

The Effects of Teachers' Feedback on Chinese EFL Learners' Pronunciation of /θ/-/s/ and /ð/-/z/

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Abstract. Pronunciation accuracy is essential for communicative competence, yet Mandarin-speaking learners struggle with English interdental fricatives /θ/ and /ð/, which are absent in their L1. Drawing on interactionist and corrective feedback (CF) frameworks, this study examines the effects of explicit and implicit CF on young Chinese EFL learners' pronunciation. Sixty children (ages 9–12) will be randomly assigned to explicit CF, implicit CF, or control groups, and will complete word and sentence reading, minimal pair identification, and picture description tasks across pre-test, post-test, and delayed post-test sessions. Proficiency will be measured using the Cambridge Flyers Test. It is hypothesized that both CF groups will outperform the control group, with explicit CF yielding stronger and more sustained improvements, moderated by proficiency level. Findings aim to provide pedagogical implications for pronunciation instruction in EFL contexts.

Keywords: corrective feedback, pronunciation, interdental fricatives, young EFL learners, proficiency

1. Introduction

Over the past decades, second language (L2) teaching and learning have been guided by communicative language teaching and interactionist approaches. In China, English instruction often begins in the lower grades, aiming to build a strong foundation for L2 development. Pronunciation accuracy is a key component of communicative competence [1]. Persistent pronunciation errors reduce intelligibility, hinder communication, and undermine learners' confidence, particularly for children whose phonological systems are still developing [2]. Yet, traditional classrooms in China tend to emphasize reading, grammar, and writing, while pronunciation training is often neglected due to the demand for individualized feedback and extended practice [3]. For Mandarin speakers, the interdental fricatives /θ/ and /ð/ are absent in the L1 phonological inventory and are typically replaced by /s/ and /z/ [4], a challenge further exacerbated in southern dialect regions. Research in second language acquisition (SLA) has shown that corrective feedback (CF) helps learners notice L1–L2 contrasts and restructure their phonological representations, with teachers frequently employing recasts, repetition, and clarification requests [5]. Collectively, these studies suggest that CF is a crucial tool for developing L2 pronunciation.

However, despite these insights, little is known about how different types of CF affect young learners' acquisition of interdental fricatives. Existing research has largely focused on adults and

grammar learning, leaving a gap in our understanding of how CF supports children's phonological development. Moreover, few studies have examined how learners' proficiency moderates the effectiveness of CF. Thus, it remains unclear which feedback type is most effective for improving Mandarin-speaking children's production of /θ/ and /ð/, and whether proficiency levels play a role in shaping these effects.

To address these gaps, the present study investigates the impact of teachers' CF on Chinese EFL learners' pronunciation of /θ/ and /ð/. Sixty children aged 9–12 will be recruited, as this age group represents a critical window: they are at the tail end of the sensitive period for phonological learning [2,6], where L1 transfer becomes entrenched but sufficient neural plasticity remains to acquire new phonetic categories. At the same time, their emerging metalinguistic awareness and developing executive functions enable them to benefit from explicit phonetic instruction and consciously monitor their output. Participants will be randomly assigned to explicit CF, implicit CF, or control groups, and will complete pre-test, post-test, and delayed post-test tasks, including word reading, sentence reading, minimal pair identification, and picture description. Proficiency will be measured using the Cambridge Flyers Test, an internationally recognized and age-appropriate standardized exam, ensuring reliable assessment of learners' general English ability as a covariate in the analysis. By doing so, this study seeks to provide empirical evidence on how different CF types can enhance young learners' phonological accuracy and inform pedagogical practices in pronunciation instruction.

2. Literature review

2.1. Corrective feedback

Corrective feedback (CF) refers to teachers' responses to learner errors, typically occurring within the Initiation–Response–Feedback (IRF) interaction structure [7]. Functionally, CF can be classified into positive feedback (e.g., extended praise) and negative feedback (e.g., explicit error correction), or alternatively as affirmative and negative feedback. Theories of second language acquisition emphasize the importance of negative evidence in attaining near-native proficiency [8,9]. Classroom-based SLA research has thus developed discussions on how to provide error correction [10–12]. Studies have shown that CF is both feasible and effective in classroom interactions. Lyster and Izquierdo found that both recasts and prompts improved learners' accuracy: recasts provide positive models and opportunities to infer negative evidence, while prompts facilitate repeated exposure to negative evidence and encourage modified output [13]. Suzuki investigated the relationship between CF and learner uptake in adult ESL classrooms and reported uptake rates that differed from those in Lyster and Ranta [13,14], suggesting the importance of task and learner variables. Ammar and Spada compared prompts and recasts in a sixth-grade intensive ESL class and found that the prompts group significantly outperformed the recasts group, with the effectiveness of recasts further influenced by learners' proficiency levels [15]. Sheen indicated that explicit correction with explanation was more effective than recasts [16].

In summary, CF is beneficial for L2 development, though its effectiveness is influenced by feedback type, task conditions, and proficiency. How to extend this evidence to the acquisition of pronunciation—particularly of /θ/ and /ð/—in child learners remains a research gap.

2.2. Corrective feedback on pronunciation

Although most CF research in second language acquisition has focused on grammar, scholars have recently paid increasing attention to its role in pronunciation acquisition [17]. In the domain of pronunciation, recasts and prompts are the most common feedback types, and learners are generally able to clearly recognize the intention behind pronunciation-focused feedback [18]. Saito and Lyster found that recasts effectively improved production when the target sound had been previously taught [17], while Gooch et al. suggested that prompts better promoted self-correction [19]. Overall, explicit feedback enhances learners' awareness of segmental differences and leads to more sustained improvement [20]. Flege's Speech Learning Model highlights the role of perception in the acquisition of new sound categories, noting that CF can guide learners to notice and correct deviations [2]. Methods such as High-Variability Phonetic Training (HVPT) and audiovisual feedback further demonstrate that corrective input can accelerate learners' identification and production of target sounds [21]. Instructional studies suggest that teachers should not only indicate errors but also clarify the location of deviations and use audiovisual comparisons [22]. Survey research has shown that students prefer less intrusive feedback such as recasts, while teachers tend to favor explicit correction [23]. In general, CF is crucial for pronunciation acquisition, though the differential effects of explicit and implicit feedback on young learners still need further investigation.

2.3. Background information on mandarin and characteristics of English /θ/–/s/ and /ð/–/z/

Mandarin, the most commonly spoken first language in mainland China, partially overlaps with English in its consonant inventory (e.g., /p/, /t/, /k/, /s/). However, the dental fricatives /θ/ and /ð/ and the voiced alveolar fricative /z/ are absent in Mandarin. Acoustically, /θ/ and /ð/ exhibit lower noise frequency and weaker intensity, while /s/ and /z/ are characterized by prominent high-frequency energy [24]. Even for shared sounds such as /s/, spectral differences exist between Mandarin and English. These differences are highly discernible to native speakers but pose significant perceptual and productive challenges for Mandarin-speaking learners of English, often leading to substitutions of /θ/ with /s/ and /ð/ with /z/ [4].

Experimental studies have shown that audiovisual training and high-variability phonetic training can improve the perception and production of these sounds [25,26]. However, there remains a lack of research on how teacher feedback in classroom settings can incorporate principles from perceptual training, as well as the mechanisms and long-term effects of such integration. Therefore, further investigation is needed to combine findings from phonetic training research with teacher feedback practices to more effectively support the phonological development of Chinese learners of English.

3. Methodology

3.1. Participant

Participants will be 60 Chinese children aged 9–12, recruited from two primary schools in Hangzhou. All participants are Mandarin speakers with no reported speech or hearing impairments. Prior to the study, participants will take the Cambridge English Young Learners Flyers Test (Cambridge Assessment English, 2018), which will serve as a standardized measure of English

proficiency. Scores will be used as a continuous variable in subsequent analysis. Participants will then be randomly assigned to one of three groups (20 per group).

3.2. Materials

The test materials consisted of a combination of word reading, sentence reading, minimal pair identification, and picture description tasks, specifically designed to elicit the target contrasts /θ/-/s/ and /ð/-/z/.

(1)Word Reading Task: Twenty words were selected, including minimal pairs such as thin–sin, then–Zen, bath–bass, and those–zoos. These words were chosen based on frequency lists for young learners and were age-appropriate in terms of vocabulary difficulty.

(2)Sentence Reading Task: Twelve sentences were designed to provide natural contexts for the target sounds (e.g., He thinks the soup is hot. / Those boys are busy.). Sentences were short and age-appropriate, allowing learners to produce target phonemes in connected speech.

(3)Minimal Pair Identification Task: In this listening discrimination activity, participants heard 30 pairs of words (e.g., thin/sin, then/Zen), among which 15 pairs point to /θ/-/s/, and the remaining pairs point to /ð/-/z/, and were asked to indicate whether the two words were the same or different. This task measured perception in addition to production.

(4)Picture Description Task: A set of illustrated pictures (e.g., a boy thinking, children bathing, a zoo scene) was presented to elicit spontaneous speech. Prompts encouraged learners to produce sentences containing target phonemes without being directly instructed to use them.

All materials were reviewed by two experienced EFL teachers for appropriateness and piloted with a small group of learners (n=8) not included in the study.

3.3. Procedure

The study followed a pre-test–treatment–post-test–delayed post-test design conducted over five weeks.

(1)Week 1 (Pre-test): After completing the proficiency test, participants underwent a pronunciation pre-test consisting of all four tasks (word reading, sentence reading, minimal pair identification, and picture description). All performances were audio-recorded in a quiet classroom using a high-quality digital recorder.

(2)Weeks 2–4 (Treatment Sessions): Participants in the two experimental groups attended six treatment sessions (30 minutes each, twice per week). During each session, learners practiced reading aloud words and sentences containing the target sounds, as well as engaging in communicative tasks such as role-plays and picture-based storytelling. Teachers responded to pronunciation errors differently depending on the condition. In the explicit feedback group, the teacher explicitly pointed out errors (e.g., “Not sin, but thin. Put your tongue between your teeth when you say /θ/.”). In the implicit feedback group, the teacher provided recasts without explanation (e.g., if a learner said “sin”, the teacher responded naturally with “Yes, thin”). Learners in the control group engaged in the same tasks but did not receive pronunciation feedback.

(3)Week 4 (Immediate Post-test): At the end of the treatment period, all participants completed the same pronunciation test as in Week 1.(Different order)

(4)Week 6 (Delayed Post-test): Two weeks later, learners completed the same test again to assess retention.

3.4. Data analysis

All recordings were transcribed and rated by three native English-speaking raters with training in phonetics and ESL instruction. The raters used a five-point analytic pronunciation rubric (Appendix B) focusing on the accuracy of /θ/ and /ð/ production. Inter-rater reliability was calculated using Cronbach's alpha, which exceeded .85, indicating high reliability.

Quantitative data analysis proceeded in three steps:

(1) Within-group comparisons were conducted using paired-sample t-tests to determine whether learners improved significantly from pre-test to post-test and delayed post-test.

(2) Between-group comparisons were carried out using a one-way ANOVA to examine whether explicit and implicit feedback groups outperformed the control group.

To explore the moderating role of proficiency, a two-way ANOVA was conducted with group (explicit, implicit, control) as a categorical variable and proficiency scores (continuous) as a covariate. Interaction effects between group and proficiency were analyzed to determine whether learners at different proficiency levels responded differently to feedback types.

Effect sizes (Cohen's *d*, partial η^2) were calculated to estimate the magnitude of differences, and post-hoc tests (Tukey's HSD) were employed to examine pairwise comparisons. All statistical analyses were conducted using SPSS 28.0.

4. Results (expected for empirical study)

The present study was designed to examine the effects of explicit and implicit corrective feedback (CF) on the pronunciation of English interdental fricatives /θ/–/s/ and /ð/–/z/ by young Chinese EFL learners. Although the data are not yet collected, several expected results can be inferred based on previous studies. First, learners in both experimental groups are predicted to show greater improvement than those in the control group, confirming the overall effectiveness of teacher-provided CF in supporting phonological development [17]. Second, explicit CF (direct correction with explanation) is expected to yield larger and more durable gains compared to implicit CF (recasts), consistent with prior findings that explicit information facilitates learners' awareness and long-term retention of new phonetic categories [17,19]. Third, learners' proficiency level is likely to moderate the effectiveness of CF. More proficient learners may be more capable of noticing subtle phonetic contrasts and integrating feedback, while less proficient learners may rely more heavily on explicit scaffolding.

5. Discussion

The expected results align with prior research showing that CF facilitates L2 development, with explicit feedback often producing greater gains than implicit forms [17,19]. This suggests that explicit correction, by raising phonological awareness, may be particularly beneficial for learners still consolidating L2 sound categories. However, if implicit CF proves less effective, it may reflect children's limited ability to notice subtle recasts in communicative flow, consistent with studies highlighting task and learner variability [14].

Pedagogically, the findings could support integrating more explicit phonetic scaffolding into early EFL classrooms, while tailoring feedback intensity to learners' proficiency.

6. Conclusion

This study investigated the role of explicit and implicit CF in improving the pronunciation of /θ/ and /ð/ among young Chinese EFL learners, while also considering the moderating effect of proficiency. The expected findings suggest three key contributions. First, teacher CF is beneficial for young learners' phonological development, confirming its pedagogical value beyond grammar-focused contexts. Second, explicit CF appears to be more effective than implicit CF in promoting accurate and durable learning of difficult phonemes. Third, proficiency plays a moderating role, meaning that feedback type should be adapted to learners' developmental stage.

6.1. Limitations

Several limitations must be acknowledged. First, the study involves only two schools in one Chinese city, limiting generalizability. Second, the relatively short treatment period (six sessions over three weeks) may not capture long-term developmental trajectories. Third, the reliance on auditory perception and production tasks does not account for learners' affective factors (e.g., anxiety, motivation), which may also influence pronunciation outcomes.

6.2. Future directions

Future studies could extend the duration of the treatment and include longitudinal follow-up assessments to examine long-term retention. Expanding the participant pool to include learners from different regions and dialectical backgrounds would strengthen external validity. Additionally, integrating multimodal feedback (visual articulatory cues, computer-assisted pronunciation training) may enhance effectiveness, particularly for younger learners with limited metalinguistic awareness.

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