai secondary school students were described as experiencing limited vocabulary knowledge, low confidence, and speaking anxiety.

After the first instructional treatment, the average observation score increased to 13.47, reaching the Moderate category. This change suggests that students began to adjust to the learning activities. Although some hesitation was still observed, more students voluntarily participated in role-play activities and started using the vocabulary introduced through the interactive digital flashcards. Their participation became more consistent as they became familiar with the classroom procedures. The observation scores continued to increase during Treatment 2 ($M = 14.60$) and Treatment 3 ($M = 16.60$). During these sessions, students demonstrated greater confidence in expressing ideas orally and interacted more actively with their peers during role-play activities. Rather than relying solely on teacher assistance, students increasingly negotiated meaning with classmates, responded appropriately during conversations, and maintained longer speaking turns. The improvement also suggests that repeated exposure to target vocabulary before role-play activities helped students retrieve lexical items more easily while speaking, resulting in fewer pauses and smoother communication.

By the final treatment, the average observation score reached 17.73, representing the highest classroom performance recorded during the intervention. Although the overall category remained Moderate, the consistent increase across all four treatment sessions indicates meaningful progress in students' participation and communicative behaviour. At this stage, most students willingly engaged in speaking activities, showed greater confidence when performing role plays, and demonstrated more active interaction with their peers. The classroom atmosphere also became noticeably more communicative, with students relying less on teacher support and participating more independently throughout the speaking tasks. Overall, the observation findings indicate that the integration of role play and interactive digital flashcards positively influenced students' responses during the learning process. The gradual increase in observation scores suggests that the instructional strategy not only improved students' speaking performance, as reflected in the quantitative findings, but also fostered greater classroom participation, confidence, interaction, vocabulary application, and engagement throughout the intervention. These qualitative findings complement the improvement identified in the pre-test and post-test results, providing a more comprehensive understanding of how students' speaking ability developed during the study.

Students' Responses toward the Implementation of Role Play Integrated with Interactive Digital Flashcards

The classroom observations revealed a gradual change in students' behaviour from the beginning to the end of the intervention. During the preliminary observation, many students appeared hesitant when asked to speak in English. Most responses were brief, and several students waited for encouragement from the teacher before participating in the activities. Some students paused frequently while searching for appropriate words, while others relied on their classmates' responses before attempting to answer. These behaviours suggested that students were still uncertain about using English orally and lacked confidence in expressing their ideas. As the implementation of role play and interactive digital flashcards continued, students gradually became more familiar with the classroom routines and expectations. The digital flashcards provided vocabulary support before each speaking activity, allowing students to review key expressions and pronunciation before applying them in role-play tasks. This preparation appeared to reduce hesitation during speaking activities. Students became more willing to initiate conversations with their partners, and their responses developed from isolated words into longer and more meaningful utterances. The field-note coding also indicated recurring patterns related to vocabulary application, fewer pauses, and improved speaking confidence, suggesting that vocabulary preparation helped students participate more comfortably during communicative tasks.

The observations further showed that students' interaction became increasingly collaborative throughout the intervention. During the early meetings, communication often depended on teacher guidance, and classroom interaction was relatively limited. As students gained experience with role-play activities, they interacted more actively with their peers by responding to questions, maintaining short conversations, and completing communicative tasks together. Rather than focusing on producing grammatically perfect sentences, students appeared more willing to communicate their ideas and sustain interaction. This behavioural change reflects the communicative nature of the learning activities, where students gradually shifted from passive recipients of instruction to active participants in classroom communication. Another noticeable change concerned students' confidence while speaking. The role-play activities created opportunities for students to communicate within meaningful situations instead of answering isolated questions. Assuming different roles appeared to reduce the pressure associated with speaking English, allowing students to focus more on completing the communicative task than on avoiding mistakes. As the treatments progressed, students demonstrated greater willingness to participate without repeated teacher prompts, and classroom interaction became more balanced because a larger number of students contributed to the speaking activities.

These behavioural changes are consistent with the continuous increase observed in the classroom observation scores across the intervention. Overall, the qualitative findings suggest that integrating role play with interactive digital flashcards not only supported students' speaking performance but also positively influenced their classroom behaviour during English learning. Throughout the intervention, students demonstrated greater participation, more effective use of target vocabulary, improved interaction with peers, and increased confidence when communicating in English. These classroom responses provide qualitative evidence that complements the quantitative improvement observed in the speaking test and offer a more comprehensive understanding of how the instructional strategy contributed to students' speaking development.

5. Conclusions

This study investigated the effectiveness of integrating role play with interactive digital flashcards in improving the speaking ability of secondary school students in a Thai EFL classroom and explored students' responses to the instructional strategy. The quantitative findings demonstrated that students' speaking performance improved after the intervention, as reflected in the increase in the mean score from the pre-test to the post-test and supported by the paired-sample t-test, which confirmed that the improvement was statistically significant. These findings indicate that the combination of vocabulary preparation through interactive digital flashcards and communicative practice through role

play effectively enhanced students' speaking ability. The consistent improvement observed across all participants suggests that the instructional strategy supported learners with varying levels of initial speaking proficiency and provided meaningful opportunities to develop fluency, pronunciation, vocabulary use, grammar, and comprehension in authentic communicative contexts.

The qualitative findings complemented the quantitative results by providing a deeper understanding of students' learning experiences throughout the intervention. Classroom observations and field notes revealed that students gradually became more engaged, confident, and willing to participate in English speaking activities. The integration of interactive digital flashcards helped students prepare the target vocabulary before speaking, while role-play activities encouraged meaningful interaction, reduced hesitation, and promoted collaborative learning. These behavioural changes explain the improvement identified in the speaking assessment and demonstrate how the instructional strategy fostered a more communicative classroom environment. Therefore, this study concludes that integrating role play with interactive digital flashcards is an effective pedagogical approach for improving speaking ability and encouraging active classroom participation among Thai secondary school EFL learners. Future studies are recommended to involve larger samples, include control groups, and examine the long-term effects of this instructional strategy in different educational contexts.

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