



INTEGRATION OF IMITATION, FEEDBACK-MECHANISM AND GAMIFICATION ELEMENTS IN PHONETICS LESSONS: A STEPWISE MODEL AND EXPERIMENTAL RESULTS

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ABSTRACT

This study investigates the integration of imitation (modelling), feedback-mechanisms and gamification elements in primary school phonetics lessons in an EFL (English as a Foreign Language) context. A three-phase instructional model — Imitation → Feedback → Gamification — was implemented over eight weeks with 60 Grade 3 learners (30 experimental, 30 control). Pre- and post-tests measured phonetic accuracy and learner motivation. Results indicate that the experimental group achieved significant improvement in pronunciation accuracy (mean increase +18 %) and motivation (+25 %) compared to the control group. The gamification phase yielded the greatest effect size ($d = 1.2$). Implications for phonetics curriculum design and teacher practice are discussed.

Introduction

Phonetics instruction plays a crucial role in primary EFL (English as a Foreign Language) education, enabling young learners to develop accurate pronunciation, improve intelligibility and build confidence. However, practical classroom settings often rely on repetitive drills and lack motivational elements or structured feedback loops. In Uzbekistan and similar contexts, primary learners frequently show limited phonetic competence due to minimal interactive practice and insufficient feedback.

This study addresses the following research questions:

- RQ1: Does a structured model that integrates imitation, feedback-mechanism and gamification improve phonetic accuracy more than traditional instruction?
- RQ2: Does the model enhance learners' motivation and active engagement in phonetics lessons?
- RQ3: Which instructional phase (Imitation, Feedback, Gamification) demonstrates the greatest impact on learner outcomes?

Theoretical Framework and Literature Review

Imitation—or modelling—provides young EFL learners with concrete pronunciation exemplars to replicate, thereby shaping articulatory awareness and phonemic discrimination. Prior studies demonstrate that mimicry supports improvement in pronunciation accuracy and segmental awareness. The feedback mechanism can be immediate or delayed, corrective or

formative. Research in pronunciation pedagogy highlights that immediate audio-visual feedback and scaffolded corrective guidance enhance learners' articulation skills and reduce fossilisation. Gamification applies game mechanics (points, badges, leaderboards, challenge cycles) to learning contexts, aiming to boost motivation, engagement and sustained participation. Studies such as Shroff et al. (2020) show that gamified phonetics tasks can achieve higher learner motivation and better pronunciation outcomes. In this study, a **three-phase model** is proposed: *Phase 1: Imitation* → *Phase 2: Feedback* → *Phase 3: Gamification*. **Hypothesis H1:** The integrated model will significantly improve phonetic accuracy compared to standard instruction. **Hypothesis H2:** The model will significantly enhance learner motivation compared to standard instruction. A quasi-experimental design was employed, involving an experimental group and a control group, with pre- and post-tests measuring learning gains. Sixty Grade 3 EFL learners (aged 9–10) from two comparable schools in the Tashkent region participated (N = 60: experimental = 30; control = 30); gender distribution and prior English exposure were balanced. The intervention spanned eight weeks (three lessons per week, 40 minutes each): Weeks 1–2 the **Imitation phase**—learners listened to modelled sounds and repeated them; Weeks 3–4 the **Feedback phase**—immediate corrective feedback was provided via audio recordings, peer review and teacher modelling; Weeks 5–8 the **Gamification phase**—learners completed game-based phonetic tasks, earned badges, progressed through levels and appeared on leaderboards. The control group received standard phonetic instruction (teacher modelling + drills) without structured feedback loops or gamification. Instruments included a Phonetic Accuracy Test (pre- and post-: a 30-item phoneme pronunciation task), a Motivation & Engagement Survey (5-point Likert scale, 10 items, Cronbach's $\alpha = 0.82$) and an Observation Checklist (teacher recorded learner participation, errors corrected, gamified task completion). Data were analysed using descriptive statistics (means, SDs), inferential statistics (paired and independent t-tests) and effect sizes (Cohen's d).

Results

The results of the eight-week intervention provide a clear picture of how the integrated model influenced learners' phonetic development and motivation. Quantitative analyses comparing pre- and post-test performance show distinct differences between the experimental and control groups, while additional measures such as motivation surveys and effect-size calculations offer deeper insight into the contribution of each instructional phase. The following tables present these findings in detail, highlighting both overall learning gains and specific patterns that emerged across the three components of the model.

Table 1 shows pre-test means and standard deviations. For the experimental group (N = 30), the mean was 52.4 with SD 7.1; for the control group (N = 30), the mean was 51.8 with SD 6.9. The independent-samples t-test showed no significant difference between groups at pre-test ($p > .05$).

Group	N	Mean	SD
Experimental	30	52.4	7.1
Control	30	51.8	6.9

Table 2 presents post-test means, SDs, t-values and p-values. The experimental group (N = 30) had a mean of 70.3 with SD 5.8 ($t = 12.45$, $p < .001$); the control group (N = 30) had a mean of 59.1 with SD 6.3 ($t = 5.23$, $p < .001$). The experimental group achieved significantly higher post-test scores compared to control, supporting Hypothesis H1. Chart 1 shows the mean score improvement (Pre → Post) for both groups: experimental +17.9 points; control +7.3 points.

Group	N	Mean	SD	t-value	p-value
Experimental	30	70.3	5.8	12.45	<.001
Control	30	59.1	6.3	5.23	<.001

Table 3 displays motivation survey means (5-point scale) and SDs. The experimental group achieved a mean of 4.2 (SD 0.4; $t = 6.72$, $p < .001$); the control group mean was 3.3 (SD 0.6). Motivation was significantly higher in the experimental group, supporting Hypothesis H2.

Group	Mean	SD	t-value	p-value
Experimental	4.2	0.4	6.72	<.001
Control	3.3	0.6	—	—

Effect size (Cohen's d) values were as follows: gamification phase = 1.2; feedback phase = 0.8; imitation phase = 0.5. This suggests the gamification phase contributed the most to gains in pronunciation and motivation.

Instructional Phase	Cohen's d
Imitation	0.5
Feedback	0.8
Gamification	1.2

Comparison with literature indicates the results align with previous research (Shroff et al., 2020) which found gamification improved pronunciation outcomes. The feedback mechanism aligns with findings from CAPT-based pronunciation studies where immediate corrective input is critical. Practical implications include that teachers in primary EFL settings should consider implementing a staged model of imitation, feedback and gamification within phonetics lessons; curriculum designers should include gamified phonetics modules and structured feedback loops; technology tools (e.g., mobile apps, web tasks) can facilitate gamification and real-time feedback. Limitations of the study include a relatively small sample (N = 60), single region (Tashkent region) and short intervention duration (8 weeks); retention of gains beyond the intervention period was not tested. Future directions for research might expand to multiple regions and grade levels, include longitudinal follow-up (6-12 months) and integrate other phonetic domains such as intonation and connected speech. Researchers could also compare standalone gamification vs integrated models.

Conclusion

The integrated model combining imitation, structured feedback, and gamification produced clear, measurable improvements in young learners' phonetic performance. Across the eight-week intervention, the experimental group achieved an average increase of **17.9 points** in phonetic accuracy compared to **7.3 points** in the control group, confirming that the

model fosters stronger pronunciation development than traditional drill-based methods. Motivation levels also increased significantly, with experimental learners scoring **4.2/5** on the engagement scale versus **3.3/5** in the control group, demonstrating that the model not only enhances accuracy but also strengthens learners' willingness to participate in phonetic tasks.

Among the instructional components, **gamification yielded the largest effect size ($d = 1.2$)**, indicating that motivational mechanics such as badges, levels, and challenge-based tasks play a decisive role in sustaining active practice. Feedback mechanisms ($d = 0.8$) further contributed to accuracy gains by providing timely corrective cues, while imitation ($d = 0.5$) established essential baseline pronunciation patterns.

Overall, the findings confirm that a phased combination of modelling, feedback, and gamified practice constitutes an effective, scalable approach to phonetics instruction in primary EFL contexts. This model is well-suited for curriculum integration, particularly in early-grade settings where sustained engagement is critical. Future studies should examine the model's long-term retention effects, test its applicability across different phonetic features (intonation, prosody, connected speech), and evaluate its potential within digital or mobile-assisted learning environments.

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