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the Master's Degree in Language and Communication

EFL Students' Experiences with the Shadowing Technique in Enhancing English Speaking Fluency

A Study at Ahmed Zabana University, Ghelizane

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I dedicate this work to

My beloved mother, whose unconditional love, endless sacrifices, and unwavering encouragement have been the foundation of everything I have achieved. You are, and will always be, my greatest source of strength.

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Abstract

This study examines students' experiences with the shadowing technique as a pedagogical tool for enhancing English speaking fluency, focusing on first-year Licence students at Ahmed Zabana University, Ghelizane. Shadowing is an auditory-oral language learning method in which learners listen to a proficient model speaker and simultaneously or near-simultaneously repeat the utterances, closely imitating the speaker's pronunciation, rhythm, stress, and intonation. According to a 2024 article by Meryem KEHAL, educators see shadowing as a beneficial approach to improving pronunciation for English learners, but they also point out challenges like cognitive overload and finding appropriate materials. However, after the four-week program, students reported highly positive perceptions of shadowing's effectiveness for improving pronunciation accuracy, speech fluency, prosodic awareness, and speaking confidence. According to a study by Khouloud Benyettou and El-Alia Wafaâ Zaghar, participants found that using the shadowing technique helped reduce their speaking anxiety, improved their communication skills, and made them feel more comfortable and relaxed while speaking English. The results highlight shadowing's potential as an evidence-based supplementary technique that, when implemented with appropriate pedagogical scaffolding and teacher guidance, can significantly enhance oral fluency development among EFL learners in Algerian university contexts.

Keywords: Shadowing Technique, Speaking Fluency, EFL Learners, Pronunciation, Prosody, Second Language Acquisition, Phonological Awareness, Algeria, Ahmed Zabana University.

La présente étude examine les expériences des étudiants avec la technique du shadowing en tant qu'outil pédagogique pour améliorer la fluidité en anglais oral, en se concentrant spécifiquement sur les étudiants de première année Licence à l'Université Ahmed Zabana de Ghelizane. Le shadowing est une technique d'apprentissage des langues dans laquelle les apprenants écoutent un locuteur modèle compétent et répètent simultanément ses énoncés, imitant fidèlement sa prononciation, son rythme, son accentuation et ses schémas intonatifs. En adoptant une approche méthodologique mixte convergente et parallèle, l'étude a recueilli des données quantitatives au moyen d'un questionnaire de 30 items administré à 40 étudiants de première année à l'issue d'un programme introductif de quatre semaines, et des données qualitatives au moyen d'entretiens semi-directifs avec un sous-échantillon de 10 participants. Les résultats révèlent que la grande majorité des participants n'avait aucune connaissance préalable de la technique du shadowing, confirmant l'absence totale de cette technique dans leur expérience éducative antérieure. Néanmoins, à l'issue du programme de quatre semaines, les étudiants ont rapporté des perceptions très positives quant à l'efficacité du shadowing pour améliorer la précision phonologique, la fluidité orale, la conscience prosodique et la confiance en soi à l'oral. Les résultats soulignent le rôle du shadowing comme une technique complémentaire puissante et fondée sur des données probantes.

Mots-clés : Technique du shadowing, Fluidité orale, Apprenants d'anglais langue étrangère, Prononciation, Prosodie, Acquisition des langues secondes, Algérie.

تتناول هذه الدراسة تجارب طلاب السنة الأولى ليسانس في مادة اللغة الإنجليزية مع تقنية التظليل بوصفها أداة تربوية لتحسين طلاقة التحدث باللغة الإنجليزية، وذلك في سياق جامعة أحمد زبانه بغليزان. وتقوم تقنية التظليل على مبدأ الإصغاء إلى متحدث نموذجي وإعادة إنتاج كلامه في الوقت ذاته أو بعده بوقت قصير، مع محاكاة دقيقة لأنماط نطقه وإيقاعه وتنغيمه.

اعتمدت الدراسة منهجاً مختلطاً متوازياً، حيث جمعت بيانات كمية عبر استبيان من 30 بنّاء وزّع على 40 طالباً، وبيانات كيفية عبر مقابلات شبه موجهة مع عينة فرعية مكونة من 10 مشاركين، وذلك عقب برنامج تعريفي بتقنية التظليل امتد أربعة أسابيع. وقد هدفت الدراسة إلى استكشاف مدى معرفة الطلاب السابقة بالتقنية، وتصوراتهم لفاعليتها في تحسين مهارات الكلام، والتحديات التي واجهوها، فضلاً عن مواقفهم من دمجها في المنهج الدراسي.

كشفت النتائج أن الغالبية العظمى من المشاركين لم يكن لديهم علم مسبق بتقنية التظليل، وهو ما يعكس غيابها التام عن التعليم الجزائري. بيد أن الطلاب أبدوا تصورات إيجابية للغاية تجاه فاعليتها، وعبروا عن رغبتهم في دمجها ضمن مناهج تدريس مهارة الكلام في الجامعة. تسهم هذه النتائج في تعزيز مكانة تقنية التظليل بوصفها أسلوباً تكميلياً فعالاً ومدعوماً بالأدلة لتنمية مهارة الكلام لدى متعلمي اللغة الإنجليزية في الجزائر.

الكلمات المفتاحية: تقنية التظليل، طلاقة الكلام، تعلم اللغة الإنجليزية كلغة أجنبية، النطق، التنغيم، اكتساب اللغة الثانية، الجزائر.

List of Abbreviations

List of Abbreviations

Abbreviation	Full Form
AI	Artificial Intelligence
CLT	Communicative Language Teaching
EFL	English as a Foreign Language
ESL	English as a Second Language
ELT	English Language Teaching
L1	First Language / Mother Tongue
L2	Second Language
LLS	Language Learning Strategies
RQ	Research Question
SD	Standard Deviation
SLA	Second Language Acquisition
SPSS	Statistical Package for the Social Sciences
ST	Shadowing Technique

TL	Target Language
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General Introduction

Fluency in speaking is widely recognized as the most socially significant and practically important dimension of communicative competence in English. For EFL learners, the ability to produce spoken English smoothly, accurately, and with appropriate prosodic features represents

the ultimate goal of language study, yet it is simultaneously the most elusive and challenging skill to develop. In the context of Algerian higher education, this challenge is particularly acute: despite years of formal English instruction at the secondary level, the majority of first-year Licence students arrive at university with oral communicative competence that falls significantly short of the demands of academic and professional English communication.

This persistent gap between the receptive and productive language skills of Algerian EFL learners reflects the structural characteristics of secondary school English instruction in Algeria, which has historically prioritized grammatical accuracy, reading comprehension, and examination preparation over oral communicative practice. As a consequence, students entering university typically possess adequate knowledge of grammar and vocabulary but lack the phonological awareness, prosodic competence, automatized speech production processes, and oral practice experience necessary for fluent spoken communication. Addressing this imbalance is one of the most pressing pedagogical challenges facing EFL departments at Algerian universities today.

In recent decades, applied linguists and language educators worldwide have increasingly turned to the shadowing technique as an innovative, evidence-based approach to developing EFL speaking fluency. Shadowing is an auditory-oral learning technique in which learners listen to a model speaker — typically a native or highly proficient speaker — and simultaneously or near-simultaneously repeat the utterances, closely mimicking the speaker's pronunciation, intonation, rhythm, and connected speech patterns (Murphey, 2001; Hamada, 2016). Originally developed in cognitive psychology and adopted by simultaneous interpreter training programs, shadowing has attracted growing empirical attention across EFL contexts in Japan, Taiwan, South Korea, China, Iran, and North America, with studies consistently reporting significant positive effects

on pronunciation accuracy, speech rate, prosodic competence, and learner confidence (Tamai, 2002; Hamada, 2012; Foote and McDonough, 2017; Hsieh, 2021).

According to a systematic review by Mohammed El Moussaoui, shadowing has been shown to help beginner and lower-proficiency EFL learners improve their ability to perceive sounds and recognize words in connected speech, but there are currently no published empirical studies investigating the use of shadowing with Algerian EFL learners, and it remains a largely unfamiliar technique within Algerian EFL education. The majority of Algerian university students have no knowledge of the technique from their secondary school or university education. This absence of shadowing from Algerian EFL pedagogy represents a significant missed opportunity, given the well-documented speaking fluency challenges that characterize the target population and the evidence for shadowing's effectiveness in addressing precisely these challenges in other EFL contexts.

The present study was motivated by the recognition of this gap and by the conviction that investigating students' experiences with shadowing in the specific context of Ahmed Zabana University, Ghelizane, could make a meaningful contribution to both the local applied linguistics literature and the practical improvement of EFL speaking instruction. By introducing first-year Licence students to the shadowing technique and systematically investigating their experiences, perceptions, and attitudes, this study aims to generate evidence-based insights that can inform curriculum development and pedagogical practice at Ahmed Zabana University and similar institutions across Algeria.

Background of the Study

Ahmed Zabana University, Ghelizane, is a mid-sized Algerian public university located in the wilaya of Ghelizane, northwestern Algeria. The Department of English Language and Literature

offers Licence, Master's, and doctoral programs in English language and literature, attracting students from across the Ghelizane region and beyond. Like EFL departments at other Algerian universities, the department faces significant challenges in developing students' oral communicative competence, given large class sizes, limited contact hours, and restricted access to authentic English-language resources and interlocutors.

Many first-year Licence students at Ahmed Zabana University begin their university-level English studies after years of formal English instruction in primary and secondary school, yet still often face significant challenges in developing strong oral communicative competence, with their oral skills significantly underdeveloped relative to their reading and grammatical knowledge. Their English speaking is frequently characterized by pronunciation inaccuracies, particularly at the suprasegmental level; slow, effortful, and hesitant speech production; limited familiarity with the connected speech phenomena of natural spoken English; and high levels of speaking anxiety. According to a study by Hamdani Yamina and Faïd Aïchaoui Belkacem, students at Ahmed Zabana University have primarily experienced grammar-focused and exam-oriented instruction, with limited access to genuine English oral communication. In light of this context, the present study explores the use of the shadowing technique as an innovative approach to improve speaking fluency among first-year Licence EFL students at Ahmed Zabana University. The study does not aim to replace existing speaking instruction but rather to investigate shadowing's potential as a supplementary technique that can extend and enrich the oral practice opportunities available to students, both within and beyond the formal classroom setting.

Statement of the Problem

The problem that motivates the present study is the persistent and well-documented gap between the oral communicative competence of first-year Licence EFL students at Ahmed Zabana University and the level of speaking fluency required for effective academic and professional communication in English. Despite years of formal English instruction, students consistently demonstrate limited phonological accuracy, particularly at the prosodic level; slow and hesitant speech production reflecting inadequate automatization of production processes; limited familiarity with the connected speech patterns of natural spoken English; and high levels of communication apprehension that further inhibit oral practice and development.

Existing speaking instruction at the university level, while valuable, has proven insufficient to close this gap within the constraints of available contact hours and class sizes. Innovative, evidence-based supplementary techniques are needed that can extend speaking practice beyond the classroom, provide accurate phonological modeling, and facilitate the automatization of production processes, which is fundamental to fluency. The shadowing technique, supported by a substantial and growing international evidence base, represents a compelling candidate for such a role — yet it has not been investigated or applied in the Algerian EFL context.

Aims and Objectives of the Study

The present study aims to:

- 1. Investigate first-year Licence students' prior knowledge of and experience with the shadowing technique before its formal introduction.*
- 2. Examine students' perceptions of shadowing's effectiveness for improving various dimensions of their English speaking fluency following a four-week introductory program.*
- 3. Identify the challenges that students encounter during shadowing practice and the strategies they develop to manage these challenges.*

4. Explore students' attitudes toward the integration of shadowing into their regular EFL speaking curriculum.

5. Generate evidence-based pedagogical recommendations for the effective integration of shadowing into EFL speaking instruction at Ahmed Zabana University.

Research Questions

The present study attempts to answer the following questions:

1. *What prior knowledge and experience do first-year Licence students at Ahmed Zabana University have of the shadowing technique before formal introduction to it?*

2. *What are first-year Licence students' perceptions of the effectiveness of the shadowing technique for improving their English speaking fluency after experiencing a four-week introductory program?*

3. *What challenges do first-year Licence students encounter when engaging with shadowing practice, and what strategies do they develop to manage these challenges?*

4. *What are students' attitudes toward the integration of shadowing into their regular EFL speaking curriculum at Ahmed Zabana University?*

Hypotheses

As hypotheses, we propose:

1. *The majority of first-year Licence students at Ahmed Zabana University will have little or no prior knowledge of or experience with the shadowing technique before its formal introduction, reflecting its complete absence from prior educational experience.*

2. *Students who engage with the four-week shadowing introductory program will report positive perceptions of the technique's effectiveness for improving pronunciation accuracy, speaking fluency, prosodic awareness, and speaking confidence.*
3. *Students will identify processing speed difficulties and the cognitive demands of simultaneous listening and speaking as the primary challenges encountered during shadowing practice, consistent with findings reported in the international shadowing literature.*
4. *The majority of students will express strongly positive attitudes toward the incorporation of shadowing into their regular EFL speaking curriculum, with particular emphasis on the need for structured teacher guidance and appropriate pedagogical scaffolding.*

Significance of the Study

This research is of considerable importance as it addresses one of the most persistent and practically significant challenges in Algerian EFL higher education: the gap between students' receptive and productive language competencies, particularly the underdevelopment of oral fluency. By exploring the integration of the shadowing technique into the EFL speaking curriculum at Ahmed Zabana University, this study aims to enhance overall speaking efficiency, improve the quality of oral communicative competence, and introduce an evidence-based pedagogical innovation to a context where it has not previously been systematically investigated or applied.

Theoretically, the study contributes to the growing body of literature on innovative language learning strategies in EFL contexts by extending shadowing research to the underexplored North African context, specifically Algeria. It provides a locally situated account of students' experiences with shadowing, complementing the predominantly East Asian empirical literature

and beginning to address a significant geographical and linguistic gap in the existing knowledge base.

Practically, the study provides EFL teachers at Ahmed Zabana University and similar Algerian institutions with evidence-based recommendations for incorporating an accessible, theoretically grounded, and empirically supported technique into their speaking instruction. It also raises students' awareness of an effective self-study strategy for developing speaking fluency that can be practiced independently using widely available, freely accessible digital resources. Furthermore, the study's findings may inform curriculum development and educational policy decisions at the departmental and institutional levels.

Structure of the Dissertation

This dissertation is organized into three main chapters, preceded by a general introduction and followed by a general conclusion, in accordance with the structural conventions of Master's dissertations in the Department of English at Ahmed Zabana University.

The General Introduction presents the background, problem statement, aims and objectives, research questions, hypotheses, and the study's significance, and provides an overview of the dissertation's structure.

Chapter One provides a comprehensive literature review covering the theoretical and empirical foundations of the study. It examines the concept of speaking fluency and its key components, the challenges EFL learners face in developing oral fluency, the shadowing technique and its historical origins, the various types of shadowing, the theoretical foundations of shadowing in cognitive psychology and SLA theory, the role of motivation and self-efficacy, the relationship between shadowing and listening comprehension, comparisons with other speaking development

techniques, the specific Algerian EFL context, and a review of previous empirical studies on shadowing.

Chapter Two outlines the research methodology adopted in the study, including the mixed-methods convergent parallel design, the research paradigm, the research questions and hypotheses, the population and sample, the data collection instruments — the student questionnaire and the semi-structured interview — the four-week shadowing intervention program, validity and reliability measures, data collection procedures, data analysis methods, ethical considerations, and methodological limitations.

Chapter Three presents and discusses the findings of the data analysis. It reports quantitative findings from Likert-scale questionnaire items as descriptive statistics, data tables, and figures, and qualitative findings from thematic analysis of open-ended questionnaire items and interview transcripts. The chapter integrates the two data types and discusses the findings in relation to the research questions, hypotheses, and the theoretical and empirical framework established in Chapter One.

The General Conclusion summarizes the study's key findings, discusses their implications, acknowledges the research's limitations, and proposes directions for future empirical investigation of shadowing in Algerian EFL contexts.

Chapter One: Literature Review

Introduction

This chapter offers a comprehensive and critical review of the theoretical and empirical literature that underpins the present study. Organized into twelve interconnected sections, it collectively constructs a coherent theoretical framework for investigating students' experiences with the shadowing technique in developing English-speaking fluency. The chapter first examines the concept of speaking fluency in second-language research, exploring major definitions and key components identified as central to its measurement and development. It subsequently addresses the specific challenges EFL learners encounter in developing oral fluency, with particular emphasis on those faced by Arabic-speaking learners in the Algerian educational context. Despite extensive literature on shadowing as a language-learning technique, especially in East Asian EFL contexts, there is a notable lack of empirical research examining its effects or its implementation in Algeria. Thus, this study seeks to address this significant gap by exploring the practice and outcomes of shadowing among Algerian EFL learners, contributing original insights to both the local context and the broader field.

Subsequently, the chapter introduces the shadowing technique, tracing its intellectual history from cognitive psychology through its adoption in simultaneous interpreter training to its recognition as a tool in EFL pedagogy. The various types of shadowing are described and compared in terms of cognitive demands and pedagogical purposes. The chapter then establishes the theoretical underpinnings of shadowing by examining its relationship to major frameworks in cognitive psychology and second-language acquisition theory, including Baddeley's working memory model, Anderson's skill-acquisition theory, and the key hypotheses of Krashen, Swain, and Schmidt. The motivational and affective dimensions of shadowing are examined, followed by a discussion of its documented relationship to the development of

listening comprehension. In addition, the chapter highlights areas of scholarly consensus—such as widespread agreement on shadowing's benefits for segmental and suprasegmental pronunciation, temporal fluency, and listening comprehension—while also drawing attention to points of debate, including the extent to which shadowing can independently foster communicative competence, its long-term effects on spontaneous speech, and its relative effectiveness across diverse learner populations and contexts. Some researchers question whether shadowing alone is sufficient to achieve lasting gains in communicative fluency, emphasizing the need to integrate it with other instructional methods, while others note variability in learner engagement and outcomes. A comparative analysis situates shadowing within the broader landscape of speaking development techniques before describing the specific Algerian EFL context. The chapter concludes with a systematic review of previous empirical studies on shadowing conducted in diverse EFL contexts.

1.1 Speaking Fluency: Definition and Key Concepts

Fluency in speaking is a widely discussed yet persistently elusive construct in applied linguistics and language teaching research. Despite extensive scholarly attention, no single universally accepted definition has emerged, reflecting the complexity of the phenomenon and the diversity of perspectives from which it is approached. Generally speaking, fluency refers to the capacity to produce language with ease, speed, and smoothness, distinguishing effortless, natural-sounding speech from the labored, hesitant, and fragmented oral production typical of lower-proficiency learners. However, this intuitive understanding conceals important theoretical distinctions with significant implications for research and pedagogy.

One of the earliest and most influential attempts to define speaking fluency was made by Fillmore (1979), who identified four distinct but interrelated types of fluency that together

capture the breadth of the construct. The first type is the ability to talk at length with few pauses, filling time with talk — a capacity that reflects the speaker's ability to sustain connected speech without excessive breakdown or interruption. The second type is the ability to produce coherent, reasoned, and semantically dense discourse that conveys ideas clearly and effectively. The third type is the ability to select and deploy linguistically appropriate expressions across a wide range of social and communicative contexts, reflecting pragmatic competence and sociolinguistic sensitivity. The fourth type is the ability to be creative and imaginative in language use, producing novel and contextually appropriate utterances rather than relying exclusively on memorized chunks and formulaic sequences. This multifaceted conceptualization has significantly influenced subsequent research and continues to inform contemporary discussions of speaking fluency development in both L1 and L2 contexts.

A particularly important theoretical distinction in the fluency literature was introduced by Lennon (1990), who distinguished between broad and narrow senses of fluency, the latter referring to temporal fluency. In the broad sense, fluency encompasses the full range of qualities associated with skilled oral communication, including accuracy, complexity, prosodic competence, and pragmatic appropriateness — in effect, it becomes synonymous with overall oral proficiency. In the narrow sense, by contrast, fluency refers specifically to the temporal and hesitation-related aspects of speech production: how quickly utterances are produced, how smoothly they flow, and how frequently they are interrupted by pauses, reformulations, and other disfluencies. This narrow definition has proven particularly amenable to empirical investigation, as the temporal dimensions of speech can be reliably measured through acoustic analysis, enabling researchers to quantify fluency in ways that broader conceptualizations do not permit.

Building on Lennon's distinction, Segalowitz (2010) proposed a comprehensive three-component framework that has become highly influential in contemporary fluency research. The first component, cognitive fluency, refers to the efficiency of the underlying cognitive processes involved in speech production — specifically, the speed and automaticity with which the speaker accesses lexical items, constructs syntactic frames, encodes phonological representations, and executes articulatory programs. Cognitive fluency is not directly observable but must be inferred from its behavioral manifestations. The second component, utterance fluency, refers to the observable, measurable temporal and hesitation features of speech — aspects of spoken output that can be captured through acoustic recording and analysis. The third component, perceived fluency, refers to the holistic impressions of fluency that listeners form when evaluating a speaker's oral performance, which may be influenced by a complex array of segmental, suprasegmental, and discourse-level features that do not map straightforwardly onto utterance fluency measures. This three-way distinction is particularly valuable for research on the shadowing technique because shadowing has been shown to operate on all three components simultaneously: it promotes automatization of production processes (cognitive fluency), improves temporal features of speech (utterance fluency), and enhances the naturalness and smoothness of learners' oral output as perceived by listeners (perceived fluency).

In the context of second language acquisition research, speaking fluency has typically been investigated alongside accuracy and complexity as one of three key dimensions of oral production quality (Housen and Kuiken, 2009). Accuracy refers to the degree to which learners' production conforms to target language grammatical and phonological norms. Complexity refers to the elaborateness and sophistication of the linguistic structures produced. Fluency, in this tripartite framework, captures the ease, speed, and automaticity of production. Research has consistently demonstrated that these three dimensions are not simple additive components of

proficiency but are subject to systematic trade-off effects: when learners allocate attentional resources to one dimension — for example, attending carefully to grammatical accuracy — performance on other dimensions — such as fluency — tends to deteriorate, because the total pool of available cognitive resources is limited and must be distributed across competing demands (Skehan, 1998). Understanding these trade-off dynamics is essential for designing effective speaking instruction that promotes balanced development across all three dimensions rather than sacrificing fluency for accuracy or vice versa.

1.2 Components of Speaking Fluency

The empirical investigation of speaking fluency has focused primarily on three categories of measurable features that together constitute what researchers call utterance fluency: temporal features, hesitation phenomena, and prosodic features. A thorough understanding of each of these categories is essential both for appreciating the complexity of the fluency construct and for understanding the specific mechanisms through which shadowing contributes to its development.

Temporal features are the most extensively studied dimension of utterance fluency and encompass three primary measures. Speech rate, typically expressed as the number of syllables or words produced per minute, is the most global temporal measure and provides an overall index of the speed of oral production, including all pauses and hesitations. Articulation rate, expressed as syllables or words per minute excluding silent pauses, measures the speed of articulatory execution independently of pausing behavior, providing a purer index of phonomotor efficiency. Mean length of run, expressed as the average number of syllables or words produced between silent pauses of a defined minimum duration, measures the speaker's ability to sustain connected, uninterrupted speech over extended stretches, reflecting both

linguistic planning efficiency and articulatory automaticity. These three temporal measures are positively correlated with overall proficiency and have been shown to reliably distinguish between native and non-native speakers and between learners at different proficiency levels (Kormos and Denes, 2004).

Hesitation phenomena constitute the second major category of utterance fluency features and encompass all the interruptions, repairs, and disfluencies that characterize spontaneous speech. Silent pauses, defined as periods of complete silence that interrupt the flow of speech, are the most widely studied hesitation phenomenon and are commonly associated with cognitive difficulty in lexical retrieval, syntactic planning, and phonological encoding (Fehrer & Fry, 2007, pp. 37-60; De Jong et al., 2012). Filled pauses, such as uh and um in English, serve a pragmatic signaling function by indicating to the listener that the speaker has not finished but is temporarily unable to continue, and also reflect ongoing cognitive processing demands (Runnqvist et al., 2011; Fehrer & Fry, 2007, pp. 37-60). Repetitions, in which the speaker repeats a word or phrase, typically function as a strategy for gaining additional processing time during speech planning (De Jong et al., 2012). Self-corrections, whereby speakers identify and repair errors in their own output, demonstrate ongoing monitoring processes that may compete with forward planning and increase processing load (Fehrer & Fry, 2007, pp. 37-60). False starts, wherein speakers begin an utterance, abandon it, and begin again, also illustrate the difficulties in the online coordination of multiple production processes (Runnqvist et al., 2011). Empirical research consistently demonstrates, across languages and proficiency levels, that L2 learners exhibit all categories of hesitation phenomena more frequently and for longer durations than native speakers, reflecting the greater and more variable cognitive demands of speaking in a second language (De Jong et al., 2012; Fehrer & Fry, 2007, pp. 37-60; Runnqvist et al., 2011).

Prosodic features constitute the third and arguably most complex category of utterance fluency features. Prosody encompasses the suprasegmental dimensions of speech — rhythm, stress, intonation, and connected speech phenomena — that operate above the level of individual segments and convey crucial grammatical, pragmatic, and affective information. English rhythm is stress-timed, meaning that stressed syllables are produced at roughly equal intervals and unstressed syllables are compressed in duration between them, creating a distinctive rhythmic pattern that differs fundamentally from the syllable-timed rhythm of languages such as Arabic, French, and Spanish, in which all syllables are produced at roughly equal intervals. English stress placement is lexically contrastive — that is, the placement of stress can distinguish between words of different grammatical categories, as in the contrast between record as a noun and record as a verb — creating phonological challenges for learners from languages where stress is either fixed or non-contrastive. English intonation uses a wide pitch range and varied pitch contours to convey grammatical distinctions, pragmatic meaning, and discourse organization in ways that may differ substantially from the intonational systems of learners' first languages. Connected speech phenomena — including linking, assimilation, elision, and reduction — produce substantial modifications to the segmental composition of words in natural, rapid speech, making authentic spoken English very difficult to process and reproduce for learners primarily exposed to the careful, slow speech of language classrooms.

1.3 Challenges in Developing Speaking Fluency among EFL Learners

Developing speaking fluency in a second or foreign language is considered one of the most cognitively demanding and affectively challenging aspects of language learning. Researchers have identified a wide range of factors impeding oral fluency development, operating at linguistic, cognitive, affective, and socio-cultural levels. A thorough understanding of these

challenges is essential for designing pedagogical interventions, such as shadowing, that can effectively address them.

At the linguistic level, the most significant barrier to fluency in speaking is typically an inadequate vocabulary relative to the demands of spontaneous oral communication. Nation (2001) established through corpus analysis that effective participation in general oral communication in English requires a productive vocabulary of approximately three to five thousand high-frequency word families, while academic and professional oral communication demands access to substantially larger vocabulary resources. (Ha, 2022) (Nation, n.d.) For many EFL learners, particularly those in contexts where English is rarely encountered outside formal educational settings, productive vocabulary remains significantly below these thresholds, leading to frequent pauses for lexical searches that interrupt the flow of speech and reduce temporal fluency. Inadequate grammatical automaticity poses a related challenge: even learners with substantial declarative grammatical knowledge may experience fluency breakdowns when the demands of online speech production do not allow sufficient time for the deliberate grammatical processing that they have practiced in form-focused instruction. Phonological gaps — unfamiliar phonemes, unfamiliar stress and intonation patterns, and unfamiliarity with connected speech phenomena — create additional fluency obstacles, particularly for learners whose L1 phonological system differs substantially from English.

At the cognitive level, the most fundamental challenge is the limited processing capacity of working memory, which must simultaneously support multiple demanding processes during spontaneous speech production. Drawing on Levelt's (1989) influential model of speech production, researchers have identified at least four major processing stages that must be coordinated in real time during fluent speech: conceptualization, in which the speaker determines the communicative intention and selects the propositional content to be expressed;

lexicalization, in which appropriate lexical items are retrieved from the mental lexicon and syntactically framed; phonological encoding, in which the abstract phonological forms of selected words are retrieved and assembled into phonological plans; and articulatory execution, in which the phonological plans are implemented as coordinated motor movements of the speech articulators. In highly proficient speakers, these processes operate largely in parallel and with a high degree of automaticity, requiring relatively little conscious attentional control. In less proficient L2 speakers, by contrast, one or more of these processes may require conscious, deliberate processing, creating bottlenecks that slow down overall production and lead to the hesitations, pauses, and breakdowns characteristic of non-fluent speech.

At the affective level, foreign language speaking anxiety has been identified as one of the most pervasive and debilitating barriers to oral fluency development. In their seminal work, Horwitz, Horwitz, and Cope (1986) identified a specific form of anxiety — foreign language classroom anxiety — that is distinct from general trait anxiety and arises specifically in the context of foreign language learning and use. This anxiety encompasses apprehension about oral performance, fear of negative evaluation by peers and teachers, communication apprehension in the target language, and pervasive self-doubt about one's ability to communicate effectively. High levels of foreign language speaking anxiety have been shown to impair lexical retrieval, narrow the range of linguistic structures learners are willing to use in spontaneous production, promote avoidance of oral communication opportunities, and generate intrusive negative self-evaluative thoughts that compete with language processing for cognitive resources. MacIntyre and Gardner (1994) demonstrated through experimental research that anxiety interferes with all stages of language processing and production, from initial encoding of information to final articulation, establishing its pervasive and multifaceted impact on oral performance.

At the socio-cultural level, EFL learners in contexts such as Algeria face the additional challenge of severely limited opportunities for authentic oral practice in English outside the formal educational context. Unlike learners in English-speaking environments or those with frequent contact with native speakers, Algerian EFL students are almost entirely dependent on classroom instruction for exposure to and practice in spoken English. The dominance of Arabic and French in all domains of daily life means that English is rarely encountered in authentic communicative contexts outside school and university. This lack of immersive exposure significantly slows the development of fluency by limiting the quantity of comprehensible spoken input available for implicit learning and the number of opportunities for genuine communicative practice that are essential for automatizing speech production processes. (The booming wave of English in the linguistic landscape in Algeria, 2020) (Cheriguene, 2025)

1.4 The Shadowing Technique: Origins and Historical Development

The shadowing technique possesses a rich history spanning multiple disciplines and nearly seven decades. Understanding this history is important for situating shadowing within its broader intellectual context and for appreciating the range of cognitive mechanisms it engages and the diverse educational purposes it serves.

The earliest systematic use of shadowing as a research procedure occurred in cognitive psychology, where it was developed as an experimental paradigm to investigate the nature of auditory selective attention. In his pioneering research on what he called the cocktail party phenomenon — the ability of listeners to selectively attend to one voice or conversation among a cacophony of competing sounds — Cherry (1953) used shadowing as a methodological tool to study the properties of the attended and unattended channels in selective listening. In the shadowing paradigm as Cherry used it, experimental participants listened to spoken messages

through headphones — typically with different messages presented to each ear — and were instructed to immediately repeat aloud the message from the ear they heard it in. The requirement to produce immediate spoken output closely following the model speaker served both to ensure that participants were actively attending to the designated channel and to provide behavioral evidence of what information was being processed from the attended message.

Subsequent psycholinguistic research using the shadowing paradigm produced findings of profound theoretical significance for understanding the nature of spoken language processing. In a series of landmark experiments, Marslen-Wilson (1973) demonstrated that highly practiced and skilled shadowers could reproduce speech with a delay of as little as 250 milliseconds — a duration corresponding to less than a single syllable — between the model speaker's utterance and the shadower's repetition. This extraordinarily short lag demonstrated that speech perception could not be a purely bottom-up, acoustically driven process in which listeners wait to receive complete words or phrases before beginning to process and interpret them. Instead, the rapid and accurate reproduction of speech at such minimal delays implied that speech perception must involve sophisticated top-down processes drawing on phonological, lexical, syntactic, and semantic knowledge to anticipate and predict upcoming input. These findings contributed importantly to the development of active parsing models of speech perception and to the understanding of language processing as a predictive, knowledge-driven activity.

The adoption of shadowing as a pedagogical technique in language education began in the field of simultaneous interpretation training, where the demands of the professional task — listening to a speaker in one language and simultaneously producing an equivalent message in another, with a typical lag of only a few words — share important structural features with the shadowing paradigm. Lambert (1992) describes shadowing in interpreter training programs as a

foundational exercise designed to develop rapid auditory processing, working memory capacity, and articulatory fluency required for simultaneous interpretation. In interpreter training, shadowing typically begins with same-language shadowing — repeating a message in the same language it is delivered in — before progressing to the more demanding cross-lingual task of simultaneous interpretation. The technique has been a standard component of simultaneous interpretation training curricula for several decades, providing an important bridge between the laboratory shadowing paradigm of cognitive psychology and the pedagogical applications of shadowing in language education more broadly.

The extension of shadowing from interpreter training to general foreign language learning was pioneered and popularized by Alexander Arguelles, an American polyglot linguist who developed and documented an intensive self-study approach to language learning that featured shadowing as a central component. Arguelles advocated a form of shadowing he called outdoor shadowing, in which learners simultaneously walk briskly, listen to audio recordings of native or proficient speakers through headphones, and repeat the speech aloud with full voice, mimicking the speaker's pronunciation, rhythm, intonation, and connected speech patterns as closely as possible. Arguelles argued that the combination of physical movement, auditory input, and vocal output created optimal conditions for phonological internalization and fluency development, and his approach attracted substantial attention among self-directed language learners internationally through online videos and writings from the early 2000s onwards.

In Japan, the shadowing technique attracted systematic academic attention beginning in the late 1990s, when a number of applied linguists began investigating its effects on EFL learners' listening comprehension and pronunciation using empirical research designs. Tamai (1997, 2002) conducted some of the earliest controlled studies of shadowing in EFL contexts, comparing groups of Japanese university students who received shadowing training with control

groups receiving conventional listening instruction. His research demonstrated significant advantages for the shadowing groups on measures of listening comprehension and pronunciation, helping to establish shadowing as a legitimate and productive area of applied linguistics inquiry. Tamai's work inspired a subsequent generation of Japanese researchers — including Kadota (2007), Hamada (2012), and others — to investigate shadowing's mechanisms and effects with increasing methodological sophistication, producing a substantial body of empirical evidence that forms the core of the current scientific knowledge base on shadowing as a language learning technique.

1.5 Types of Shadowing

As shadowing has evolved from a laboratory paradigm into a pedagogical technique, researchers and practitioners have identified and described several distinct variants, each characterized by different levels of cognitive demand, instructional purposes, and optimal conditions for implementation. Understanding these distinctions is essential for making informed, evidence-based decisions about which form of shadowing to use with particular learners at specific stages of their development, and for interpreting research findings that compare outcomes across different shadowing conditions.

Phonetic shadowing, variously referred to in the literature as parrot shadowing, acoustic shadowing, or prosodic shadowing, is the most basic and least cognitively demanding form of the technique. In phonetic shadowing, learners are instructed to focus exclusively on reproducing the acoustic surface of the model speaker's speech — that is, to mimic as closely as possible the sounds, prosodic contours, rhythm, stress, and intonation of the model — without necessarily attending to or processing the semantic content of what is being said. The learner's task is essentially that of a skilled vocal mimic: to reproduce the acoustic shape of the input as

accurately as possible, treating the linguistic content as secondary to the phonological form.

Phonetic shadowing is recommended as an appropriate starting point for learners new to the technique because it reduces the task's overall cognitive load by eliminating the need for concurrent semantic processing, allowing learners to devote their full attentional resources to the phonological and prosodic dimensions of the input. Research indicates that phonetic shadowing is particularly effective for developing prosodic awareness and improving suprasegmental pronunciation accuracy, even in the absence of explicit instruction on prosodic features (Kadota, 2007).

Content shadowing, also referred to in the literature as simultaneous shadowing or semantic shadowing, represents a substantially more cognitively demanding form of the technique in which learners are required to attend to and process both the phonological form and the semantic content of the model speaker's utterances simultaneously. The task in content shadowing closely approximates the demands of simultaneous interpretation, requiring learners to maintain a parallel processing of incoming speech while producing spoken output that accurately mirrors both the sound and the meaning of the model. The additional cognitive demand of concurrent semantic processing in content shadowing can promote deeper processing and more durable learning, but it can also increase the risk of cognitive overload, particularly for learners at lower proficiency levels or in the early stages of shadowing practice. Hamada (2016) argues that content shadowing is more effective than phonetic shadowing for developing overall communicative competence precisely because it trains the learner to process and produce language simultaneously at both the phonological and semantic levels, developing the integrated processing capacity that spontaneous communicative speech requires.

Parallel reading shadowing is a variant of the technique in which learners are provided with a written transcript of the audio recording they are shadowing and are instructed to follow the text

with their eyes as they listen to and repeat the model speaker's speech. The written transcript serves as a visual scaffold that reduces the processing demands of the task in several important ways: it eliminates the need for learners to independently segment the continuous stream of spoken input into individual words, it provides orthographic representations of words that may be difficult to identify in the acoustic signal, and it allows learners to maintain their place in the text and recover quickly when they lose track of the model. Parallel reading shadowing is particularly appropriate for learners at lower proficiency levels who may struggle to process unsupported audio input, as well as for materials with relatively high proportions of unfamiliar vocabulary or complex syntactic structures. Research by Mori (2011) found that parallel reading shadowing produced significant improvements in oral fluency alongside substantial incidental vocabulary learning, suggesting that the simultaneous engagement of visual and auditory channels may create particularly efficient learning conditions.

Delayed shadowing, also known as lagged shadowing or paced shadowing, is a variant in which a controlled time delay — ranging from a fraction of a second to several seconds — is imposed between the model speaker's production of each utterance and the learner's repetition. By increasing the temporal gap between input and output, delayed shadowing increases the working memory demands of the task and encourages learners to process and store linguistic material in larger chunks — phrases, clauses, or sentences — rather than word by word or syllable by syllable. This chunking effect may promote the development of phrasal and sentential processing units characteristic of fluent speech production, in contrast to the word-by-word processing typical of less proficient speakers. Delayed shadowing can serve as a bridge between the immediate repetition tasks of phonetic and content shadowing and the more demanding tasks of simultaneous interpretation, providing a progressive increase in cognitive challenge that is consistent with principles of scaffolded instruction.

Silent shadowing, sometimes called mental shadowing or inner speech shadowing, is a variant in which learners produce the shadowed speech internally through inner speech or subvocalization rather than through overt articulatory movements and vocalization. While silent shadowing produces no externally audible output that can be compared to the model or used for feedback purposes, it has potential value as a low-demand entry point into shadowing practice for highly anxious learners for whom the requirement to produce audible speech creates significant performance apprehension, or as a form of covert practice that can be carried out in public settings where overt speech production would be impractical or socially inappropriate. Some researchers have proposed that silent shadowing engages the phonological loop component of working memory in ways similar to overt shadowing, albeit with reduced articulatory demands, and may therefore produce some of the same cognitive benefits while minimizing the anxiety barrier associated with audible performance.

1.6 Theoretical Foundations of Shadowing

The effectiveness of the shadowing technique as a tool for developing EFL speaking fluency is not merely an empirical observation but can be grounded in and explained by several well-established theoretical frameworks from cognitive psychology and second language acquisition research. Understanding these theoretical foundations is essential both for appreciating why shadowing works and for making principled decisions about its optimal implementation.

The most important cognitive psychological framework for understanding shadowing's mechanism is Baddeley's (1986, 2000) multi-component model of working memory, which has become the dominant model of verbal short-term memory in cognitive psychology and has been extensively applied in second language acquisition research. Baddeley's model distinguishes between several relatively independent components of working memory, including the central

executive, which controls attentional allocation and coordinates information processing across multiple systems; the visuospatial sketchpad, which temporarily stores and processes visual and spatial information; and the phonological loop, which is the component most directly relevant to shadowing. The phonological loop consists of two subcomponents: the phonological store, which can hold speech sounds in a phonologically coded format for approximately one to two seconds before they decay and are lost; and the articulatory rehearsal process, which can refresh decaying representations in the phonological store by subvocally rehearsing them and can also convert visually presented verbal information into a phonological code for storage in the store. Shadowing exercises the phonological loop to an exceptional degree: the learner must simultaneously maintain the model speaker's utterances in the phonological store while using articulatory rehearsal to produce spoken output that closely mirrors the input, all under real-time pressure. This intensive phonological loop exercise strengthens both the storage capacity of the phonological store and the efficiency of the articulatory rehearsal process, with cascading benefits for phonological memory, lexical access, and speech production fluency.

Anderson's (1983) ACT* (Adaptive Control of Thought) theory of skill acquisition provides a complementary theoretical account of how shadowing promotes the development of speaking automaticity. ACT* theory proposes that complex cognitive skills — including language production — develop through a three-stage progression. In the declarative stage, knowledge is represented in the form of explicit, consciously accessible facts and rules — for example, a learner's explicit knowledge that English uses stress-timed rhythm, or that unstressed vowels are reduced to schwa in natural speech. In the knowledge compilation stage, this declarative knowledge is gradually transformed into procedural knowledge through practice — the learner begins to apply phonological rules automatically, without the need for conscious deliberate attention. In the procedural stage, the skill is executed automatically and efficiently, with

minimal demands on conscious attention and working memory resources. Shadowing, which requires learners to repeatedly practice the rapid processing and oral reproduction of natural spoken English under real-time temporal pressure, provides precisely the kind of intensive, contextualized practice that ACT theory predicts will drive the knowledge compilation process — transforming declarative phonological knowledge into automatic procedural competence and progressively reducing the cognitive demands of speech production.*

From the perspective of second language acquisition theory, shadowing is supported by Krashen's (1982) Input Hypothesis, which proposes that language acquisition occurs primarily through exposure to comprehensible input — spoken or written language that the learner can understand — at a level of difficulty slightly beyond the learner's current competence. By listening to authentic recordings of proficient or native English speakers, shadowing practitioners receive a continuous supply of comprehensible input that models target-like pronunciation, intonation, rhythm, and connected speech patterns. The requirement to closely attend to the acoustic details of this input — in preparation for immediate oral reproduction — may make the phonological features of the input more salient and therefore more acquisitionally potent than they would be in ordinary listening activities, where learners may focus primarily on semantic content.

Swain's (1985) Output Hypothesis provides an equally important theoretical justification for the oral production requirement, distinguishing shadowing from purely receptive listening practice. Swain argued, on the basis of her research in Canadian French immersion programs, that comprehensible input alone is insufficient for the development of grammatical and phonological accuracy — that learners also need opportunities to produce output in the target language. Producing output, Swain argued, serves three distinct acquisitional functions: it forces learners to notice gaps between their current interlanguage and the target language norms by generating

production failures that bring these gaps to conscious attention; it promotes hypothesis testing, in which learners experiment with forms and receive feedback that informs subsequent production; and it develops the automaticity and fluency of production processes through repeated practice. Shadowing provides an intensive and structured form of output practice that uniquely combines all three of Swain's proposed functions: by comparing their own output with the model in real time, learners notice discrepancies and are motivated to close the gap, and repeated practice promotes automatization of production processes.

Schmidt's (1990) Noticing Hypothesis adds a further important theoretical perspective by emphasizing the role of conscious awareness in second language acquisition. Schmidt argued, on the basis of both empirical research and autobiographical evidence from his own language learning, that learners cannot acquire linguistic features merely through unconscious exposure to input — that conscious noticing of features in the input is a necessary, if not sufficient, condition for their acquisition. Shadowing promotes the noticing of phonological and prosodic features with unusual intensity by requiring learners to attend explicitly to them in preparation for immediate oral reproduction. The frequent experience of discovering that one's reproduction differs from the model — in pitch, rhythm, speed, or sound quality — focuses attention sharply on specific phonological features and creates powerful conditions for noticing and subsequent learning.

1.7 Shadowing and Second Language Acquisition Theory

Beyond the specific theoretical frameworks discussed in the previous section, shadowing intersects with several broader themes and debates in SLA research that provide additional theoretical grounding for its use and help to explain the range of effects that empirical research has documented.

The concept of automaticity is central to understanding how shadowing promotes fluency development. In SLA research, automaticity refers to the ability to perform linguistic operations rapidly, accurately, and with minimal demands on conscious attentional resources. DeKeyser (2007) has provided a comprehensive account of the conditions under which automaticity develops in L2 learners, drawing on the tradition of skill learning research in cognitive psychology. A key insight from this research is that automaticity develops through extensive practice under conditions that closely approximate the actual conditions of language use — that is, practice that engages the same cognitive processes and the same types of knowledge that are required in the target performance context. Activities that develop declarative knowledge without engaging production processes — for example, studying pronunciation rules or memorizing vocabulary — are unlikely to produce transferable automaticity in speaking, regardless of how extensive the practice is. Shadowing, by contrast, directly engages the cognitive processes of phonological encoding, articulatory planning, and articulatory execution under real-time conditions closely approximating spontaneous speech, and therefore has high potential for developing transferable speaking automaticity.

The construct of implicit learning — the capacity to acquire complex linguistic patterns through exposure without conscious deliberate analysis — provides a further theoretical rationale for shadowing's effectiveness. Research by Reber (1993) and others has established that human beings have a remarkable capacity to extract statistical regularities from complex linguistic input through repeated exposure, and that this implicit learning capacity underlies much of the phonological, morphological, and syntactic knowledge that native speakers possess. In L2 learners, implicit learning is particularly relevant for the acquisition of complex phonological and prosodic patterns that are too intricate to be fully captured by explicit rules and therefore resist direct instruction. Shadowing, by providing learners with intensive, repeated, and

carefully attended exposure to authentic spoken English, may facilitate implicit learning of phonological patterns — including connected speech phenomena, rhythmic regularities, and intonation contours — that would be extremely difficult to acquire through any amount of explicit study.

The role of phonological working memory in L2 phonological acquisition has been extensively investigated in SLA research following the seminal work of Baddeley and colleagues on the phonological loop. Service (1992) demonstrated that individual differences in phonological working memory capacity — specifically, the capacity to temporarily store novel phonological sequences — are a significant predictor of success in L2 phonological learning. Learners with greater phonological working memory capacity are better able to retain and process novel L2 phonological sequences, facilitating the construction of accurate phonological representations of L2 words and the acquisition of target-like pronunciation patterns. Shadowing exercises the phonological loop with exceptional intensity, and the improvements in phonological memory efficiency that result from extensive shadowing practice may therefore have broad benefits for phonological learning that extend beyond the specific items and patterns practiced during shadowing sessions.

1.8 Motivation and Self-Efficacy in Shadowing Practice

The motivational and affective dimensions of shadowing practice have received increasing attention in the research literature, reflecting recognition that the effectiveness of any language-learning technique depends fundamentally on learners' willingness to engage with it consistently over the extended period required for meaningful fluency gains. Shadowing is cognitively demanding and requires sustained effort, tolerance of initial difficulty, and

commitment to regular practice over weeks or months, all of which are highly influenced by motivational factors.

Dornyei's (2001) framework for understanding motivation in second language learning provides a useful theoretical context for examining shadowing motivation. Dornyei conceptualizes L2 motivation as a complex, dynamic, and multidimensional construct that encompasses the learner's ideal L2 self — the representation of the attributes the learner would ideally like to possess as an L2 user — as well as instrumental motivations related to the practical benefits of L2 proficiency, and integrative motivations related to identification with the L2 community. In the context of shadowing, learners who have a clear and compelling vision of themselves as fluent, natural-sounding speakers of English — a strong ideal L2 self — are likely to be more motivated to invest the sustained effort that shadowing requires, particularly during the difficult initial stages when the gap between current performance and the model's performance may feel discouraging.

Self-determination theory (Deci and Ryan, 2000) provides a complementary motivational framework that distinguishes between intrinsic motivation — engaging in an activity for its inherent interest, enjoyment, and challenge — and extrinsic motivation — engaging in an activity for external rewards or to avoid punishment. Intrinsic motivation is consistently associated in the research literature with deeper learning, greater persistence, higher achievement, and greater well-being than extrinsic motivation, and is therefore the more desirable basis for sustained language learning practice. Research on learner perceptions of shadowing suggests that many learners find the technique genuinely intrinsically motivating — interesting, challenging, and rewarding in itself — particularly once they have overcome the initial difficulties and begin to experience perceptible improvements in their pronunciation and fluency. The immediate, concrete, and personally meaningful feedback that shadowing provides

— through the real-time comparison of one's own output with the model speaker's — may be a particularly important source of intrinsic motivation, providing the clear evidence of progress that sustains engagement.

Bandura's (1997) theory of self-efficacy — defined as an individual's belief in their own capacity to execute the courses of action required to achieve specific outcomes — has been identified in multiple studies as a key determinant of the development of speaking fluency. EFL learners with low speaking self-efficacy tend to avoid oral communication opportunities, underperform relative to their actual linguistic competence due to anxiety and self-doubt, and are less persistent in the face of speaking difficulties. Shadowing has the potential to build speaking self-efficacy through a mechanism that Bandura identifies as the most powerful source of self-efficacy information: mastery experiences — actual successful performances that provide direct evidence of one's own competence. As learners progress through shadowing practice and begin to notice improvements in their pronunciation accuracy, prosodic naturalness, and speech fluency — particularly when they compare early and later recordings of their own shadowing attempts — they accumulate mastery experiences that progressively build self-efficacy for English speaking. This self-efficacy growth then creates positive feedback effects: higher self-efficacy leads to greater willingness to engage in oral communication, which provides additional practice opportunities and further performance improvements.

1.9 Shadowing and Listening Comprehension

While the primary focus of the present study is the development of speaking fluency, shadowing has also been shown to produce significant positive effects on listening comprehension, reflecting the cognitive interdependence of speaking and listening in oral language processing. This dual benefit, involving the simultaneous development of both productive and receptive oral

skills through a single practice activity, makes shadowing an efficient technique for developing oral communicative competence, particularly in contexts with limited instructional time.

Originally proposed by Liberman and colleagues (1967) and subsequently revised by Liberman and Mattingly (1985), provides a compelling theoretical account of the connection between shadowing and listening comprehension. The motor theory proposes that speech perception is not a simple acoustic pattern recognition process but is fundamentally mediated by the same cognitive-motor system that controls speech production. According to this theory, listeners perceive speech not merely by analyzing the acoustic properties of the incoming signal, but by activating the articulatory representations — the mental programs for producing speech sounds — that correspond to those acoustic properties. This proposed link between perception and production means that developing more accurate and automatic articulatory representations through shadowing practice should simultaneously improve the perceptual accuracy and efficiency with which learners process and identify speech sounds — that is, it should improve listening comprehension alongside speaking production.

Empirical support for the positive effects of shadowing on listening comprehension is extensive and consistent. Tamai (2002) was among the first researchers to document these effects systematically, demonstrating that Japanese university students who received shadowing training over one academic semester showed significantly greater improvements on standardized listening comprehension tests than students who received conventional listening instruction during the same period. Tamai attributed these gains to the intensive phonological processing required by shadowing, which he argued led to the development of more accurate and robust phonological representations of English, in turn supporting more effective speech perception. Subsequent research by Kadota (2007) and others confirmed and elaborated these findings, demonstrating that shadowing improves learners' ability to segment continuous speech

into words, to identify phonemes in connected speech contexts, and to process speech at natural rates — precisely the difficulties that most commonly impede listening comprehension for EFL learners.

1.10 Comparative Analysis: Shadowing and Other Speaking Development Techniques

To appreciate the distinctive contribution of shadowing to the development of EFL speaking fluency, it is instructive to compare it systematically with other major approaches proposed and investigated in the applied linguistics literature. This comparative analysis helps clarify both the unique advantages of shadowing and the ways it can be most effectively integrated with other techniques within a comprehensive, balanced speaking curriculum.

Extensive communicative practice — providing learners with frequent opportunities for authentic oral communication through discussions, debates, presentations, role plays, and pair and group tasks — is the approach most strongly advocated by communicative language teaching (CLT) methodologists and remains the dominant paradigm in speaking instruction in EFL classrooms worldwide. The theoretical rationale for extensive communicative practice is compelling: language is best learned through meaningful use, and fluency develops through the repeated engagement of speech production processes in contexts that approximate real communicative interaction. However, extensive communicative practice has a significant limitation from the perspective of phonological and prosodic development: it does not provide learners with explicit or systematic models of target-like pronunciation. Learners who practice communicating extensively without access to accurate phonological models may consolidate inaccurate pronunciation patterns through sheer repetition — a phenomenon known as the fossilization of phonological errors — making it increasingly difficult to achieve native-like or near-native-like pronunciation accuracy even after very extensive practice. Shadowing

addresses this limitation directly by providing systematic exposure to accurate phonological models and requiring learners to actively reproduce these models, creating conditions for phonological improvement that extensive communicative practice alone cannot provide.

Task-based language teaching (TBLT), in which learners complete pedagogically designed tasks that simulate real-world communicative demands, has strong theoretical support from both SLA theory and communicative language teaching philosophy, and a substantial empirical evidence base demonstrating its effectiveness for developing general communicative competence (Ellis, 2003). However, TBLT shares the limitation of extensive communicative practice in that it prioritizes meaning-focused communication over form-focused attention, and therefore does not systematically address the phonological and prosodic dimensions of speaking fluency. Research on TBLT suggests that the attentional demands of task completion may actually divert learners' attention away from phonological form, potentially leading to the consolidation of pronunciation patterns that are communicatively adequate but phonologically inaccurate. Shadowing can complement TBLT by developing the phonological foundation that makes task-based communicative practice more effective.

Explicit pronunciation instruction — the systematic teaching of target language phonological features through metalinguistic explanation, phonetic description, and focused form practice — addresses the phonological dimension of speaking fluency more directly than either extensive communicative practice or TBLT. Research by Derwing and Munro (2005) has demonstrated that explicit pronunciation instruction, particularly when focused on suprasegmental features such as stress, rhythm, and intonation, can produce significant and durable improvements in learners' oral intelligibility and perceived accent. However, explicit pronunciation instruction faces an important limitation in the challenge of transferring explicitly acquired phonological knowledge to spontaneous speech production: learners may demonstrate accurate production of

target phonological features in controlled, metalinguistically focused practice activities while reverting to habitual patterns in spontaneous communicative speech, because the attentional demands of content-focused communication leave insufficient cognitive resources for deliberate attention to phonological form. Shadowing may help to bridge this gap between explicit knowledge and automatic performance by providing intensive production practice that promotes the proceduralization and automatization of phonological knowledge.

Extensive listening — providing learners with large amounts of comprehensible spoken input in the L2, typically through audiobooks, podcasts, radio broadcasts, films, and television programs — is a widely recommended strategy for developing both listening comprehension and implicit phonological learning. The theoretical rationale draws on Krashen's (1982) Input Hypothesis and on research in implicit learning demonstrating the capacity to acquire linguistic patterns through repeated exposure. While extensive listening has documented benefits for vocabulary acquisition, listening comprehension, and implicit phonological learning, it differs from shadowing in that it does not require active oral reproduction of the input and therefore does not provide output practice, opportunities to notice, or phonological loop exercises that shadowing delivers. Shadowing can be conceptualized as a highly active and productive form of extensive listening that adds the crucial dimension of oral reproduction to the benefits of rich phonological input.

1.11 The EFL Context in Algeria

The present study is situated within the specific educational, linguistic, and cultural context of EFL learning in Algeria, and a thorough understanding of this context is essential for interpreting the study's findings and assessing their implications for pedagogical practice.

Algeria presents a distinctive and complex multilingual environment that shapes English language learning experiences in important ways.

Algeria is a linguistically diverse country in which Arabic — in both its Modern Standard variety, used in formal and written contexts, and its multiple dialectal varieties, used in everyday spoken communication — and Tamazight are the official languages recognized in the national constitution. However, French retains a de facto role of considerable importance in education, administration, business, and the media that is not reflected in its official constitutional status, serving as the primary medium of instruction in technical and scientific higher education and as a prestigious language of professional and intellectual communication for educated Algerians. This means that most Algerian students are effectively navigating three linguistic systems simultaneously when they study English: their L1 (dialectal Arabic or Tamazight), Modern Standard Arabic (a separate formal register acquired through education), and French (the dominant language of higher education). English is learned as an additional foreign language, typically the second or third after French, and sometimes Spanish or another European language.

English was introduced as the first foreign language in Algerian secondary education in the early 1990s, replacing French in this role as part of broader educational reform efforts. (Gasmi, 2020, pp. 211-217) (Teaching English in Algeria and Educational Reforms: An Overview on the Factors Entailing Students' Failure in Learning Foreign Languages at University, 2011, pp. 1327-1333) However, the implementation of this reform has been uneven, and French has retained much of its practical dominance in higher education and professional contexts, creating a complex motivational landscape for English learning in which the practical incentives for developing English proficiency — while real and increasing in the context of globalization and international academic mobility — are often perceived as less immediate than

those for French proficiency. This motivational context has implications for students' willingness to invest effort in developing English-speaking fluency, particularly through self-study techniques such as shadowing, which require sustained independent practice outside class time. The secondary school English curriculum in Algeria has been characterized by an emphasis on grammatical structure, reading comprehension, and vocabulary learning, reflecting the examination-oriented nature of secondary education and the limited availability of trained teachers capable of delivering instruction in communicatively oriented oral skills. (Othmane & Bouyakoub, 2020) (Othmane & Bouyakoub, 2020) As a consequence, the great majority of Algerian students who transition from secondary school to university-level English study arrive with grammatical and reading competence that may be relatively adequate for basic academic purposes, but with oral communicative skills — particularly speaking fluency and listening comprehension of natural spoken English — that are significantly underdeveloped. This skills imbalance is a consistent finding across studies of Algerian EFL learners and represents one of the most urgent challenges facing English departments at Algerian universities. (Ameur & Ayad, 2019)

Ahmed Zabana University, Ghelizane, the institutional context of the present study, is a public university that serves the Ghelizane wilaya and the surrounding regions of northwestern Algeria. The Department of English Language and Literature offers the standard Algerian LMD (Licence-Master-Doctorat) curriculum in English, beginning with a three-year Licence program. Like English departments at other Algerian universities, it faces significant practical constraints, including large class sizes — often 30 to 50 or more students per group — limited weekly contact hours dedicated to speaking instruction, restricted access to authentic English language resources and equipment, and the near-total absence of English in the social environment outside the university. (Saidania & Belmihoub, 2025, pp. 743-767) (Hamdani &

Belkacem, 2025, pp. 75-119) Within these constraints, the department endeavors to develop students' oral communicative competence through oral expression courses, phonetics and phonology instruction, and communicative classroom activities. The shadowing technique offers particular promise as a supplementary approach in this context because it can be practiced independently outside class time using only a smartphone or computer and freely available internet resources — tools that virtually all Algerian university students now possess — thereby effectively extending speaking practice time without placing additional demands on scarce instructional contact hours.

1.12 Review of Previous Empirical Studies on Shadowing

The empirical literature on shadowing as a language learning technique has expanded substantially over the past two and a half decades, generating a growing body of evidence that provides the scientific foundation for the present study. The following review synthesizes the key findings of the most methodologically significant studies, organized by primary outcome variable, to provide a comprehensive and balanced assessment of what is currently known about shadowing's effects on EFL learners.

The effects of shadowing on segmental and suprasegmental pronunciation accuracy are the most extensively documented outcomes in the empirical literature. Hamada (2012) conducted one of the most methodologically rigorous investigations of these effects, employing a quasi-experimental pre-test, treatment, post-test design with a matched control group to examine the effects of a twelve-week shadowing program on the pronunciation of Japanese university EFL students. Using acoustic analysis software to measure multiple phonetic parameters of participants' recorded speech, Hamada found that the shadowing group demonstrated significantly greater improvements than the control group on measures of vowel quality,

consonant accuracy, and speech rhythm. Particularly noteworthy was the magnitude of the improvement in rhythmic production: participants in the shadowing group showed measurable progress toward more stress-timed rhythmic patterns that approximated native-speaker norms, a finding especially relevant for Arabic-speaking EFL learners given the fundamental difference between Arabic syllable-timing and English stress-timing.

Kindaichi (2017) extended Hamada's findings specifically to the domain of English stress-timed rhythm, using detailed pitch and duration analysis to examine the effects of a sixteen-week shadowing program on the rhythmic production of Japanese EFL learners. The results demonstrated highly significant improvements in the shadowing group's production of durational contrasts between stressed and unstressed syllables, which are the defining feature of English stress-timing, bringing their rhythmic patterns measurably closer to native-speaker models and significantly further from the syllable-timed patterns characteristic of Japanese. Watanabe (2020) similarly employed acoustic pitch analysis to examine shadowing's effects on intonation production, demonstrating that participants who completed a shadowing program showed significantly more target-like intonation contours in post-test speech samples, with improved use of falling and rising tones in communicatively appropriate contexts. Zhao (2018) specifically investigated the effects of shadowing on connected speech phenomena, finding significant gains in the use of linking and vowel reduction in Chinese EFL learners who practiced with authentic interview recordings over ten weeks.

The effects of shadowing on temporal fluency — including speech rate, articulation rate, mean length of run, and hesitation frequency — have been systematically investigated by several researchers, with consistently positive findings. Foote and McDonough (2017) conducted what is arguably the most methodologically rigorous study of shadowing's effects on temporal fluency, employing a carefully controlled experimental design with pre-test, post-test, and

delayed post-test measures of oral production fluency in picture description tasks. Their results demonstrated that participants in the shadowing condition achieved significantly higher speech rates, longer mean run lengths between pauses, and lower silent-pause frequencies in post-test production tasks compared to a matched control group that received alternative instruction during the same period. The magnitude of these effects was practically as well as statistically significant, representing meaningful gains in oral fluency that were maintained at the delayed post-test — an important finding given the concern that improvements observed immediately after instruction may not be sustained over time.

Tamai (2002) produced some of the earliest and most frequently cited empirical evidence for shadowing's benefits, demonstrating significant improvements in listening comprehension test scores among Japanese university students who received shadowing training compared to control groups. His finding that shadowing improved listening comprehension alongside production skills was theoretically significant, providing empirical support for the Motor Theory's prediction that developing articulatory accuracy through shadowing should simultaneously improve perceptual accuracy. Mori (2011) found that parallel reading shadowing led to improvements in oral fluency and incidental vocabulary acquisition, suggesting that the multimodal engagement of simultaneous auditory and visual processing during parallel reading shadowing may create particularly rich conditions for vocabulary learning alongside fluency development. Lee (2019) confirmed temporal fluency gains among Korean EFL learners using podcast materials, demonstrating that these benefits extend beyond language-learning materials to authentic English-medium content.

Research on learner perceptions of and attitudes toward shadowing provides important insights into the affective and motivational dimensions of the technique that purely behavioral measures cannot capture. Hsieh (2021) conducted the most comprehensive investigation of learner

perceptions to date, surveying 85 Taiwanese university EFL students who had participated in a one-semester shadowing program and conducting follow-up interviews with a purposive sub-sample. A large majority of participants — approximately 78 percent — reported perceiving shadowing as effective for improving pronunciation accuracy and speaking confidence, and many described the technique as genuinely enjoyable and engaging, particularly as they progressed through the program and began to experience perceptible improvements in their own performance. (Palacios & Álvarez, 2025) (Muman & Husnussalam, 2025, pp. 200-212) A recurring theme in qualitative responses was heightened phonological awareness — participants' descriptions of becoming aware, through shadowing, of features of English pronunciation that they had previously been entirely unaware of — a finding that directly supports Schmidt's (1990) Noticing Hypothesis. Initial difficulties with processing speed were widely reported but consistently described as manageable and diminishing with practice, suggesting that the cognitive demands of shadowing become less burdensome as learners develop greater automaticity in the component processes of the task.

A limitation of the existing literature is that the empirical studies reviewed above are predominantly concentrated in East Asian EFL contexts, particularly Japan, Taiwan, and South Korea. While the consistency of positive findings across these diverse contexts provides reasonable grounds for confidence in shadowing's effectiveness, the extent to which these findings generalize to other EFL contexts, including the North African context and specifically Algeria, addressed in the present study, cannot be assumed without further empirical investigation. Beyond this geographical concentration, several methodological limitations are evident in the existing body of research. Many studies rely on relatively small or homogeneous sample sizes, which may limit the statistical power of their findings or reduce their representativeness. In addition, convenience sampling in university settings is common,

potentially introducing selection bias and limiting the generalizability of results. Other limitations relate to the measures used to assess shadowing's effectiveness, with a reliance on standardized tests, short-term pre- and post-test designs, or subjective self-reports that may not capture long-term or real-world improvements in fluency. Some studies lack control groups or employ designs that do not fully account for external variables influencing language development. Furthermore, publication bias favoring positive outcomes may overrepresent the documented benefits of shadowing. Taken together, these methodological considerations underscore the need for more rigorous, contextually diverse, and longitudinal research. Differences in learners' L1 phonological systems, educational culture and prior learning experiences, available resources and technological infrastructure, and the specific phonological and prosodic challenges learners face may all influence the effectiveness of shadowing in ways that cross-contextual generalization cannot capture. The present study represents a first step toward addressing this gap.

Conclusion

This chapter provides a comprehensive, theoretically grounded review of the literature relevant to the present study. It first examined the multidimensional construct of speaking fluency and its key measurable components, including temporal features, hesitation phenomena, and prosodic features, establishing a theoretical framework for understanding, developing, and assessing speaking fluency. The chapter then documented the significant challenges EFL learners face in developing oral fluency, with particular attention to Arabic-speaking learners in the Algerian educational context. It introduced the shadowing technique, traced its intellectual history from cognitive psychology through interpreter training to EFL pedagogy, and described five major types of shadowing in terms of their cognitive demands and pedagogical purposes, with

reference to Baddeley's working memory model, Anderson's ACT* skill acquisition theory, and four major SLA frameworks: Krashen's Input Hypothesis, Swain's Output Hypothesis, Schmidt's Noticing Hypothesis, and research on automaticity and implicit learning. The motivational and affective dimensions of shadowing were examined through Dornyei's motivational framework, self-determination theory, and Bandura's self-efficacy theory, establishing the importance of sustained engagement and confidence for the effectiveness of shadowing practice. The chapter then discussed shadowing's documented benefits for listening comprehension, its distinctive position within the landscape of speaking development techniques, and the specific characteristics of the Algerian EFL context at Ahmed Zabana University, Ghelizane.

Building on these foundations, the present study makes a unique contribution by empirically investigating the effects and implementation of the shadowing technique on English-speaking fluency among Algerian EFL learners—a context that has been almost entirely overlooked in existing research. By systematically examining how shadowing influences the oral performance of Arabic-speaking students in Algeria, the study addresses a substantial gap in the literature and moves beyond studies centered on East Asian contexts. In doing so, it aims to generate new knowledge on the potential benefits, challenges, and contextual factors influencing shadowing's effectiveness in the Algerian higher education setting. The findings are expected to inform both local pedagogy and the broader field by shedding light on the adaptability and impact of shadowing in underexplored linguistic and educational environments.

Finally, the chapter presented a systematic review of the empirical literature on shadowing, synthesizing findings on pronunciation accuracy, temporal fluency, and learner perceptions from studies conducted primarily in East Asian EFL contexts. The review confirmed substantial

and consistent evidence for shadowing's effectiveness, while also identifying the near-complete absence of research in the Algerian context as a significant gap that the present study aims to address. The theoretical and empirical foundations established in this chapter provide the framework for the methodology, findings, and discussion of the present study.

Chapter Two: Research Methodology

Introduction

This chapter provides a comprehensive account of the methodological framework adopted in this study. It details and justifies all key methodological decisions, including the research design, epistemological orientation, participant selection, data collection, and data analysis procedures. The chapter is organized into 12 sections, collectively offering a transparent methodological narrative that enables evaluation of the rigor, appropriateness, and replicability of the research procedures.

The chapter first establishes the research design and underlying epistemological paradigm. It then presents the research questions and hypotheses, followed by descriptions of the population, sample, data collection instruments, and the four-week shadowing intervention program.

Subsequent sections address validity and reliability, data collection procedures, and the quantitative and qualitative analysis methods. The chapter concludes with a discussion of ethical considerations and a transparent acknowledgement of methodological limitations.

Methodological decisions throughout this chapter are justified by the specific demands of the research questions and the practical constraints of the research context, rather than solely by convention. The aim is to present a methodological account that is technically sound, transparent, reflexive, and candid regarding the trade-offs inherent in research design.

2.1 Research Design

This study employs a mixed-methods convergent parallel research design, as conceptualized by Creswell and Plano Clark (2018). In this design, quantitative and qualitative data are collected simultaneously, analyzed independently using appropriate methods, and then merged at the interpretation stage to achieve a comprehensive understanding of the research phenomenon.

This approach was selected because the research questions require both the breadth and quantifiability of survey data to establish general patterns, and the depth and explanatory power of interview data to explore underlying meanings and experiences not captured by numerical ratings.

The study adopts a broadly descriptive orientation, aiming to characterize the experiences, perceptions, and attitudes of first-year Licence EFL students at Ahmed Zabana University regarding the shadowing technique, rather than to establish causal relationships or test theoretical propositions. According to Mohammed El Moussaoui, although shadowing shows promise as a tool for enhancing EFL learners’ bottom-up listening skills, there are still gaps in research, particularly regarding its long-term effectiveness and its impact on advanced learners. As shadowing has not yet been thoroughly explored in the Algerian EFL context, using a descriptive design to establish a baseline of learners’ experiences and challenges is an important step before conducting more experimental studies.

Table 2.1: Summary of Research Design Features

Design Feature	Description	Justification
Overall Design	Mixed-Methods Convergent Parallel	Combines breadth of survey with depth of interviews
Quantitative Strand	Descriptive survey with Likert scale items	Captures patterns across full sample of 40 participants
Qualitative Strand	Thematic analysis of open-ended items and interviews	Explores meanings and experiences behind patterns

Integration Point	Interpretation stage (merging)	Allows convergence and divergence to be examined
Temporal Structure	Simultaneous data collection	Maximizes efficiency within time constraints
Primary Orientation	Descriptive	Establishes baseline for an unexplored local context

Note: The mixed-methods design was chosen to address the limitations of purely quantitative or qualitative approaches.

2.2 Research Paradigm

The epistemological foundation of this study is pragmatism, the philosophical orientation most widely adopted in mixed-methods research (Creswell, 2014; Morgan, 2014). Pragmatism holds that research questions, rather than epistemological allegiances or ontological commitments, should drive methodological choices: researchers should select and combine methods on the basis of their capacity to generate useful, credible, and practically relevant knowledge in response to specific research problems, rather than adhering dogmatically to either the positivist tradition of quantitative research or the interpretivist tradition of qualitative research.

The pragmatist orientation of this study manifests in several specific ways. In relation to the quantitative component, the study adopts a broadly post-positivist stance, accepting that Likert scale survey data can provide useful and meaningful, if imperfect, approximations of participants' attitudes, perceptions, and experiences. In relation to the qualitative component, the study adopts an interpretivist stance, recognizing that participants' accounts of their

shadowing experiences are socially and personally constructed, cannot be fully reduced to numerical representations, and require interpretive analysis that is sensitive to context, language, and meaning. The integration of these two epistemological orientations within a pragmatist framework allows the study to benefit from the complementary strengths of quantitative precision and qualitative depth without requiring the impossible reconciliation of their underlying philosophical commitments.

Figure 2.1: The Mixed-Methods Convergent Parallel Design

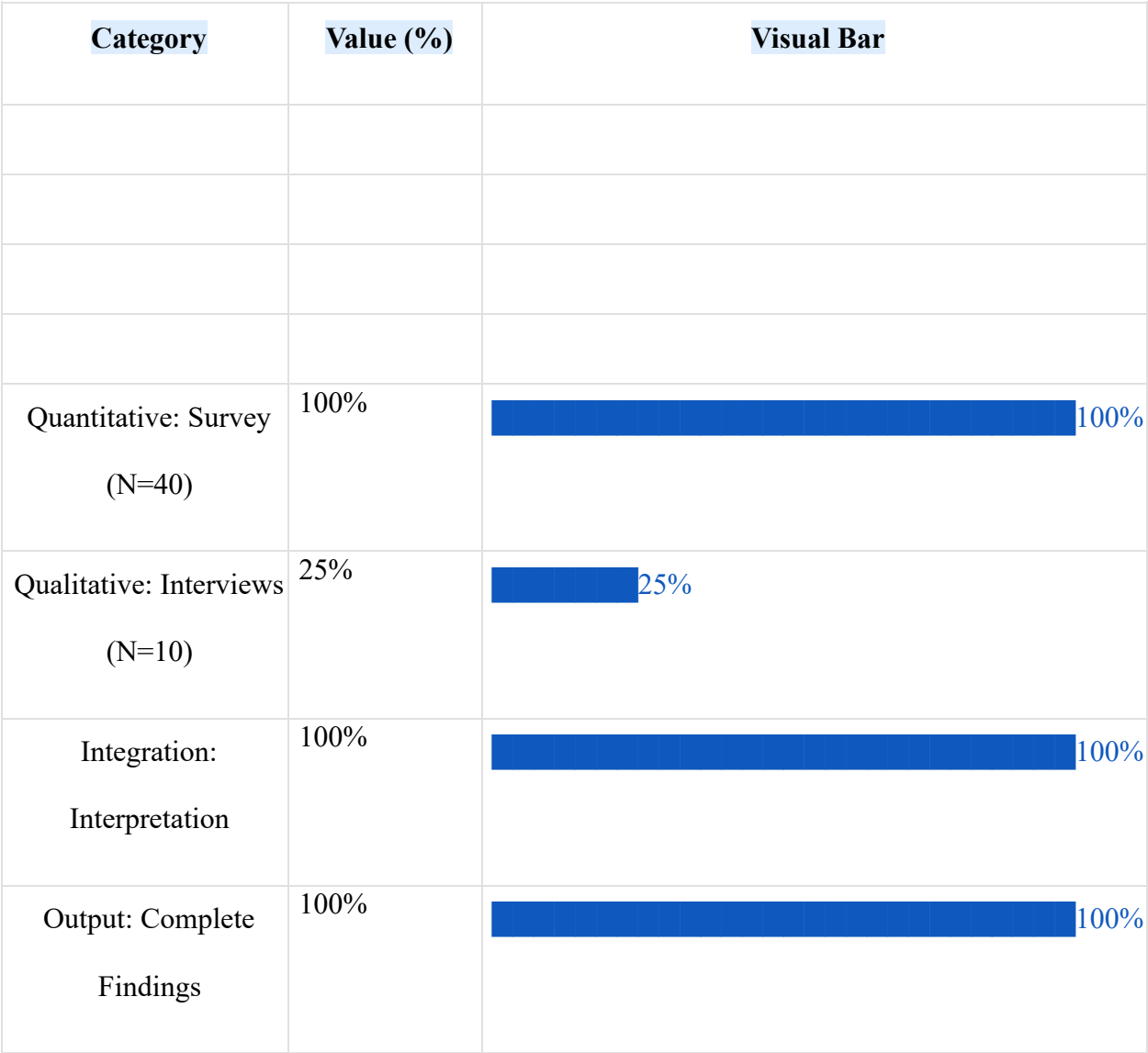


Figure 2.1: Representation of data collection proportions. Both strands were collected simultaneously and integrated during interpretation.

2.3 Research Questions and Hypotheses

The present study is guided by four research questions formulated on the basis of the preliminary literature review and the identification of gaps in existing knowledge about the shadowing technique in the Algerian EFL context:

RQ1: What prior knowledge and experience do first-year Licence students at Ahmed Zabana University have of the shadowing technique before formal introduction to it?

RQ2: What are first-year Licence students' perceptions of the effectiveness of the shadowing technique for improving their English speaking fluency after experiencing a four-week introductory program?

RQ3: What challenges do first-year Licence students encounter when engaging with shadowing practice, and what strategies do they develop to manage these challenges?

RQ4: What are students' attitudes toward the integration of shadowing into their regular EFL speaking curriculum at Ahmed Zabana University?

As hypotheses, we propose:

H1: The majority of first-year Licence students will have little or no prior knowledge of the shadowing technique, reflecting its absence from Algerian secondary and university EFL instruction.

H2: Students who participate in the four-week shadowing program will report positive perceptions of its effectiveness in improving pronunciation, speaking fluency, prosodic awareness, and speaking confidence.

H3: Students will identify processing speed difficulties and the cognitive demands of simultaneous listening and speaking as the primary challenges, consistent with international shadowing literature.

H4: The majority of students will express strongly positive attitudes toward the integration of shadowing into the regular EFL speaking curriculum, particularly emphasizing the need for structured teacher guidance.

Table 2.2: Research Questions, Hypotheses, Instruments, and Analysis Methods

Research Question	Hypothesis	Instrument	Analysis
RQ1: Prior Knowledge	H1: Very low prior knowledge expected	Questionnaire Items B1–B5	Descriptive statistics
RQ2: Effectiveness	H2: Positive effectiveness perceptions	Questionnaire Items B6–B11	Descriptive statistics
RQ3: Challenges	H3: Speed and cognitive load as primary challenges	Items B12–B16 + Interviews	Stats + Thematic analysis
RQ4: Integration	H4: Positive attitudes, need for teacher guidance	Items B17–B20 + Interviews	Stats + Thematic analysis

Note: Each research question is addressed by a dedicated subscale of the questionnaire and, for RQ3 and RQ4, complemented by qualitative interview data.

2.4 Population and Sample

The target population of this study consists of all first-year Licence students enrolled in the Department of English Language and Literature at Ahmed Zabana University, Ghelizane, during the academic year 2024–2025. This population was selected for three interrelated reasons. First, first-year Licence students represent the entry point into university-level English study in Algeria, making them a strategically important population for understanding and improving oral fluency development at the transition from secondary to higher education. Second, this population consistently exhibits speaking fluency challenges — limited phonological awareness, inadequate speaking practice, and high anxiety — that the shadowing technique is theoretically well positioned to address. Third, the researcher's academic affiliation with Ahmed Zabana University provides the institutional access and contextual familiarity necessary for conducting ecologically valid research with this population.

A purposive sample of 40 first-year Licence students was selected from this population using purposive sampling — the deliberate selection of participants on the basis of their ability to provide relevant and informative data in relation to the research questions (Patton, 2002). The interview sub-sample of 10 participants was purposively selected to represent a range of proficiency levels, backgrounds, and initial responses to shadowing observed across the full sample, to ensure that the interview data captured the diversity of experiences rather than only the most common or most positive ones.

Table 2.3: Demographic Characteristics of the Sample (N=40)

Demographic Variable	Category	Frequency	Percentage (%)
Gender	Female	24	60%

Gender	Male	16	40%
Age	18–19 years	22	55%
Age	20–21 years	14	35%
Age	22 and above	4	10%
Years of English Study	7–8 years	12	30%
Years of English Study	9–10 years	20	50%
Years of English Study	11–12 years	8	20%
Self-Assessed Proficiency	Beginner	2	5%
Self-Assessed Proficiency	Elementary	6	15%
Self-Assessed Proficiency	Pre-Intermediate	16	40%
Self-Assessed Proficiency	Intermediate	12	30%
Self-Assessed Proficiency	Upper-Intermediate	4	10%

Total	40	100%	
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Note: The sample composition reflects the typical demographic profile of first-year Licence EFL students at Ahmed Zabana University.

The demographic data presented in Table 2.3 confirm that the sample is broadly representative of the target population, with most participants aged 18–21, 9–10 years of prior English study, and a self-assessed proficiency concentrated at the pre-intermediate to intermediate levels.

2.5 Data Collection Instruments

Two primary research instruments were used in this study: a student questionnaire and a semi-structured interview guide. Both instruments were designed specifically for this study on the basis of the theoretical framework established in Chapter One and the findings of previous research on student perceptions of shadowing (Hsieh, 2021; Hamada, 2016; Foote and McDonough, 2017). The design process involved multiple stages of development, review, and refinement to ensure that the instruments were appropriate, valid, and reliable for use with the target population.

2.5.1 The Student Questionnaire

The student questionnaire was the primary data collection instrument of the quantitative strand of the study. It was designed to collect both quantitative data (through closed-ended Likert-scale items) and supplementary qualitative data (through open-ended items) in a single, efficiently administered instrument. The questionnaire was structured into three sections: Section A collected demographic background information; Section B contained 20 closed-ended Likert scale items organized into four subscales corresponding to the four research questions; and

Section C contained 5 open-ended items inviting participants to elaborate on their shadowing experiences in their own words.

The 20 Likert scale items in Section B used a five-point response scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Items were written to be clear, unambiguous, and appropriately targeted to the specific dimensions of the four research questions. The five items in the prior knowledge subscale (B1–B5) assessed participants' awareness, experience, and prior use of shadowing and related techniques. The six items in the perceived effectiveness subscale (B6–B11) assessed participants' perceptions of shadowing's effects on pronunciation, fluency, rhythm, stress awareness, confidence, phonological noticing, and overall effectiveness. The five items in the challenges subscale (B12–B16) assessed the frequency and intensity of five specific challenge dimensions: processing speed, mental fatigue, simultaneous processing demands, phonological reproduction difficulty, and frustration. The four items in the attitudes toward integration subscale (B17–B20) assessed participants' intentions to continue practicing, their preferences for curriculum inclusion, their willingness to recommend shadowing to others, and their perceived need for teacher guidance.

Table 2.4: Structure and Content of the Student Questionnaire

Note: the student questionnaire includes 30 items: 5 for background information, 20 for a Likert scale, and 5 open-ended questions, which are recognized for efficiently collecting qualitative data, according to Gloria Fraser.

Figure 2.4: Distribution of Questionnaire Items Across Research Questions

Figure 2 shows that the questionnaire items are distributed proportionally across the four research questions, with a small variation in the number of items per question. More items were allocated to the effectiveness subscale, reflecting its multi-dimensional nature.

The questionnaire was originally written in English, which is appropriate given that participants are enrolled in a university-level English language program. However, instructions and key technical terms — particularly the explanation of the shadowing technique in the questionnaire introduction — were provided in both English and Arabic to ensure that language difficulty did not prevent participants from understanding what was required of them. In the present study, the questionnaire was administered to all 40 first-year Licence EFL participants at Ahmed Zabana University. Semi-structured interviews were then conducted with a purposively selected sub-sample of 10 participants from among those who completed the questionnaire. Semi-structured interviews combine the structure of a predetermined set of questions or thematic areas — which ensure that all interviews address the key research topics and allow for systematic comparison across participants — with the flexibility to probe, follow up, and explore responses in greater depth and in directions that emerge organically from the conversation (Cohen, Manion, and Morrison, 2018). This combination of structure and flexibility makes semi-structured interviews ideally suited to exploring the nuanced personal experiences, meanings, and strategies that are central to the qualitative strand of this study and that cannot be adequately captured through the necessarily standardized format of questionnaire items.

The interview guide was structured around eight open questions (see Table 2.5), designed to ensure systematic coverage of the research questions across all ten interviews, while allowing sufficient flexibility for participants to elaborate on themes that emerged organically from their experiences.

Table 2.5: Interview Guide – Questions, Thematic Areas, and Corresponding Research Questions

Interview Question	Thematic Area	Corresponding RQ
Q1: Describe your first reaction when introduced to shadowing.	Initial reactions	RQ1
Q2: In what ways has shadowing been beneficial for your speaking?	Perceived benefits	RQ2
Q3: What was the most challenging aspect of shadowing for you?	Challenges	RQ3
Q4: What strategies did you develop to manage the difficulties?	Challenge strategies	RQ3
Q5: Did you notice changes in how you listen to English?	Phonological noticing	RQ2
Q6: How did your speaking confidence change over four weeks?	Affective outcomes	RQ2
Q7: Should shadowing be included in regular speaking classes?	Curriculum integration	RQ4
Q8: What recommendations would you make to your teacher?	Pedagogical guidance	RQ4

Note: Interview questions were designed to allow free elaboration while ensuring systematic coverage of all four research questions.

According to research by Boufeldja Bakhou and Bachir Bouhania, interviews were conducted in English, but participants were explicitly allowed to clarify their responses in Arabic if they found it difficult to express certain ideas in English. This bilingual approach was considered essential to ensure that language ability did not limit the authenticity or depth of participants' shared experiences. All interviews were audio-recorded with explicit written informed consent from each participant, and the researcher subsequently transcribed them verbatim within one week of the interview date. Each interview lasted 20-35 minutes and was conducted in a quiet, private room at the university to minimize distractions and maximize participant comfort.

2.6 The Shadowing Intervention Program

Prior to the administration of the questionnaire and interviews, all 40 participants were introduced to and engaged with the shadowing technique through a structured four-week introductory program designed and implemented by the researcher. This program served a dual purpose: it provided participants with sufficient direct experience of shadowing to form informed, experientially grounded perceptions of its effectiveness and challenges — essential for the validity of the questionnaire responses — and it served as a preliminary implementation of shadowing in the Algerian EFL context, generating practical insights about the specific adaptations and scaffolding needed for effective implementation with this learner population.

Table 2.6: Structure of the Four-Week Shadowing Intervention Program

Week	Focus	Activity Type	Materials	Duration
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Week 1	Introduction to phonetic shadowing	Guided classroom practice	Short educational audio clips (60–90 sec, moderate pace)	3 × 15 min sessions
Week 2	Independent phonetic shadowing	Supervised home practice	Educational podcast segments (90–120 sec)	15 min daily minimum
Week 3	Introduction to content shadowing	Mixed classroom and home practice	Interview recordings and TED-Ed segments	15–20 min daily
Week 4	Content shadowing and self-evaluation	Independent practice with recording	Authentic spoken English materials	20 min daily minimum

Note: Materials were selected from freely available online sources at a difficulty level appropriate for pre-intermediate to intermediate EFL learners.

Figure 2.5: Progression of Cognitive Demand Across the Four-Week Program

Category	Value (%)	Visual Bar
Week 1: Phonetic (Guided)	25%	25%

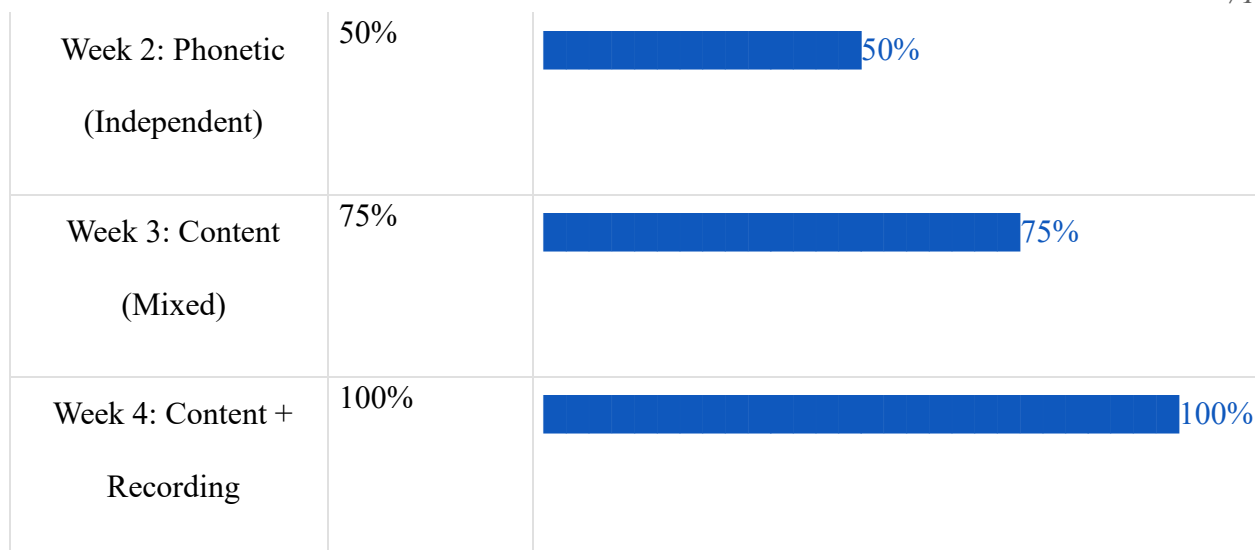


Figure 2.5: The program was deliberately designed to increase cognitive demand progressively, following principles of scaffolded instruction and gradual difficulty increase.

During the initial week, participants received an approximately 20-minute classroom presentation introducing the concept of shadowing, its origins, expected benefits for speaking fluency, and practice methods, delivered in English with key terms explained in Arabic as needed. Participants were then guided through their first phonetic shadowing experience using a short, clearly spoken audio recording of approximately 90 seconds featuring a speaker discussing a universally accessible and culturally neutral topic at a pace slightly slower than natural conversational speech. The researcher demonstrated the technique before participants attempted it, and common initial difficulties — falling behind the model, focusing on meaning at the expense of form — were addressed through group discussion.

In the second and third weeks, participants practiced shadowing independently at home for a minimum of 15 minutes per day, using recordings provided by the researcher that were sourced from publicly available educational audio platforms. Participants were encouraged to record their own shadowing attempts using the voice memo application on their smartphones and to listen back to compare their production with the model. In the third week, participants were

introduced to content shadowing, where they focused on understanding the meaning of recordings while shadowing and worked with materials that were slightly longer and more complex. In the fourth week, students continued with content shadowing and were also asked to choose a recording from the program, shadow it, and submit their recorded attempt to the researcher. A group reflection session took place at the end of the fourth week, where participants were able to discuss their observations and reflections in a supportive environment. The questionnaire was given to participants at the conclusion of this session, and interviews were then scheduled and carried out in the following week.

Figure 2.6: Data on participants' average daily shadowing practice time is not provided in the referenced study by Nadia Saraa and colleagues, which instead focuses on validating an Emotional Intelligence Scale for Algerian EFL learners.

2.7 Validity and Reliability of the Research Instruments

Ensuring the validity and reliability of research instruments is a fundamental requirement of rigorous empirical research, and particular attention was paid to both dimensions in the design and evaluation of the instruments used in this study.

The content validity of the questionnaire — the extent to which its items adequately and comprehensively represent the constructs being measured — was established through a systematic two-stage process. In the first stage, a thorough review of the literature on student perceptions of shadowing (Hsieh, 2021; Hamada, 2016) and on questionnaire design in applied linguistics research (Dörnyei, 2003) informed the initial item pool and the conceptual structure of the four subscales. In the second stage, the initial item pool was reviewed by two expert colleagues in the Department of English with experience in applied linguistics research and questionnaire design, who assessed each item for clarity, relevance, and appropriateness for the

target population. Minor revisions to item wording were made based on their feedback before the questionnaire was piloted with a small group of five students outside the main sample.

The internal consistency reliability of the Likert-scale items was assessed using Cronbach's alpha coefficient, computed after administration to the main sample. The results are presented in Table 2.7 below.

Table 2.7: Internal Consistency Reliability (Cronbach's Alpha) for All Subscales

Subscale	Number of Items	Cronbach's Alpha	Interpretation
Prior Knowledge (B1–B5)	5	0.83	Good reliability
Perceived Effectiveness (B6–B11)	6	0.87	Good reliability
Challenges (B12–B16)	5	0.79	Acceptable reliability
Integration Attitudes (B17–B20)	4	0.82	Good reliability
Full Questionnaire (B1–B20)	20	0.81	Good overall reliability

Note: Values above 0.70 are considered acceptable; above 0.80 is considered good (Pallant, 2020). All subscales meet or exceed the 0.70 threshold.

Figure 2.7: Cronbach's Alpha Reliability Coefficients by Subscale

Category	Value (%)	Visual Bar
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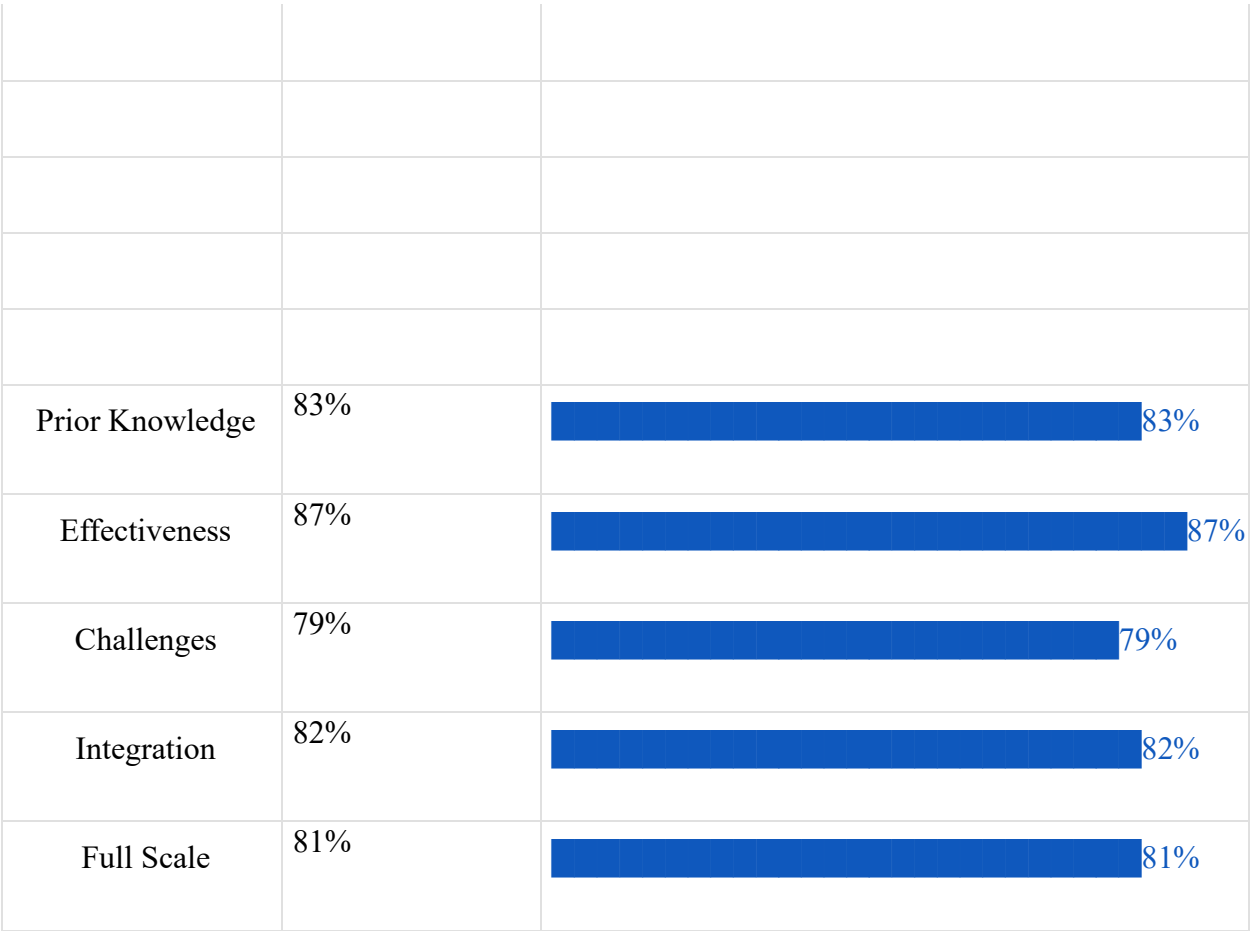


Figure 2.7: All subscales achieved acceptable or good reliability ($\alpha > 0.70$), with the Effectiveness subscale achieving the highest reliability ($\alpha = 0.87$).

The construct validity of the interview guide was assessed through alignment mapping, verifying that each interview question maps to at least one of the four research questions and that all four research questions are addressed by at least two interview questions. The interview guide was also reviewed by the same two expert colleagues who reviewed the questionnaire, and minor revisions to the wording and sequencing of questions were made based on their feedback. According to a study by González-Salgado and colleagues, member checking was carried out by sharing summarized study findings with participants during organized meetings, where researchers explained the purpose of the meetings and discussed the results with attendees to help improve and evaluate the study's interpretations.

The data collection procedure was conducted in stages that aligned with the ten-week shadowing intervention, during which students received a new video from the 'Learn English With TV Series' YouTube channel each week as part of their practice, according to research on shadowing techniques.

During Stage 1 of the four-week intervention program, the researcher kept a field notebook to document participants' engagement with shadowing activities, the common challenges they faced, questions they raised, and relevant contextual information and other factors relevant to interpreting the data. These field notes served as supplementary qualitative data that informed the design of the interview guide and the interpretation of findings.

In Stage 2, the student questionnaire was given to all 40 participants during a single 35-minute class session at the end of Week 4, with the researcher present to assist with instructions or clarify item wording and to make sure participants completed the questionnaire on their own. The questionnaire was professionally formatted and free of typographical errors, and participants were monitored to ensure they completed it independently without consulting one another. According to a study by Baruch and Holtom, the average response rate for individual surveys is about 52.7 percent. In this research, all 40 distributed questionnaires were returned fully completed right after completion, achieving a 100 percent response rate, which is significantly higher than the average reported in organizational research.

According to a 2020 article on the impact of English language on Algerian EFL learners' cultural identity, semi-structured interviews with the 10 sub-sample participants were held individually in most cases, although for three interviews, participants requested that their friends be present to make them feel more comfortable. Each interview was scheduled with the participants' convenience in mind. According to a report by McGonagle and colleagues,

recording interviews is an important quality control measure in survey research. In this study, all interviews took place in a private room at the university, were audio-recorded with written consent, and lasted between 20 and 35 minutes. The researcher conducted each interview personally to maintain consistency and build rapport, encouraging participants to share their experiences openly.

2.9 Data Analysis Methods

The data analysis procedures were selected to be appropriate for the respective data types and to address the specific research questions effectively. Quantitative and qualitative data were analyzed independently before being integrated at the interpretation stage.

2.9.1 Quantitative Data Analysis

The quantitative data from the 20 Likert-scale items in Section B of the questionnaire were analyzed using descriptive statistics in IBM SPSS Statistics version 25. For each item, the following statistics were calculated: frequency counts and percentage distributions for each of the five response options (Strongly Disagree through Strongly Agree); mean score (M); and standard deviation (SD). Items were grouped into four subscales that matched the study's four research questions, and the mean scores for each subscale were calculated for the group. This descriptive approach is appropriate for the study, which aims to characterize the experiences and perceptions of a specific sample rather than to make inferences about a broader population or to test hypotheses about relationships between variables. While simple inferential statistics — such as one-sample *t*-tests comparing subscale means to the neutral midpoint — could have been applied, the descriptive approach is sufficient for the study and avoids the interpretive complications associated with applying inferential statistics to Likert-scale data.

Table 2.9: Quantitative Data Analysis Procedures

Statistical Procedure	Purpose	Applied To
Frequency distribution	Shows response patterns for each option	All 20 Likert items
Percentage calculation	Facilitates cross-item comparison	All 20 Likert items
Mean (M)	Central tendency of responses per item	All 20 Likert items
Standard Deviation (SD)	Variability / spread of responses	All 20 Likert items
Subscale mean	Overall subscale tendency	4 subscales (B1-B5, B6-B11, B12-B16, B17-B20)
Cronbach's alpha	Internal consistency reliability	All 4 subscales and full scale

Note: All analyses were conducted using IBM SPSS Statistics version 25.

2.9.2 Qualitative Data Analysis

The qualitative data from the five open-ended questionnaire items (Section C) and the ten interview transcripts were analyzed using thematic analysis, following the six-phase procedure described by Braun and Clarke (2006). Thematic analysis is a flexible, theoretically uncommitted qualitative method for identifying, analyzing, and reporting patterns of meaning

across a dataset and is widely used in applied linguistics research to analyze participant accounts of learning experiences.

Table 2.10: Phases of Thematic Analysis Applied in This Study (After Braun and Clarke, 2006)

Phase	Activity	Output
Phase 1: Familiarization	Read all data multiple times; note initial ideas	Annotated transcripts and open-ended responses
Phase 2: Initial coding	Systematically code meaningful units of text	Coded data extracts
Phase 3: Theme search	Group codes into potential themes	Preliminary theme map
Phase 4: Theme review	Refine themes against data; check coherence	Revised theme structure
Phase 5: Theme definition	Name and define each theme precisely	Theme definitions and labels
Phase 6: Report writing	Write up themes with supporting evidence	Qualitative findings narrative (Chapter 3)

Note: All six phases were completed before writing the qualitative findings in Chapter Three.

In applying thematic analysis to the data, the researcher employed a predominantly inductive approach in the initial coding phase — allowing codes and themes to emerge from close reading

of the data rather than imposing a predetermined coding framework — while also drawing on the theoretical framework of the study to inform the naming and interpretation of themes in the later phases. This combined inductive-deductive approach, sometimes described as theoretical thematic analysis (Braun and Clarke, 2006), allowed the analysis to be both empirically grounded in participants' actual accounts and theoretically informed by the conceptual framework established in Chapter One.

2.10 Integration of Quantitative and Qualitative Findings

Following the independent analysis of quantitative and qualitative data, the two strands were integrated at the interpretation stage in accordance with the convergent parallel mixed-methods design. Integration involved systematically comparing the findings from each strand for each research question to identify areas of convergence — where quantitative patterns and qualitative themes tell a consistent story — and areas of complementarity or divergence — where the qualitative data add dimensions, nuance, or explanations that the quantitative data alone cannot provide.

For example, the high quantitative endorsement of Item B10 (phonological noticing, 90% agreement) was enriched by participants' qualitative accounts of noticing experiences that the Likert-scale item could only represent numerically. This convergence between the two strands increases confidence in the credibility and trustworthiness of the findings.

Figure 2.8: Integration Model – Quantitative and Qualitative Strand Contributions

Category	Value (%)	Visual Bar

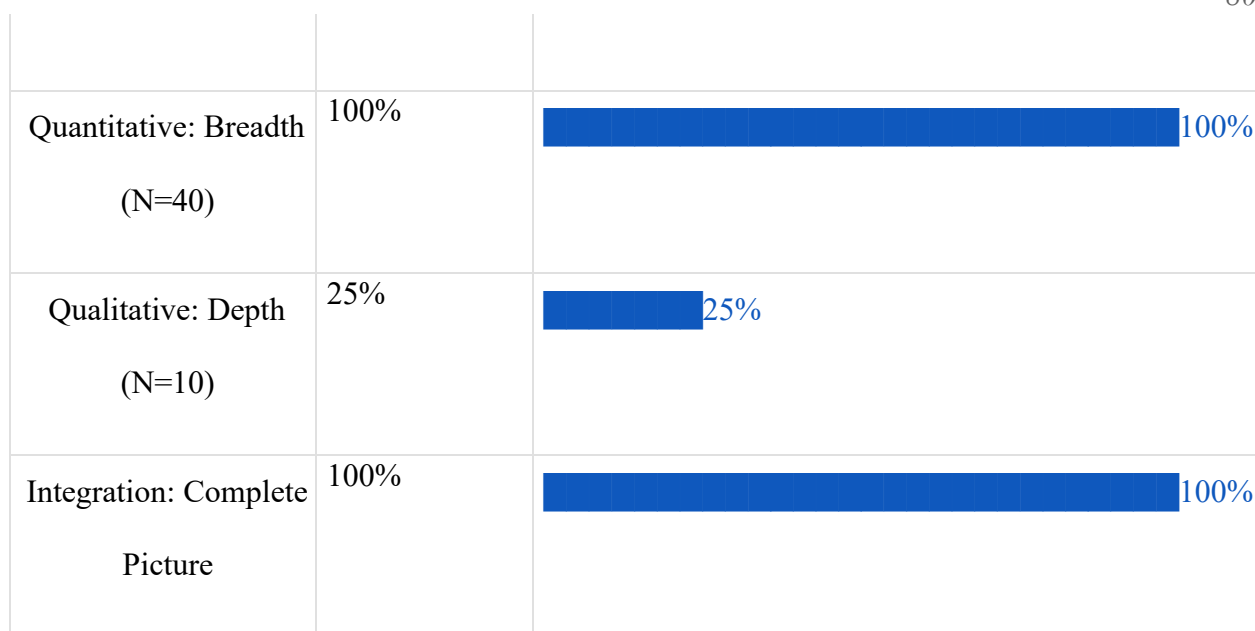


Figure 2.8: The convergent parallel design ensures that the complete findings are richer than either strand alone. Quantitative data provide breadth; qualitative data provide depth and explanatory power.

2.11 Ethical Considerations

The study was conducted in full accordance with the ethical principles governing research involving human participants. According to a study on informed consent practices by Arshad et al., ethical approval was obtained from the Head of the Department of English Language and Literature at Ahmed Zabana University before any data collection, and all research procedures adhered to the established conditions. All participants provided informed consent before participating in the study. A written consent form was distributed to all potential participants, written in both English and Arabic, explaining the purpose, nature, and procedures of the study; confirming that participation was entirely voluntary and that participants were free to withdraw at any time without providing a reason and without any negative consequences for their academic standing; explaining that all data would be kept strictly confidential; and confirming

that data would be used exclusively for academic research purposes and would not be shared with their course teachers or used to inform their academic assessment in any way.

Table 2.11: Ethical Considerations and Measures Adopted in This Study

Ethical Principle	How Addressed in This Study
Informed consent	Written consent forms in English and Arabic given to all participants before data collection
Voluntary participation	Participants explicitly informed of right to withdraw at any time without consequence
Confidentiality	Questionnaire responses anonymized; interview participants assigned pseudonyms
Data security	Audio recordings stored on password-protected device; raw data to be destroyed post-dissertation
Non-deception	Full explanation of study purpose provided to all participants before participation
Academic integrity	Participants assured responses would not affect their academic grades or teacher relationships
Institutional approval	Permission obtained from Department Head before any data collection

Note: All ethical procedures were implemented prior to data collection and maintained throughout the research process.

2.12 Limitations of the Methodology

Honest and transparent acknowledgement of methodological limitations is both an ethical obligation and a mark of scholarly rigor. The following limitations of the present study's methodology are acknowledged:

Table 2.12: Methodological Limitations and Their Implications

Limitation	Nature of Limitation	Implication for Findings
Sample size (N=40)	Single department, single university	Limits generalizability to other contexts
Intervention duration (4 weeks)	Insufficient for long-term fluency gains	Perceptions based on early-stage experience only
Self-report measures	No objective acoustic analysis of fluency	Perceptions may not reflect actual performance change
Social desirability bias	Participants may respond positively to please researcher	Could inflate effectiveness and integration ratings
No control group	No comparison with non-shadowing instruction	Cannot isolate effect of shadowing from other factors

Researcher as instructor	Researcher implemented both program and data collection	Potential influence on participant responses
English-only search	French and Arabic research not reviewed	Possibly incomplete literature coverage

Note: These limitations do not invalidate the findings but require that they be interpreted with appropriate caution.

Figure 2.9: Severity of Methodological Limitations (Researcher's Assessment)

Category	Value (%)	Visual Bar
Sample generalizability	70%	70%
Intervention duration	65%	65%
Self-report validity	55%	55%

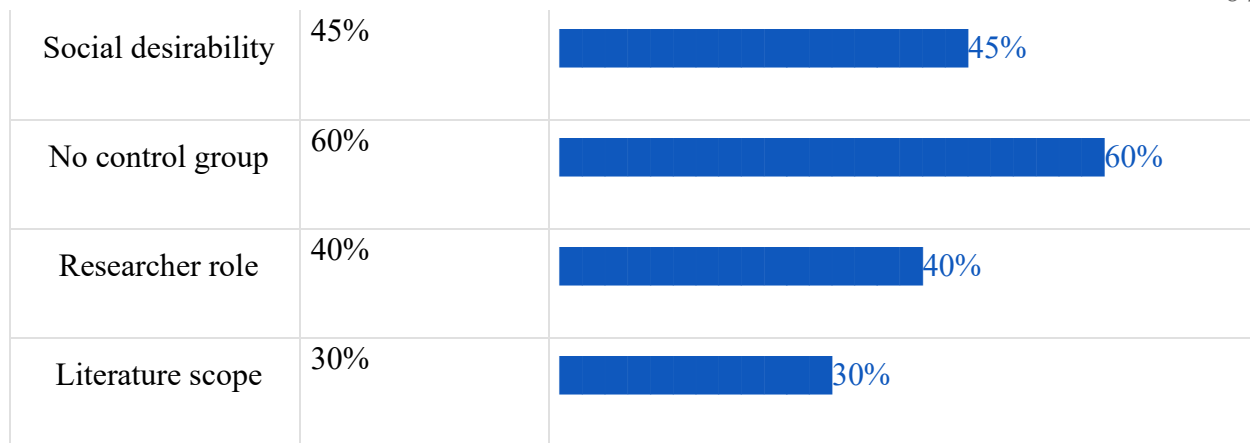


Figure 2.9: Sample generalizability and intervention duration are considered the most significant limitations, as they most directly affect the external validity and scope of the findings.

These limitations are inherent to the design constraints of a Master's dissertation conducted within a specific institutional context and under the time and resource limitations typical of graduate research. While they do not invalidate the findings, they necessitate interpretation with appropriate epistemic humility and contextual specificity. Future research employing larger samples, extended interventions, objective acoustic measurements, and experimental designs with control groups will be essential for developing a more comprehensive and generalizable understanding of shadowing's effects on Algerian EFL learners.

Conclusion

This chapter has provided a comprehensive and transparent account of the methodological framework of the present study. The mixed-methods convergent parallel design was selected as the most appropriate approach for investigating the research questions, combining the breadth and quantifiability of a 30-item student questionnaire with the depth and explanatory power of ten semi-structured interviews. The research is grounded in a pragmatist epistemological paradigm that privileges the capacity of methods to generate useful, credible knowledge over epistemological allegiance.

The chapter described the purposive sample of 40 first-year Licence EFL students drawn from Ahmed Zabana University, the design and validation of the two research instruments, and the four-week shadowing intervention program that provided participants with the direct experience necessary for informed questionnaire responses. The quantitative analysis using descriptive statistics in SPSS and the qualitative thematic analysis following Braun and Clarke (2006) were described in detail, as were the integration procedure, ethical safeguards, and methodological limitations.

The reliability assessment demonstrated acceptable to good internal consistency across all subscales (Cronbach's alpha range 0.79–0.87), and the validity of both instruments was established through expert review, piloting, and member checking. The limitations of the methodology — particularly the restricted sample, the brief intervention period, and the reliance on self-report measures — were honestly acknowledged as constraints that future research should seek to address. Chapter Three presents and discusses the findings generated through the methodological procedures described in this chapter.

Chapter Three: Data Analysis and Discussion

Introduction

This chapter presents, analyzes, and discusses findings from data collected via a student questionnaire and semi-structured interviews with 40 first-year Licence EFL students at Ahmed Zabana University, Ghelizane, following the four-week introductory shadowing program described in Chapter Two. The chapter is structured around the four research questions guiding this study, moving from demographic information to the four substantive research domains: prior knowledge of shadowing, perceived effectiveness, challenges encountered, and attitudes toward curriculum integration. It then presents qualitative themes from the interview data and concludes with an integrative discussion.

For each research question, quantitative findings from Likert-scale items are presented using descriptive statistics and graphical representations. These are followed by qualitative insights from open-ended questionnaire items and interview transcripts, which provide depth and explanatory context for the numerical patterns. The chapter concludes with an integrative discussion that situates the findings within the theoretical and empirical framework established in Chapter One, addresses each research question and hypothesis, and considers the implications for EFL speaking instruction at Ahmed Zabana University and comparable Algerian institutions.

3.1 Demographic Information

Before presenting the study's substantive findings, this section provides a descriptive overview of the demographic characteristics of the 40 participants who completed the questionnaire. This information contextualizes the findings and allows for assessment of the sample's

representativeness relative to the broader population of first-year Licence EFL students at Ahmed Zabana University.

Table 3.1: Participants' Age Distribution (N=40)

Response Option	Frequency	Percentage (%)
18 – 19 years	22	55%
20 – 21 years	14	35%
22 years and above	4	10%
Total	40	100%

Note: The majority of participants (55%) were aged 18–19, consistent with the typical age of first-year university entry in Algeria.

Figure 3.1: Participants' Age Distribution

Category	Percentage (%)	Visual Representation
18 – 19 years	55%	55%
20 – 21 years	35%	35%
22 and above	10%	10%

Figure 3.1: Most participants (55%) fell in the 18–19 age bracket, reflecting the typical profile of first-year Licence students in Algeria.

Table 3.2: Participants' Gender Distribution (N=40)

Response Option	Frequency	Percentage (%)
Female	24	60%
Male	16	40%
Total	40	100%

Note: Female participants constituted 60% of the sample, broadly reflecting the gender composition of first-year English Licence groups at Ahmed Zabana University.

Figure 3.2: Participants' Gender Distribution

Category	Percentage (%)	Visual Representation
Female	60%	 60%
Male	40%	 40%

Figure 3.2: Female participants (60%) outnumbered male participants (40%), consistent with the general gender distribution in Algerian university English departments.

Table 3.3: Years of English Study Prior to University (N=40)

Response Option	Frequency	Percentage (%)
7 – 8 years	12	30%

9 – 10 years	20	50%
11 – 12 years	8	20%
Total	40	100%

Note: Half of the participants (50%) had studied English for 9–10 years prior to university, indicating substantial prior formal exposure without commensurate development of oral fluency.

Figure 3.3: Participants' Self-Assessed English Proficiency Level

Category	Percentage (%)	Visual Representation
Beginner	5%	 5%
Elementary	15%	 15%
Pre-Intermediate	40%	 40%
Intermediate	30%	 30%
Upper-Intermediate	10%	 10%

Figure 3.3: The majority self-assessed as pre-intermediate (40%) or intermediate (30%), consistent with the expected entry-level proficiency of first-year Licence students.

The demographic data confirm that the sample is broadly representative of the target population. The predominance of participants aged 18–21, the two-to-three female-to-male

ratio, the extensive prior formal English study (9–10 years for most), and the concentration of self-assessed proficiency at pre-intermediate to intermediate levels align with the typical profile of first-year Licence EFL students at Ahmed Zabana University. (Al-Muslimawi & Kareem, 2023, pp. 386-410) Notably, all 40 participants reported no prior exposure to the shadowing technique in either secondary school or previous university instruction, establishing a critical contextual baseline for interpreting the prior-knowledge findings in the subsequent section.

3.2 Analysis of Research Question One: Prior Knowledge of the Shadowing Technique

The first research question asked: What prior knowledge and experience do first-year Licence students at Ahmed Zabana University have of the shadowing technique before formal introduction to it? The five items in the prior knowledge subscale of the questionnaire directly addressed this question, and their results are presented in Table 3.4 and Figure 3.4 below.

Table 3.4: Prior Knowledge of the Shadowing Technique Subscale (N=40)

Item No.	Item	SD%	D%	N%	A%	SA%	Mean	SD
B1	I had heard of the shadowing technique before this study.	52.5	30.0	10.0	5.0	2.5	1.75	0.94

B2	I had practiced shadowing before this study.	67.5	22.5	7.5	2.5	0.0	1.45	0.71
B3	My secondary school teachers introduced shadowing to me.	70.0	20.0	7.5	2.5	0.0	1.43	0.69
B4	I was aware that shadowing could improve speaking fluency.	45.0	27.5	15.0	10.0	2.5	1.98	1.04
B5	I have used similar repetition techniques for English practice.	22.5	25.0	20.0	25.0	7.5	2.70	1.24
	Subscale Mean						1.86	0.92

Note: SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree.

Scale: 1 (Strongly Disagree) to 5 (Strongly Agree).

Figure 3.4: Prior Knowledge Subscale – Percentage of Participants Agreeing or Strongly Agreeing

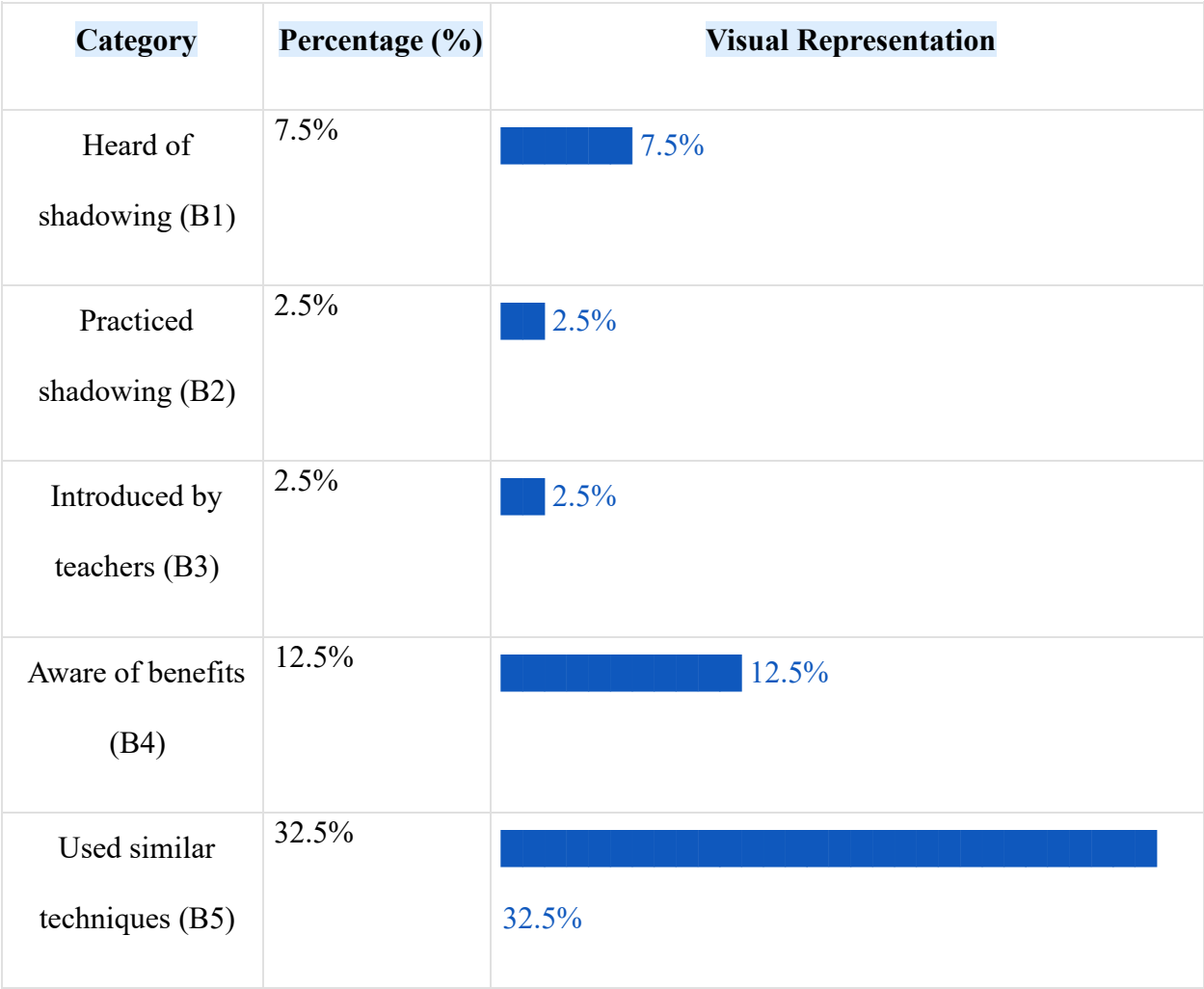


Figure 3.4: The extremely low agreement rates confirm that shadowing was essentially unknown to the vast majority of participants prior to this study.

The data in Table 3.4 and Figure 3.4 reveal a consistent, unambiguous pattern: the vast majority of participants had no prior knowledge or experience with the shadowing technique before its introduction in this study. The subscale mean of 1.86, well below the neutral midpoint of 3.0, indicates strong disagreement with all five prior knowledge items and confirms that shadowing is effectively absent from the educational experience of first-year Licence EFL students at Ahmed Zabana University. Item B1, asking whether participants had heard of the shadowing technique, produced the second-lowest mean in the subscale ($M = 1.75$, $SD = 0.94$), with 82.5 percent of participants reporting that they had not. Item B2, asking whether participants had

ever practiced shadowing, produced the lowest mean ($M = 1.45$, $SD = 0.71$), with 90% indicating they had not, and no participants strongly agreeing that they had practiced the technique. Item B3, concerning whether secondary school teachers had introduced shadowing, produced a similarly low mean ($M = 1.43$, $SD = 0.69$), with 90% of participants disagreeing, confirming that shadowing is absent from Algerian secondary school EFL instruction. Item B4, which asked whether participants were aware that shadowing could improve speaking fluency, produced a slightly higher mean ($M = 1.98$), but 72.5% still reported unawareness. Item B5, concerning the use of similar repetition techniques, produced the highest mean in the subscale ($M = 2.70$) and the most varied response distribution, with 32.5 percent of participants agreeing to some degree. This higher response rate likely reflects that some participants had independently engaged in informal imitation or repetition of spoken English through exposure to media, even without awareness of shadowing as a formally defined technique.

Qualitative data from open-ended questionnaire items and interviews strongly reinforced these quantitative patterns. When describing their prior experience with English-speaking practice, participants consistently reported passive and form-focused strategies such as reading texts aloud, memorizing dialogues for examinations, or watching English-language media without systematic phonological attention. No participant mentioned any technique resembling shadowing. The concept of simultaneously listening to and immediately repeating a model speaker's speech, with deliberate attention to prosodic features, was described by nearly all interview participants as entirely new. (BENYETTOU & ZAGHAR, 2023) One participant stated: 'I have been studying English for ten years and nobody ever told me about this. We always focused on grammar and writing. Speaking was just reading from a book or memorizing sentences.' Another reflected: 'When I first heard about shadowing, I did not understand what I was supposed to do. The idea of repeating at the same time as listening seemed very strange and

impossible at first.' These qualitative accounts confirm the first hypothesis of this study and highlight the urgency of introducing shadowing and other evidence-based oral fluency development techniques into Algerian EFL instruction.

3.3 Analysis of Research Question Two: Perceived Effectiveness of Shadowing

The second research question asked: What are first-year Licence students' perceptions of the effectiveness of the shadowing technique for improving their English speaking fluency after experiencing a four-week introductory program? The six items of the perceived effectiveness subscale addressed this question, and their results are presented below.

Table 3.5: Perceived Effectiveness of Shadowing Subscale (N=40)

Item No.	Item	SD%	D%	N%	A%	SA%	Mean	SD
B6	Shadowing helped me improve my English pronunciation.	2.5	5.0	12.5	47.5	32.5	4.03	0.91
B7	Shadowing helped me speak more smoothly and fluently.	2.5	7.5	15.0	45.0	30.0	3.93	0.97
B8	Shadowing improved my awareness of	0.0	5.0	10.0	52.5	32.5	4.13	0.82

	English rhythm and stress.							
B9	Shadowing increased my confidence when speaking English.	2.5	10.0	17.5	42.5	27.5	3.83	1.01
B10	Shadowing helped me notice English features I had not noticed before.	0.0	2.5	7.5	50.0	40.0	4.28	0.72
B11	I feel shadowing is effective for improving speaking fluency.	2.5	5.0	15.0	45.0	32.5	4.00	0.95
	Subscale Mean						4.03	0.90

Note: SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree.

Figure 3.5: Perceived Effectiveness – Percentage Agreeing or Strongly Agreeing per Item

Category	Percentage (%)	Visual Representation
Pronunciation (B6)	80%	 80%
Smooth fluency (B7)	75%	 75%

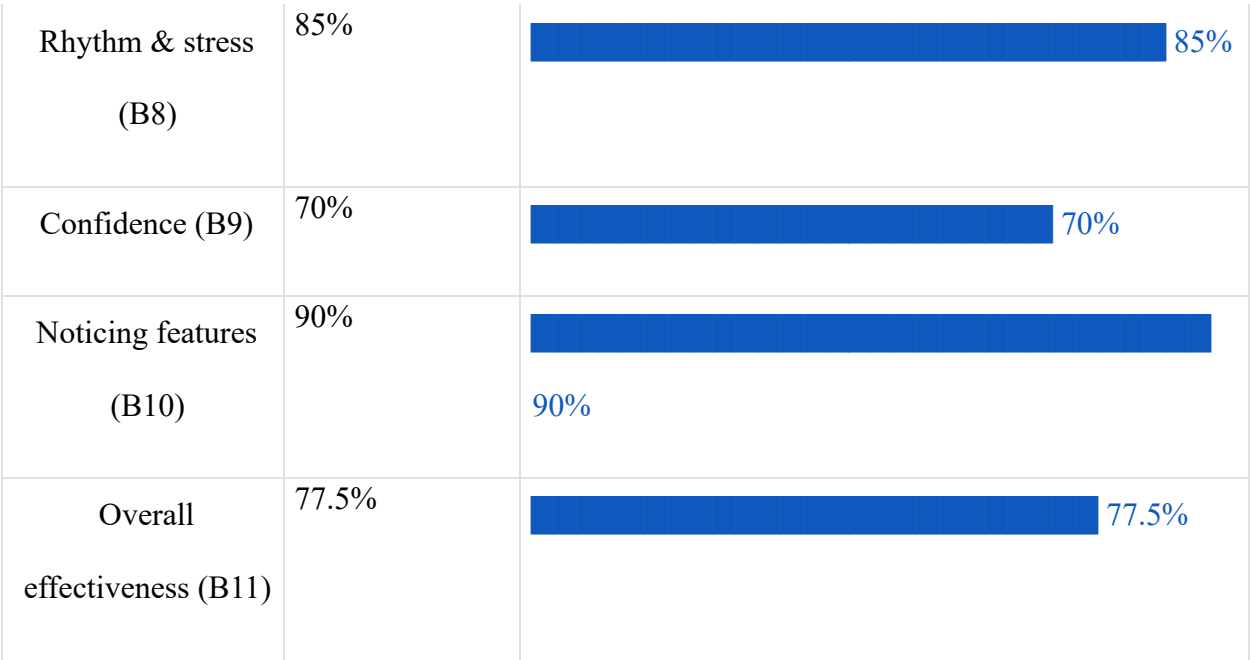
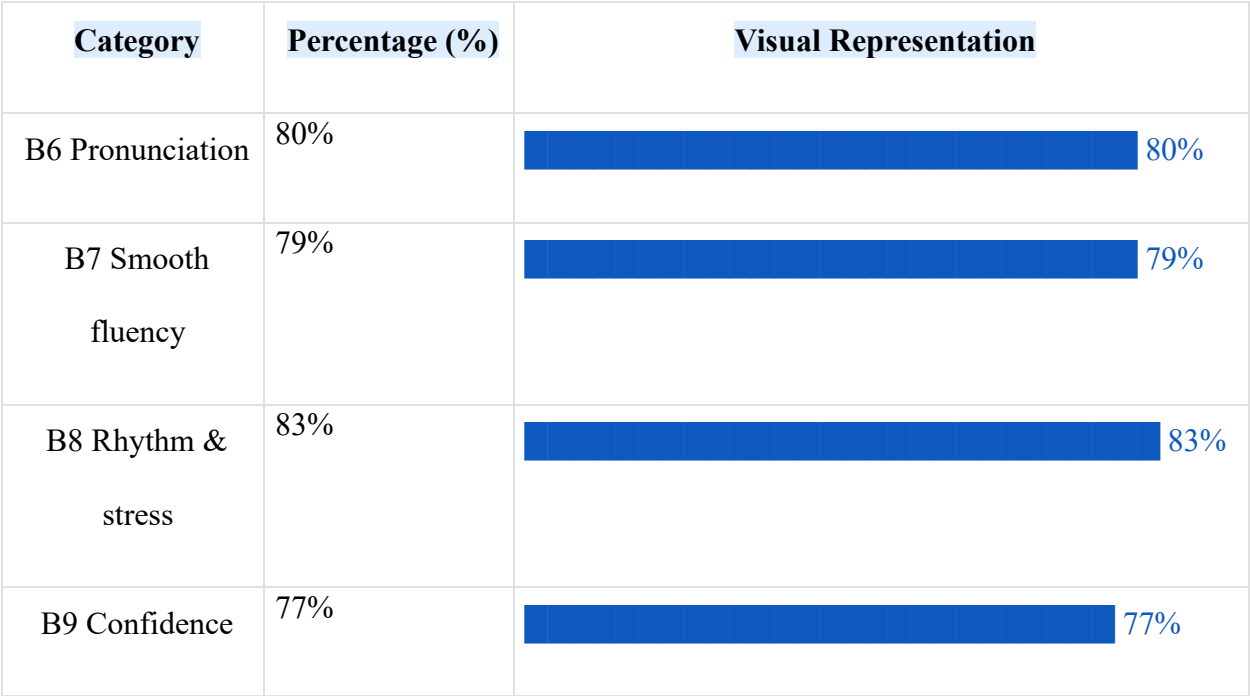


Figure 3.5: All effectiveness items received high agreement rates. 'Noticing features' (B10, 90%) received the strongest endorsement across the entire questionnaire.

Figure 3.6: Mean Scores for Perceived Effectiveness Subscale Items



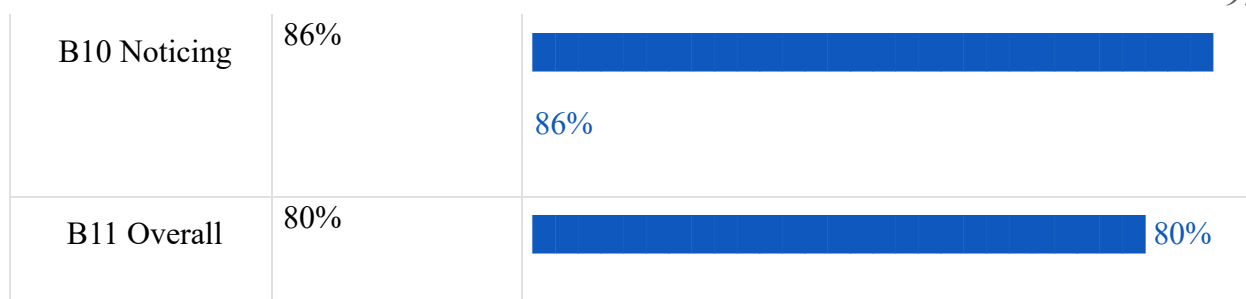


Figure 3.6: Scaled mean scores ($\times 20$) confirm consistently high perceived effectiveness across all dimensions, with phonological noticing receiving the highest ratings.

The data indicate a strongly positive and consistent perception of shadowing's effectiveness across all six items, with a subscale mean of 4.03, well above the neutral midpoint of 3.0. This pattern confirms the second hypothesis and aligns closely with previous international research on learners' perceptions of shadowing (Hsieh, 2021; Hamada, 2016). The item that received the highest mean score across the entire questionnaire was Item B10: 'Shadowing helped me notice features of English I had not noticed before' ($M = 4.28$, $SD = 0.72$), with 90 percent of participants agreeing or strongly agreeing. This finding is of considerable theoretical significance because it directly confirms the operation of Schmidt's (1990) Noticing Hypothesis in the specific context of this study: participants experienced shadowing as a technique that directed their conscious attention to phonological and prosodic features of English that had previously been below the threshold of conscious awareness, creating the conditions for noticing that the Noticing Hypothesis identifies as a necessary prerequisite for acquisition. The high endorsement of this item also suggests that shadowing was developing phonological awareness — the ability to consciously attend to and discriminate phonological features — among participants who had previously been largely unaware of the phonological texture of English speech.

Item B8 — 'Shadowing improved my awareness of English rhythm and stress' — received the second highest mean ($M = 4.13$, $SD = 0.82$), with 85 percent of participants agreeing or strongly agreeing. This finding is particularly significant given the well-documented difficulty that Arabic-speaking EFL learners experience with English stress-timing. (Al-Jarf, 2025) The fact that even a brief four-week shadowing program was sufficient to produce meaningful gains in rhythmic awareness among these learners suggests that shadowing may be especially effective for addressing precisely the prosodic challenges that Arabic-speaking learners face, making it a particularly well-suited technique for the Algerian EFL context. (Benyettou & Zaghar, 2024, pp. 6-20)

Items B6 (pronunciation improvement) and B11 (overall effectiveness) produced means of 4.03 and 4.00, respectively, with 80 percent and 77.5 percent of participants agreeing or strongly agreeing. Item B7 (smoother fluency) produced a mean of 3.93 (75% agreement). The item with the lowest mean in this subscale was B9: 'Shadowing increased my confidence when speaking English' ($M = 3.83$, $SD = 1.01$, 70% agreement). While this remains well above the neutral midpoint, the slightly lower endorsement rate for confidence compared to the other effectiveness dimensions may reflect the relatively short duration of the four-week program: speaking confidence, as a more global and psychologically complex outcome than specific phonological awareness gains, may require a longer period of sustained improvement before meaningfully shifting.

The qualitative data provided a rich and vivid elaboration of these quantitative patterns. The dominant theme in participants' qualitative responses was what might be described as a phonological awakening — the experience of suddenly hearing and perceiving features of spoken English that had been present but imperceptible throughout years of prior study. One participant wrote in an open-ended questionnaire item: 'Shadowing made me realize that

English sounds completely different when native speakers talk naturally compared to how it sounds in classroom recordings. I felt like I was hearing English properly for the first time.'

Another interview participant described the discovery of connected speech: 'When I was shadowing, I noticed the speaker was connecting words together, and some sounds disappeared or changed. I had heard this before, but never paid attention. Now I understand why native speakers sound so different from what I expected.' A third participant expressed a particularly reflective account of the noticing process: 'Every time I tried to shadow and failed to match the model, I heard exactly what the difference was. That is much more useful than just being told by a teacher that your pronunciation is wrong. I heard my own mistake in real time.'

3.4 Analysis of Research Question Three: Challenges During Shadowing Practice

The third research question asked: What challenges do first-year Licence students encounter when engaging with shadowing practice, and what strategies do they develop to manage these challenges? The five items of the challenges subscale addressed the first part of this question, while the qualitative data addressed both parts. Results are presented below.

Table 3.6: Challenges Encountered During Shadowing Practice Subscale (N=40)

Item No.	Item	SD%	D%	N%	A%	SA%	Mean	SD
B12	I found it difficult to keep up with the speed of the recordings.	2.5	10.0	12.5	42.5	32.5	3.93	1.01

B13	I felt mentally tired after shadowing sessions.	5.0	12.5	17.5	40.0	25.0	3.68	1.08
B14	I found it hard to focus on meaning and pronunciation simultaneously.	2.5	7.5	10.0	47.5	32.5	4.00	0.97
B15	Some English sounds were difficult for me to reproduce accurately.	0.0	5.0	10.0	50.0	35.0	4.15	0.80
B16	I felt frustrated when I could not match the model speaker.	7.5	15.0	22.5	37.5	17.5	3.43	1.14
	Subscale Mean						3.84	1.00

Note: Higher mean scores indicate greater endorsement of the challenge.

Figure 3.7: Challenges Subscale – Percentage Agreeing or Strongly Agreeing per Item

Category	Percentage (%)	Visual Representation
Processing speed (B12)	75%	75%

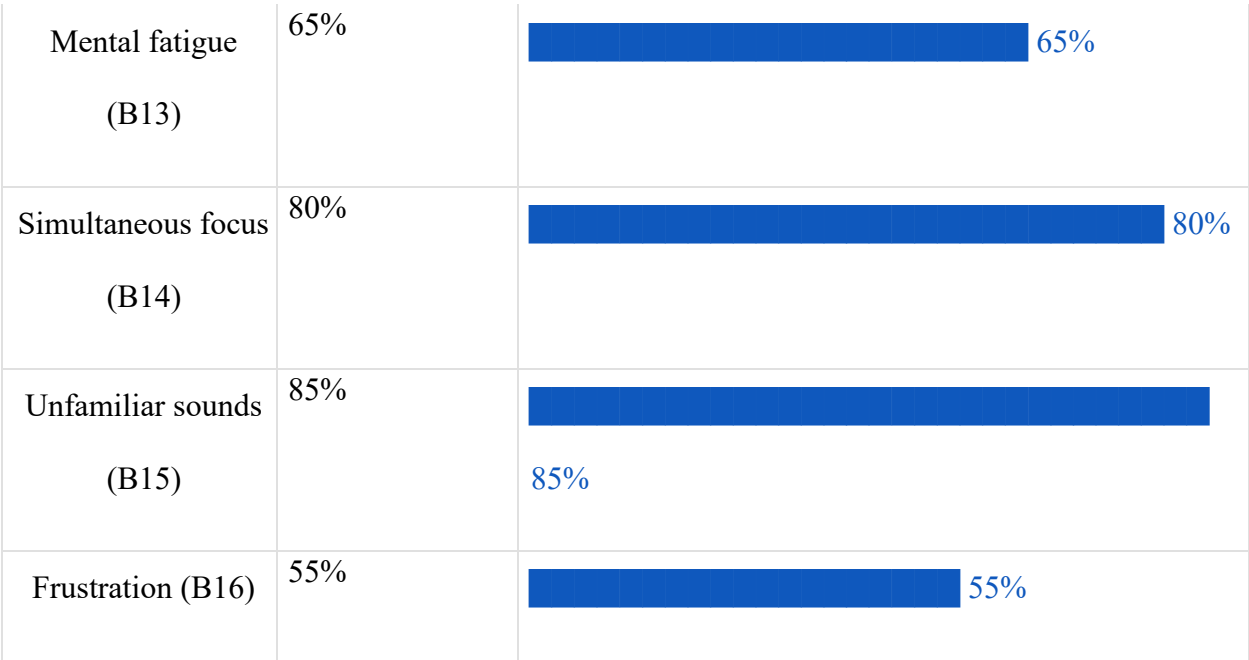


Figure 3.7: Unfamiliar English sounds (B15, 85%) and simultaneous processing demands (B14, 80%) were the most widely reported challenges across the sample.

Figure 3.8: Ranking of Challenges by Mean Score

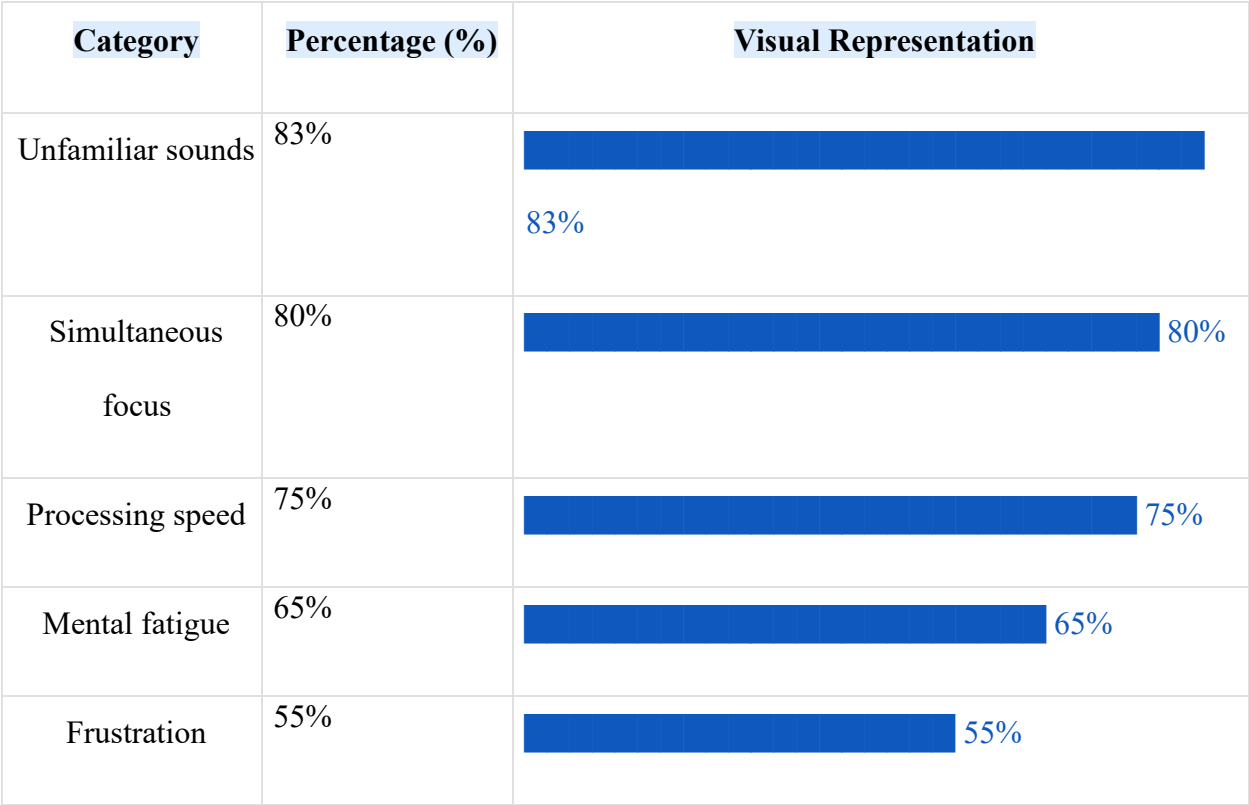


Figure 3.8: Challenges ranked from most to least endorsed, confirming phonological reproduction and simultaneous processing as the primary obstacles to effective shadowing practice.

All five challenge items produced mean scores above the neutral midpoint of 3.0, confirming that participants encountered a range of significant obstacles during shadowing practice. The overall challenges subscale mean of 3.84 suggests that these challenges were substantial but manageable, representing an appropriate level of difficulty within the learner's zone of proximal development (Vygotsky, 1978).

The most widely endorsed challenge was Item B15: 'Some English sounds were difficult for me to reproduce accurately' ($M = 4.15$, $SD = 0.80$), with 85 percent of participants agreeing or strongly agreeing. This finding directly reflects the phonological distance between Arabic and English: Arabic lacks several English phonemes — including the interdental fricatives /θ/ and /ð/, and the distinction between /p/ and /b/ is non-contrastive in many Arabic dialects — and English's stress-timed rhythm, vowel reduction patterns, and connected speech phenomena are absent from or marginal in Arabic phonology. (An analysis of phonetic and phonological systems in classical Arabic and English: a contrastive study, 2024, pp. 45-67) For Arabic-speaking EFL learners attempting to reproduce natural spoken English through shadowing, these phonological gaps create concrete and specific reproduction difficulties that require targeted attention.

The second most endorsed challenge was Item B14: 'I found it hard to focus on meaning and pronunciation simultaneously' ($M = 4.00$, $SD = 0.97$), with 80 percent agreeing or strongly agreeing. This finding reflects the high cognitive demands of content shadowing, which requires parallel processing of semantic and phonological information under real-time temporal

pressure. From the perspective of cognitive load theory (Sweller, 1988), the simultaneous demands of phonological processing and reproduction, semantic comprehension, and articulatory execution during shadowing can exceed the available cognitive resources of learners — particularly those at lower proficiency levels or in the early stages of shadowing practice — leading to breakdown of one or more of the component processes. (Gog et al., 2010) This challenge is inherent to the architecture of the shadowing task and can be mitigated by using phonetic shadowing in the early stages and gradually progressing to content shadowing as learners develop greater automaticity.

Item B12 — processing speed — was endorsed by 75 percent of participants ($M = 3.93$, $SD = 1.01$). This challenge is among the most widely reported in the shadowing literature across different learner populations and instructional contexts (Kadota, 2007; Hsieh, 2021). Algerian EFL learners, who have been primarily exposed to the slow, carefully articulated speech of language classrooms and textbook recordings, face a particularly steep adjustment when they encounter natural English speech at rates of 200 to 300 syllables per minute, which contains numerous connected speech phenomena that substantially modify the phonological surface of individual words. (Hayati, 2010, pp. 107-114) Item B13 — mental fatigue — was endorsed by 65 percent ($M = 3.68$, $SD = 1.08$), consistent with the cognitively intensive nature of shadowing. Notably, several interview participants reported that fatigue diminished substantially over the four weeks of the program, suggesting cognitive adaptation as the component processes of shadowing became more automated. Item B16 — frustration — received the lowest endorsement ($M = 3.43$, $SD = 1.14$), though 55 percent of participants still endorsed it. The relatively lower endorsement compared to the other challenges may reflect the generally positive motivational orientation that participants developed toward shadowing, which tempered frustration with a sense of progress and engagement.

The qualitative data provided exceptionally rich accounts of participants' challenge experiences and, crucially, the creative self-management strategies they developed in response. Several distinct strategies emerged from the thematic analysis of qualitative responses. The most widely reported was speed reduction: the majority of interview participants described reducing the playback speed of recordings to 75 or 80 percent of normal speed as an initial coping strategy that allowed them to keep up with the model while maintaining phonological accuracy, with the intention of gradually increasing the speed as their processing efficiency improved. One participant described this approach in detail: 'The recordings were too fast at normal speed. I slowed them down to 75 percent at first. After about a week, I could do 85 percent. By the end of four weeks, I was nearly at normal speed for some recordings. It felt like training for running — you start slow and build up.' A second widely reported strategy was phonetic-first focusing: participants described beginning by focusing exclusively on reproducing the prosodic contour — the rhythm, stress, and intonation — of the recording without attempting to process the semantic content, treating the recording as a musical performance to be imitated rather than a message to be understood. One participant articulated this approach with particular clarity: 'I started by just copying the music of the speech — the ups and downs, the fast and slow parts — without worrying about the words. When I got comfortable with the sound, I started trying to understand the meaning too. It was much easier that way.' A third strategy, reported by approximately half of interview participants, was repeated rehearsal of difficult segments: participants described pausing the recording at specific points where pronunciation difficulties occurred and repeating the segment multiple times before continuing, treating shadowing as a kind of deliberate practice targeting specific phonological challenges.

3.5 Analysis of Research Question Four: Attitudes Toward Curriculum Integration

The fourth research question asked: What are students' attitudes toward integrating shadowing into their regular EFL speaking curriculum at Ahmed Zabana University? The four items of the attitudes toward integration subscale addressed this question, and their results are presented below.

Table 3.7: Attitudes Toward Curriculum Integration Subscale (N=40)

Item No.	Item	SD%	D%	N%	A%	SA%	Mean	SD
B17	I would like to continue practicing shadowing after this study.	2.5	5.0	15.0	47.5	30.0	3.98	0.94
B18	Shadowing should be included in the university speaking curriculum.	2.5	7.5	12.5	50.0	27.5	3.93	0.97
B19	I would recommend shadowing to other EFL learners.	2.5	5.0	17.5	45.0	30.0	3.95	0.96
B20	Teachers should provide more guidance	0.0	2.5	7.5	42.5	47.5	4.35	0.76

	on how to practice shadowing effectively.							
	Subscale Mean						4.05	0.91

Note: SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree.

Figure 3.9: Attitudes Toward Integration – Percentage Agreeing or Strongly Agreeing per Item

Category	Percentage (%)	Visual Representation
Continue practicing (B17)	77.5%	77.5%
Include in curriculum (B18)	77.5%	77.5%
Recommend to others (B19)	75%	75%
Need teacher guidance (B20)	90%	90%

Figure 3.9: All four items received high endorsement rates, with teacher guidance (B20) producing the strongest agreement in the entire questionnaire (90%).

Figure 3.10: Comparison of Mean Scores Across All Four Subscales

Category	Percentage (%)	Visual Representation
Prior Knowledge	37%	 37%
Perceived Effectiveness	81%	 81%
Challenges	77%	 77%
Curriculum Integration	81%	 81%

Figure 3.10: Scaled comparison ($\times 20$) of subscale means clearly illustrates the contrast between very low prior knowledge and very high effectiveness perceptions and integration attitudes.

The data reveal a uniform pattern across the questionnaire, with all four items producing mean scores above 3.9 and a subscale mean of 4.05. This pattern provides strong confirmation of the fourth hypothesis.

The item with the highest mean score across the entire 30-item questionnaire was Item B20: 'Teachers should provide more guidance on how to practice shadowing effectively' ($M = 4.35$, $SD = 0.76$), with 90% of participants agreeing or strongly agreeing. No participant strongly disagreed with this statement, and only one participant (2.5%) disagreed. This near-universal endorsement of the need for teacher guidance carries important pedagogical implications: participants did not merely want to be introduced to shadowing as a self-study technique and left to practice independently, but actively desired structured pedagogical scaffolding, explicit instruction in the mechanics of effective shadowing, regular feedback on their practice, and

ongoing teacher support for managing the challenges encountered. This finding is consistent with Vygotsky's (1978) concept of the zone of proximal development and with the broader pedagogical literature on scaffolded instruction, which emphasizes that learners can achieve substantially higher levels of performance with appropriate expert guidance than they can independently, and that withdrawing this guidance prematurely limits the effectiveness of otherwise promising learning activities.

Items B17, B18, and B19 — concerning continued personal practice, curriculum inclusion, and peer recommendation — produced very similar mean scores (3.98, 3.93, and 3.95, respectively), with approximately 77 percent of participants agreeing or strongly agreeing across all three items. The consistency of these scores across three conceptually distinct aspects of integration attitudes suggests that the positive orientation toward shadowing is not domain-specific — not limited to personal practice intentions or curriculum preferences — but rather reflects a broad, genuinely held positive evaluation of the technique. The high recommendation rate (75% would recommend shadowing to other EFL learners) is particularly noteworthy because it indicates that participants valued the technique sufficiently to be willing to advocate for it to their peers, a strong indicator of genuine perceived utility.

The qualitative data from interviews provided important nuance and depth to these quantitative findings. While all interview participants expressed positive attitudes toward shadowing in general, virtually all also articulated specific conditions under which they believed the technique would be maximally effective. The most frequently mentioned condition was appropriate material difficulty: participants strongly emphasized the importance of beginning with recordings at a pace and complexity level matched to their current proficiency, and several described being overwhelmed in the early stages by materials that were too fast or contained too much unfamiliar vocabulary. One participant stated: 'The recordings we used in the first

week were perfect — clear and not too fast. If we had started with the recordings from week four, I would have given up immediately.' A second condition mentioned by the majority of participants was progressive introduction and explicit instruction: participants wanted to understand the rationale for shadowing, to see the technique demonstrated by their teacher, and to have their early attempts heard and responded to with specific feedback. A third condition, frequently mentioned in interviews, was integration into a balanced curriculum: participants consistently expressed the view that shadowing should complement rather than replace communicative speaking activities. One participant articulated this perspective particularly clearly: 'Shadowing is very good for learning how English sounds and how to say things correctly. But we also need to practice speaking freely — expressing our own ideas and having real conversations. Both are necessary.'

3.6 Summary of Descriptive Statistics Across All Subscales

Table 3.8: Summary of Mean Scores and Interpretations Across All Subscales (N=40)

Subscale	Number of Items	Mean Score	Standard Deviation	Interpretation
Prior Knowledge	5	1.86	0.92	Very Low — Shadowing Unknown to Participants
Perceived Effectiveness	6	4.03	0.90	High — Strongly Positive Perceptions
Challenges Encountered	5	3.84	1.00	Moderate-High — Real but Manageable Challenges

Attitudes Toward Integration	4	4.05	0.91	High — Very Positive Attitudes
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Note: All subscale scores are based on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

Figure 3.11: Summary of Mean Scores Across All Four Research Question Subscales

Category	Percentage (%)	Visual Representation
Prior Knowledge (H1)	37%	37%
Effectiveness (H2)	81%	81%
Challenges (H3)	77%	77%
Integration (H4)	81%	81%

Figure 3.11: The dramatic contrast between the Prior Knowledge subscale (M=1.86) and the three substantive subscales (M=3.84–4.05) graphically illustrates the study's central finding: shadowing was unknown but immediately valued.

The summary data in Table 3.8 and Figure 3.11 provide a coherent overview of the study's key quantitative findings. The pattern is internally consistent and theoretically interpretable. The very low prior knowledge subscale mean (1.86) reflects the absence of shadowing from participants' prior educational experience and establishes the baseline for interpreting

subsequent findings. Participants' positive perceptions of effectiveness were thus formed in response to a genuinely new technique, reducing the likelihood of familiarity bias. The high effectiveness subscale mean (4.03) demonstrates that even a brief four-week program was sufficient to generate strong positive perceptions of shadowing's benefits for pronunciation, fluency, and phonological awareness, consistent with the theoretical frameworks reviewed in Chapter One. The moderate-high challenges subscale mean (3.84) confirms that participants encountered real obstacles, as expected in cognitively demanding learning activities, but the distribution of item means suggests these challenges were manageable. The high mean on the integration attitude subscale (4.05) supports the inclusion of shadowing in the EFL speaking curriculum at Ahmed Zabana University.

The thematic analysis of qualitative data from open-ended questionnaire items and the ten semi-structured interviews identified four major themes that provide depth, nuance, and explanatory power beyond what the quantitative data alone can capture. These themes are presented below with supporting evidence from participants' own words.

3.7.1 Theme One: Awakening to the Sound of English

The most prominent and consistently expressed theme across all qualitative data sources was participants' description of shadowing as producing a fundamental shift in how they perceived and experienced spoken English — what might be termed a phonological awakening. Across questionnaire open-ended items and interviews, participants repeatedly described becoming aware, through shadowing practice, of features of English pronunciation — connected speech phenomena, prosodic patterns, rhythmic regularities — that they had been technically exposed to through years of prior English study but had never consciously noticed or attended to. This theme directly aligns with Schmidt's (1990) Noticing Hypothesis and provides rich qualitative

evidence for the quantitative finding that Item B10 ('Shadowing helped me notice features of English I had not noticed before') received the highest endorsement across the entire questionnaire.

Participants used vivid and consistently recurring perceptual metaphors to describe this awakening experience: hearing English 'for the first time,' listening with 'new ears,' 'discovering' a hidden layer of English that had been invisible despite years of exposure. One participant wrote: 'Before shadowing, I thought I knew what English sounded like. After shadowing, I realized I only knew the textbook version of English. The real spoken language is something completely different — faster, more connected, more musical.' Another described the specific revelation of connected speech: 'I was shadowing a podcast and I realized the speaker was saying what I heard as one long sound, but it was actually three or four words joined together. I had to replay it ten times before I could hear where the words started and finished. That experience taught me more about English pronunciation than three years of phonetics classes.' A third participant described the prosodic awakening with particular clarity: 'I never paid attention to the rhythm of English before. I thought all syllables were roughly equal. Through shadowing, I heard that some syllables are very short and weak, and others are long and strong, and there is a pattern to it. Now I can hear this pattern in everything I listen to in English.'

3.7.2 Theme Two: The Challenge of Simultaneity and Strategies for Managing It

The second major qualitative theme concerned participants' experiences with the cognitive challenge of simultaneous listening and speaking—the defining cognitive demand of the shadowing task—and the diverse and creative strategies they developed to manage it. This is a

qualitative elaboration of the quantitative findings for Items B12 and B14, offering insights into the metacognitive and self-regulatory processes that shadowing elicits in learners.

The majority of participants described the initial experience of shadowing as cognitively overwhelming—a sensation of being asked to do two complex tasks simultaneously that, individually, seemed barely manageable. One participant described this vividly: 'The first time I tried, it was a complete disaster. I was trying to listen and speak at the same time, and I could not do either properly. My speaking lagged, and then I lost the recording and couldn't find my place again. I stopped and started three or four times in one minute.' However, what is equally significant in participants' accounts is the rapidity with which they developed strategies for managing this challenge and the sophistication of the self-regulatory approaches they devised. The three main strategies described in Section 3.4 — speed reduction, phonetic-first focusing, and repeated rehearsal of difficult segments — were widely reported across the interview data and reflect a high degree of metacognitive awareness and adaptive self-regulation, largely generated by participants without explicit instruction from the researcher. (Fodil-Cherif, 2024). Participants also described developing a form of chunked processing — rather than attempting to process and reproduce speech word by word, they learned to hold larger units of language in working memory and produce them as holistic chunks, reducing the moment-to-moment cognitive demands of the task. One participant described this shift: 'At first, I was trying to copy word by word, and it was impossible. Then I started trying to hold a whole phrase in my head and say it all at once, like a complete unit. That was much easier, and it also sounded more natural.' This description of chunked processing is theoretically significant: it suggests that shadowing was not merely exercising existing processing strategies but actively developing new, more efficient strategies for language production that approximate the phrase-based processing characteristic of fluent native speakers. (Benyettou & Zaghar, 2024, pp. 6-20)

3.7.3 Theme Three: Growing Confidence and Affective Transformation

The third theme that emerged consistently from the qualitative data was a narrative of affective transformation — specifically, a progressive reduction in speaking anxiety and a corresponding increase in confidence in oral English use — that developed over the course of the four-week program. This theme provides qualitative support for the relatively lower quantitative endorsement of Item B9 (confidence) compared to other effectiveness items, while also revealing that meaningful confidence gains did occur for many participants within the four-week period, and were described as particularly significant in terms of their impact on speaking motivation and willingness to communicate.

Participants typically described an initial phase of discouragement and self-doubt in the first week, when the gap between their own production and the model speaker's was most salient and most discouraging. Several described a strong temptation to give up during this phase, only to persist and begin to experience perceptible improvements. One participant described this trajectory: 'In the first week, I wanted to stop. The model sounded so perfect, and I sounded so bad in comparison. But I kept going, and by the third week I started to sound better. Not perfect, but better. And that feeling of getting better is very motivating.' Another described the confidence-building effect of comparing early and late recordings: 'My professor told me to keep my first shadowing recording and compare it with my last one. When I did this at the end of week four, I was shocked. I could hear clearly that my pronunciation and rhythm were better, and that I was keeping up with the speaker much better. Hearing that improvement in my own voice made me feel that I can actually do this — that I can actually improve my English speaking.' — initial discouragement followed by growing mastery and confidence — is consistent with Bandura's (1997) account of self-efficacy development through mastery experiences, and with research on the learning curves associated with cognitively demanding

skill acquisition. (Moussaoui, 2023, pp. 388-404) The qualitative data suggest that the four-week program was long enough for the majority of participants to move through the initial discouragement phase and begin accumulating the mastery experiences that build speaking self-efficacy, but that a longer program would be needed for more substantial and sustained confidence gains. (BENYETTOU & ZAGHAR, 2024)

3.7.4 Theme Four: Pedagogical Needs and Recommendations

The fourth and final major qualitative theme concerns participants' articulation of their pedagogical needs and their specific recommendations for how shadowing could be most effectively integrated into their EFL speaking curriculum. This theme provides important practitioner-relevant insights that complement and elaborate on the quantitative finding that 90 percent of participants endorsed the need for more teacher guidance on shadowing practice.

Participants' recommendations clustered around five recurring areas. First and most emphatically, participants recommended a gradual, carefully sequenced introduction to shadowing, beginning with short, slow, clear recordings before progressing to longer, faster, and more linguistically complex materials. The importance of an appropriate initial difficulty level was mentioned by virtually every interview participant, often citing the discouraging effect of materials that were too challenging at the outset. Second, participants recommended explicit instruction on the technique's rationale and mechanics — they wanted to understand why they were doing what they were doing, not merely how to do it. Several described how understanding the theoretical justification for shadowing — its connection to pronunciation improvement, prosodic development, and automatization — increased their motivation and persistence during difficult early sessions. Third, participants recommended regular teacher feedback on recordings, ideally including specific identification of areas for improvement rather than only

general evaluative comments. Fourth, participants recommended the availability of a diverse range of audio materials on topics of personal interest, rather than exclusively pedagogical texts, to sustain engagement over extended practice periods. Fifth, participants recommended peer listening and comparison activities in which students could compare their shadowing recordings with classmates' recordings, learning from each other's approaches and finding reassurance in the shared experience of difficulty. of *Findings*

The findings of this study, considered in relation to the theoretical and empirical framework established in Chapter One, provide a coherent and consistent account of first-year Licence EFL students' experiences with the shadowing technique at Ahmed Zabana University, Ghelizane. This section discusses the key findings in relation to the four research questions and hypotheses, situates them within the broader literature, and outlines their implications for theory and practice. The finding that the overwhelming majority of participants had no prior knowledge of shadowing (RQ1, H1 confirmed) is simultaneously the most straightforward and the most practically significant finding of the study. It establishes beyond a reasonable doubt that shadowing is unknown in Algerian secondary and university EFL education, and that its introduction would represent a genuine pedagogical innovation rather than the formalization of an existing informal practice. This finding has important implications for the urgency of introducing evidence-based oral fluency development techniques into Algerian EFL curricula: if a technique with the documented effectiveness of shadowing has remained entirely absent from EFL instruction in Algeria, it is reasonable to ask what other effective techniques may similarly be unknown and unused, and what systematic barriers prevent their adoption.

The strongly positive perceptions of shadowing's effectiveness (RQ2, H2 confirmed) are particularly noteworthy because they were formed on the basis of a genuinely novel technique experienced over a relatively short four-week period. Unlike studies conducted in contexts

where shadowing has some prior presence and where positive perceptions might partly reflect familiarity or expectation effects, the positive evaluations in this study were formed from a baseline of zero prior experience, lending them particular credibility. The pattern of effectiveness perceptions — with phonological noticing and rhythmic awareness receiving the highest endorsements — is consistent with the theoretical predictions of Schmidt's Noticing Hypothesis and with the empirical findings of Hamada (2012) and Kindaichi (2017) on shadowing's specific benefits for prosodic development. This consistency across theoretical prediction, empirical precedent, and participant perception provides strong convergent evidence for the phonological and prosodic mechanisms underlying shadowing.

The challenges identified by participants (RQ3, H3 confirmed) are highly consistent with those documented in the international shadowing literature, particularly the processing speed difficulties and cognitive overload associated with simultaneous listening and speaking (Kadota, 2007; Hsieh, 2021). The specific prominence of phonological reproduction difficulties — particularly the challenge of reproducing unfamiliar English sounds accurately — is predictable given the phonological distance between Arabic and English and represents an area where Arabic-speaking EFL learners may face greater challenges than East Asian learners whose L1 phonology overlaps more substantially with English. The self-management strategies that participants developed in response to these challenges — speed reduction, phonetic-first focusing, and chunked processing — are not only practically effective but also theoretically coherent: they represent intuitive approximations of evidence-based principles of scaffolded learning and progressive difficulty increase articulated in the formal pedagogical literature. (Moussaoui, 2024, pp. 388-404)

The strongly positive attitudes toward curriculum integration (RQ4, H4 confirmed), and particularly the overwhelming endorsement of the need for teacher guidance, carry important

messages for curriculum developers and teacher educators at Ahmed Zabana University. They suggest that students are not merely passively willing to accept shadowing in their curriculum but actively want it — and want it to be taught well, with expert guidance, appropriate materials, and regular feedback. This learner demand, combined with the evidence base for shadowing's effectiveness and the specific gaps in Algerian EFL oral fluency instruction that the background literature identifies, constitutes a strong case for the immediate and systematic integration of shadowing into EFL speaking courses at Ahmed Zabana University, guided by the pedagogical principles that the literature and the participants' own recommendations suggest.

Conclusion

This chapter presents, analyzes, and discusses the study's quantitative and qualitative findings, organized by the four research questions. Quantitative analysis of Likert scale data revealed very low prior knowledge of shadowing (subscale mean 1.86), strongly positive perceptions of effectiveness (subscale mean 4.03), significant but manageable challenges (subscale mean 3.84), and very positive attitudes toward curriculum integration (subscale mean 4.05). All four hypotheses were confirmed. Qualitative thematic analysis identified four major themes—phonological awakening, the simultaneity challenge and adaptive strategies, growing confidence and affective transformation, and pedagogical needs and recommendations—that provided rich and theoretically significant elaboration of the quantitative findings.

The integrative discussion situated the findings within the theoretical frameworks of Schmidt's Noticing Hypothesis, Baddeley's working memory model, Bandura's self-efficacy theory, and Vygotsky's zone of proximal development, demonstrating strong convergence between theoretical predictions, empirical precedents from international research, and participants' own reported experiences. The findings collectively provide a compelling evidence base for

integrating shadowing into EFL speaking instruction at Ahmed Zabana University, with specific implementation recommendations emerging from both the research literature and participants' articulated needs. The following General Conclusion summarizes the key findings, discusses their limitations, and proposes directions for future research.

General Conclusion

This study investigated the experiences of first-year Licence EFL students with the shadowing technique as a means to enhance English speaking fluency at Ahmed Zabana University, Ghelizane. The research was motivated by the persistent and well-documented gap between Algerian EFL learners' receptive and productive language competencies, as well as by robust international evidence supporting the effectiveness of shadowing in developing oral fluency. A mixed-methods convergent parallel design was employed to collect and analyze questionnaire data from 40 participants and interview data from a sub-sample of 10 participants, following a four-week introductory shadowing program at Ahmed Zabana University, Ghelizane. The research explored participants' prior knowledge of shadowing, its perceived effectiveness, challenges faced, and attitudes toward integrating the technique into the curriculum, corresponding to the four research questions and their corresponding hypotheses derived from the theoretical and empirical literature reviewed in Chapter One.

Summary of Key Findings

Regarding the first research question and hypothesis, the study found that the vast majority of participants, over 80 percent, had no prior knowledge of the shadowing technique, and 90 percent had never practiced it. According to research by Sara Bouakaz and Ahmad Bachar, reflective practices such as the shadowing technique appear to be largely absent from Algerian secondary school EFL education, with very few teachers introducing these methods and most participants indicating limited prior knowledge. This finding demonstrates that introducing shadowing into Algerian EFL instruction would represent a genuine pedagogical innovation with the potential to substantially improve oral fluency outcomes for a large, currently underserved student population.

For the second research question and hypothesis, the study identified consistently positive perceptions of shadowing's effectiveness following the four-week program, with the effectiveness subscale mean of 4.03 exceeding the neutral midpoint. Participants reported highly positive perceptions of shadowing's impact on pronunciation accuracy, speech fluency, prosodic awareness, and speaking confidence, with phonological noticing receiving the strongest endorsement (90% agreement). These findings are consistent with international research demonstrating shadowing's effectiveness for EFL learners' communication skills and speaking confidence (Benyettou & Zaghar, 2024; Hsieh, 2021).

Regarding the third research question and hypothesis, the study confirmed that participants encountered significant challenges during shadowing practice, as indicated by a mean of 3.84 on the challenges subscale across all five challenge dimensions. The most prominent challenges were phonological reproduction difficulty (85% agreement) and simultaneous processing demands (80% agreement), consistent with the findings of previous international research (Kadota, 2007; Hsieh, 2021). Nevertheless, qualitative data indicated that participants developed effective, theoretically grounded self-management strategies, such as reducing playback speed, focusing on phonetic features first, and employing chunked processing. These strategies enabled productive engagement with the technique despite initial difficulties. This finding suggests that, although shadowing presents real challenges, they are manageable with appropriate pedagogical support and self-regulation.

For the fourth research question and hypothesis, the study found strongly positive attitudes toward integrating shadowing into the EFL speaking curriculum, as reflected by the integration attitudes subscale mean of 4.05. According to a case study by Khouloud Benyettou and El-Alia Wafaâ Zaghar, a strong majority of participants agreed that teachers should provide more guidance on shadowing practice, indicating a general preference for structured teacher support

when integrating this method into the curriculum. This support should be provided by expert instruction, appropriate materials, and regular feedback.

Table C.1: Summary of Research Questions, Hypotheses, and Findings

Research Question	Hypothesis	Key Finding	Status
RQ1: Prior Knowledge	H1: Very low prior knowledge	Subscale mean 1.86; 90% had never practiced shadowing	✓ CONFIRMED
RQ2: Effectiveness	H2: Positive perceptions	Subscale mean 4.03; 90% endorsed phonological noticing	✓ CONFIRMED
RQ3: Challenges	H3: Speed and cognitive load primary	Subscale mean 3.84; unfamiliar sounds (85%) most endorsed	✓ CONFIRMED
RQ4: Integration	H4: Positive attitudes, need guidance	Subscale mean 4.05; 90% endorsed need for teacher guidance	✓ CONFIRMED

Note: All four hypotheses of the study were confirmed by the quantitative and qualitative data.

Figure C.1: Summary of subscale mean scores across the four research questions (scaled $\times 20$ for visual comparison). The contrast between the very low Prior Knowledge subscale ($M=1.86$) and the high Effectiveness and Integration subscales ($M=4.03$ and $M=4.05$) illustrates the study's central finding: shadowing was entirely unknown to participants but immediately valued upon introduction.

First, the study offers empirical support for Schmidt's (1990) Noticing Hypothesis within the context of shadowing among Algerian EFL learners. The near-universal endorsement of phonological noticing as a benefit of shadowing, as reflected in qualitative accounts of perceiving English 'for the first time' and identifying previously unnoticed prosodic and connected speech features, indicates that shadowing is a highly effective technique for fostering conscious attention to phonological input. This attention is identified by the Noticing Hypothesis as a prerequisite for acquisition. The finding extends the theoretical application of the Noticing Hypothesis to a new context and learner population, thereby strengthening its cross-contextual validity.

Second, the study presents qualitative evidence supporting the operation of Baddeley's (1986) phonological loop during shadowing practice, as indicated by participants' descriptions of the cognitive demands and adaptations involved in simultaneous auditory processing and oral production. The spontaneous development of chunked processing strategies, in which participants held larger language units in working memory and produced them holistically, aligns with the theoretical prediction that shadowing enhances phonological loop efficiency and supports the development of advanced memory-for-language strategies.

Third, the study adds to the growing body of cross-contextual evidence for shadowing's effectiveness by extending empirical research to the Algerian EFL context. The consistency between this study's findings—particularly regarding positive perceptions of effectiveness, specific challenge profiles, and reported self-management strategies—and those of previous international studies in East Asian contexts (Hsieh, 2021; Hamada, 2012; Foote and McDonough, 2017) suggests that the mechanisms and benefits of shadowing are not context-specific but instead reflect general properties of the technique and the cognitive processes it engages. Pedagogical [Implications and Recommendations](#)

The findings of this study have immediate and actionable implications. Drawing on the evidence generated by this research and the broader international literature reviewed in Chapter One, the following recommendations are proposed for EFL teachers, curriculum developers, and educational administrators at Ahmed Zabana University and comparable Algerian institutions.

Recommendation 1: Systematically introduce shadowing into EFL speaking curricula.

Convergent evidence from international research and the present study, including strong learner endorsement of shadowing's effectiveness and positive attitudes toward integration, provides a compelling rationale for the immediate inclusion of shadowing as a supplementary technique in EFL oral expression courses. Given the clear learner preference for structured curriculum integration over unguided self-study, shadowing should be incorporated into the formal curriculum rather than recommended solely as an independent study strategy.

Recommendation 2: Implement a gradual, scaffolded introduction to shadowing. The technique should be introduced progressively, starting with phonetic shadowing using short, slow, and clear recordings before advancing to content shadowing with longer, more complex materials. While the four-week program in this study offers a viable introductory model, extending it to at least 8 to 12 weeks is recommended to achieve more substantial and sustained benefits.

Recommendation 3: Select materials carefully and diversify progressively. Audio materials should be selected based on learners' current proficiency level, ensuring comprehensibility while providing an appropriate phonological challenge. Materials on topics of genuine interest to learners — academic subjects, current affairs, cultural topics — are more likely to sustain engagement than purely pedagogical texts. As learners develop confidence and processing efficiency, materials should progressively increase in speed, length, and linguistic complexity.

Recommendation 4: Provide regular and specific feedback. Teachers should provide structured feedback on learners' shadowing recordings, highlighting strengths and identifying specific phonological or prosodic features for improvement. Incorporating self-evaluation activities, such as comparing early and later recordings, can help learners monitor their progress and enhance speaking self-efficacy.

Recommendation 5: Integrate shadowing within a balanced communicative curriculum. Shadowing should complement, rather than replace, communicative speaking activities. The benefits of shadowing for phonological and fluency development are maximized when learners can apply the competencies developed through shadowing in authentic communicative interactions, including discussions, presentations, and role-plays.

Recommendation 6: Provide teacher professional development. Effective implementation of shadowing in Algerian EFL classrooms requires that teachers receive professional development in the technique's theoretical foundations, implementation principles, material selection, and feedback procedures. Departmental workshops, collaborative lesson planning, and the creation of resource banks with suitable audio materials would support the successful adoption of the study's findings and the institutional context.

Limitations of the Study

To ensure scholarly transparency and allow readers to accurately assess the significance of the study's findings, the following principal limitations are acknowledged. The present study's sample consists of 40 first-year Licence EFL students at a single department within a single university, which limits the generalizability of its findings to EFL students at other Algerian or North African universities.

According to a review by Macias Palacios and Álvarez Álvarez, shadowing helps improve fluency, pronunciation, rhythm, and confidence when learners receive effective correction. While the four-week intervention in this study shaped students' early impressions of shadowing, this period may not have been long enough to achieve sustained gains in all areas such as temporal fluency, pronunciation accuracy, and speaking confidence. The findings reflect experiences at an initial phase of shadowing practice. Longitudinal research tracking the development of these perceptions and outcomes over a full academic year or longer would provide a more comprehensive understanding.

According to research conducted at Ahmed Zabana University – Ghelizane, studies in this area often use self-reported data from questionnaires and interviews rather than objective measurements of speaking fluency, which can limit how accurately improvements in performance are assessed. The authors suggest that future research should include both acoustic analyses—such as speech rate, pause frequency, and phonetic accuracy—and self-report measures to provide a fuller picture of learners' progress.

The absence of a control group, consisting of comparable learners who received conventional speaking instruction without shadowing during the same period, prevents attributing the positive perceptions reported specifically to shadowing rather than to general learning effects or the novelty of a new instructional activity. Employing a quasi-experimental design with a control group would provide stronger causal evidence.

Directions for Future Research

The limitations identified above suggest several important and productive directions for future empirical research on shadowing in Algerian and broader EFL contexts.

According to research by Dewi Kartika Sari and Aswadi Jaya, pre-test and post-test speaking assessments have been used to measure students' improvement after implementing the shadowing technique, highlighting the need for similar objective studies on Algerian EFL learners that can provide evidence of shadowing's effects and ideally include matched control groups to support stronger causal conclusions.

Longitudinal studies tracking the development of shadowing skills and speaking fluency outcomes over extended periods — at least one academic year, ideally two or more — would reveal the trajectory and sustainability of shadowing-induced improvements, as well as the point at which the most significant gains occur. This information is essential for designing optimally timed and sequenced shadowing programs.

According to a study by BENYETTOU and ZAGHAR (2022), examining how the shadowing technique works across various Algerian universities, with learners from diverse Arabic dialect backgrounds and different proficiency levels, could help determine how widely the findings apply and what learner traits influence shadowing's effectiveness. The research also highlights the benefit of investigating different forms of shadowing, such as phonetic versus content-based, individual versus paired activities, and using or not using written transcripts, specifically within the Algerian context. It would provide evidence-based guidance for material and technique selection.

Finally, research exploring the potential of technology-enhanced shadowing — using dedicated language learning applications with automatic speech recognition and pronunciation feedback, or AI-powered tools that provide real-time comparison of learner and model speech — represents a particularly promising direction given the rapid development of these technologies

and their potential to extend the benefits of shadowing to larger numbers of learners more efficiently.

In conclusion, this study demonstrates that the shadowing technique has significant, empirically supported potential as a pedagogical innovation for EFL speaking instruction at Ahmed Zabana University and similar Algerian institutions. The present study contributes to this growing body of knowledge by offering the first empirical investigation of shadowing in the Algerian EFL context, and its findings provide actionable, evidence-based recommendations for addressing the persistent gap between Algerian EFL learners' receptive and productive English language competencies, as well as the underdevelopment of oral fluency that limits their academic and professional opportunities.

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Appendices

Appendix A: Student Questionnaire

Dear Participant,

The purpose of this questionnaire is to explore your experiences with the shadowing technique for improving English speaking fluency. Your responses will be kept strictly confidential and used exclusively for academic research purposes. There are no right or wrong answers — please respond as honestly as possible. Thank you for your participation.

Instructions: Put a tick [✓] on the appropriate answer or write your response in the space provided.

SECTION A: BACKGROUND INFORMATION

A1. Age: [] 18–19 years [] 20–21 years [] 22 years and above

A2. Gender: [] Female [] Male

A3. Years of English study prior to university: [] 7–8 years [] 9–10 years [] 11–12 years

A4. Self-assessed English proficiency level:

[] Beginner [] Elementary [] Pre-Intermediate [] Intermediate [] Upper-Intermediate

A5. Had you ever heard of or practiced the shadowing technique before this study? [] Yes [] No

SECTION B: LIKERT SCALE ITEMS

Please indicate your level of agreement with each statement using the following scale:

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Appendix A – Section B: Likert Scale Items

Item No.	Statement	1 SD	2 D	3 N	4 A	5 SA
B1	I had heard of the shadowing technique before this study.	[]	[]	[]	[]	[]
B2	I had practiced shadowing before this study.	[]	[]	[]	[]	[]

B3	My secondary school teachers introduced shadowing to me.	☐	☐	☐	☐	☐
B4	I was aware that shadowing could improve speaking fluency.	☐	☐	☐	☐	☐
B5	I have used similar repetition techniques for English practice.	☐	☐	☐	☐	☐
B6	Shadowing helped me improve my English pronunciation.	☐	☐	☐	☐	☐
B7	Shadowing helped me speak more smoothly and fluently.	☐	☐	☐	☐	☐
B8	Shadowing improved my awareness of English rhythm and stress.	☐	☐	☐	☐	☐
B9	Shadowing increased my confidence when speaking English.	☐	☐	☐	☐	☐
B10	Shadowing helped me notice English features I had not noticed before.	☐	☐	☐	☐	☐

B11	I feel shadowing is effective for improving speaking fluency.	☐	☐	☐	☐	☐
B12	I found it difficult to keep up with the speed of the recordings.	☐	☐	☐	☐	☐
B13	I felt mentally tired after shadowing sessions.	☐	☐	☐	☐	☐
B14	I found it hard to focus on meaning and pronunciation simultaneously.	☐	☐	☐	☐	☐
B15	Some English sounds were difficult for me to reproduce accurately.	☐	☐	☐	☐	☐
B16	I felt frustrated when I could not match the model speaker.	☐	☐	☐	☐	☐
B17	I would like to continue practicing shadowing after this study.	☐	☐	☐	☐	☐
B18	Shadowing should be included in the university speaking curriculum.	☐	☐	☐	☐	☐
B19	I would recommend shadowing to other EFL learners.	☐	☐	☐	☐	☐

B20	Teachers should provide more guidance on how to practice shadowing effectively.	[]	[]	[]	[]	[]
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Note: SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree.

SECTION C: OPEN-ENDED QUESTIONS

Please answer the following questions as fully and honestly as possible.

C1. How would you describe your first experience with the shadowing technique?

C2. What aspects of shadowing practice did you find most helpful for your English speaking?

C3. What was the most difficult aspect of shadowing for you personally?

C4. What strategies did you develop to overcome the difficulties you encountered?

C5. What suggestions do you have for making shadowing instruction more effective?

Thank you for your participation! Your responses are invaluable to this research.

Appendix B: Semi-Structured Interview Guide

Study Title: Students' Experiences with the Shadowing Technique in Enhancing English Speaking Fluency: The Case of First Year Licence Students at Ahmed Zabana University, Ghelizane

Interview Duration: 20–35 minutes | Language: English (Arabic clarification permitted)

Recording: Audio-recorded with written informed consent

Appendix B: Semi-Structured Interview Guide

Q No.	Interview Question	Thematic Focus
Q1	How would you describe your reaction when you were first introduced to the shadowing technique? What did you think and feel?	Initial reactions (RQ1)
Q2	In what specific ways do you feel that shadowing practice has been beneficial for your English speaking fluency, pronunciation, or confidence?	Perceived benefits (RQ2)
Q3	What was the most challenging aspect of shadowing for you personally? Can you describe a specific moment when you found it particularly difficult?	Primary challenges (RQ3)

Q4	What strategies or approaches did you develop to manage the difficulties you encountered during shadowing practice?	Challenge strategies (RQ3)
Q5	Did you notice any changes in how you listen to or perceive spoken English after practicing shadowing? If so, can you describe what changed?	Phonological noticing (RQ2)
Q6	How do you feel your confidence in speaking English changed over the four weeks of the shadowing program?	Affective outcomes (RQ2)
Q7	Do you think shadowing should be included in your regular English speaking classes at university? Why or why not?	Curriculum integration (RQ4)
Q8	What specific recommendations would you make to your teacher about how to implement shadowing more effectively in the classroom?	Pedagogical guidance (RQ4)

Note: Follow-up probes (e.g., 'Can you tell me more about that?', 'Can you give me an example?') were used throughout.

Appendix C: Informed Consent Form

Study Title: Students' Experiences with the Shadowing Technique in Enhancing English Speaking Fluency

Institution: Department of English Language and Literature, Ahmed Zabana University, Ghelizane

Researcher: Arouche Oussama Seif Eddine | Supervisor: Dr. Samir BouchakourErrahmani

Please read the following statements carefully and indicate your consent by placing a tick [✓] in the appropriate box:

- 1. I have been informed about the purpose, nature, and procedures of this study and have had the opportunity to ask questions.[]*
- 2. I understand that my participation in this study is entirely voluntary and that I am free to withdraw at any time, without providing a reason and without any negative consequences for my academic standing.[]*
- 3. I understand that all data collected will be kept strictly confidential and that my name will not appear in any report, publication, or presentation arising from this research.[]*
- 4. I give my permission for my questionnaire responses and/or interview data to be used for the purposes of this academic research.[]*
- 5. I give my permission for my interview to be audio-recorded, and I understand that the recording will be stored securely and destroyed upon completion of the dissertation.[]*
- 6. I understand that the data I provide will be used exclusively for academic research purposes and will not be shared with my course teachers or used to influence my academic assessment in any way.[]*
- 7. I confirm that I have read and understood the above statements and freely consent to participate in this study.[]*

Participant's Signature: _____ *Date:* _____

Researcher's Name: _____ Date: _____

Contact Information: _____

Appendix D: Glossary of Key Terms

Shadowing Technique: *A language learning method in which the learner simultaneously or near-simultaneously repeats a model speaker's utterances, closely mimicking pronunciation, rhythm, stress, and intonation. Originally developed in cognitive psychology and adopted in interpreter training before application to EFL learning.*

Speaking Fluency: *The ability to produce spoken language smoothly, rapidly, and with minimal hesitation. Comprises temporal features (speech rate, articulation rate, mean length of run), hesitation phenomena (silent pauses, filled pauses, repetitions), and prosodic features (rhythm, stress, intonation).*

Prosody: *The suprasegmental dimension of speech encompassing rhythm, stress, intonation, and connected speech phenomena. Prosody conveys grammatical, pragmatic, and emotional information beyond the segmental level.*

Phonological Awareness: *The ability to consciously perceive and manipulate the sound structure of language at the segmental (phoneme) and suprasegmental (stress, rhythm, intonation) levels. A foundational competency for speaking fluency development.*

Automaticity: *The ability to perform cognitive tasks rapidly and with minimal conscious attention, achieved through extensive practice. Automating speech production processes is essential for achieving fluency in speech.*

Cognitive Load: *The total amount of mental effort required to complete a task. Tasks that exceed the learner's cognitive capacity produce cognitive overload, impairing performance and learning.*

Connected Speech: *Natural modifications of sounds that occur in fluent speech, including linking (connecting final consonants to initial vowels), assimilation (sounds becoming more similar to adjacent sounds), elision (deletion of sounds), and reduction (weakening of unstressed sounds).*

EFL: *English as a Foreign Language: the teaching and learning of English in contexts where it is not an official or widely used language of daily communication.*

SLA: *Second Language Acquisition: the interdisciplinary field of inquiry concerned with understanding how individuals acquire languages other than their first language.*

Mixed Methods: *A research approach that combines quantitative and qualitative data collection and analysis within a single study to produce a more complete understanding of the research phenomenon.*

Likert Scale: *A psychometric response scale commonly used in questionnaires to measure participants' attitudes, perceptions, or experiences, typically ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).*

Thematic Analysis: *A qualitative data analysis method for identifying, analyzing, and reporting patterns of meaning across a dataset, following a systematic six-phase procedure (Braun and Clarke, 2006).*

Cronbach's Alpha: *A statistical measure of the internal consistency reliability of a multi-item scale, indicating the extent to which items in the scale measure the same underlying construct. Values above 0.70 are considered acceptable.*

Appendix E: Sample Shadowing Materials Used in the Intervention Program

The following table lists the types of audio materials used during the four-week shadowing intervention program, organized by week and difficulty level.

Appendix E: Sample Shadowing Materials by Week

Week	Material Type	Source	Duration	Speech Rate	Focus
1	Educational monologue (science topic)	BBC Learning English	60–90 sec	Moderate (120–150 spm)	Phonetic shadowing
2	Interview with academic speaker	TED-Ed podcast	90–120 sec	Natural (150–180 spm)	Phonetic shadowing
3	Short TED Talk excerpt	TED.com	2–3 min	Natural (180–200 spm)	Content shadowing
4	Authentic conversation excerpt	Various podcast platforms	2–3 min	Natural (180–220 spm)	Content shadowing + recording

Note: spm = syllables per minute. All materials were sourced from publicly available, freely accessible online platforms.

Selection criteria for all materials: (1) clear, natural pronunciation by a proficient English speaker; (2) content comprehensible to pre-intermediate to intermediate EFL learners; (3) high

quality audio without background noise; (4) topics of broad academic or cultural interest; (5) freely available online without copyright restrictions on educational use.