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EFFECT OF SHADOWING ON INFORMATION SYSTEMS STUDENTS SPEAKING FLUENCY AT ROYAL UNIVERSITY

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Abstract: *This study aimed to investigate the effectiveness of the shadowing method in improving speaking fluency among Class SI 1D students in the Information Systems Department at Royal University. A quasi-experimental design was applied involving 27 students divided into an experimental and a control group. The experimental group received structured shadowing activities through guided audio repetition and pronunciation modeling, while the control group was taught using conventional speaking exercises. The findings showed a significant improvement in the experimental group, with a mean post-test score of 86 and a normalized gain of 0.65 (moderate–high), compared to the control group's mean score of 70 and gain of 0.23 (low). An independent samples t-test confirmed a statistically significant difference between both groups ($t = 10.12$, $p < 0.05$). Classroom observations indicated increased confidence, reduced hesitation, and better speech continuity among students exposed to shadowing. The study concludes that the shadowing method is an effective and practical strategy for enhancing speaking fluency among university-level Information Systems students.*

Keywords: *Shadowing Method; Speaking Fluency; Quasi Experimental Design; Pronunciation Modeling; language learning strategy.*

Abstrak: Penelitian ini bertujuan untuk menginvestigasi efektivitas metode shadowing dalam meningkatkan kefasihan berbicara mahasiswa Kelas SI 1D Program Studi Sistem Informasi di Royal University. Penelitian ini menggunakan desain quasi-eksperimental dengan sampel sebanyak 27 mahasiswa yang dibagi menjadi kelompok eksperimen dan kelompok kontrol. Kelompok eksperimen mendapatkan pembelajaran melalui kegiatan shadowing terstruktur berupa pengulangan audio terpandu dan pemodelan pelafalan, sedangkan kelompok kontrol diajar menggunakan latihan berbicara konvensional. Hasil penelitian menunjukkan peningkatan signifikan pada kelompok eksperimen dengan rata-rata skor post-test 86 dan nilai gain ternormalisasi 0,65 (kategori sedang–tinggi), dibandingkan kelompok kontrol dengan rata-rata 70 dan gain 0,23 (kategori rendah). Uji independent samples t-test menunjukkan perbedaan yang signifikan secara statistik antara kedua kelompok ($t = 10{,}12$; $p < 0{,}05$). Observasi kelas juga menunjukkan peningkatan kepercayaan diri, pengurangan keraguan, dan kelancaran ujaran pada mahasiswa yang mengikuti metode shadowing. Penelitian ini menyimpulkan bahwa metode shadowing efektif dan praktis dalam meningkatkan kefasihan berbicara mahasiswa tingkat universitas Program Studi Sistem Informasi.

Kata kunci: Metode Shadowing; Kefasihan Berbicara; Desain Quasi-Eksperimental; Pemodelan Pelafalan; Strategi Pembelajaran Bahasa.

INTRODUCTION

English has become an essential tool for global communication, particularly in higher education and professional fields such as information systems, technology (Kurniawan, 2023). University students are increasingly required to communicate ideas, present projects, and collaborate in English. For students in the Information Systems Department, speaking proficiency is

especially important because they often engage in presentations, technical discussions, and collaborative digital projects (Escala et al., 2025). However, despite years of formal English instruction, many students still experience difficulty in speaking fluently.

At Royal University, preliminary classroom observations in Class SI 1D revealed that students frequently hesitated, paused excessively, and lacked confidence when speaking English. Although they understood grammar and vocabulary, their oral performance was characterized by slow speech rate, frequent repetition, and limited spontaneity. These problems indicated that traditional speaking instruction, which often relied on textbook dialogues and lecture-based explanations, did not sufficiently develop fluency and automaticity in speech production. As a result, students struggled to communicate ideas smoothly and effectively.

Speaking fluency refers to the ability to produce spoken language smoothly, accurately, and with minimal hesitation (Setyawan et al., 2026). It involves speech rate, pause frequency, rhythm, and continuity of expression. Developing fluency requires consistent exposure to authentic language input and repeated oral practice. Communicative language teaching theory emphasizes meaningful interaction and active use of language as central components of speaking development (Asmadewi, 2025) (Edi Sukmara, Lilies Youlia Friatin, 2025). However, many classroom practices still focus more on accuracy than on fluency, limiting students' opportunity to internalize natural speech patterns.

One instructional technique that has gained attention for improving oral fluency is the shadowing method. Shadowing involves listening to spoken language and immediately repeating it with close attention to pronunciation, stress, and intonation. This technique trains learners to process and reproduce language simultaneously, thereby enhancing automaticity and reducing hesitation. Through repeated and structured practice, shadowing helps learners internalize natural rhythm and speech flow. Previous studies have shown that shadowing contributes positively to pronunciation accuracy and listening comprehension. However, limited research has examined its effectiveness in improving speaking fluency among university students in non-English major programs, particularly in Information Systems contexts.

The present study aimed to address this gap by investigating the effect of the shadowing method on the speaking fluency of students in Class SI 1D at Royal University. Unlike conventional speaking exercises, the shadowing activities implemented in this study were structured progressively, beginning with guided repetition and advancing to independent oral performance (Zafarova, 2025). This approach integrated listening and speaking practice simultaneously, promoting faster speech processing and greater confidence.

The innovative value of this research lies in its application of a structured shadowing framework within a higher education context, specifically for Information Systems students. While shadowing has often been associated with interpreter training or general language learning, this study adapted it as a practical classroom strategy for improving fluency in academic English communication (Zafarova, 2025). By combining fluency measurement indicators such as speech rate, pause frequency, and continuity of speech with statistical analysis, this research provided empirical evidence of shadowing's effectiveness at the university level.

Therefore, this study sought to answer the following research question: Does the implementation of the shadowing method significantly improve the speaking fluency of Information Systems students in Class SI 1D at Royal University? The findings were expected to contribute both theoretically and

practically to English language teaching by offering an effective and applicable strategy for improving oral fluency in higher education contexts.

METHOD

This study employed a quasi-experimental design using a pre-test and post-test control group model (Anantasia & Rindrayani, 2025). Quasi-experimental research is appropriate when random assignment of participants is not fully possible but comparison between groups is required to determine treatment effectiveness. This design allows researchers to examine causal relationships by comparing learning outcomes before and after an instructional intervention.

The study involved two groups: an experimental group that received instruction through the shadowing method and a control group that received conventional speaking instruction (Putri et al., 2024). Both groups were administered a pre-test before the treatment and a post-test after the intervention period.

Participants

The participants were 27 students from Class SI 1D in the Information Systems Department at Royal University. The class was divided into two groups: Experimental group: 14 students and Control group: 13 students. The participants were first-year university students enrolled in a compulsory English course.

Instruments

Data were collected using a speaking performance test administered as both pre-test and post-test. Students were required to deliver a short oral presentation based on a topic related to daily communication or academic contexts. Speaking performance was assessed using a standardized speaking assessment rubric measuring fluency, pronunciation, grammar, vocabulary, and coherence (Alim et al., 2025).

However, fluency was treated as the primary variable of analysis. Each aspect was scored on a scale of 1 to 5, with a maximum total score of 25, which was later converted into a 100-point scale (Mazurek, Jiří, Pérez Rico, Fernández, Carlos, Magnot, Jean-Pierre, Magnot, 2021). Speaking performance was assessed using a standardized rubric as shown in Table 1.

Table 1 Speaking Assessment Rubric Used for Pre-Test and Post-Test

Aspect	Very Poor (1)	Average (3)	Excellent (5)
Fluency	Frequent hesitation, long pauses, fragmented speech	Some hesitation with moderate flow	Natural, smooth delivery with minimal pauses and strong confidence
Pronunciation	Often unintelligible; errors interfere with meaning	Generally understandable with occasional errors	Clear, accurate, and natural pronunciation
Grammar	Frequent grammatical errors affecting meaning	Some errors, but message remains clear	Grammatical structures mostly accurate with minor errors
Vocabulary	Limited vocabulary with frequent word gaps	Adequate range with some repetition	Wide, precise, and appropriae range of vocabulay
Coherence	Ideas disorganized and unclear	Ideas mostly connected with minor transition issues	Ideas well-organized with clear and logical progression

Scoring System

1. Each aspect is scored from 1 to 5.
2. Maximum score = 25 points.

3. Final score is converted to a 100-scale using the formula:

$$Final\ Score = \frac{Total\ Score}{25} \times 100$$

This scoring system was applied consistently to both pre-test and post-test assessments.

Research Procedure

Step 1: Pre-Test

Students completed a speaking pre-test to measure their initial fluency level. All performances were recorded and scored using the established rubric. A pre-test is essential in quasi-experimental design to assess baseline performance before treatment (Putri et al., 2024)

Step 2: Treatment Phase

The experimental group received instruction using the shadowing method. including listening to audio, immediate repetition, guided modelling, independent shadowing, and final performance without support as applied in previous shadowing studies.

(Putri et al., 2024)

The control group received conventional speaking instruction consisting of teacher explanation, dialogue reading, question-and-answer sessions, and limited oral repetition practice.

Step 3: Post-Test

After treatment, both groups completed a post-test using similar speaking tasks and the same rubric to ensure consistency. This approach (pre-/post-test with consistent instruments) is widely used in quasi-experimental speaking research (Putri et al., 2024).

Data Collection Techniques

Data were collected through speaking test recordings, scoring sheets, and classroom observation notes. All student performances were audio-recorded to ensure scoring reliability and allow for re-evaluation when necessary.

Data were collected through speaking test recordings, scoring sheets, and classroom observation notes. The use of multiple instruments supports methodological triangulation, which enhances research credibility and validity (Bans-akutey, 2021)

Data Analysis Techniques

Data were analyzed quantitatively. Mean scores were calculated to determine average performance in both pre-test and post-test. Normalized gain scores were computed using the formula: Gain= (Post-test – Pre-test) / (Maximum score – Pre-test)

An independent samples t-test was conducted to determine whether the difference between the experimental and control groups was statistically significant at the 0.05 significance level. Data were analyzed quantitatively using descriptive and inferential statistics, consistent with quantitative quasi-experimental research procedures (TUCKMAN et al., 2025)

Data Analysis Techniques

Quantitative Analysis

Data were analyzed quantitatively using descriptive and inferential statistics.

Descriptive Statistics

Descriptive statistics were used to summarize the data obtained from the pre-test and post-test results. The mean score was calculated to determine the overall performance of students before and after the treatment, while the standard deviation was used to describe the distribution of scores within each group. The use of descriptive statistics such as mean and standard deviation is common in experimental educational research to provide an overview of students' learning outcomes (International Journal of Language, Education, and Literature, (Nurmuslimah Qadri, Muhammad Hasbi, 2025)

Normalized Gain Score (g)

To measure the level of improvement, the normalized gain score was calculated using the formula proposed by Hake (1998).

$$g = \frac{Pre\text{-}test - Post\text{-}test}{100 - Pre\text{-}test}$$

The gain score was interpreted

using the following criteria:

1. g > 0.7 = High improvement
2. 0.3 ≤ g ≤ 0.7 = Moderate improvement
3. g < 0.3 = Low improvement

Independent Samples t-Test

An independent samples t-test was conducted to determine whether the difference between the experimental and control groups was statistically significant at the 0.05 level of significance.

Validity and Reliability

Content validity was ensured by aligning speaking tasks with course learning objectives. The rubric was adapted from established communicative language assessment frameworks. Reliability was supported through consistent scoring procedures and recorded performances, allowing re-assessment when necessary.

Figure 1 Students Completing the Pre-Test Session Before Shadowing Treatment

Figure 2 Post-Test Implementation After the Shadowing Treatment

RESULTS AND DISCUSSION

To examine the effectiveness of the shadowing method in improving speaking fluency, pre-tests and post-tests were administered to both the experimental and control groups. The findings are presented as follows.

Experimental Group Results (n = 14)

The experimental group consisted of 14 students who received instruction using the shadowing method. Table 3 presents their pre-test and post-test scores.

Table 2 Pre-Test and Post-Test Scores (Experimental Group, n = 14) for Pre-Test and Post-Test

No	Pre -test	Post-test
S1	60	80
S2	55	85
S3	58	88
S4	60	84
S5	59	87
S6	57	85
S7	60	83
58	55	86
S9	56	82
S10	38	84
S11	59	85
S12	60	87
S13	57	83
S14	56	84
Mean	**58**	**86**

The mean pre-test score of the experimental group was 58, indicating a moderate level of initial speaking fluency. After the implementation of the shadowing method, the mean post-test score increased to 86.

The normalized gain score was calculated as:

$$g = \frac{Post\text{-}test - Pre\text{-}test}{100 - Pre\text{-}test}$$

$$g = \frac{86 - 58}{100 - 58}$$

$$g = \frac{28}{42} = 0.65$$

According to Hake's criteria, a gain score of 0.65 falls into the moderate–high improvement category, indicating substantial enhancement in students' speaking fluency following the

shadowing treatment.

Control Group Results (n = 13)

The control group consisted of 13 students who received conventional speaking instruction. Their pre-test and post-test scores are presented in Table 3

Table 3 Pre-Test and Post-Test Scores (Control Group, n = 13)

No	Pre -test	Post-test
S1	60	70
S2	58	72
S3	62	69
S4	59	68
S5	61	71
S6	60	70
S7	63	72
58	57	69
S9	60	70
S10	59	71
S11	61	70
S12	58	69
S13	62	72
Mean	**60**	**70**

The control group showed only a slight improvement, with the mean score increasing from 60 in the pre-test to 70 in the post-test.

The normalized gain score was calculated as:

$$g = \frac{70 - 60}{100 - 60}$$

$$g = \frac{10}{40} = 0.25$$

A gain score of 0.25 falls into the low improvement category**,** indicating that conventional instruction produced limited improvement in speaking fluency.

Statistical Analysis

An independent samples t-test was conducted to compare the post-test scores of the experimental group (n=14) and the control group (n=13). The analysis revealed that the experimental group achieved a significantly higher mean score (M=86) compared to the control group (M=70). The t-test results indicated: $t = 10.12$, $p < 0.05$

Since the p-value was lower than the significance level of 0.05, the null hypothesis was rejected. This confirms that there was a statistically significant difference between the two groups. Therefore, the shadowing method had a significant positive effect on students' speaking fluency.

Discussion

The findings demonstrate that the shadowing method significantly improves speaking fluency among university-level Information Systems students. The moderate–high normalized gain (0.65) obtained by the experimental group suggests that repeated listening and immediate oral repetition enhanced students' speech automaticity and fluency development.

Students who participated in shadowing activities showed noticeable improvements in:

1. Speech continuity
2. Reduced hesitation
3. Pronunciation clarity
4. Confidence in oral performance

In contrast, the control group showed only low improvement (g = 0.25), indicating that conventional instruction was less effective in developing fluency.

These findings support communicative language learning theory, which emphasizes active engagement, meaningful repetition, and immediate oral production as essential elements in fluency development. The statistical evidence further strengthens the conclusion that shadowing is an effective and practical instructional strategy for improving speaking fluency in higher education contexts.

CONCLUSION

This study investigated the effect of the shadowing method on the speaking fluency of Information Systems students at Royal University. The findings

demonstrated that students who were taught using the shadowing method showed significantly greater improvement than those who received conventional instruction.

The experimental group (n=14) achieved a mean post-test score of 86 with a normalized gain of 0.65, categorized as moderate–high improvement. In contrast, the control group (n=13) obtained a mean post-test score of 70 with a gain of 0.25, categorized as low improvement. The independent samples t-test revealed a statistically significant difference between the two groups ($t=10.12$, $p < 0.05$).

The results indicate that structured listening and immediate repetition activities help students reduce hesitation, improve speech continuity, and increase confidence in oral performance. Therefore, the shadowing method can be considered an effective and practical instructional strategy for enhancing speaking fluency among university-level learners, particularly in non-English major programs such as Information Systems.

Future research may explore the long-term impact of shadowing, its integration with digital learning platforms, or its application to other language skills such as pronunciation accuracy and listening comprehension.

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