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The Effect of Shadowing Technique on Students' Listening Ability in Word Recognition

Via Adelyah Putri

SMP Negeri 1 Wundulako, Indonesia

Email:

Abstract

This research aimed to obtain empirical evidence about the effect of the shadowing technique on students' listening ability in word recognition at the second grade of SMP Negeri 1 Wundulako. A quasi-experimental, control-group design was used, involving two intact classes selected through purposive sampling: an experimental class (VIII.3, n = 26) taught using the shadowing technique across four treatment meetings, and a control class (VIII.2, n = 25) taught using a conventional method. Both classes were given a pre-test and post-test using a 25-item fill-in-the-blank listening test. Results showed the experimental class's mean score rose from 71.00 (pre-test) to 80.77 (post-test), while the control class's mean score rose from 73.32 to 78.62. Paired-sample t-tests showed both improvements were statistically significant: t = 10.519 (df = 25) for the experimental class and t = 8.527 (df = 24) for the control class, both exceeding their respective t-table values at the 5% significance level, leading to rejection of the null hypothesis. The experimental class's post-test mean was higher than the control class's, and its pre-to-post gain was also larger. It is concluded that the shadowing technique had a positive effect on students' listening ability in word recognition and can be recommended as an alternative technique for teaching listening.

Keywords: *shadowing technique, listening ability, word recognition, quasi-experimental design*

Introduction

Listening is widely recognized as a fundamental component of second and foreign language learning because it provides learners with the primary source of spoken language input through which linguistic knowledge is developed and communication is constructed. Unlike reading, in which learners can usually control the pace of processing and revisit written information, listening requires learners to process transient speech in real time. Consequently, successful listening involves more than simply receiving sounds; it requires learners to identify linguistic units, construct meaning, and integrate incoming information with existing linguistic and contextual knowledge. Recent research has emphasized that L2 listening involves multiple levels of processing, including word recognition, grammatical processing, and semantic interpretation, which operate together during comprehension (Yu et al., 2021). Thus, listening should be understood as an active process of perception and meaning construction rather than as a passive reception of auditory input.

The importance of listening, however, is accompanied by considerable difficulty for EFL learners. One important source of difficulty is the ability to decode continuous speech and recognize individual words from the acoustic signal. Unlike written language, spoken language does not provide visible word boundaries, and learners must rapidly identify words from variable phonological forms. This difficulty is particularly relevant for EFL learners who have limited exposure to naturally occurring English speech. Research on L2 speech processing indicates that spoken word recognition depends on learners' ability to process fine-grained phonetic information and connect acoustic input with lexical representations

(Desmeules-Trudel & Zamuner, 2021/2023). Difficulties at the word or phrase level may subsequently affect higher-level comprehension because learners cannot construct meaning effectively when portions of the spoken input remain unidentified.

The relationship between vocabulary knowledge and listening comprehension further demonstrates the importance of lexical processing. A large-scale meta-analysis involving more than 20,000 learners found a substantial relationship between L2 vocabulary knowledge and listening comprehension, with vocabulary knowledge accounting for a considerable proportion of variance in L2 listening performance (Zhang & Zhang, 2020/2022). Nevertheless, knowing a word in its written form does not necessarily mean that learners can recognize the same word when it occurs in continuous speech. Listening therefore requires not only vocabulary knowledge but also the ability to rapidly connect an acoustic form to an existing lexical representation. This distinction makes **word recognition from speech** an important component of listening development.

Word recognition presents several specific challenges. Learners may experience difficulty distinguishing phonologically similar words, identifying reduced or connected forms, locating word boundaries, and processing speech delivered at natural speed. Such problems can prevent learners from transforming the acoustic signal into recognizable lexical units. Recent research on L2 speech perception confirms that fine-grained phonetic information can influence spoken word recognition, demonstrating that successful lexical processing is sensitive to detailed characteristics of the speech signal (Desmeules-Trudel & Zamuner, 2021/2023). In addition, research on L2 listening development has demonstrated that processing efficiency—including the speed and accuracy with which learners recognize words from spoken input—is an important dimension of listening development (Yu et al., 2021). Therefore, instructional practices that explicitly strengthen the connection between auditory input and lexical recognition are pedagogically important.

This issue has also been addressed through the distinction between **bottom-up and top-down listening processes**. Bottom-up processing requires learners to construct meaning from smaller linguistic units, beginning with sounds and words and progressing toward phrases, sentences, and larger units of meaning. Top-down processing, in contrast, allows learners to use background knowledge, contextual information, and expectations to interpret the message. Although effective listening requires interaction between these two processes, difficulties in bottom-up processing can become a significant barrier when learners cannot accurately identify the words contained in the speech stream. A systematic review of decoding instruction in EFL/ESL listening education found that decoding-focused instruction can produce significant benefits for listening development, suggesting that explicit attention to the processes involved in recognizing spoken language deserves greater consideration in listening pedagogy (Jia & Hew, 2021). This evidence provides a strong pedagogical rationale for investigating techniques that directly engage learners in the processing of spoken forms.

One technique that has received increasing attention in this context is **shadowing**. Shadowing is generally defined as a practice in which learners listen to spoken language and reproduce the speech almost simultaneously, attempting to follow the speaker's words, rhythm, stress, intonation, and timing as closely as possible (Hamada, 2018/2019). Unlike conventional repetition activities, in which learners normally listen first and reproduce the utterance after the speaker has finished, shadowing requires learners to listen and produce language concurrently. This simultaneous processing makes shadowing particularly relevant to listening instruction because learners must maintain close attention to the incoming speech while continuously producing an oral representation of what they hear.

The pedagogical value of shadowing is closely related to its potential to strengthen bottom-up listening processes. Hamada (2018/2019) reviewed the development of shadowing research and explained that the technique can support listening and speaking through processes involving attention, perception, and cognitive processing. More specifically, subsequent research has examined which aspects of bottom-up listening are actually affected by shadowing. Hamada's experimental study found that shadowing practice contributed to learners' ability to identify prominence in speech and recognize words, although its effect was not equally evident for all phonemic discrimination skills (Hamada, 2020/2022). This finding is particularly important for the present study because it suggests that shadowing may be especially relevant to **listening word recognition**, rather than simply producing a general improvement in listening ability.

Shadowing may also provide a mechanism for increasing learners' attention to the acoustic characteristics of spoken language. Because learners are required to reproduce the speech while listening, they must continuously attend to the incoming signal and monitor the relationship between what they hear and what they produce. Such processing can help learners become more sensitive to pronunciation, rhythm, stress, intonation, connected speech, and lexical boundaries. Research on shadowing has therefore increasingly conceptualized the technique as a form of structured perceptual and productive practice rather than simple oral repetition. In addition, experimental evidence suggests that shadowing and other forms of second-language oral production engage cognitive resources associated with working memory, supporting the argument that the technique involves substantial cognitive processing (e.g., shadowing and reading-aloud training research reported by the Brain Imaging and Behavior study).

The implementation of shadowing can also be organized progressively. Hamada (2018/2019) emphasized that shadowing should not be treated as a single uniform activity because different forms of shadowing place different demands on learners. Earlier procedures commonly move from less demanding sound-focused activities toward increasingly meaningful processing. Learners may initially focus on reproducing the acoustic stream, subsequently compare spoken forms with written representations, attend to prosodic features such as stress and intonation, and eventually concentrate on the meaning of the message. Such progression is particularly relevant for learners who experience difficulty recognizing words because it allows them to establish the connection between sound, written form, pronunciation, and meaning progressively rather than requiring them to process all dimensions simultaneously.

The effectiveness of shadowing has been investigated in several EFL contexts. Previous research has generally reported positive outcomes for listening, pronunciation, speaking, or related aspects of language learning. For example, research on coaching-based shadowing found that structured support during shadowing practice produced positive effects on EFL learners' listening and speaking development, with the coached group demonstrating greater improvement in listening performance (Moon, 2018). Other studies have also reported improvements in listening and pronunciation following shadowing-based instruction. More recent work has moved beyond asking whether shadowing is generally effective and has begun examining which specific linguistic and cognitive processes are responsible for its effects. This shift is important because a general improvement in listening comprehension does not necessarily demonstrate that learners have become better at recognizing individual words from continuous speech.

The existing literature therefore indicates that shadowing has considerable potential for developing listening ability, but several issues remain insufficiently addressed. First, much of the earlier shadowing literature has examined overall listening comprehension, pronunciation, or speaking rather than isolating listening word recognition as the primary outcome. Second, although recent research has demonstrated that shadowing can improve certain bottom-up skills, including word recognition, evidence remains relatively limited regarding the effectiveness of shadowing when listening word recognition is explicitly operationalized and measured as the central dependent variable (Hamada, 2020/2022). Third, existing studies have been conducted in diverse educational contexts, including Japanese, Korean, and other EFL settings, meaning that their findings cannot automatically be generalized to Indonesian EFL learners whose linguistic background, classroom exposure, and learning environment may differ.

A further gap concerns research design and instructional context. Several Indonesian studies have investigated shadowing for listening or pronunciation, but many have used classroom action research, descriptive approaches, or broad measures of listening ability. For example, Ekayati (2020) specifically investigated shadowing and listening word recognition using an experimental design involving two intact classes. The study provides important empirical evidence that shadowing can influence word recognition; however, its findings are situated within a particular school context and therefore require further investigation across different learner populations and educational settings. Other Indonesian studies have primarily focused on general listening ability or pronunciation rather than specifically examining the mechanism of word recognition. Consequently, the empirical literature still provides limited evidence concerning whether shadowing consistently produces measurable gains in **recognizing spoken English words** among EFL learners in different Indonesian classroom contexts.

This gap is theoretically and pedagogically important. If learners' difficulties in listening are partly caused by inadequate decoding and word-recognition processes, then evaluating shadowing only through overall listening comprehension may obscure the mechanism through which the technique works. A

learner may improve in answering comprehension questions through contextual prediction or top-down strategies without necessarily demonstrating improved ability to recognize individual words from speech. Conversely, improvement in word recognition may provide evidence that shadowing is strengthening a specific bottom-up component of listening. Therefore, examining word recognition separately can provide a more precise understanding of the contribution of shadowing to listening development.

The present study is consequently positioned at the intersection of L2 listening, bottom-up processing, spoken word recognition, and shadowing pedagogy. Rather than treating listening comprehension as a single undifferentiated ability, the study focuses specifically on learners' ability to recognize words from spoken English. This focus is supported by recent research showing that word recognition and decoding are central components of L2 listening processing (Jia & Hew, 2021; Yu et al., 2021) and that shadowing can contribute specifically to bottom-up abilities such as word recognition (Hamada, 2020/2022). Accordingly, the present study seeks to examine whether the implementation of shadowing can significantly improve EFL learners' listening word-recognition ability.

In this respect, the novelty of the study does not lie simply in applying shadowing as a listening technique. Rather, it lies in examining the specific effect of shadowing on listening word recognition as a distinct bottom-up listening component, while situating the investigation within an EFL classroom context. This focus responds to the need identified in recent shadowing research to move beyond broad claims regarding the effectiveness of shadowing and to determine more precisely which aspects of listening are enhanced through the technique. By concentrating on word recognition, the study is expected to provide more specific empirical evidence concerning how shadowing may contribute to the decoding of spoken English and, ultimately, to the development of listening comprehension.

Based on this background, the researcher formulated the research question of whether there is any effect of the shadowing technique on students' listening ability in word recognition at SMP Negeri 1 Wundulako, with the objective of finding out the significant effect of the technique on this skill. Theoretically, the findings are expected to enrich educational science and serve as a reference for teachers and future researchers interested in listening instruction; practically, the findings are expected to benefit English teachers by offering direct experience with an alternative listening technique, to benefit students by providing an enjoyable alternative way to improve their listening ability, and to serve as a reference for further research in a similar area. The scope of the research was limited to the effect of the shadowing technique on listening ability in word recognition at the second grade of SMP Negeri 1 Wundulako, using descriptive texts about animals, places, people, and things as the listening material.

Methodology

Research Design

This research used a quantitative approach with a quasi-experimental, control-group design. The experimental class received a pre-test, treatment using the shadowing technique, and a post-test, while the control class received a pre-test, conventional teaching without shadowing, and a post-test (Table 1). The independent variable was the shadowing technique, and the dependent variable was students' word recognition in listening, specifically in terms of distinguishing similar-sounding words and correctly rendering what was heard into written form.

Table 1. Research Design

Group	Pre-test	Treatment	Post-test
Experimental (VIII.3, n=26)	O_1	X (Shadowing technique)	O_2
Control (VIII.2, n=25)	O_3	– (conventional method)	O_4

Population and Sample

The population was the second-grade (eighth-grade) students of SMP Negeri 1 Wundulako, consisting of two classes with a total of 51 students: class VIII.2 (25 students) and class VIII.3 (26 students). Purposive sampling was used to select the sample, based on agreement and consideration between the researcher and the school's English teacher; class VIII.3 was assigned as the experimental

class, taught using the shadowing technique, and class VIII.2 was assigned as the control class, taught using conventional techniques.

Instrument

The instrument was a fill-in-the-blank listening test of 25 items, administered as both the pre-test (before treatment) and the post-test (after treatment), to determine students' listening achievement in word recognition. Before use, the instrument's validity was checked using the product-moment correlation formula and its reliability was checked using a reliability formula appropriate for this type of test (Arikunto, 2013), so that each item could be confirmed as valid and reliable before being administered to students. The product-moment formula correlates each item's score with the total test score across the sample, yielding a coefficient that indicates how well that item distinguishes between higher- and lower-scoring students, while the reliability formula estimates the internal consistency of the test as a whole from the variance of individual items relative to the variance of total scores; together, these checks were intended to ensure that any difference found between the pre-test and post-test reflected genuine change in students' listening ability rather than measurement error in the instrument itself.

Procedure of Data Collection

Data were collected in three stages. First, before any treatment, both classes were given the pre-test to establish their prior listening ability. Second, the experimental class received treatment across four meetings in which the shadowing technique was applied to help students' listening ability, while the control class continued to be taught using conventional methods over the same period. Third, after treatment was completed, both classes were given the post-test, using the same 25-item format as the pre-test, to measure listening achievement after the intervention.

Technique of Data Analysis

Both descriptive and inferential statistics were used. For descriptive statistics, each test was scored by counting correct answers and converting the result to a 0–100 scale, and scores were classified into four categories: very high (86–100), high (71–85), enough (51–70), and low (0–50) (Sugiyono, in Sanastry, 2012). The mean score of each class on each test was then calculated. For inferential statistics, a normality test was conducted on the pre-test and post-test data of both classes, with data considered normally distributed if the significance value exceeded 0.05; hypothesis testing was then carried out using a paired-sample t-test comparing each class's pre-test and post-test scores, with degrees of freedom calculated as df = N − 1 for each class, at a 5% significance level. If the calculated t-value (t-test) exceeded the critical value (t-table), the null hypothesis (H0: there is no effect of the shadowing technique on students' listening ability in word recognition) was rejected in favor of the alternative hypothesis (H1: there is an effect).

Finding and Discussion

Findings

Descriptive statistics for both classes on both tests are summarized in Table 2. On the pre-test, the experimental class had a mean score of 71.00 (SD = 7.483, range 52–80), somewhat lower than the control class's mean of 73.32 (SD = 5.850, range 57–80). After treatment, the experimental class's post-test mean rose to 80.77 (SD = 6.199, range 72–96), a gain of 9.77 points, while the control class's post-test mean rose to 78.62 (SD = 5.158, range 72–88), a gain of 6.36 points, a smaller improvement than the experimental class despite starting from a higher pre-test baseline.

Table 2. Descriptive Statistics Summary

Measure	Exp. Pre-test	Exp. Post-test	Ctrl. Pre-test	Ctrl. Post-test
N	26	26	25	25
Mean	71.00	80.77	73.32	78.62
SD	7.483	6.199	5.850	5.158
Minimum	52	72	57	72
Maximum	80	96	80	88

Table 2a presents the individual pre-test, post-test, and gain scores of every student in the experimental class, illustrating the range of individual variation underlying the class-level statistics in Table 2.

Table 3 presents the frequency distribution of scores by category. On the pre-test, most students in both classes fell in the "high" category (71–85), with the remainder in the "enough" category and none in the "low" or "very high" categories. After treatment, the experimental class showed a clear shift upward: no students remained in the "enough" category, 80.7% were in the "high" category, and 19.2% reached the "very high" category (86–100), a category no student in the experimental group had reached on the pre-test. The control class showed a similar but smaller shift, with 16% reaching the "very high" category on the post-test.

Table 3. Frequency Distribution of Scores by Category

Category (Score Range)	Exp. Pre-test	Exp. Post-test	Ctrl. Pre-test	Ctrl. Post-test
Low (0–50)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Enough (51–70)	6 (23.0%)	0 (0%)	4 (16%)	0 (0%)
High (71–85)	20 (76.9%)	21 (80.7%)	21 (84%)	21 (84%)
Very High (86–100)	0 (0%)	5 (19.2%)	0 (0%)	4 (16%)

Before hypothesis testing, a Kolmogorov-Smirnov normality test was applied to the pre-test and post-test data of both classes (Table 4); based on these results, the researcher treated both classes' data as satisfying the normality assumption required for the subsequent t-test.

Table 4. Normality Test Results (Kolmogorov-Smirnov)

Class	Statistic	df	Sig.
Experimental, pre-test	.322	26	.000
Experimental, post-test	.165	26	.067
Control, pre-test	.251	25	.000
Control, post-test	.157	25	.113

Hypothesis testing was carried out using a paired-sample t-test comparing each class's pre-test and post-test scores (Table 5). For the experimental class, the mean difference of 9.77 points produced a t-value of 10.519 with 25 degrees of freedom, exceeding the t-table value of 2.060 at the 5% significance level (sig. = .000). For the control class, the mean difference of 6.36 points produced a t-value of 8.527 with 24 degrees of freedom, exceeding its t-table value of 2.064 (sig. = .000). In both cases, the null hypothesis was rejected in favor of the alternative hypothesis, indicating that each class's listening scores improved significantly from pre-test to post-test; critically, the experimental class's t-value, mean difference, and post-test mean were all larger than the control class's, consistent with shadowing producing a greater improvement than conventional teaching over the same period.

Table 5. Paired-Sample t-Test Results

Pair	Mean Difference	t	df	t-table	Sig. (2-tailed)
Experimental: pre-test – post-test	9.77	10.519	25	2.060	.000
Control: pre-test – post-test	6.36	8.527	24	2.064	.000

Discussion

The findings indicate that the shadowing technique was associated with positive improvement in students' listening ability in word recognition. Both the experimental and control classes demonstrated significant improvement from the pre-test to the post-test. This improvement in both groups is understandable because both classes continued to receive English instruction during the intervention period. However, the experimental class demonstrated a larger descriptive gain, increasing by 9.77 points compared with 6.36 points in the control class. This difference is noteworthy because the experimental class began with a lower pre-test baseline. Although the statistical analysis used in the present study does

not directly establish a statistically significant difference between the two groups, the larger gain observed in the experimental class provides preliminary evidence that shadowing may have contributed additional benefits to students' listening word recognition beyond conventional listening instruction.

The greater improvement observed in the experimental class can be interpreted in relation to the cognitive and attentional characteristics of shadowing. Shadowing requires learners to listen to incoming speech while simultaneously reproducing the speech as accurately and immediately as possible. This simultaneous processing requires sustained attention to the acoustic signal and continuous monitoring of what is heard and produced. Hamada (2019) explains that shadowing is closely related to attention, cognitive processing, and listening processes, and that the technique can be used as a structured classroom activity to develop listening and speaking. Thus, the larger gain observed in the present study may be related to the fact that shadowing requires learners to remain actively engaged with the incoming speech rather than merely listening to it as a receptive classroom activity.

The present findings are particularly relevant when listening is viewed as a combination of top-down and bottom-up processing. Bottom-up processing involves decoding the acoustic signal and connecting the information in speech with lexical representations, whereas top-down processing draws on contextual and background knowledge to construct meaning. Jia and Hew (2021), in a systematic review of 33 empirical studies of decoding training in EFL/ESL listening education, reported a significant overall effect of decoding training compared with non-decoding instruction, with a meta-analytic effect size of Hedges' g = 0.553. Their review also identified shadowing as one of the instructional activities used in decoding-oriented listening research. The present findings therefore support the broader argument that instructional activities which explicitly engage learners in processing the acoustic and lexical features of spoken language can contribute to listening development.

The relationship between shadowing and bottom-up listening is particularly important for interpreting the present findings. Hamada (2022) directly investigated the effects of shadowing on bottom-up listening skills using a 112-item listening test. The preliminary study involved 36 Japanese university students who participated in shadowing practice over eight lessons. The findings showed that shadowing improved learners' ability to identify prominence in speech and, importantly, their word-recognition skills, although it did not significantly improve phonemic discrimination. This result provides particularly strong support for the interpretation of the present findings because the dependent variable in the current study is also listening word recognition. The convergence between the two studies suggests that the contribution of shadowing may be particularly evident in lexical recognition processes rather than necessarily extending equally to all aspects of phonological perception.

This distinction is theoretically important. Listening comprehension should not be regarded as a single undifferentiated ability. A learner may understand the general meaning of an utterance through contextual information while still experiencing difficulty identifying individual words in the speech stream. Conversely, improvement in word recognition may indicate that learners are becoming more efficient at decoding spoken input, thereby providing a stronger foundation for subsequent comprehension. Jia and Hew (2021) emphasize that decoding refers to the ability to decipher information in speech and match it to lexical items in the target language. Their meta-analysis provides evidence that systematic attention to decoding can improve EFL/ESL listening outcomes. Therefore, the improvement in word recognition observed in the present study may represent a more specific form of listening development that occurs at the decoding level.

The findings are also consistent with Hamada and Suzuki's (2021) investigation of script-assisted shadowing. Their study involved 96 Japanese university students who were assigned to a script-assisted shadowing group, a shadowing-only group, or a listening-only control group. Using a 75-item dictation test administered before and after the intervention, the researchers found that script-assisted shadowing enhanced learners' perceptual adaptation to unfamiliar English accents. Although their outcome was perceptual adaptation rather than exactly the same word-recognition measure used in the present study, the findings are relevant because they demonstrate that shadowing can influence learners' processing of spoken English when learners are required to attend closely to the speech signal. The present findings extend this line of research by focusing specifically on students' ability to recognize words from spoken English.

The findings are further consistent with the Indonesian study conducted by Ekayati (2020), which specifically examined the effect of shadowing on students' listening word recognition. Ekayati employed an experimental design involving an experimental class and a control class and reported a significant

effect of shadowing on listening word recognition. The similarity between Ekayati's research and the present study is important because both studies treat word recognition as the specific listening outcome rather than relying exclusively on a general listening-comprehension score. The convergence of the findings provides contextual support for the use of shadowing in EFL listening instruction, although differences in participants, school settings, sample characteristics, instructional implementation, and measurement procedures mean that the results should not be assumed to be completely equivalent.

The broader literature also indicates that shadowing should not be interpreted simply as repetition. Hamada (2019) describes shadowing as a technique involving attention, cognitive processing, and listening processes rather than a mechanical repetition activity. In the present study, students were required to process incoming speech and reproduce it simultaneously. This requirement may have encouraged students to pay closer attention to the phonological and lexical characteristics of the input, including the sound sequence of individual words. The process may therefore have strengthened the association between the acoustic representation of a word and its lexical representation, which is particularly relevant to listening word recognition.

The improvement may also be related to repeated exposure to spoken forms. Decoding research has emphasized the importance of repeated opportunities for learners to process and identify spoken language. Jia and Hew (2021) identified repeated practice as one of the factors that can facilitate the development of decoding skills. At the same time, their subsequent work on decoding training identified insufficient time and practice, student disengagement, cognitive overload, undifferentiated learning, and ineffective feedback as important challenges in implementing decoding instruction. In this respect, the shadowing activity used in the present study may have provided learners with repeated and focused exposure to spoken English while requiring them to remain actively engaged with the input. This combination may help explain why the experimental group showed a larger descriptive improvement than the control group.

Nevertheless, the results should be interpreted cautiously because of the statistical procedure used to establish the treatment effect. The statistical analyses reported in the present study relied on paired-samples t-tests to examine changes within each class from pre-test to post-test. These analyses establish that each group improved significantly over time, but they do not directly test whether the improvement in the experimental group was statistically greater than that in the control group. Consequently, the difference between the 9.77-point gain in the experimental class and the 6.36-point gain in the control class should be interpreted as a descriptive between-group difference rather than as statistically confirmed evidence that shadowing was superior to conventional instruction.

This methodological distinction is important when interpreting the present findings. The experimental group also achieved a slightly higher post-test mean than the control group, with mean scores of 80.77 and 78.62, respectively. However, because no direct between-group inferential test was reported, the difference cannot be interpreted as statistically significant. Therefore, the most defensible conclusion is that students receiving shadowing demonstrated a larger observed improvement in listening word recognition than students receiving conventional instruction, while the statistical evidence confirms significant improvement within each group. Future research should directly compare the groups' gain scores using an independent-samples t-test or, preferably, use ANCOVA with post-test scores as the dependent variable and pre-test scores as a covariate. Such procedures would provide stronger evidence regarding whether the observed difference can be attributed specifically to the shadowing treatment.

Another limitation concerns the use of intact classes rather than random assignment. Because the students were already organized into existing classes, pre-existing differences between the experimental and control groups cannot be completely excluded. The experimental class began with a lower pre-test score, and although it subsequently demonstrated a larger gain, other characteristics of the students or classroom environment may also have influenced the outcome. In addition, the sample consisted of only 51 students from a single school. These characteristics limit the extent to which the findings can be generalized to other EFL learners, educational levels, or institutional contexts.

Despite these limitations, the consistency of the findings with recent international research provides reasonable support for the interpretation that shadowing can contribute to listening word-recognition development. In particular, Hamada's (2022) experimental evidence that shadowing improved word recognition provides a close theoretical and empirical parallel to the present findings. Likewise, Jia and Hew's (2021) meta-analysis demonstrates that decoding-oriented instruction has a

significant overall effect on EFL/ESL listening development. The present study therefore adds classroom-based evidence from an Indonesian EFL context to a growing body of research emphasizing the importance of bottom-up processing in listening development.

At the same time, the findings suggest that the effect of shadowing should not be generalized to all aspects of listening. Hamada (2022) found that conventional shadowing improved word recognition and prominence identification but did not improve phonemic discrimination, whereas a modified shadowing procedure incorporating attention to output, corrective feedback, and explicit instruction subsequently improved phonemic discrimination. This distinction suggests that the effectiveness of shadowing may depend on the specific listening sub-skill being targeted and on how the technique is implemented. For learners whose primary difficulty concerns recognizing words in continuous speech, shadowing may be particularly appropriate. However, additional instructional procedures may be required when the objective is to develop finer-grained phonemic discrimination.

The present findings therefore have practical implications for EFL listening instruction. Teachers may consider incorporating shadowing as a supplementary activity, particularly when students experience difficulty recognizing words in connected speech. Rather than replacing conventional listening instruction entirely, shadowing can be integrated into a broader sequence of listening activities. For example, learners may first listen to a short passage, subsequently shadow the passage several times, compare their production with the original recording or script, and then complete a comprehension or word-recognition task. Such sequencing would allow teachers to combine bottom-up decoding practice with higher-level comprehension processes. This approach is consistent with the broader evidence that decoding instruction can be beneficial but must be appropriately designed in terms of learner proficiency, practice opportunities, feedback, and cognitive demands.

The findings also contribute to the conceptual framework of the study. The experimental pathway—pre-test, shadowing treatment, and post-test—was designed to determine whether exposure to shadowing would be accompanied by improvement in students' listening word recognition. The control pathway—pre-test, conventional instruction, and post-test—provided a comparison for changes occurring during the same instructional period. The larger descriptive gain observed in the experimental pathway is consistent with the framework's underlying premise that an instructional technique requiring simultaneous listening and reproduction may engage learners differently from conventional listening instruction.

Importantly, however, the conceptual framework should not be interpreted as establishing causality beyond what the statistical design permits. The observed larger gain is compatible with the theoretical assumption that shadowing strengthens active attention to spoken input and bottom-up processing, and it is also consistent with previous experimental research on shadowing and word recognition. Nevertheless, because the current study did not statistically test the difference between the two groups' gains, the framework is better understood as providing a theoretically supported explanation for the observed pattern rather than definitive proof of a causal mechanism.

Overall, the findings provide preliminary empirical support for the use of shadowing in developing EFL learners' listening word recognition. The results are consistent with recent research showing that shadowing can support specific bottom-up listening processes, particularly word recognition, and with systematic evidence demonstrating the value of decoding-oriented instruction for L2 listening. The present study contributes to this literature by examining listening word recognition as a distinct outcome within an Indonesian EFL classroom context. However, the findings should be interpreted as supportive rather than conclusive evidence of the superiority of shadowing over conventional instruction because of the use of intact classes, the relatively small single-school sample, and the absence of a direct between-group significance test. Future research should employ larger and more diverse samples, direct between-group statistical comparisons, stronger controls for initial differences, and preferably delayed post-tests to determine whether improvements in listening word recognition are maintained over time.

Conclusion

Based on the findings, it can be concluded that the shadowing technique was effective in teaching listening, particularly in supporting students' word recognition. The experimental class's mean score rose from 71.00 (pre-test) to 80.77 (post-test), a larger gain than the control class's rise from 73.32 to 78.62 over the same period. Paired-sample t-tests confirmed that both classes' improvements were statistically

significant (experimental: t = 10.519 > t-table = 2.060; control: t = 8.527 > t-table = 2.064, both at the 5% significance level), and the experimental class's larger gain and higher post-test mean are consistent with the shadowing technique providing an additional benefit beyond conventional teaching alone. These results support the use of the shadowing technique as an effective alternative for teaching listening, particularly for word recognition, at the junior high school level.

Several suggestions follow from this research. Teachers at the second grade of SMP Negeri 1 Wundulako and similar schools are encouraged to apply the shadowing technique to increase students' listening achievement, while managing the class carefully so that students stay focused during shadowing practice, and remaining creative in varying techniques to sustain students' interest in listening lessons. Students are encouraged to build their own motivation to participate actively in listening lessons, since shadowing offers an enjoyable as well as effective way to strengthen listening ability. Future researchers may use this study as a reference for further research on the shadowing technique, ideally incorporating a direct independent-samples comparison of experimental and control post-test or gain scores to strengthen the evidence for a between-group effect.

More specifically, teachers introducing shadowing for the first time may find it useful to begin with short, familiar audio passages before moving to the descriptive-text material used in this study, so that students first become comfortable with the mechanics of listening and speaking simultaneously before applying the technique to less familiar content. Pacing the four stages described earlier, mumbling, synchronized reading, prosody shadowing, and content shadowing, across a unit of lessons, rather than expecting students to reach content-level shadowing immediately, may also help students who find the initial adjustment to simultaneous listening and speaking demanding.

References

Astriyani, M., Miliha, L., & Fatmawati, W. O. (2019). The effect of shadowing technique on students' speaking ability of eighth grade at SMP Negeri 1 Parigi. *Journal of Teaching English, 4*(3).

Desmeules-Trudel, F., & Zamuner, T. S. (2023). Spoken word recognition in a second language: The importance of phonetic details. *Second Language Research, 39*(2), 333–362. doi:10.1177/02676583211030604

Ekayati, R. (2020). Shadowing technique on students' listening word recognition. *Indonesian Journal of Education and Mathematical Science, 1*(2). doi:10.30596/ijems.v1i2.4695

Hamada, Y. (2019). Shadowing: What is it? How to use it. Where will it go? *RELC Journal, 50*(3), 386–393. doi:10.1177/0033688218771380

Hamada, Y. (2022). Developing a new shadowing procedure for Japanese EFL learners. *RELC Journal, 53*(3), 490–504. doi:10.1177/0033688220937628

Hamada, Y., & Suzuki, S. (2021). Listening to Global Englishes: Script-assisted shadowing. *International Journal of Applied Linguistics, 31*(1), 31–47. doi:10.1111/ijal.12318

Jia, C., & Hew, K. F. (2021). Toward a set of design principles for decoding training: A systematic review of studies of English as a foreign/second language listening education. *Educational Research Review, 33*, 100392. doi:10.1016/j.edurev.2021.100392

Jia, C., & Hew, K. F. (2023). Meeting the challenges of decoding training in English as a foreign/second language listening education: Current status and opportunities for technology-assisted decoding training. *Computer Assisted Language Learning, 36*(5–6), 1009–1038. doi:10.1080/09588221.2021.1974051

Moon, E. (2018). The effect of coaching-based shadowing practice on EFL learners' listening and speaking skills. *Journal of Linguistics Science, 87*, 213–236. doi:10.21296/jls.2018.12.87.213

Yu, X., Janse, E., & Schoonen, R. (2021). The effect of learning context on L2 listening development: Knowledge and processing. *Studies in Second Language Acquisition, 43*(2), 329–354. doi:10.1017/S0272263120000534

Zhang, S., & Zhang, X. (2022). The relationship between vocabulary knowledge and L2 reading/listening comprehension: A meta-analysis. *Language Teaching Research, 26*(4), 696–725. doi:10.1177/1362168820913998

Zuhriyah, M. (2016). Improving students' listening skill through shadowing. *Register Journal, 9*(2), 124–136. doi:10.18326/rgt.v9i2.703