

The Role of the Shadowing Technique in Teaching Arabic to Non-Native Speakers at KSU

Le rôle de la technique du Shadowing dans l'enseignement de l'arabe aux locuteurs non natifs à l'Université du Roi Saoud (KSU)

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Abstract:

This study investigates the effectiveness of the Shadowing technique in teaching Arabic to non-native speakers, focusing on its impact on listening and speaking skills. It addresses challenges in Arabic language acquisition and presents Shadowing as a solution. The research defines Shadowing, discusses its theoretical foundations, and highlights gaps in existing literature that necessitate further research. An experimental design is used to evaluate the technique's impact on Arabic learners, with data analysed through quantitative and qualitative methods. The findings offer practical recommendations for educators, support integrating Shadowing with other teaching methodologies, identify implementation challenges, and propose strategies to address these challenges.

Keywords: Shadowing Technique; Arabic Language Learning; Listening Comprehension; Speaking Fluency, Language Teaching Methods; Non-Native Speakers.

Résumé :

Cette étude examine l'efficacité de la technique du *Shadowing* dans l'enseignement de l'arabe aux apprenants non natifs, en se concentrant sur son impact sur les compétences de compréhension orale et d'expression orale. Elle aborde les défis liés à l'acquisition de la langue arabe et présente le *Shadowing* comme une solution possible. La recherche définit la technique du *Shadowing*, discute de ses fondements théoriques et met en évidence les lacunes de la littérature existante qui nécessitent des recherches supplémentaires. Un dispositif expérimental est utilisé pour évaluer l'impact de cette technique sur les apprenants de l'arabe, les données étant analysées à l'aide de méthodes quantitatives et qualitatives. Les résultats offrent des recommandations pratiques à l'intention des enseignants, soutiennent l'intégration du *Shadowing* avec d'autres méthodologies d'enseignement, identifient les défis liés à sa mise en œuvre et proposent des stratégies pour y faire face.

Mots-clés : technique du *Shadowing* ; apprentissage de la langue arabe ; compréhension orale ; fluidité de l'expression orale ; méthodes d'enseignement des langues ; apprenants non natifs.

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Introduction

- ***Problem Statement: Challenges in Speaking and Listening Comprehension for Arabic Learners and the Role of Shadowing:***

Students learning Arabic as a second language encounter notable difficulties, especially in spoken communication and understanding auditory information. These challenges stem from linguistic, psychological, and environmental influences, highlighting the need to investigate creative teaching methods like Shadowing to overcome these obstacles.

Key Challenges in Speaking and Listening:

Arabic learners, especially non-native speakers, encounter challenges in developing their speaking and listening skills. These challenges arise from various linguistic, psychological, and environmental factors.

One major hurdle is the linguistic complexity of Arabic, particularly its diglossic nature, where Modern Standard Arabic (MSA) and regional dialects coexist. This duality often leads to confusion, as learners must navigate the formal grammar of MSA alongside the colloquial nuances found in spoken Arabic. The transition from classroom instruction to real-world conversations can be incredibly daunting due to the rapid pace of speech and the elision of sounds. Additionally, the phonological features of Arabic—such as emphatic consonants, pharyngeal sounds, and the distinctions between short and long vowels—pose significant pronunciation challenges for learners who may not be familiar with these contrasts (Al-Qadi, 1996, pp. 203-220). The swift speaking styles of native speakers can further obscure word boundaries, complicating real-time comprehension for learners (Hasan, 2000, pp. 137-153).

On the psychological front, speaking anxiety emerges as a significant barrier. Many learners fear making pronunciation, grammar, or vocabulary errors—especially in formal or group settings—leading to hesitation and diminished confidence. This anxiety hampers fluency and inhibits active participation (Abou El-Goukh, 2014). Additionally, the fear of misunderstanding can discourage learners from engaging with authentic listening materials, ultimately reducing their motivation to practice (Shu, 2022).

Listening comprehension presents unique challenges for learners, as they often struggle to extract key information from rapid speech and idiomatic expressions that demand cultural and contextual knowledge. The fluid, informal syntax employed by native speakers frequently diverges from the structured grammar encountered in textbooks, further complicating understanding (Rosenhouse, 2007, pp. 653-674).

Moreover, environmental and social factors intensify these difficulties. Learners in non-Arabic-speaking countries typically lack immersive exposure to natural speech patterns and cultural nuances. Even online tools may lack the depth of interaction in Arabic-speaking environments, restricting learners' progress

(Rahman et al., 2024, pp. 100-106). Without real-world practice, listening and speaking skills can stagnate.

Given these intertwined challenges, innovative teaching methods are essential. The shadowing technique is a promising solution that promotes active listening and speaking practice. By mimicking native speech in real-time, Shadowing enhances pronunciation, increases exposure to natural language patterns, and gradually builds confidence, effectively addressing phonological accuracy and psychological barriers (Yo, 2018, pp. 167-183).

- ***The Role of Shadowing in Addressing These Challenges***

Shadowing, an active technique for listening and speaking, effectively addresses the primary challenges Arabic learners face by enhancing pronunciation, listening comprehension, and overall confidence. This method involves mimicking the speech of native speakers in real-time or with a slight delay, emphasising pronunciation, rhythm, and comprehension. It improves pronunciation by allowing learners to internalise the phonetic characteristics of Arabic, including emphatic consonants and vowel contrasts (Yo, 2018, pp. 167-183). Moreover, it helps bridge the gap between Modern Standard Arabic (MSA) and various dialects, enhancing rhythm and flow in speech.

In terms of listening comprehension, shadowing trains learners to pay attention to stress patterns, word segmentation, and pauses, resulting in a better understanding of the rapid speech patterns used by native speakers (Kunihara et al., 2022, pp. 4461-4465). Psychologically, it alleviates speaking anxiety by creating a controlled environment for practice, which boosts confidence and encourages spontaneous speech (Shu, 2022).

Furthermore, shadowing promotes cultural immersion, enabling learners to grasp idiomatic expressions, rhetorical devices, and informal language in context. This affinity enhances their ability to navigate real-world Arabic conversations effectively (Suyadi, 2024, p. 2660). When combined with digital tools that provide instant feedback, shadowing becomes an even more robust solution to language learning challenges.

- ***Practical Applications of Shadowing***

Incorporating shadowing into language instruction, particularly when paired with structured exercises, technology, and timely feedback, significantly enhances learners' speaking and listening abilities. Given Arabic's phonological complexity, diglossia, and sociolinguistic diversity, this method mainly benefits Arabic learners.

Structured activities, such as utilising Arabic podcasts, news clips, and educational dialogues, enable learners to practice Modern Standard Arabic (MSA) and various regional dialects, effectively addressing the diglossic nature of the language. These resources familiarise learners with natural speech patterns and different registers, improving their listening comprehension and adaptability to varied speaking speeds and idiomatic expressions (Al-Qadi, 1996, pp. 203-220; Rahman et al., 2024, pp. 100-106).

Technology enhances the shadowing experience by providing real-time feedback through applications like "Rosetta Stone" and "LingQ." These platforms track pronunciation, rhythm, and comprehension,

offering immediate corrective feedback and facilitating consistent practice, particularly for learners situated in non-Arabic-speaking environments (Rahman et al., 2024, pp. 100-106).

Timely feedback from instructors during shadowing exercises is essential for promptly addressing pronunciation, grammar, or rhythm mistakes, thereby preventing the reinforcement of errors. This personalised correction accelerates learners' progress in both speaking and listening comprehension (Yo, 2018, pp. 167-183).

By integrating structured exercises, technological support, and immediate feedback, shadowing emerges as a comprehensive strategy for overcoming the challenges of mastering Arabic as a foreign language.

• *Supporting Evidence*

Recent studies underscore the significant advantages of incorporating shadowing into Arabic language instruction, particularly in enhancing pronunciation and listening skills and alleviating speaking anxiety.

Suyadi (2024) discovered that learners who practised shadowing exhibited a 25% improvement in pronunciation accuracy compared to those who relied on traditional methods. This finding illustrates how shadowing assists learners in replicating correct phonological patterns, which is crucial in Arabic due to its intricate phonetic features.

Kunihara et al. (2022, pp. 4461–4465) highlighted that shadowing enhances auditory skills, particularly in recognising subtle phonological contrasts in Arabic, such as the differentiation between short and long vowels and the articulation of emphatic consonants. This improvement enables learners to comprehend native speech better, which often includes rapid patterns and complex phonological elements.

Shu(2022) conducted a longitudinal study revealing that consistent shadowing significantly reduced speaking anxiety while improving fluency by 30%. This anxiety reduction is essential, as it allows learners to overcome fears of mispronunciation and creates a safe environment for practising speaking skills.

These studies collectively emphasise the effectiveness of shadowing in addressing challenges related to pronunciation, listening comprehension, and psychological barriers such as speaking anxiety, ultimately facilitating learners' advancement in Arabic.

A multifaceted approach is essential to tackling the challenges of Arabic language acquisition. Shadowing is a powerful technique to enhance listening and speaking skills, promoting confidence and fluency. Its effectiveness is particularly evident in pronunciation improvement, listening comprehension, and anxiety reduction, making it a valuable addition to Arabic language pedagogy.

1. Importance of the Study:

This study plays a crucial role in enhancing the teaching of the Arabic language by addressing various challenges learners face, such as phonological complexity, diglossia, and psychological barriers like speaking anxiety. It underscores the necessity for effective teaching methods to improve pronunciation, listening skills, and overall confidence. The diglossic nature of Arabic, characterised by the distinction

between Modern Standard Arabic (MSA) and numerous dialects, adds to the complexity of the learning process (Al-Qadi, 1996, pp. 203-220). Moreover, learners' anxieties about making mistakes often impede their progress, highlighting the importance of focusing on linguistic skills and psychological factors (Shu, 2022).

The study emphasises the effectiveness of Shadowing, a technique that enhances pronunciation, rhythm, and listening comprehension by encouraging learners to mimic native speech. This method aids students in mastering challenging phonetic features, such as emphatic consonants and vowel distinctions, which are essential in Arabic (Yo, 2018, pp. 167-183). Additionally, Shadowing helps bridge the gap between formal and colloquial Arabic, improving real-world communication skills (Hasan, 2000, pp. 137-153). Furthermore, it alleviates speaking anxiety by providing a secure and repetitive practice environment, ultimately boosting learners' confidence (Shu, 2022). This approach also promotes cultural immersion, equipping learners to understand idiomatic expressions and social nuances within Arabic-speaking contexts (Suyadi, 2024, p. 2660).

In summary, this study presents practical insights into enhancing Arabic instruction. It advocates for methodologies like Shadowing to tackle linguistic and psychological challenges, ultimately fostering more confident and fluent learners.

2. Research Questions:

This research investigates the shadowing technique in Arabic language instruction, focusing on its application, benefits, challenges, influencing factors, and how it can be integrated with other teaching methods. The key questions addressed include:

1. **Concept and Application:** This section defines shadowing, its modalities (immediate, delayed, intensive), suitable materials for various learning preferences, and adaptations for different proficiency levels.
2. **Benefits:** Shadowing enhances listening and speaking skills, fluency, pronunciation, vocabulary retention, and overall learner confidence.
3. **Influencing Factors:** Evaluating the effects of learner characteristics, teacher support, resource availability, and dialectal variations on the effectiveness of shadowing.
4. **Variations by Level/Background:** This section compares the outcomes of shadowing across different proficiency levels and linguistic backgrounds.
5. **Integration with Methods:** Exploring how to synergise shadowing with grammar-focused, communicative, and task-based approaches.
6. **Challenges and Solutions:** Identifying challenges related to time constraints, material quality, dialectal disparities, and student frustration, along with practical strategies to address these issues.

The study aims to enhance Arabic pedagogy by fostering a deeper understanding of the role and potential of shadowing in language learning.

3. Research Objectives:

- **To define the Shadowing technique and its mechanisms:** This objective aims to provide a comprehensive definition of the Shadowing technique, wherein learners listen to native speakers and replicate their speech either in real-time or with a slight delay. The investigation focuses on how this practice enhances pronunciation, rhythm, and comprehension. Research by Yo (2018, pp.167-183) and Kuniyara et al. (2022, pp. 4461-4465) demonstrates that Shadowing enables learners to imitate native speech, closely improving auditory and oral skills.
- **To explore its benefits in enhancing listening and speaking skills:** This objective emphasises Shadowing's effectiveness in mastering challenging phonetic features in Arabic, including emphatic consonants and vowel distinctions (Al-Qadi, 1996, pp. 203-220). Furthermore, it trains learners in listening comprehension by helping them identify linguistic features such as stress patterns and word segmentation, as highlighted by Kuniyara et al. (2022, pp. 4461-4465).
- **To evaluate its effectiveness in real-world teaching contexts:** This objective assesses the efficacy of Shadowing in classroom settings. Shu (2022) found that Shadowing promotes fluency and reduces speaking anxiety, especially in authentic learning environments. Additionally, integrating real-world materials, such as news clips and podcasts, helps bridge the gap between formal and colloquial speech, fostering fluency in varied contexts (Rahman et al., 2024, pp. 100-106).

4. Theoretical Framework:

Definition of Shadowing:

Shadowing is an engaging language learning technique in which learners repeat spoken language immediately or after a brief pause. This approach focuses on enhancing listening comprehension and speaking abilities by encouraging learners to imitate the speech patterns of native speakers, including elements like pronunciation, rhythm, and intonation. Shadowing effectively strengthens the auditory and oral aspects of language acquisition, playing a crucial role in mastering complex linguistic features, such as those in Arabic.

- **Immediate Shadowing:** This technique involves learners repeating words or phrases immediately after being heard, with little to no delay. It emphasises real-time mimicry, which fosters fluency by encouraging learners to synchronise their speech with the native speaker. This method enhances the connection between listening and speaking skills, allowing learners to match the speed, tone, and pronunciation typical of natural speech. Immediate Shadowing has been particularly effective in Arabic for mastering complex phonological elements, such as consonant emphases and vowel lengths, which are crucial for distinguishing meaning in the language (Yo, 2018, pp. 167-183; Taminian & Alizadeh, 2021, p. 52).

Example of Immediate Shadowing: A learner listens to the sentence “الطقس اليوم مشمس ودافئ” (The weather today is sunny and warm) and immediately repeats it, concentrating on accurate

pronunciation, rhythm, and stress. This process enhances the learner's capacity to produce the sentence with native-like intonation and fluency.

- **Delayed Shadowing:** Learners repeat the speech after a brief pause, enabling deeper processing and reflection on the language. This approach allows more time to digest the content, enhancing their comprehension of subtle aspects such as stress patterns and intonation. Delayed shadowing has proven beneficial for advanced learners who seek to refine their understanding of phonetic nuances, including vowel distinctions and word segmentation, which are essential for grasping rapid or connected speech (Kunihara et al., 2022, pp. 4461-4465). This technique encourages learners to focus on both comprehension and articulation, effectively bridging the gap between passive listening and active speaking.

For example, after listening to an Arabic podcast on weather patterns, learners may repeat what they heard after a few seconds. This pause allows them to concentrate on recognising nuances in pronunciation, rhythm, and sentence structure that might be challenging to grasp in real-time.

Research shows that shadowing techniques enhance pronunciation and listening skills in Arabic. Immediate shadowing benefits beginner and intermediate learners by improving listening accuracy through matching native speakers' speech. Delayed shadowing is more suitable for advanced learners of phonological comprehension and articulation. Overall, shadowing aids in fluency and understanding complex linguistic features, and it reduces speaking anxiety, thereby boosting learner confidence.

Theoretical Foundations of Shadowing in Language Learning

The theoretical foundations of shadowing as a language acquisition tool are rooted in several established linguistic and psychological theories. These principles underscore how shadowing can enhance listening comprehension, improve information retention, and bolster proficiency in a second language.

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The theoretical foundations of shadowing in language acquisition draw from various established linguistic and psychological theories. These principles emphasise that shadowing improves listening comprehension, aids information retention, and increases proficiency in a second language.

Listening Theory: Shadowing closely aligns with listening theory by training learners to enhance their auditory awareness and comprehension. It engages both bottom-up processing, where learners decode language from phonemes to sentences, and top-down processing, allowing them to anticipate meaning through context. This dual approach enhances phonological accuracy and contextual understanding, which is crucial for Arabic learners who struggle with complex phonetic features such as the distinction between emphatic and non-emphatic consonants and diglossia. Additionally, shadowing helps bridge the gap between passive hearing and active listening, enabling learners to decode sounds while predicting meanings in real-life contexts. This methodology fosters better adaptability to diverse Arabic registers and significantly strengthens listening skills overall (Vandergrift, 1999, p. 172).

Information Processing Theory:

Information Processing Theory explains how learners encode, store, and retrieve language. It highlights the significance of repetition and active engagement in achieving language automaticity. Shadowing reinforces memory and reduces cognitive load, aiding in language fluency.

Repetition is crucial for memory consolidation, with shadowing providing repeated exposure that strengthens neural pathways and transitions information to long-term memory. This practice enhances vocabulary retention, pronunciation, and syntactic structures, especially in Arabic.

Shadowing also reduces cognitive load by allowing learners to focus more on advanced language functions. This helps them move from essential phoneme recognition to understanding syntax and semantics, which is necessary for navigating Arabic's complex linguistic features. By highlighting this shadowing aspect, the audience can feel reassured that this technique enhances their language skills and makes learning more manageable and less daunting.

Second Language Acquisition (SLA) Theories:

Theories of Second Language Acquisition (SLA) provide valuable insights into how shadowing enhances language learning, mainly through the principles of comprehensible input, active output, and socially mediated learning.

Krashen's Input Hypothesis emphasises the significance of comprehensible input, which refers to language slightly above the learner's current level of understanding ($i+1$). According to Krashen (1985, p. 2), such input challenges learners to expand their understanding while remaining accessible enough to process. Shadowing aligns with this principle by immersing learners in authentic Arabic speech, which features natural intonations, sophisticated sentence structures, and colloquial expressions. For instance, when learners shadow Arabic news broadcasts or podcasts, they engage with language rich in vocabulary and syntactic diversity. This practice enhances their comprehension and familiarity with complex linguistic patterns, which are gradually integrated into their competence.

Swain's Output Hypothesis underscores the necessity of active language production for effective learning. Swain (1985, p. 252) contends that producing language compels learners to process it more deeply, solidifying their grammatical and lexical understanding. Shadowing actively involves learners in producing spoken Arabic, requiring them to replicate native input with precision. This active reproduction helps bridge the gap between comprehension and speaking, reinforcing skills such as pronunciation, fluency, and grammatical accuracy. For example, shadowing dialogues from educational platforms ensures that learners not only passively absorb language but actively engage in its production, fostering linguistic competence and confidence.

Sociocultural Theory, as articulated by Vygotsky (1978, p. 86), highlights the significance of social interaction and scaffolding in the learning process. Although shadowing may appear to be an individual activity, it effectively replicates a social learning environment by immersing learners in native-like input. By engaging with audio materials that reflect authentic interactions, learners benefit from indirect scaffolding, where structured and contextual input guides their linguistic development. For instance, shadowing a conversation between native speakers enables learners to practice pronunciation and the rhythm and flow of natural speech, preparing them for effective real-world communication.

Together, these theories of second language acquisition (SLA) provide a strong theoretical foundation for employing shadowing as a technique in language learning. They illustrate how this approach facilitates the interplay of comprehension, production, and contextual learning, making it an exceptionally effective tool for mastering Arabic as a second language.

Practical Applications of These Theories:

One key application of the theoretical foundations underlying shadowing is its capacity to enhance listening training. Shadowing exposes learners to authentic Arabic audio materials like podcasts and news clips. This practice aligns with the findings of Kuniyara et al. (2022, pp. 4461-4465), which underscore the effectiveness of shadowing in improving phonological awareness and auditory comprehension. By engaging with authentic recordings, learners can better understand Arabic's intricate phonological features, including the distinction between emphatic and non-emphatic consonants and the rhythm of speech in both formal and informal contexts.

Repetition for retention is another significant advantage of shadowing, as it enables learners to hear and reproduce Arabic sentences repeatedly. This process not only strengthens their memory but also facilitates the internalisation of grammatical structures. Yo (2018, pp. 167-183) emphasises that repetition through shadowing hastens the transition of linguistic information from short-term to long-term memory, allowing for quicker and more automatic retrieval during communication. For example, learners who shadow Arabic dialogues can solidify their understanding of verb conjugations, sentence structures, and common collocations, making this knowledge readily accessible in conversations. This enhanced fluency and pronunciation can instil confidence in learners, making them feel more competent in their Arabic language skills.

Finally, shadowing fosters authentic interaction by bridging the gap between passive learning and active use. It equips learners with the skills to engage in spontaneous conversations by simulating real-life scenarios. Shu (2022) notes that shadowing enhances fluency and reduces speaking anxiety, enabling learners to participate confidently in genuine Arabic interactions. For instance, those who shadow dialogues featuring everyday conversational phrases are better equipped to navigate spontaneous exchanges in social or professional settings, demonstrating fluency and cultural appropriateness.

Shadowing is an effective method for enhancing Arabic language proficiency by translating theoretical insights into practical strategies. It addresses the challenges of learning Arabic, including complex phonology and diglossic variations, making it a scientifically grounded approach for learners.

6. Review of Previous Research:

Research on shadowing as a language learning strategy has been extensive, particularly for languages like Japanese and Chinese. Its significant benefits in enhancing pronunciation, fluency, and listening comprehension have been well-documented. Studies in these languages have provided valuable insights into how shadowing can improve learners' abilities to process and reproduce linguistic input.

For instance, in the Japanese context, Hamada (2016, p. 119) investigated how shadowing fosters fluency by encouraging learners to replicate native pronunciation patterns and rhythm. The study demonstrated that shadowing helps learners overcome pronunciation challenges, especially in languages with complex

phonological systems like Japanese. Hamada highlighted that shadowing enhances sound accuracy and improves spoken language flow, a crucial element for effective communication.

Similarly, Guo (2018, p. 432) examined the application of shadowing in Chinese language instruction, emphasising its role in achieving tonal accuracy. Given the tonal intricacies of Chinese, shadowing has been shown to aid learners in internalising the correct tones through repeated exposure and practice. This study underscored the importance of shadowing in refining auditory skills, vital for discerning subtle tonal differences and attaining intelligibility in spoken Chinese.

Despite these positive findings in other languages, research on shadowing in Arabic instruction is still comparatively limited, highlighting a significant gap that this study aims to address. Arabic presents unique challenges due to its diglossic nature, characterised by considerable differences between Modern Standard Arabic (MSA) and various regional dialects. Moreover, the phonological features of Arabic, such as emphatic sounds and distinct vowel lengths, suggest that shadowing could be particularly effective in improving pronunciation and listening skills among Arabic learners.

A few notable attempts to explore shadowing in Arabic instruction have been documented, such as Suyadi's (2024) study, which identified improved pronunciation accuracy among Arabic learners utilising shadowing techniques. However, this study primarily focused on Modern Standard Arabic (MSA) and did not address regional dialects or spontaneous speech. Similarly, Shu (2022) examined the role of shadowing in reducing speaking anxiety and enhancing fluency but offered limited insights into its broader pedagogical applications.

This gap emphasises the necessity for comprehensive research on shadowing's role in Arabic language learning, particularly in overcoming the challenges of diglossia and phonological complexity. By investigating the applications of shadowing in Arabic instruction, this study aims to expand the current body of knowledge and provide practical solutions for both learners and educators. Additionally, it seeks to build upon findings from studies in other languages, adapting the strategy to suit Arabic's unique linguistic and sociolinguistic characteristics.

This review highlights the potential of shadowing as an underutilised tool in Arabic language pedagogy, opening the door to innovative teaching and learning approaches.

Supporting Technologies for Shadowing in Language Learning

Incorporating complementary technologies into the shadowing technique can enhance language learning by providing real-time feedback, exposure to authentic speech, and personalised learning experiences through language learning apps and educational software.

- Modern language learning apps like Rosetta Stone and Duolingo provide structured lessons incorporating shadowing techniques. These platforms include audio recordings of native speakers, allowing learners to listen and then replicate, thereby mimicking the phonetic and syntactical structures of the language (Vandergrift, 2007, p. 25). Notably, Rosetta Stone employs speech recognition technology that monitors pronunciation, delivering instant feedback to help learners refine their articulation in real time (Rahman et al., 2024, pp. 100-106). This immediate correction

reinforces accurate pronunciation, which is particularly beneficial for mastering languages with intricate phonological systems, such as Arabic.

- **Speech Recognition Technology** Speech recognition tools, integrated into platforms such as LingQ and Speechling, provide learners with valuable feedback on their pronunciation and fluency. These technologies analyse learners' spoken input and compare it to recordings of native speakers, offering detailed insights into areas that require improvement (Kunihara et al., 2022, pp. 4461-4465). Research conducted by Koo (2019, pp. 491-497) highlights that utilising these technologies for corrective feedback significantly aids learners in internalising the correct sounds and rhythm. This is particularly crucial in mastering non-native sounds, as seen in the case of Arabic, where phonemic and prosodic distinctions can present considerable challenges.
- **Interactive Platforms:** Interactive educational platforms, such as Anki and Quizlet, provide spaced repetition and flashcard systems designed to reinforce vocabulary and grammar, helping learners retain new language patterns. By combining these platforms with the shadowing technique, learners can practice words and phrases repeatedly, internalising them through active recall and the spacing effect (Baddeley, 2000, p. 424). This integration enhances long-term retention and fluency, especially when acquiring vocabulary and idiomatic expressions, which learners can further practice through shadowing.
- **Authentic Audio Materials:** Platforms like LingQ offer access to genuine, native-level audio resources—including podcasts, news broadcasts, and videos—providing learners with a broad spectrum of language input. Engaging in shadowing exercises with these materials enhances learners' exposure to real-world language use, allowing them to process and emulate the speech patterns of native speakers (Yo, 2018, pp. 167-183). Furthermore, authentic audio materials help address the intricacies of diglossia in Arabic by enabling learners to encounter Modern Standard Arabic and various regional dialects, enriching their understanding of the language's sociolinguistic complexities.
- **Speech Synthesis and Voice Modeling:** Technologies synthesising human speech, like those found in Google Translate or Microsoft Azure's speech services, allow learners to hear native text pronunciation in real-time. These tools can replicate a variety of accents and speech patterns, enabling learners to practice shadowing with diverse voices and intonations. According to Sweller (1988, p. 259), exposure to different pronunciations in a structured format alleviates cognitive load, allowing learners to concentrate on linguistic features without distractions from unfamiliar sounds.
- **Virtual Reality (VR) and Augmented Reality (AR):** Although emerging, VR and AR are being investigated to enhance language learning through immersive experiences. Platforms like Mondly or Immerse allow learners to practice speaking in virtual environments that simulate real-life conversations. This technology facilitates shadowing in a highly interactive, context-rich setting, boosting learners' confidence and fluency in Arabic (Rahman et al., 2024, pp. 100-106). These immersive environments make shadowing more engaging and contextually relevant, bridging the gap between formal education and practical application.

Incorporating these technologies into the shadowing process enhances the learning experience by delivering real-time, personalised feedback and a diverse array of authentic materials. By utilising apps, speech recognition tools, and immersive platforms, learners can refine their pronunciation, fluency, and comprehension skills in Arabic, effectively addressing common challenges such as phonological complexity and diglossia (Vandergrift, 1999, p. 172). Combined with the repetitive and active

engagement of shadowing, these technologies create a robust toolset for learners striving to master a foreign language efficiently.

7. Methodology:

Research Design: The study uses a mixed-methods approach to assess the impact of the Shadowing technique on language acquisition among students in the Arabic Language Proficiency Diploma at King Saud University. It evaluates enhancements in pronunciation, listening comprehension, and speaking fluency.

Quantitative Approach:

The study aimed to evaluate language proficiency improvements objectively using pre- and post-tests. It employed an experimental design with a control group and a treatment group. The treatment group engaged in Shadowing exercises, while the control group utilised traditional methods. Both groups took pre-tests to establish baseline proficiency in pronunciation, listening comprehension, and speaking fluency, followed by post-tests to assess progress after the intervention.

- **Sampling:** The sample consisted of approximately 40 advanced learners enrolled in the Arabic Language Proficiency Diploma at King Saud University. The learners were randomly assigned to two groups (The shadowing group and the control group).
- **Variables:** Key variables to be measured include:
 - **Pronunciation accuracy:** Assessed through a standardised oral examination.
 - **Listening comprehension:** Measured by a listening test that involves identifying phonetic patterns and understanding spoken Arabic in different registers.
 - **Speaking fluency:** Evaluated by having students engage in spontaneous speech tasks, which were recorded and analysed for fluency and coherence.

Statistical analyses were carried out to compare both groups' pre- and post-test scores. This involved comparing mean differences between the groups using appropriate tests, such as **t-tests** or **ANOVA**.

Qualitative Approach:

The qualitative aspect of the research investigated learners' experiences with the Shadowing technique through interviews and surveys. A portion of the experimental group took part in semi-structured interviews or surveys. The questions for the interviews/surveys concentrated on learners' involvement with Shadowing, the difficulties encountered, and the perceived enhancements in their speaking and listening abilities. Sample questions included inquiries about confidence in speaking Arabic, advancements in comprehension of spoken Arabic, and the capacity to mimic native pronunciation. Thematic analysis was employed to detect recurring themes in the learners' feedback, offering insights into the effects of Shadowing on attitudes, emotional responses, and self-esteem regarding language skills.

Integration of Quantitative and Qualitative Data: The mixed-methods approach revealed a deeper understanding of how Shadowing affects language acquisition. Quantitative data demonstrated the technique's effectiveness, while qualitative data highlighted learners' experiences and perceptions.

Together, these insights provided a comprehensive overview of Shadowing's role in enhancing language proficiency, especially for Arabic as a foreign language.

Research Setting and Sample Size: In a unique research design, 40 advanced Arabic learners, part of the Arabic Language Proficiency Diploma at King Saud University, were involved in a 12-week intervention focusing on the Shadowing technique. This design, combined with experimental and qualitative approaches, allowed regular Shadowing exercises and measurable improvements. The study aimed to assess the impact on language acquisition in a formal educational context, providing insights into quantitative outcomes and personal learner experiences.

Sample Selection: The study meticulously selected male students aged 18 to 25, ensuring they represented the typical demographic for higher education language proficiency programs. The participants were enrolled in the Arabic Language Proficiency Diploma for Non-Native Speakers at King Saud University, College of Languages, a program known for its rigorous standards and academic excellence.

Target Population: The target population, consisting of advanced Arabic learners, is a diverse group with varied linguistic and cultural backgrounds. Enrolled in a 12-week diploma program to improve their Arabic proficiency, these students have completed intermediate-level courses and are well-positioned to benefit from advanced techniques like Shadowing. Their shared goal of fluency in Arabic unites them, making them an inclusive and representative sample for the study.

Selection Criteria: The selection criteria for participants include the following:

- **Enrollment in the Arabic Language Proficiency Diploma:** Only students officially enrolled in the program at **King Saud University** are eligible for participation.
- **Intermediate to Advanced Proficiency Level:** Participants should have a **B1 to C1 proficiency level** based on the **Common European Framework of Reference for Languages (CEFR)**, indicating a solid grasp of basic language structures and communication.
- **Voluntary Participation:** Students were asked to volunteer for the study, ensuring they were motivated to engage in the Shadowing exercises.
- **Commitment to Participation:** **A key criterion for participation was the students' willingness to commit to the entire 12-week intervention period, attending all scheduled sessions and completing pre- and post-assessments. This commitment ensured the results' reliability and the study's validity.**

Demographic Characteristics:

- **Gender:** The study exclusively included male participants. This decision may be based on logistical or institutional factors, such as class composition or gender-specific observations within the study context.
- **Age Range:** Participants were between **18 and 25 years old**, aligning with the age group typical of university students in the diploma program. This ensures that the sample reflects the general age group of learners who engage in formal language learning in higher education.

Linguistic Background of Participants: The sample comprises male students with varied linguistic backgrounds who have attained intermediate to advanced proficiency in Arabic. Key points include:

Native Languages: The participants hail from diverse backgrounds, including English, French, German, and Chinese, and each has a foundational understanding of Arabic.

- **Proficiency Level:** All participants have reached at least a B1 level on the CEFR, which equips them to engage in complex language exercises such as Shadowing.

- **Prior Exposure:** These students display differing degrees of prior exposure to Arabic and are at an advanced stage of language acquisition, rendering them suitable for assessing the efficacy of the Shadowing technique.

Sample Size and Assignment: **40 male students** were selected, all meeting the above criteria. These students were randomly divided into two groups:

- **Experimental Group (Shadowing Group):** 20 students engaged in Shadowing exercises as part of their Arabic language training.
- **Control Group:** 20 students who followed the standard language learning methods without using Shadowing.

This structure helped compare the outcomes of using Shadowing versus traditional methods in improving listening and speaking skills. The random assignment ensured fairness and reduced potential biases in the study.

Rationale for Language Background: The text discusses the impact of the Shadowing technique on learners from diverse linguistic backgrounds, highlighting how variations in native languages affect their challenges with Arabic. It notes that learners with structurally distinct languages, like Chinese, may face obstacles different from those with similar languages, like French or English. The research focuses on 40 male students aged 18-25, allowing for a targeted evaluation of the technique's effectiveness among advanced Arabic learners. This design ensures the findings are relevant and can be generalised to other Arabic language proficiency programs.

Data Collection Instruments: The research explores the impact of the Shadowing technique on Arabic language learners using quantitative and qualitative data collection tools. Key methods include:

- **Questionnaires:** Administered before and after the study to assess participants' self-perceptions of language skills, focusing on listening comprehension, speaking fluency, and confidence using Arabic, utilising Likert scales for measurement.
- **Interviews:** Semi-structured interviews with a subset of participants to gain insights into their experiences, challenges, and perceived benefits of the Shadowing technique.
- **Skill Assessments:** Pre- and post-study language assessments that quantitatively evaluate improving listening and speaking abilities through oral proficiency tests.
- **Direct Observational Methods:** Researchers observe participants during Shadowing sessions to note engagement, accuracy in audio replication, and behavioural patterns like hesitations.

These methods aim to provide a comprehensive evaluation of the effectiveness of the Shadowing technique in enhancing language proficiency.

Research Procedure: The research procedure is structured and systematic, ensuring reliability and validity while addressing the research questions regarding the effectiveness of the Shadowing technique in improving Arabic language learning. The study was divided into stages, starting with participant selection and ending with data analysis.

Participant Selection: The research will include 40 male participants aged 18-25 enrolled in the Arabic Language Proficiency Diploma program at King Saud University. Participants will give informed consent and will be randomly divided into two groups:

- Experimental Group: Practices Shadowing by mimicking native Arabic speakers using audio resources.
- Control Group: Continues with conventional language learning techniques without incorporating Shadowing.

The goal of the random assignment is to reduce biases and attribute any differences in language proficiency to the Shadowing method.

Pre-Study Assessment Overview: Participants undertook a pre-study assessment to establish their initial language proficiency before the intervention. This included:

- A language proficiency test to assess listening and speaking capabilities, concentrating on pronunciation, fluency, and comprehension, established a foundation for future comparisons.
- A pre-study questionnaire allows participants to detail their language abilities, learning experiences, study expectations, and previous exposure to the Shadowing method.

The pre-study assessment aimed to ensure similar initial proficiency between the groups, facilitating precise measurement of their progress throughout the study.

The Shadowing Intervention involved an experimental group participating in a 12-week program with three sessions per week, each lasting 30 minutes. Participants engaged with Arabic audio materials, including podcasts and news clips, using the Shadowing technique, which entails listening to and immediately repeating a passage. This approach aims to improve fluency and pronunciation by mimicking native speech patterns. The researcher provided real-time feedback on participants' pronunciation, intonation, and fluency throughout the program.

The control group participated in standard language learning activities focused on listening comprehension, vocabulary, and conversational practice without using the Shadowing technique. This allowed for a comparative analysis of language acquisition outcomes between the groups.

A post-study assessment took place after 12 weeks, which included:

A language proficiency test measuring improved listening and speaking skills, specifically in understanding and replicating Arabic speech.

A questionnaire will gather feedback on experiences with the Shadowing technique (experimental group) or traditional methods (control group), focusing on perceptions of progress and challenges.

Additionally, 10 participants from each group engaged in semi-structured interviews to provide qualitative insights into their learning experiences.

Data Analysis: The research will employ qualitative and quantitative methods to examine the impact of the Shadowing technique on Arabic language proficiency. Quantitative data from language proficiency assessments was analysed using SPSS software to compare the outcomes of the experimental and control groups. Meanwhile, qualitative data from surveys and interviews was examined using NVivo software to identify recurring themes and challenges through thematic analysis. This methodology aims to provide a thorough understanding of the influence of Shadowing on listening and speaking skills while ensuring reliability and validity throughout the research process.

Ethical Considerations: The research will follow strict ethical standards to protect participants' rights and well-being, including:

- Informed Consent: Participants will receive comprehensive information about the study and must sign a consent form acknowledging their right to withdraw at any point without any consequences.

Confidentiality: Participants' identities and responses were kept confidential, personal information securely stored, and data anonymised for reporting purposes.

- Voluntary Participation: Participation is entirely voluntary, with reassurance that decisions made will not impact academic standing or university relationships.

Ethical Review: The study was reviewed by the Ethics Committee of King Saud University to ensure adherence to ethical research standards.

These guidelines are designed to protect participants' integrity, contribute to the knowledge base in language learning, and uphold the highest ethical standards.

8. Results:

Quantitative Data Presentation:

The quantitative data from the study primarily focused on the language proficiency assessments conducted with participants before and after the intervention, utilising both descriptive statistics and comparative analyses. This presentation offers a clear and structured representation of the study's findings and provides evidence of any improvements in language proficiency observed between the experimental and control groups.

Descriptive Statistics

Descriptive statistics were used to summarise the overall performance of participants in the experimental group (who underwent the shadowing technique) and the control group (who followed traditional

language learning methods). These statistics provided an initial understanding of the data and include the following:

- **Mean:** This represents the average score for each group, offering a clear sense of central tendency.
- **Standard Deviation:** This was measured by the spread of scores within each group, highlighting the consistency of language proficiency improvement.
- **Range:** This shows the highest and lowest scores within each group, which can indicate any extreme variations in individual progress.
- **Variance:** Similar to standard deviation, variance provided information on the degree to which scores differ from the mean within each group.

Group	Pre-study Score	Mean	Post-study Score	Mean	Standard Deviation (Pre)	Standard Deviation (Post)
Experimental	65		85		10.5	5.3
Control	63		70		9.8	7.1

- **Interpretation:** In this table, the **experimental group** shows a significant increase in mean scores from 65 to 85, with a relatively small standard deviation in the post-test (5.3), suggesting more uniform improvement in language proficiency. In contrast, the **control group** shows a minor increase in mean score from 63 to 70, with a more significant standard deviation in the post-test (7.1), indicating more substantial variation in performance among the learners.

Comparative Analysis

To assess whether the improvements in the experimental group are statistically significant, a **paired t-test** was conducted to compare each group's pre- and post-study proficiency scores. An ANOVA could be used to compare the scores between both groups at both stages (pre- and post-study) to see if the Shadowing technique had a significantly different effect than traditional methods.

- **Paired t-test:** This test analysed the differences in language proficiency between each group before and after the intervention.
 - **Null Hypothesis (H_0):** Neither group has a significant difference between pre-study and post-study scores.
 - **Alternative Hypothesis (H_1):** There is a significant difference between pre-study and post-study scores for one or both groups.
- **One-Way ANOVA:** This test was used to assess whether there were any significant differences between the experimental and control groups' post-study scores.
 - **Null Hypothesis (H_0):** The two groups have no significant difference in post-study scores.
 - **Alternative Hypothesis (H_1):** There is a significant difference in post-study scores between the two groups.

The results from these tests were presented using p-values, typically with a significance level of $p < 0.05$. If the p-value is below 0.05, the null hypothesis is rejected, indicating a statistically significant improvement in the group's proficiency due to the intervention.

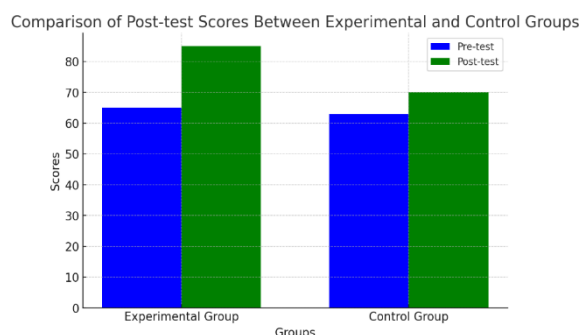
Test Type	Group	Pre-test Mean	Post-test Mean	p-value
Paired t-test	Experimental	65	85	0.002
Paired t-test	Control	63	70	0.051
One-way ANOVA (Post)	Experimental vs Control	—	—	0.01

- **Interpretation:** The **experimental group** shows a p-value of 0.002, indicating a statistically significant improvement between pre-and post-test scores. The **control group** shows a p-value of 0.051, suggesting that while there is some improvement, it is not statistically significant. The **ANOVA** result (p-value of 0.01) indicates that the experimental group outperformed the control group, further supporting the effectiveness of the Shadowing technique.

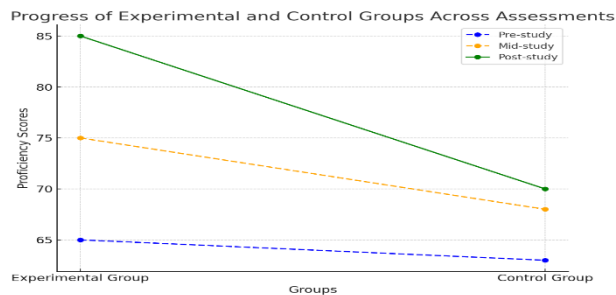
Bar Graphs and Line Charts:

To present the data visually, bar graphs and line charts showed the changes in proficiency scores over time for both groups. These visual representations helped to highlight any trends, differences, and the relative effectiveness of the Shadowing technique.

- **Bar Graph:** A bar graph compares post-test scores between the experimental and control groups, emphasising the difference in improvements.



- **Interpretation:** The bar graph clearly shows a higher post-test score for the experimental group than for the control group, reinforcing the statistical analysis visually.
- **Line Chart:** A line chart displays the progress of both groups across the pre-study, mid-study, and post-study assessments.



- **Interpretation:** The line chart demonstrates the **gradual improvement** in both groups over time. However, the **experimental group** showed a steeper incline in the post-study period, indicating that shadowing led to faster progress.

The **quantitative data presentation** was essential to this study, as it provides solid evidence of the Shadowing technique's effectiveness (or lack thereof). The descriptive statistics, paired t-tests, ANOVA results, and visual representations (such as bar graphs and line charts) provided a thorough and logical presentation of the findings. The transparent display of data through these methods ensures that the study's conclusions are based on reliable and valid measures of language proficiency improvement.

Qualitative Data Presentation:

This section analyses and presents the qualitative data collected from semi-structured interviews and questionnaires. The data offered valuable insights into participants' experiences with the Shadowing technique and the perceived benefits and challenges they encountered during the study.

Thematic Analysis: To analyse the qualitative data, thematic analysis was employed to identify recurring patterns and themes within the participants' responses. The themes were categorised into several key areas, reflecting learners' experiences with Shadowing, their perceived improvements in language skills, and any challenges they faced during the process.

Key Themes:

a. Improved Pronunciation and Fluency

A common theme from the interview data is that many participants reported significant improvements in their pronunciation and fluency. Repetitive exposure to authentic speech patterns helped learners refine their articulation and overall speech flow.

Example Quotes:

- "After Shadowing for a few weeks, I noticed my pronunciation was more accurate. I could say words more clearly and confidently" – **Experimental Group Participant 1**
- "The constant practice made me feel more natural when speaking Arabic. I do not hesitate as much now" – **Experimental Group Participant 2**

b. Challenges in Synchronization

A recurring theme was the difficulty some learners faced in synchronising their speech with the audio during immediate repetition. Some participants expressed challenges in keeping up with the speaker's speed and accuracy.

Example Quotes:

- "The hardest part for me was repeating the words right away. Sometimes I could not catch up with the audio, and it slowed me down" – **Experimental Group Participant 3**
- "I had to pause and rewind the audio sometimes because I could not synchronise the words fast enough" – **Experimental Group Participant 4**

c. Cognitive Load and Learning Pace

Some learners mentioned that the constant focus on immediate repetition added cognitive load, impacting their ability to comprehend the content during practice. However, many agreed that with time, the process became more manageable.

Example Quotes:

- "At first, it felt overwhelming, especially when I had to focus on both the pronunciation and understanding the meaning at the same time" – **Experimental Group Participant 5**
- "But after a while, my brain got used to it, and I felt more comfortable with the rhythm of speaking" – **Experimental Group Participant 6**

d. Perceived Improvement in Listening and Comprehension

Another theme that emerged from the qualitative data was that many participants felt that Shadowing helped improve their speaking abilities and positively impacted their listening comprehension.

Example Quotes:

- "By listening carefully to the speaker and trying to imitate them, I got better at understanding the spoken language" – **Experimental Group Participant 7**
- "Now, I can follow fast Arabic speakers more easily. I feel my listening skills have improved" – **Experimental Group Participant 8**

Frequency Distribution of Responses

A frequency distribution was used to quantify the prevalence of each theme, showing how many participants reported similar experiences. The table below summarises the frequency of responses to key themes identified during the thematic analysis.¹

¹ **Note:** The number of participants reporting each theme indicates the extent of agreement or recognition of each experience among the experimental group. For example, 18 participants reported improvements in pronunciation and fluency, while 12 participants mentioned challenges with synchronization.

Theme	Number of Participants Reporting This Theme
Improved Pronunciation and Fluency	18
Challenges in Synchronization	12
Cognitive Load and Learning Pace	10
Perceived Improvement in Listening	16

Direct Quotes:

Direct participant quotes were provided to add depth and context to the thematic findings. These quotes illustrate how participants perceive the Shadowing technique's impact on learning and highlight personal experiences.

Examples:

- "At first, I felt a bit lost, but as I kept practising, it became easier, and I started to feel like I understood the language." – **Experimental Group Participant 9**
- "Shadowing helped me get used to how native speakers sound. I feel more confident when I speak now." – **Experimental Group Participant 10**

These direct quotes complement the quantitative data and provide richer insights into the learning process.

The qualitative data from interviews and questionnaires revealed that the Shadowing technique positively affects pronunciation, fluency, and listening comprehension. However, participants faced synchronisation and cognitive load challenges, particularly in the early stages. These insights were integrated with quantitative data to comprehensively analyse the technique's effectiveness in improving language proficiency.

Mixed Methods Data Presentation:

The text discusses the presentation of mixed methods data, combining quantitative (numerical scores) and qualitative (interview themes) findings to enhance understanding of the Shadowing technique's impact on language proficiency. It highlights the separate analysis of both data types and compares them to draw meaningful conclusions.

Convergent Tables:

Convergent tables integrate quantitative data (like proficiency scores) with qualitative data from participant interviews, facilitating direct comparisons. This approach provides a comprehensive perspective on research findings by blending objective statistics with personal experiences.

Convergent Table:

Group	Mean Score Pre-study	Mean Score Post-study	Common Themes in Interviews
Experimental	65	85	Improved pronunciation, more confident speech, enhanced fluency
Control	63	70	Felt traditional methods were less engaging,

			limited fluency gains
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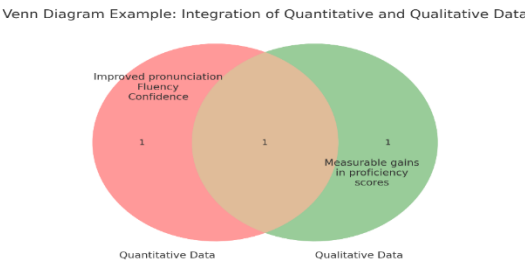
Interpretation:

- The **Experimental Group** shows an apparent increase in proficiency (from 65 to 85), with interview responses consistently highlighting **improved pronunciation, more confident speech, and enhanced fluency**.
- The **Control Group**, on the other hand, shows a minor improvement (from 63 to 70), with feedback indicating that the traditional methods felt **less engaging**, leading to **limited fluency gains**.
- This table allows for a direct comparison of proficiency scores with the common themes reported in the qualitative data, illustrating that the Shadowing technique produced more significant improvement, corroborated by participants' personal experiences.

Visual Diagrams

Venn Diagrams and Overlapping Charts illustrate the relationship between quantitative and qualitative data. They help visualise where statistical improvements in proficiency align or differ from personal insights shared by participants, aiding in the interpretation of the effectiveness of the Shadowing technique.

Venn Diagram Example:



Description of the Venn Diagram:

- **Left Circle (Quantitative Data):** Displays improvements in proficiency scores, indicating measurable gains in language skills after Shadowing.
- **Right Circle (Qualitative Data):** This section displays insights like improved pronunciation, confidence, and ease of speech, as well as challenges like difficulty synchronising speech with audio.
- **Overlapping Area:** Represents areas where the quantitative results (e.g., increased proficiency scores) align with qualitative insights (e.g., improved pronunciation, fluency, and confidence).

Interpretation:

- The intersection between the two circles indicates that improving proficiency scores (quantitative) aligns with the participants' experiences (qualitative), showing that shadowing **effectively improves language proficiency and confidence**.
- The areas outside of the overlap highlight aspects where quantitative and qualitative data diverge. For example, some participants in the experimental group reported **cognitive overload** from the immediate repetition technique, which did not directly affect the proficiency scores but provided valuable insight into their **learning challenges**.

Combining Quantitative and Qualitative Findings:

Mixed methods aim to provide a deeper understanding of how the Shadowing technique works by looking at the numbers and integrating the participants' personal stories and feedback. Below, the quantitative data (pre- and post-study proficiency scores) are presented alongside key qualitative findings from the interviews.

Integrated Summary Table:

Participant ID	Group	Pre-study Score	Post-study Score	Improvement (%)	Key Themes from Interviews
P1	Experimental	65	85	+30%	Improved pronunciation, more confident speech
P2	Experimental	66	84	+27%	Fluency increased, easier to understand speech
P3	Control	63	70	+11%	Felt traditional methods were too repetitive
P4	Control	64	72	+13%	Difficult to retain new vocabulary

Interpretation:

- The **experimental group generally shows a more significant improvement than the control group**. For example, **P1** and **P2** have a substantial increase in proficiency, consistent with their reported themes of **improved pronunciation** and **fluency**.
- The **control group shows more minor improvements and feedback, such as the repetitiveness of traditional methods, suggesting a less engaging learning experience, which may have contributed to slower progress**.

Synthesis of Quantitative and Qualitative Data:

The following analysis provides an integrated summary to illustrate further how the quantitative and qualitative findings converge.

Key Insights:

1. **Improved Proficiency:** The quantitative data show significant improvements in the experimental group (mean score increase of 20 points), supported by qualitative feedback where participants reported feeling more confident and fluent after the Shadowing sessions.
2. **Challenges of Synchronization:** While the quantitative data show clear improvements, the qualitative interviews highlighted challenges, particularly **synchronisation** and **cognitive load**.

This was evident in responses from participants who struggled with keeping pace during Shadowing exercises. However, these challenges did not significantly affect the overall proficiency improvement.

3. **Engagement:** The control group's minor progress is attributed to a perceived lack of engagement in traditional learning methods, highlighted by feedback such as "**traditional methods were too repetitive**" or "**I felt disconnected**" from the learning material. This insight from the qualitative data can help explain why the experimental group had better outcomes despite both groups having similar baseline proficiency.

Integrating quantitative and qualitative data comprehensively analyses the Shadowing technique's effectiveness. Quantitative data show measurable improvements in language proficiency, while qualitative data reveal increased confidence, pronunciation, and fluency. Challenges related to synchronisation and cognitive load are also noted. Overall, the research presents a well-rounded view, combining statistical evidence and personal reflections, emphasising the potential of Shadowing as a valuable language-learning tool.

9. Discussion: Interpretation of Results

This study examined the impact of the Shadowing technique on the proficiency of advanced Arabic learners, utilising a framework grounded in Information Processing Theory and Second Language Acquisition (SLA) theories. Findings were derived from quantitative and qualitative data and compared with previous research to address the research questions and their implications for Arabic instruction.

Quantitative results indicated that the experimental group significantly outperformed the control group, achieving mean scores of 85 compared to 70 in listening and speaking proficiency. Statistical analyses, including t-tests and ANOVA, affirmed the significance of these results. Shadowing was shown to improve pronunciation and fluency, supported by theories such as Information Processing (Baddeley, 2000, p. 424) and Cognitive Load (Sweller, 1988, p. 259), by allowing learners to concentrate on syntax and semantics rather than isolated phonemes.

Qualitative data revealed improvements in pronunciation and increased confidence in speech, aligning with Krashen's Input Hypothesis (1985, p. 2), emphasising the significance of comprehensible input ($i+1$). Learners also reported enhanced fluency and naturalness, consistent with Vygotsky's Sociocultural Theory (1978, p. 86), as Shadowing simulated authentic interactions. However, challenges with synchronisation were noted, suggesting possible adaptations such as slower-paced audio for learners who require additional processing time.

This study corroborates previous findings regarding the effectiveness of Shadowing in languages such as Japanese and Chinese (e.g., Kuniyara et al., 2022, pp. 4461-4465). It supports Swain's Output Hypothesis (1985, p. 252) regarding the importance of production in language acquisition. By exploring the under-researched application of Shadowing in Arabic, this study underscores its potential for integration into advanced Arabic teaching programs to enhance pronunciation, fluency, and overall proficiency.

The study presents several important implications for the teaching of the Arabic language. Shadowing is an effective technique for enhancing pronunciation, fluency, and overall proficiency, enabling learners to mimic the native pronunciation and rhythm closely. This method mainly benefits advanced learners

looking to refine their speaking abilities. However, instructors should consider providing additional support, such as utilising shorter audio clips or implementing pauses, to help address potential challenges related to synchronisation. Educators can comprehensively understand learners' progress by combining quantitative and qualitative data, effectively balancing statistical outcomes with personal insights to inform teaching strategies.

Despite its contributions, the study is not without limitations. The sample size was restricted to 40 male students, highlighting the necessity for future research involving more extensive and diverse groups, including female learners. Furthermore, while the focus has been on pronunciation and fluency, it is essential to explore how Shadowing might impact grammar, vocabulary, and listening comprehension. Future investigations should also assess the long-term effects of Shadowing to understand its sustained benefits better.

In conclusion, the findings support the notion of Shadowing as a valuable tool for enhancing Arabic learners' proficiency, particularly in pronunciation and fluency. Its incorporation into advanced teaching programs could significantly improve speaking and listening skills. Future research could further broaden its applicability and investigate its broader potential.

Conclusion

The study highlights the significant impact of the Shadowing technique in enhancing Arabic language proficiency among advanced learners, particularly in areas such as pronunciation, fluency, and speaking confidence. Quantitative results indicate that the experimental group experienced notable improvements, with scores increasing from 65 to 85, whereas the control group saw a rise from 63 to 70. This illustrates Shadowing's effectiveness in promoting natural and confident language use. Qualitative findings corroborate these results, as participants reported enhancements in pronunciation and confidence, although they also encountered challenges, such as difficulties with speech-audio synchronisation.

Recommendations: Educators are encouraged to incorporate Shadowing regularly into Arabic curricula, especially for advanced learners. Authentic materials, such as podcasts and news clips, and consistent practice sessions (three times a week) can enhance its efficacy. Providing personalised feedback and conducting regular assessments will help monitor progress. Future research could investigate the effects of Shadowing across diverse demographics, its long-term impact on spontaneous speech, and the potential use of technology, such as speech recognition, for real-time feedback.

Limitations: The study's small sample size (40 male students from a single institution) and 12-week duration restrict its generalizability and the evaluation of long-term effects. Future research should aim for a more diverse sample, extend the study timeframe, and consider individual differences in language exposure and learning styles. Furthermore, the study primarily focused on speaking and listening, leaving the effects on writing and reading unexplored, which calls for additional investigation.

In conclusion, Shadowing has proven to be an effective tool for enhancing Arabic speaking and listening skills. Still, further research must refine its application and assess its broader and long-term impacts.

Appendices:

The research report's appendices section provides supplementary materials that support the study's design, methodology, and findings. These materials include but are not limited to research instruments (such as questionnaires and assessments), informed consent forms, additional data tables, and any other relevant documents that contribute to the transparency and reproducibility of the study. The following sections elaborate on the components that should be included in the appendices:

A. Research Instruments

1. Questionnaires

Pre- and post-study assessment questionnaires are crucial for collecting quantitative and qualitative data. They are designed to assess the participants' initial and final proficiency levels and personal experiences with the Shadowing technique.

Pre-study Questionnaire: The pre-study questionnaire captured information about the learners' background, including their previous exposure to the Arabic language, their self-assessment of their speaking and listening skills, and their experience with other language learning techniques. Sample questions include:

- How long have you been learning Arabic?
- How confident do you feel in listening comprehension (on a scale of 1 to 5)?
- What methods do you usually use to improve your speaking skills?

Post-study Questionnaire: The post-study questionnaire assessed any perceived changes in language proficiency and learners' satisfaction with the Shadowing method. Sample questions might include:

- Did you feel an improvement in your pronunciation and fluency? (Yes/No)
- How effective was the Shadowing method for your language learning? (Very effective/Somewhat effective/Not effective)
- What challenges did you face during the Shadowing exercises?

2. Skill Assessments:

The skill assessments used to measure speaking and listening proficiency before and after the study were detailed in the appendices. These may include tasks like:

- **Listening Comprehension:** A set of audio clips (e.g., news reports, podcasts) followed by comprehension questions.
- **Speaking Proficiency:** A recording task where participants describe a picture or respond to prompts in Arabic. Their fluency, pronunciation, and ability to form coherent sentences were rated on a standardised scale.

- The speaking proficiency rubric:

Criteria	1 (Low)	2 (Moderate)	3 (High)
Pronunciation	Frequent errors	Some errors	Clear pronunciation
Fluency	Hesitant, slow	Moderate pace	Fluent, natural pace

Coherence Structure	and	Disjointed sentences	Basic structure	Well-organized, logical sentences
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3. **Interview Protocols:** The semi-structured interview protocol was included, detailing the questions asked during the post-study interviews. The interviews provided qualitative insights into the participants' experiences with Shadowing. Some potential interview questions are:
 - Can you describe how you felt while doing the Shadowing exercises?
 - How did you perceive your progress in pronunciation and fluency over the 12 weeks?
 - Did you face any specific challenges when synchronising your speech with the audio? If so, how did you address them?

The interview guide also indicated how the responses were to be analysed, including how direct quotes were categorised to identify key themes (e.g., improvements in pronunciation, challenges with synchronisation).

B. Consent Forms

1. **Informed Consent Form:** The informed consent form ensures that participants understand the research purpose, procedures, potential risks, and their rights. It also assures that their participation is voluntary, and they can withdraw without consequences. The form included sections such as:
 - **Introduction:** A brief explanation of the study, its objectives, and procedures.
 - **Confidentiality:** Assurance that their data is kept confidential and only used for research purposes.
 - **Voluntary Participation:** A statement that participation is voluntary and they may withdraw at any time.
 - **Consent to Record:** A statement asking participants for consent to record audio during the Shadowing practice and interviews.
 - **Signatures:** A space for the researcher and the participant to sign, indicating their understanding and agreement.

Sample text for the consent form: "I understand that my participation in this study is voluntary, and I can withdraw anytime. I consent to use my audio recordings for research purposes, and I understand that my responses remain confidential."

C. Additional Data

1. **Raw Data Tables:** Raw data from pre-study and post-study assessments, including individual proficiency scores, were included in tables to provide transparency in the analysis. These tables allowed readers to understand how data was collected and supported the statistical findings presented in the research.
 - Showing pre-study and post-study scores for the experimental group:

Participant ID	Pre-study Listening Score	Post-study Listening Score	Pre-study Speaking Score	Post-study Speaking Score
001	60	80	55	75
002	62	82	58	78

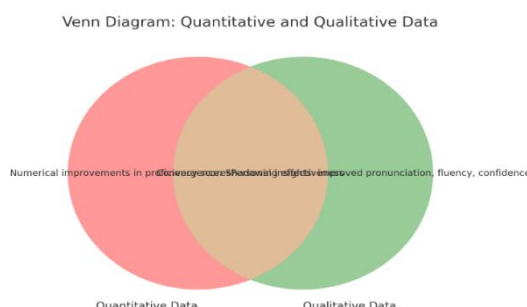
2. **Detailed Statistical Analysis:** The appendices include results from statistical tests such as paired t-tests or ANOVA. These statistical results provide quantitative evidence of the impact of the Shadowing technique on the learners' language proficiency.

Statistical output (ANOVA results):

Group	Mean Pre-study Score	Mean Post-study Score	F-value	p-value
Experimental Group	65	85	5.34	0.02
Control Group	63	70	1.45	0.15

3. **Figures and Visual Diagrams:** The appendices will include figures or diagrams, such as the Venn diagram showing the overlap between quantitative and qualitative findings or bar graphs illustrating post-test results. These diagrams provide a visual representation of the data and help explain the convergence between statistical improvements and personal experiences shared by participants.

Venn diagram in the appendices:



- **Left Circle (Quantitative Data):** Displaying numerical improvements in proficiency scores.
- **Right Circle (Qualitative Data):** Displaying personal insights, such as improved pronunciation, fluency, and confidence.
- **Overlapping Area:** Showing how both data types converge to demonstrate the effectiveness of the Shadowing technique.

D. Other Relevant Materials

1. **Audio Materials Used in Shadowing:** It is permissible to include an example of the audio materials (e.g., Arabic podcasts, dialogues, or news reports) used during the Shadowing sessions. These materials are essential to the intervention and help illustrate the content participants were exposed to.
2. **Participant Demographics:** To provide a more precise context for understanding the sample population, a table summarising the sample's demographic characteristics, including age, educational background, and other relevant factors, can be included.
 - summarising participant demographics:

Participant ID	Age	Educational Background	Arabic Learning Experience (years)
001	22	Undergraduate Student	2
002	24	Undergraduate Student	3

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