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The Use of Mobile Applications for Pronunciation Practice among Algerian EFL Learners

The Case of Students of English Department at Mohamed Boudiaf University of M'Sila

Dissertation Submitted to the Department of English in Partial Fulfilment of the Requirements for the Master's Degree in **Didactics and Applied Linguistics**

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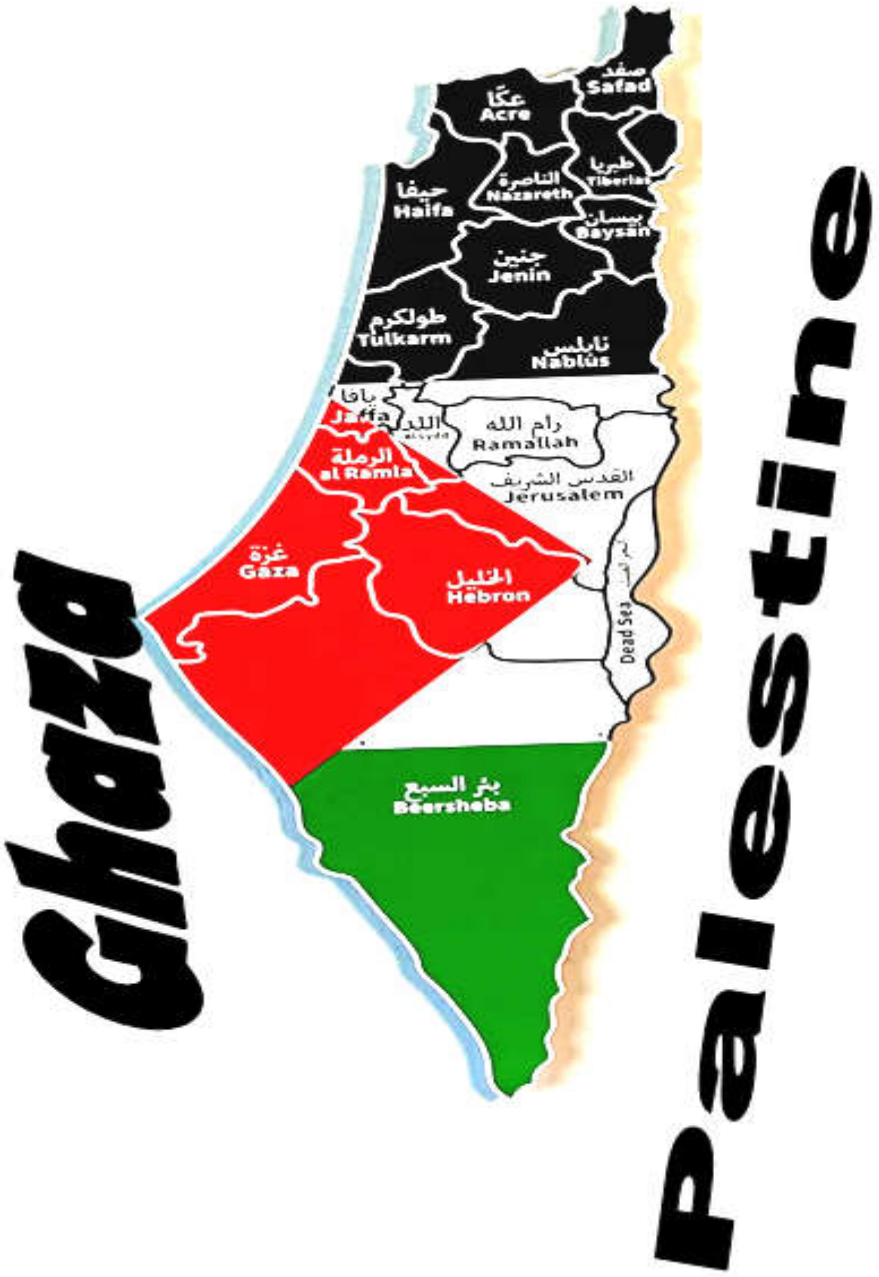
DEDICATION

I dedicate this humble work to:



and especially to Gaza, the proud

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Finally, I pray to Allah Almighty to accept this work, make it sincerely devoted to His sake, and render it beneficial to students, researchers, and all those who seek knowledge.

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ABSTRACT

This study aimed to investigate the use of mobile applications for pronunciation practice among Algerian learners of English as a Foreign Language (EFL). It was conducted as a field study at the Department of English Language and Literature, Mohamed Boudiaf University of M'Sila. The study also examined whether differences in the level of mobile application use could be attributed to gender and academic specialization. To achieve these objectives, the descriptive-analytical approach was adopted due to its suitability for the nature of the research. The sample consisted of 40 students enrolled during the 2025/2026 academic year and was selected through simple random sampling.

A self-developed questionnaire was used as the primary data collection instrument. The instrument's psychometric properties (validity and reliability) were assessed, and the results demonstrated satisfactory levels, confirming its suitability. The collected data were analysed using the Statistical Package for the Social Sciences (SPSS), Version 26, employing various statistical techniques.

The findings revealed a high level of mobile application use for pronunciation practice among Algerian EFL learners. Furthermore, no statistically significant differences were found in the overall mean scores of mobile application use attributable to gender at the significance level of ($\alpha \leq 0.05$), except the second dimension, Ease of Use, where significant differences were observed. The results also showed statistically significant differences in the mean scores attributable to academic specialization at the significance level of ($\alpha \leq 0.05$), except for the dimensions of Ease of Use and Autonomy and Accessibility, where no significant differences were detected.

Keywords: mobile applications, pronunciation practice, English as a Foreign Language (EFL), Algerian EFL learners, mobile-assisted language learning.

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GENERAL INTRODUCTION

Introduction:

- Statement of the Problem:

Learning English is essential in the modern age, given its status as the most widely spoken language connecting the world's peoples. It is used as a native language in some countries, while in others it is taught as a second or foreign language. With technological advancements, acquiring foreign languages has become easier and more accessible. Consequently, the educational environment has shifted from reliance on traditional methods like the blackboard to the adoption of digital, technology-driven classrooms. Furthermore, language teaching and learning has moved from a teacher-centered approach to one that places the learner at the heart of the educational process.

Today's English as Foreign Language EFL learning trends emphasize practical communication and cultural understanding, moving away from rigid grammar memorization. Technology plays a crucial role in providing engaging and accessible learning materials.

With the emergence of smartphones equipped with advanced educational applications, language learning has become more flexible and accessible. These applications enable learners to practice their language skills anytime and anywhere. They also offer interactive activities that contribute to improving pronunciation, listening, and comprehension. Moreover, such tools enhance learners' motivation by promoting self-directed learning and allowing progression according to individual proficiency levels. Consequently, mobile technology has become an effective tool in supporting the process of foreign language learning.

Based on these considerations, the present study seeks to explore the use of mobile applications for pronunciation practice among Algerian learners of English as a Foreign Language (EFL). It also aims to investigate learners' perceptions of the usefulness and ease of use of these applications, as well as their role in enhancing motivation, providing feedback, and fostering learner autonomy in pronunciation learning. Ultimately, the study endeavors to

contribute to the growing body of knowledge on mobile-assisted language learning and to support the development of educational practices in the field of English language teaching.

- Research Questions:

Therefore, the research problem can be formulated in the following questions:

1.1. To what extent are mobile applications used for Pronunciation Practice among Algerian EFL Learners?

1.2. Are there statistically significant differences at the ($\alpha \leq 0,05$) level between the mean responses of university students regarding the Use of Mobile Applications for Pronunciation Practice among Algerian EFL Learners, attributable to the gender variable (male, female)?

1.3. Are there statistically significant differences at the ($\alpha \leq 0,05$) level between the mean responses of university students regarding the Use of Mobile Applications for Pronunciation Practice among Algerian EFL Learners, attributable to the specialty variable (Licence, Didactics and Applied Linguistics online, Linguistics, Civilization and Literature)?

- Hypothesises:

Based on the study's questions and to answer them, the following main hypotheses were formulated:

The level of use of mobile applications for pronunciation training among Algerian learners of English as a foreign language is high.

There were no statistically significant differences at the ($\alpha \leq 0,05$) level between the mean responses of university students regarding the Use of Mobile Applications for Pronunciation Practice among Algerian EFL Learners, attributable to the gender variable (male, female).

There were no statistically significant differences at the ($\alpha \leq 0,05$) level between the mean responses of university students regarding the Use of Mobile Applications for

Pronunciation Practice among Algerian EFL Learners, attributable to the specialty variable (License, Didactics and Applied Linguistics online, Linguistics, Civilization and Literature).

- Objectives of the Study:

This research aims to:

3.1. Revealing the level of the Use of Mobile Applications for Pronunciation Practice among Algerian EFL Learners.

3.2. Detecting differences between average responses of university students regarding the use of Mobile Applications for Pronunciation Practice among Algerian EFL Learners.

- Significance of the Study:

The importance of the current research topic can be summarized as follows:

- The Theoretical Significance:

The theoretical importance of this study lies in:

The theoretical importance of this study stems from its contribution to global and Arab scientific literature in general, and Algerian literature in particular, in the field of the Use of Mobile Applications for Pronunciation Practice among EFL Learners.

Enriching the literature related to learning and training pronunciation among learners of English as a foreign language with the help of mobile devices (MALL).

The findings serve as a reference for researchers interested in investigating mobile learning, pronunciation instruction, and technology integration in EFL contexts.

- The Practical Significance:

From a practical standpoint, the study provides the following:

Enhancing Pronunciation Learning and pronunciation for learners of English as a foreign language using mobile applications.

To support teachers and curriculum designers in integrating mobile-assisted pronunciation activities into language teaching programs.

Promoting Autonomous Learning by using mobile applications to encourage learners to practice pronunciation independently, anytime and anywhere, thus fostering self-directed learning.

CHAPTER ONE:

THEORETICAL FRAMEWORK

1.1. Introduction:

The rapid development of information and communication technologies has transformed the field of language education. Among these technological innovations, mobile applications have become increasingly popular as tools for language learning. The widespread availability of smartphones and tablets has enabled learners to access educational resources anytime and anywhere, creating new opportunities for autonomous and personalized learning. In the context of English as a Foreign Language (EFL), mobile applications have gained considerable attention for their potential to enhance language skills, including pronunciation.Pronunciation is a fundamental component of communicative competence because it affects intelligibility and successful communication. However, many EFL learners face difficulties in acquiring accurate pronunciation due to limited exposure to native speakers, insufficient classroom practice, and anxiety associated with speaking activities. Mobile applications provide learners with opportunities to practice pronunciation independently through speech recognition technologies, audio models, interactive exercises, and immediate feedback (Burston, 2015).This chapter reviews the theoretical foundations related to pronunciation learning, mobile-assisted language learning (MALL), and the use of mobile applications for pronunciation practice. It also examines previous studies conducted in this field and highlights the significance of integrating mobile technologies into EFL education.

1.2. Pronunciation in English Language Learning:

1.2.1. Definition of Pronunciation:

Pronunciation refers to the production of speech sounds used to communicate meaning. It includes the articulation of individual sounds, stress patterns, rhythm, intonation, and connected speech features. According to Joanne Kenworthy, pronunciation involves the

way sounds are produced and organized to convey messages effectively (Kenworthy, 1987). Similarly, Kelly (2000) defines pronunciation as the use of sounds of a language in order to achieve understandable communication. Therefore, pronunciation is not merely the accurate production of isolated sounds but also the ability to use suprasegmental features appropriately. It includes attention to the particular sounds of a language (segments), such as intonation, syllable, phrasing, stress, timing, rhythm how the voice is projected (voice quality) and attention to gestures and expressions that are closely related to the way we speak a language (Prashant, 2018, p 16).

1.2.2. Importance of Pronunciation:

Pronunciation plays a crucial role in language learning because it directly affects intelligibility. Learners with poor pronunciation may experience communication breakdowns even if they possess adequate vocabulary and grammar knowledge. According to Morley (1991), pronunciation is an essential component of communicative competence and should be integrated into language instruction. Research indicates that pronunciation influences listeners' perceptions of speakers' language proficiency and confidence (Derwing & Munro, 2015). Consequently, developing pronunciation skills can enhance learners' oral communication abilities and increase their participation in communicative situations. Developing correct pronunciation enhances intelligibility, facilitates effective communication, and contributes to greater confidence in speaking English (Prachant, 2018).

1.2.3. Components of Pronunciation:

Pronunciation consists of two major dimensions: segmental features and suprasegmental features. Segmental features refer to individual speech sounds, including vowels and consonants. English contains a variety of phonemes that may not exist in learners' first language, creating pronunciation difficulties (Roach, 2009).Examples include: vowel or

consonant sounds, diphthongs, and minimal pairs. Mastering segmental features helps learners distinguish words accurately and avoid misunderstandings. Suprasegmental Features involve aspects of speech that extend beyond individual sounds. to include stress, rhythm, intonation, and connected speech.According to Celce-Murcia et al. (2010), suprasegmental features contribute significantly to speech intelligibility and naturalness.

1.2.4. Common Pronunciation Problems among EFL Learners:

For learners of English as a Foreign Language (EFL), achieving accurate pronunciation is often challenging because English is not their native language. Consequently, non-native speakers may pronounce English words differently from native speakers. Individuals who possess strong pronunciation skills are often perceived as more proficient speakers, as their speech is clearer and more comprehensible to listeners. EFL learners often encounter difficulties due to differences between English and their native language. These challenges may include: phonological differences between English and the target language, stress and intonation difficulties because English is a stress-timed language, whereas Arabic follows different rhythmic patterns. In addition, limited contact with native speakers reduces opportunities for authentic pronunciation practice (Gilakjani, 2016). Finally, psychological factors such as anxiety and fear of mistakes may constitute a big problem for some learners.

1.3. Technology and Language Learning:

1.3.1. Technology in Language Education:

Technology has become an integral part of modern language education. Digital tools facilitate access to authentic materials, interactive activities, and communication opportunities that support language development. According to Warschauer (2004), technology enhances language learning by providing meaningful interaction and increasing learner autonomy. Educational technologies have evolved from computer-assisted language learning **(CALL)** to

mobile-assisted language learning **(MALL),** reflecting changes in digital communication and device accessibility.

1.3.2. Computer-Assisted Language Learning (CALL):

CALL refers to the use of computers for language teaching and learning. According to Levy (1997), CALL involves the search for and study of computer applications in language education. CALL offers several benefits which includesinteractive learning, immediate and individualized feedback and instruction as well as the integration of multimedia However, traditional CALL environments often require access to computers and fixed learning locations. Mobile-Assisted Language Learning (MALL) with its unlimited and instant access seems therefore a better alternative to CALL.

1.4. Mobile-Assisted Language Learning (MALL):

1.4.1. Definition of MALL:

Mobile-Assisted Language Learning (MALL) refers to language learning supported by mobile devices such as smartphones and tablets.According to Kukulska-Hulme and Shield (2008), MALL enables learners to access language learning materials anytime and anywhere through portable technologies.MALL extends the principles of CALL by increasing flexibility, mobility, and learner control.

4.2. Characteristics of MALL:

Several characteristics distinguish MALL from traditional language learning approaches: The first two are mobility *and accessibility* which is the ability of learners to study regardless of location and the accessibility of the educational content is at any time. The other benefit include conformity to individual and autonomous learning needs and the ability to engage actively with content. These features make MALL particularly suitable for

pronunciation practice. According to Stockwell and Hubbard (2013), the multimedia features and gamified activities that enhance learner *motivation.* MALL alsoprovide flexible, frequent and self-pace learning.

1.5. Mobile Applications for Pronunciation Practice:

1.5.1. Definition of Mobile Applications:

Mobile applications are software programs designed to operate on mobile devices. Educational applications provide interactive learning environments that support language acquisition. According to Burston (2015), language learning applications represent one of the most significant developments in mobile language education. Several applications are commonly used for pronunciation learning such as ELSA Speak, Cake, BBC Learning English, Duolingo, Speak English Pronunciation and many others. They have common features for learning pronunciation and employ artificial intelligence, speech recognition, and multimedia resources to support pronunciation development. Lahmar (2021) indicated that: Darmi & Albion (2014) claim that: The use of mobile technology in education offers new learning experiences and flexibility in learning, learning anywhere and anytime, with increased opportunities for decisions to be made by the learners. Furthermore, mobile technology offers ubiquitous and immediate access to information as well as saving resources (p .93). In other words, we can say that M-learning is when the learning process is mediated by the assistance of mobile devices. Similarly, Keegan (2005) restricts mobile learning to the use of small devices, which a lady can carry in her handbag or gentleman can carry in his pocket.

1.5.2. Features of Pronunciation Applications:

Pronunciation applications are designed to help language learners improve their pronunciation skills through a variety of technological features and interactive tools. These

applications provide learners with opportunities to practice English sounds, stress patterns, rhythm, and intonation in a flexible and autonomous learning environment. Recent advances in mobile technology and artificial intelligence have significantly enhanced the effectiveness of pronunciation applications by offering personalized learning experiences and immediate corrective feedback (Burston, 2015). The most common features of pronunciation applications are discussed below.

1.5.2.1. Audio Models:

These are audio models produced by native or highly proficient speakers. These models allow for listening and imitation of authentic pronunciation. According to Celce-Murcia et al. (2010), listening to accurate speech models is essential for developing both segmental and supraseg mental aspects of pronunciation. Through repeated listening and imitation, learners can gradually internalize correct pronunciation patterns and improve their speaking fluency.

1.5.2.2. Speech Recognition Technology:

Speech recognition technology has become one of the most innovative features incorporated into modern pronunciation applications. This technology analyses learners' spoken production and compares it with a target pronunciation model. Based on this comparison, the application provides immediate feedback regarding pronunciation accuracy, stress placement, and articulation errors. According to McCrocklin (2016), automatic speech recognition (ASR) systems can enhance pronunciation learning by allowing learners to identify and correct their mistakes independently. Furthermore, immediate feedback encourages self-monitoring and helps learners become more aware of their pronunciation difficulties. Applications such as ELSA Speak and Google Speech Recognition utilize

artificial intelligence to provide detailed pronunciation assessments and individualized recommendations.

1.5.2.3. Recording and Playback Functions:

Most pronunciation applications include recording and playback features that enable learners to record their own speech and compare it with native-speaker models. This promotes self-evaluation and encourages learners to notice differences. Recording functions also support repeated practice, which is crucial for pronunciation improvement. According to Derwing and Munro (2015), self-monitoring through recorded speech can significantly contribute to pronunciation development because learners become more conscious of their production errors and can work on correcting them over time.

1.5.2.4. Interactive Pronunciation Exercises:

Interactive exercises are another essential component of pronunciation applications. These activities often include repetition drills, phoneme discrimination tasks, minimal pair exercises, sentence repetition, and word stress practice. Such exercises engage learners actively in the learning process and provide opportunities for repeated exposure and production. Interactive learning environments have been shown to increase learner motivation and participation compared to traditional instructional methods (Stockwell & Hubbard, 2013). Moreover, the immediate feedback provided during these exercises helps learners reinforce correct pronunciation habits and reduce fossilized errors.

1.5.2.5. Visual Pronunciation Support:

Many pronunciation applications incorporate visual aids to facilitate pronunciation learning. These visual supports may include phonetic transcriptions, animated mouth diagrams, waveforms, pitch contours, and articulation videos demonstrating tongue and lip

positions. these help learners understand how sounds are physically produced and improve their ability to distinguish difficult phonemes. According to Hardison (2004), combining auditory and visual input can enhance learners' pronunciation perception and production by providing multiple channels of information processing. Visual support is particularly useful for learners who struggle with sounds that do not exist in their native language.

1.5.2.6. Progress Tracking and Performance Monitoring:

Progress tracking is a valuable feature that allows learners to monitor their improvement over time. Pronunciation applications often provide performance scores, achievement badges, learning statistics, and progress reports that display learners' strengths and weaknesses. This feature enables learners to identify areas requiring further practice and helps maintain motivation by demonstrating measurable improvement. According to Kukulska-Hulme and Shield (2008), self-monitoring tools contribute to learner autonomy because they encourage students to take responsibility for their own learning progress. The ability to visualize improvement can increase learners' confidence and commitment to continued practice.

1.5.2.7. Personalized Learning and Adaptive Feedback:

Advanced pronunciation applications employ AI to personalize learning experiences according to individual learners' needs. These applications analyse user performance and adapt the difficulty level, content, and feedback accordingly. Personalized learning pathways ensure that learners focus on specific pronunciation problems rather than following a uniform instructional sequence. Research suggests that adaptive learning technologies can improve learning outcomes by addressing individual differences in proficiency, learning pace, and pronunciation challenges (Godwin-Jones, 2017). Consequently, personalized feedback enhances the efficiency and effectiveness of pronunciation practice.

1.5.2.8. Gamification Elements:

Many mobile pronunciation applications integrate gamification features such as points, badges, levels, challenges, and rewards. Gamification increases learner engagement and motivation by making learning more enjoyable and interactive. According to Deterding et al. (2011), gamified learning environments encourage sustained participation and can positively influence learners' attitudes toward language learning.

1.5.2.9. Accessibility and Flexibility:

A major advantage of pronunciation applications is their accessibility and flexibility. Learners can practice pronunciation anytime and anywhere using their smartphones or tablets. This increases practice opportunities and exposure to English. Burston (2015) argues that the portability of mobile devices supports continuous learning beyond the classroom and promotes autonomous language development.

1.6. Types and Categories of Mobile Applications:

Mobile applications are software programs designed to run on smartphones and tablets, enabling users to perform various tasks such as communication, learning, entertainment, and productivity. Based on their development architecture, mobile applications can be classified into four main types: native, web, hybrid, and progressive web applications (PWAs).

Native applications are developed specifically for a single operating system, such as Android or iOS. They offer high performance, strong security, and full access to device features, but they require separate development for each platform (Wasserman, 2010). Examples include WhatsApp and Google Maps.

Web applications are mobile-optimized websites accessed through a browser. They are easier and less expensive to develop because they work across different platforms, although they generally provide lower performance and limited access to device hardware (Charland & Leroux, 2011).

Hybrid applications combine elements of native and web apps. They use a single codebase that can run on multiple platforms, reducing development costs while still providing access to some device features. However, they may not perform as efficiently as native applications (Charland & Leroux, 2011).

Progressive Web Applications (PWAs) are web-based applications that offer a user experience similar to native apps. They can work offline, load quickly, and operate across multiple devices, although they have some limitations in accessing hardware features (Biørn-Hansen et al., 2019).

Mobile applications can also be categorized according to their purpose. Educational applications support learning through lessons, quizzes, and interactive activities, making them valuable tools for language learning (Crompton & Burke, 2018). Other common categories include social media applications (e.g., Facebook and WhatsApp), productivity applications (e.g., Trello and Outlook), lifestyle applications (e.g., Airbnb and MyFitnessPal), entertainment applications (e.g., Netflix and Spotify), and gaming applications (e.g., PUBG and Candy Crush). These categories reflect the diverse roles that mobile applications play in modern life and education.

1.7. English as a Foreign Language (EFL):

For a clearer view, English foreign language refers to learning non-native language, which is only learned in a formal classroom and not commonly used in the community. The

exposure to the language is lesser than the second language (L2), that sometimes it is connotatively referred to as “alien” language (Abigail. B, 2022, p 14).

In addition, TEFL refers to the teaching of the English language to non-native speakers in environments where English is not the primary language. It encompasses the strategies and techniques used to teach English to individuals who need it for purposes like communication, work, or academic study (Ladjel, 2025, p. 03).

For a clearer view, foreign language learning refers to learning non-native language, which is only learned in a formal classroom and not commonly used in the community. The exposure to the language is lesser than the second language (L2), that sometimes it is connotatively referred to as “alien” language (Quimosing, 2022).

1.8. Theories of Foreign Language Learning:

Foreign language learning is a complex process that involves various factors such as motivation, aptitude, personality, and cognitive abilities. Over the years, different theories have been proposed to explain how individuals acquire a second language. In this article, we will discuss some of the most prominent theories of foreign language learning: (Oujoud & Rahima, 2023).

1.8.1. Behaviourist Theory:

This theory was popularized by B.F. Skinner in the 1950s. According to this theory, language learning is a process of habit formation through repeated exposure to stimuli and reinforcement. The focus is on the external factors such as rewards and punishments that shape behaviour.

1.8.2. Innatist Theory:

This theory proposes that humans have an innate capacity for language acquisition. It was first introduced by Noam Chomsky in the 1960s. According to this

theory, language learning is facilitated by an innate language acquisition device (LAD) that enables individuals to acquire language rapidly and effortlessly.

1.8.3. Cognitive Theory:

This theory emphasizes the role of mental processes in language learning. It was developed by cognitive psychologists such as Jean Piaget and Lev Vygotsky in the 1970s. According to this theory, language learning is a process of constructing meaning through mental processes such as attention, memory, and reasoning.

1.8.4. Sociocultural Theory:

This theory was introduced by Lev Vygotsky in the early 20th century. According to this theory, language learning is a social activity that occurs through interaction with others in a cultural context. The focus is on the role of social and cultural factors in shaping language learning.

1.9. Theoretical Foundations Supporting Mobile Pronunciation Learning:

1.9.1. Constructivist Theory:

Constructivism emphasizes that learners actively construct knowledge through interaction and experience. According to Piaget (1970), learning occurs when individuals actively engage with their environment. Mobile applications support constructivist learning by allowing students to explore pronunciation independently and receive immediate feedback.

1.9.2. Social Constructivism:

Social constructivism highlights the role of social interaction in learning. Vygotsky (1978) argued that learning develops through interaction with others. Mobile applications facilitate communication through collaborative activities, online communities, and peer interaction.

1.9.3. Autonomous Learning Theory:

Learner autonomy refers to the ability to take responsibility for one's own learning.According to Holec (1981), autonomous learners can set objectives, select methods, and evaluate progress independently. Mobile applications encourage autonomy by enabling learners to practice pronunciation outside formal classroom settings.

1.10. Challenges of Using Mobile Applications for Pronunciation Practice:

Despite their benefits, mobile applications also present several challenges. They have disadvantages such as technical problems, lack of teacher guidance, distractions and reduced focus due to social media and entertainment platforms. Digital literacy is also a common problem. According to Stockwell (2010), successful implementation of mobile learning requires consideration of technological and pedagogical factors.

1.11. Review of Literature:

Numerous studies have investigated the effectiveness of mobile applications for pronunciation learning.

A study conducted by Saran et al. (2012) found that mobile-assisted pronunciation activities improved learners' pronunciation accuracy and motivation.Similarly, Hwang et al. (2014) reported significant improvements in pronunciation performance among students who used mobile learning applications compared to those receiving traditional instruction.

In the Algerian context, several studies have highlighted the increasing use of mobile technologies among university students and their positive perceptions of mobile learning tools. These studies suggest that mobile applications can provide valuable support for language learning and pronunciation practice.

Some of the most important previous studies related to the current topic are as follows:

The study of Adeliane SIGUER DJIDJENE (2025) conducted a descriptive study to explore EFL learners' perceptions of Mobile-Assisted Pronunciation Training (MAPT). The results indicated that the EFL learners held a significantly positive attitude toward MAPT, finding it highly useful and effective for improving pronunciation.

In 2025, Asih Wahyuni, Delfi Waldia, and Abdul Rosyid conducted a study to investigate the effect of Mobile-Assisted Language Learning (MALL) on students' pronunciation skills. The researchers employed a quasi-experimental design, collecting quantitative data focused on word stress and intonation.The results demonstrated that the utilization of MALL significantly improved the students' pronunciation achievement, particularly enhancing their mastery of word stress and intonation.

Another conducted study of AOUNALI Walid & CHELLI Saliha (2025) aimed at investigating the effects of multimedia-based instruction on improving Algerian EFLlearners' pronunciation. The study used a quasi-experimental method due to its suitability to the nature of the research. The study was conducted in 2025 on a sample of 20 undergraduate English students at University of Biskra. The researchers used pronunciation tests, recordings, and Praat speech analysis software. The findings revealed that multimedia-based instruction significantly improved learners' pronunciation, especially in terms of intelligibility, comprehensibility, stress, and intonation.

Another research, conducted by Nalole et al. (2025), aimed to evaluate the effectiveness of the Duolingo application in improving students' pronunciation of voiced and voiceless consonants. Findings revealed a statistically significant improvement, with the

average pronunciation score increasing demonstrating that Duolingo is highly effective for pronunciation training.

A similar study was conducted by Omnia Latif Ibrahim Abdel Latif (2024). It aimed to measure the effect of Mobile-Assisted Language Learning (MALL) on enhancing EFL students' oral language skills. The results revealed that the experimental group, which trained using the mobile application, significantly outperformed the control group in the post-test.

The study by Lubis et al. (2024) aimed to at exploring the role of mobile applications in teaching English phonology to elementary school students and developing their listening, pronunciation, and vocabulary skills. The study used the descriptive qualitative method. The study was conducted during the academic year 2024. The findings revealed that mobile applications improved students' listening skills and made learning English more interactive and enjoyable through educational games. The study also showed that mobile applications helped students enhance vocabulary acquisition and improve pronunciation and speaking skills in English.

Another academic study, authored by researchers Oudjoud and Rahima (2023), investigated the attitudes and perceptions of EFL students toward using mobile applications for language learning. Utilizing an exploratory descriptive approach, the researchers collected data during the 2022–2023 academic year through an online questionnaire containing closed-ended questions. The sample consisted of 115 English Department students at the Mila University Centre, who were selected as a case study and participated voluntarily via closed Facebook and Messenger groups. The final results revealed that EFL students hold highly positive attitudes and perceptions toward m-learning, demonstrating a clear awareness of the significant advantages these mobile applications provide in enhancing the language acquisition process.

Babekir (2023) conducted a study to examine the efficacy of a speech recognition and pronunciation application (FluentU) in enhancing EFL. The sample consisted of 60

sophomore Saudi male learners at Qassim University. Ultimately, the results revealed that the application significantly enhanced the learners' motivation, confidence, and willingness to speak English.

Hussein Abdul-Samad Hussein Mahmood's study (2021) aimed to identify the importance of pronunciation in English language teaching and improving learners' communicative competence. The study used the qualitative method due to its suitability to the nature of the research. The study was conducted in 2021 using a sample of learners and teachers selected purposively. To collect data, the researcher used questionnaires, observation sheets, and interviews. The findings revealed that pronunciation instruction plays an essential role in effective communication and that teachers need proper training to teach pronunciation accurately and effectively.

Also Lahmer (2021) conducted a study of aimed at exploring the attitudes of EFL learners and teachers toward the effectiveness of mobile-assisted language learning at Ibn Khaldoun University of Tiaret. The findings revealed that both students and teachers had positive attitudes toward mobile learning. The study also showed that mobile devices helped improve language skills, especially listening and reading. However, teachers expressed concerns about the lack of infrastructure and internet access needed for the effective implementation of mobile learning.

A study conducted by SAYAD in 2019, aimed to investigate the effectiveness of the Mobile-Assisted Language Learning (MALL) approach in enhancing EFL learners' vocabulary competency. Adopting a mixed-methods approach, the researcher selected a sample of 41 second-year LMD students of English at Mohamed Kheider University of Biskra along with 5 teachers via a purposive sampling method related to their advanced level and modules. The findings ultimately confirmed the study's main hypothesis, revealing that MALL instruction successfully helps learners improve their vocabulary stock and communicative competencies.

Previous studies used in the current research have contributed to building an accurate understanding of the use of mobile phone applications for pronunciation practice among Algerian learners of English as a foreign language.

A critical synthesis of the preceding literature reveals a substantive body of knowledge concerning the use of mobile phone applications for pronunciation practice among learners of English as a foreign language. However, a conspicuous methodological gap persists across these studies: Relying primarily on student perspectives marginalizes the direct experiences of professors and officials themselves within universities and the ministry. This omission is significant because it prioritizes institutional viewpoints and those cantered on the use of mobile applications for pronunciation practice among learners of English as a foreign language.

This study directly addresses this experiential gap by focusing on student experiences. It aims to conduct a detailed analysis of how key demographic variables such as gender, academic level, and field of studyinfluence their perceptions of using mobile applications for pronunciation practice among learners of English as a foreign language.

Overall, previous research indicates that mobile applications contribute positively to pronunciation development, learner autonomy, motivation, and engagement.

Conclusion

This chapter reviewed the theoretical foundations related to pronunciation learning and mobile-assisted language learning. Pronunciation is a vital component of communicative competence, influencing intelligibility and effective communication. However, many EFL learners encounter difficulties due to phonological differences, limited exposure, and lack of practice opportunities.

The emergence of mobile-assisted language learning has created new possibilities for pronunciation instruction. Mobile applications provide flexible, interactive, and autonomous

learning environments that enable learners to practice pronunciation beyond classroom boundaries. Supported by theories such as constructivism, social constructivism, and learner autonomy, mobile applications have demonstrated considerable potential in enhancing pronunciation skills.

The review of previous studies revealed generally positive outcomes regarding the use of mobile applications for pronunciation learning. These findings provide a theoretical basis for investigating the use of mobile applications for pronunciation practice among Algerian EFL learners at Mohamed Boudiaf University of M'Sila.

CHAPTER TWO:

RESEARCH METHODOLOGY

2.1 Introduction:

The Method and Tools section is a fundamental part of any scientific research, as it explains the procedures followed to achieve the study objectives and answer its research questions. It presents the research method adopted by the researcher according to the nature of the study. This section also describes the tools used for data collection, such as questionnaires, interviews, or observation. In addition, it clarifies the study population and sample, as well as the techniques used for data analysis. Therefore, the Method and Tools section ensures the scientific rigor and credibility of the research findings.

2.2. Procedures of the Survey Study:

The main Survey Study Procedures generally include the following steps:

- Defining the objectives of the survey study and determining the aspects to be investigated.
- Selecting the survey sample from the target population according to appropriate sampling techniques.
- Designing the research questionnaire instrument based on the study objectives and variables.
- Conducting a pilot study to test the clarity, validity, and reliability of the research instrument.
- Administering the instrument and collecting data from the selected participants.
- Organizing, coding, and analysing the collected data using appropriate statistical methods.
- Interpreting the results in relation to the research questions and objectives.
- Drawing conclusions and making recommendations based on the findings of the survey study.

2.3. The Objectives of the Survey Study:

The objectives of The Survey Study can be defined as follows:

- To assess the feasibility of conducting the main study and identify any potential difficulties that may arise during data collection.

- To test the clarity, relevance, and appropriateness of the research instruments before their administration in the main study.

- To evaluate the validity and reliability of the research tools and ensure their suitability for the target population.

- To obtain preliminary information about the research problem and gain a better understanding of the study variables.

- To refine the research procedures, improve data collection methods, and make necessary adjustments before carrying out the full-scale study.

2.4. The Survey Study Limitations:

The limitations of this research are as follows:

2.4.1. Thematic Limitations: It consists of The Use of Mobile Applications for Pronunciation Practice among Algerian EFL Learners.

2.4.2. Spatial Limitations: The research is Confined to The Department of Letters and English Language in Mohamed BOUDIAF university of M'sila.

2.4.3. Temporal Limitations: The study was conducted during the second semester of the 2025/2026 academic year

2.4.4. Human Limitations: The focus is on All students of the Department of Letters and English Language at the University of M'sila.

2.4.5. Methodological Limitations: The focus is on descriptive approach.

2.5. Characteristics of the Survey Study Sample:

The field study sample consisted of 30 participants selected from the target population in accordance with the objectives of the research. The participants were learners of English as

a Foreign Language (EFL) representing various academic levels and specializations, thereby ensuring a diverse and representative sample. To provide a comprehensive profile of the participants, demographic data were collected, including gender, academic level, and field of specialization. These variables were considered important for identifying potential variations among respondents and for enhancing the interpretability of the findings. Consequently, the selected sample was deemed appropriate for evaluating the study instrument and generating reliable data to support the objectives of the field study.

2.6. Study Instrument Development Procedures:

To collect the data required for the study, the researcher employed a questionnaire as the primary research instrument. In developing this instrument, established principles and methodological guidelines for questionnaire design were carefully considered. Accordingly, a questionnaire was constructed to assess the extent to which mobile phone applications are used for pronunciation practice among learners of English as a Foreign Language (EFL). The instrument was specifically designed to capture participants' perceptions and patterns of use regarding mobile-assisted pronunciation learning.

Table 01:

Distribution of Questionnaire Items Across Dimension.

Dimensions	Item Numbers	Number of Items
Perceived Usefulness	01 – 06	06
Ease of Use	07 – 12	06
Motivation and Engagement	13 – 18	06
Feedback and Improvement	19 – 24	06
Autonomy and Accessibility	25 – 30	06
Total	/	**30**

Source: Prepared by the researcher.

2.7. SurveyScoring Method:

The questionnaire used a five-point Likert scale (Strongly Agree = 5, Agree = 4, Neutral = 3, Disagree = 2, Strongly Disagree = 1). The maximum score was 150 (5 × 30), and the minimum was 30 (1 × 30). The scale's range is (150 - 30 = 120), divided by 5 points to create equal intervals of (24).

The most widely used scoring benchmark splits the range of possible averages into 5 equal intervals of (0,80) (derived from calculating. In other words, the interpreting a 5 - point Likert scale involves assigning numerical values (usually 1 through 5) to responses and calculating descriptive statistics like the mean. The scale's range is (5 - 1 = 4), divided by 5 points to create equal intervals of (0,80).

The formula Max-Min/Number of categories provides the standardized interval width of (0,80), translating a 5 - point Likert scale average into five uniform interpretive bands.

a. By the whole method:

Figure 01:

Structure of a The formula Max-Min/Number of categories (whole).

$$\frac{Max - Min}{Nomber\ of\ Categories} = \frac{150 - 30}{5} = \frac{120}{5} = 24$$

Table 02:

Intervals of Participant Response Scores and Judgment (the whole method).

Interval	Judgment
[30 – 54[	Strongly Disagree / Very
[54 – 78[	Disagree / Low
[78 – 102[	Neutral / Moderately High
[102 –	Agree / High
[126 –	Strongly Agree / Very High

Source: Prepared by the researcher.

b. By the part method:

Figure 02:

Structure of a The formula Max-Min/Number of Categories (partial).

$$\frac{Max - Min}{Nomber\ of\ Categories} = \frac{5-1}{5} = \frac{4}{5} = 0,80$$

Table 03:

Intervals of Participant Response Scores and Judgment (the part method).

Interval	Judgment
[1,00 –	Strongly Disagree / Very
[1,80 –	Disagree / Low
[2,60 –	Neutral / Moderately High
[3,40 –	Agree / High
[4,20 –	Strongly Agree / Very High

Source: Prepared by the researcher.

2.8. The Study Instrument Psychometric Properties:

The questionnaire was administered to a pilot sample of (30) male and female students from Mohamed Boudiaf University in M'sila, outside the main sample, in order to determine the validity of the scientific transactions (validity and reliability).

2.9. Validity:

2.9. 1. The Content Validity (Using the Judges' Validity):

The content validity of the questionnaire, in its initial translated version, was verified by presenting the instrument to a panel of expert reviewers. This review aimed to assess:

- The clarity and linguistic formulation of the items,
- The representation of the items of the three theoretical dimensions measured by the scale,
- The suitability of the scale for the target age group (university's students),
- Its compatibility with the Algerian cultural context. The reviewers unanimously agreed on the validity and wording of the items, finding no need to delete or modify any item. This reflects the questionnaire's face validity and its coverage of the theoretically intended dimensions.

The Lawshe equation, also known as the Content Validity Ratio (CVR), is a mathematical formula used in research to quantify expert consensus on whether a specific test item or question is essential to a construct.

The standard formula for Lawshe's equation is:

Figure 03:

The Law She Equation.

$$CVR = \frac{n_e - \frac{N}{2}}{\frac{N}{2}}$$

Where:

- CVR = Content Validity Ratio (falls between (-1,0) and (+1,0).
- n_e = Number of panellists rating the item as "essential".
- N = Total number of subject matter experts (SMEs) on the panel.

Note: It is unfortunate that out of 21 expert professors, only two respond to the request to review the questionnaire (this is part of the difficulties of conducting scientific research).

2.9.2. The Internal Consistency Validity:

Internal consistency refers to the extent to which all items in a test or survey measure the same underlying construct or concept. It is a crucial form of reliability, ensuring that different questions designed to evaluate a single topic produce similar, highly correlated results.

Table 04:

The Internal Consistency Validity.

N S	Items	Corr Coef With Dimensions	Sig	Decision	Corr Coef With Overall Score	Sig	Decision
01	Mobile apps help me improve my English pronunciation.	0,618**	0,000	Signification	0,386*	0,035	Signification
02	Using mobile apps enhances my speaking accuracy.	0,571**	0,001	Signification	0,486**	0,007	Signification
03	Pronunciation apps make learning more effective.	0,788**	0,000	Signification	0,473**	0,008	Signification
04	I notice improvement in my pronunciation after using apps.	0,739**	0,000	Signification	0,401*	0,028	Signification
05	Mobile apps help me learn correct stress and intonation.	0,759**	0,000	Signification	0,394*	0,031	Signification
06	These apps are useful for practicing difficult sounds.	0,773**	0,000	Signification	0,521**	0,003	Signification
07	Mobile pronunciation apps are easy to use.	0,716**	0,000	Signification	0,506**	0,004	Signification
08	I find app instructions clear and understandable.	0,844**	0,000	Signification	0,706**	0,000	Signification
09	I can practice pronunciation without technical difficulties.	0,733**	0,000	Signification	0,528**	0,003	Signification
10	Navigation within pronunciation apps is simple.	0,743**	0,000	Signification	0,670**	0,000	Signification
11	I quickly learn how to use new pronunciation apps.	0,739**	0,000	Signification	0,685**	0,000	Signification
12	Using these apps does not require special skills.	0,635**	0,000	Signification	0,433*	0,017	Signification
13	Mobile apps motivate me to practice pronunciation regularly.	0,780**	0,000	Signification	0,646**	0,000	Signification
14	I enjoy using apps to improve my pronunciation.	0,715**	0,000	Signification	0,562**	0,001	Signification

15	App features (games, rewards, etc.) make learning fun.	0,539**	0,002	Signification	0,377*	0,040	Signification
16	I feel more confident when practicing with apps.	0,774**	0,000	Signification	0,612**	0,000	Signification
17	I am more engaged when learning pronunciation through apps.	0,693**	0,000	Signification	0,673**	0,000	Signification
18	I spend more time practicing pronunciation using apps.	0,647**	0,000	Signification	0,600**	0,000	Signification
19	Mobile apps provide useful feedback on my pronunciation.	0,803**	0,000	Signification	0,607**	0,000	Signification
20	I can identify my pronunciation mistakes through apps.	0,846**	0,000	Signification	0,637**	0,000	Signification
21	Instant feedback helps me improve faster.	0,742**	0,000	Signification	0,687**	0,000	Signification
22	Apps help me compare my pronunciation with native speakers.	0,866**	0,000	Signification	0,757**	0,000	Signification
23	Feedback from apps is clear and understandable.	0,840**	0,000	Signification	0,695**	0,000	Signification
24	I correct my pronunciation based on app feedback.	0,757**	0,000	Signification	0,580**	0,001	Signification
25	I can practice pronunciation anytime using mobile apps.	0,530**	0,003	Signification	0,535**	0,002	Signification
26	Mobile apps allow me to learn at my own pace.	0,719**	0,000	Signification	0,591*	0,001	Signification
27	I do not need a teacher to practice pronunciation with apps.	0,771**	0,000	Signification	0,684**	0,000	Signification
28	Mobile apps make pronunciation practice more flexible.	0,764**	0,000	Signification	0,649**	0,000	Signification
29	I rely on mobile apps for independent pronunciation practice.	0,858**	0,000	Signification	0,698**	0,000	Signification
30	Mobile apps increase my responsibility for learning pronunciation.	0,734**	0,000	Signification	0,722**	0,000	Signification

Source: SPSS output version 26.

- (**) Correlation Coefficient at Significance Level (0.01).

- (*) Correlation Coefficient at Significance Level (0.05).

- Corr Coef: Correlation Coefficient.

The Internal Consistency Validity results showed that the values ranged from (0,530) to (0,866) For the Correlation Coefficient with Dimensions, while the Correlation Coefficient with the Overall Score the values ranged from (0,377) to (0,757). These values are considered relatively high and indicate a good level of consistency among the items of the scale.

Therefore, the instrument demonstrates acceptable validity and can be considered reliable for measuring the targeted variables.

2.9.3. The Construct Validity:

Construct validity is the extent to which a test or measurement accurately measures the abstract, non-observable concept (construct) it was designed to evaluate.

Table 05:

The Construct Validity.

N S	Dimensions	Correlation Coefficient	Sig	Decision
01	Perceived Usefulness	0,628**	0,000	Signification
02	Ease of Use	0,799**	0,000	Signification
03	Motivation and Engagement	0,849**	0,000	Signification
04	Feedback and Improvement	0,812**	0,000	Signification
05	Autonomy and Accessibility	0,881**	0,000	Signification

Source: SPSS output version 26.

- (**) Correlation Coefficient at Significance Level (0,01).
- (*) Correlation Coefficient at Significance Level (0,05).

The Construct Validity results revealed that the values ranged from (0,628) in the first dimension to (0,866) in the fifth dimension. These values are considered high and indicate strong relationships between the dimensions and the overall construct. Therefore, the scale demonstrates good construct validity and is appropriate for measuring the intended concept.

2.10. Reliability:

2.10.1. Cronbach's Alpha Internal Consistency:

To verify the reliability of the study instrument, the **Cronbach's Alpha Internal Consistency** method was employed. The scale was administered to a group inside the study sample, consisting of 30 students. In addition, internal consistency reliability was assessed

using Cronbach's alpha coefficient. Table (06) presents the internal consistency coefficients according to Cronbach's alpha, for each Dimension and for the instrument as a whole.

Table 06:

Cronbach's Alpha Internal Consistency for the Dimensions and Total Score.

NS	Dimensions Ranking	Identification	Internal Consistency (Cronbach's Alpha)
01	First dimension	Perceived Usefulness	0,801
02	Second dimension	Ease of Use	0,823
03	Third dimension	Motivation and Engagement	0,772
04	Fourth dimension	Feedback and Improvement	0,894
05	Fifth dimension	Autonomy and Accessibility	0,829
07	**Total Score**		**0,934**

Source: SPSS output version 26.

The table (06) shows that all dimensions achieved high Internal Consistency values, with Cronbach's Alpha coefficients ranging from 0,772 to 0,894. The highest reliability was recorded in the "Feedback and Improvement" dimension (0,894), while the "Motivation and Engagement" dimension showed the lowest value (0,772), which is still acceptable. Moreover, the total score reached 0.934, indicating excellent overall reliability of the instrument.

It is evident from table (06) that all correlation coefficients between the scores of each dimension and the total score of the questionnaire are statistically significant at the levels of (0.01) and (0.05). Their values ranged from (0,628) for the first dimension (Perceived Usefulness) to (0,881) for the fifth dimension (Autonomy and Accessibility). This indicates that most correlation coefficients were statistically significant, confirming that the dimensions possess a high degree of internal consistency for measuring The Use of Mobile Applications for Pronunciation Practice.

2.11. Summary of Validity and Reliability:

Table 07:

Summary of Validity and Reliability.

Psychometric Characteristics	Type	Value	Significance
Tool Validity	Judges' Validity	Agreement between judges: 100 %	High
	Internal Consistency Validity	Perceived Usefulness Dimension: 0,628**	Significant
		Ease of Use Dimension: 0,799**	Significant
		Motivation and Engagement Dimension: 0,849**	Significant
		Feedback and Improvement Dimension: 0,812**	Significant
		Autonomy and Accessibility Dimension: 0,881**	Significant
Tool Reliability	**Cronbach's Alpha Equation**	Total Score: 0.934 **	High

Source: Prepared by the researcher.

2.12. The Main Study:

2.12.1. The Study Method:

This study employed a quantitative methodology to examine the use of mobile phone applications for pronunciation practice among Algerian learners of English as a foreign language. Also, the Methods and procedures will be followed regarding the collection of information on the topic. One of the most important scientific research methods that is appropriate to the current research topic is the descriptive analytical method, which is used to describe problems or phenomena as they are in reality, without the researcher's intervention in them.

The study adopted a descriptive-analytical approach in its quantitative form, suitable for examining perceptions and identifying statistical patterns **(Creswell, 2014)**.

2.12.2. The Study Population:

A comprehensive survey method yielded a sample of 30 students (75 % of the population), deemed methodologically sound for descriptive studies (Sekaran & Bougie, 2016).The population comprised all (1039) students (males and females) at the Department of Letters and English Language Mohamed BOUDIAF university in M'sila, as reported in 2026.

Table 08:

Characteristics of Population.

NS	Option	Level	Specialty	Frequency	Percentage	Percentage for Population
01	Licence	Licence	First Year	**246**	**39,42 %**	**23,68 %**
02			Second Year	**222**	**35,58 %**	**21,37 %**
03			Third Year	**156**	**25,00 %**	**15,01 %**
04			**Total**	**624**	**100 %**	**60,06 %**
05	Master	Master One	Linguistics	**79**	**37,80 %**	**7,60 %**
06			Civilisation	**82**	**39,23 %**	**7,89 %**
07			Didactics	**48**	**22,97 %**	**4,62 %**
08			**Total**	**209**	**100 %**	**20,12 %**
09		Master Two	Linguistics	**85**	**41,26 %**	**8,18 %**
10			Civilisation	**66**	**32,04 %**	**6,35 %**
11			Didactics	**55**	**26,70 %**	**5,29 %**
12			**Total**	**206**	**100 %**	**19,83 %**
			Total Score	**1039**		**100 %**

Source: Department Administration, 2026.

To obtain a representative sample size of the original population, Taro Yaman's equation was used.

The Taro Yamane formula is expressed as:

Figure 04:

The Taro Yamane Formula.

$$\boldsymbol{n = \frac{N}{1 + N\,(d)^2}}$$

Where:

N: The total population size.

n: The desired/computed sample size.

d: The acceptable margin of error (or level of precision), usually expressed as: 0,05 or 0,01.

$$n = \frac{1039}{1 + 1039\ (0{,}05)^2} = 289\ Students$$

Note: It is unfortunate that out of 1039 students, only 40 responded (this is due to the difficulties in completing scientific research).

2.12.3. The Study Sample:

This study has 40 students enrolled at the University of M'sila, recruited through a convenience sampling using an electronic questionnaire that was sent by digital media platforms. The diversity of the sample with respect to social characteristics allowed a better understanding of the use of mobile phone applications for pronunciation practice among learners of English as a foreign language.

2.12.3.1. Participants Characteristics:

a. By Gender:

Table 09:

Characteristics of Participants by Gender.

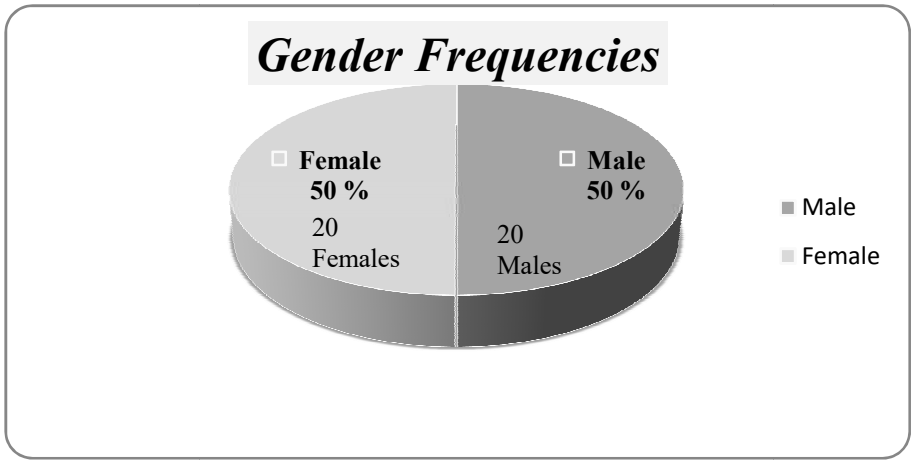
NS	Gender	Frequency	Percentage
01	**Male**	20	50,00 %
02	**Female**	20	50,00 %
	Total	40	100 %

Source: Department Administration, 2026.

Table (09) indicates that the majority of participants in the study were female, accounting for (50 %) of the total sample, compared to only (50 %) for males.

Figure 05:

Characteristics of Participants by Gender.



b. Academic Level:

Table 10:

Characteristics of Participants by Academic Level.

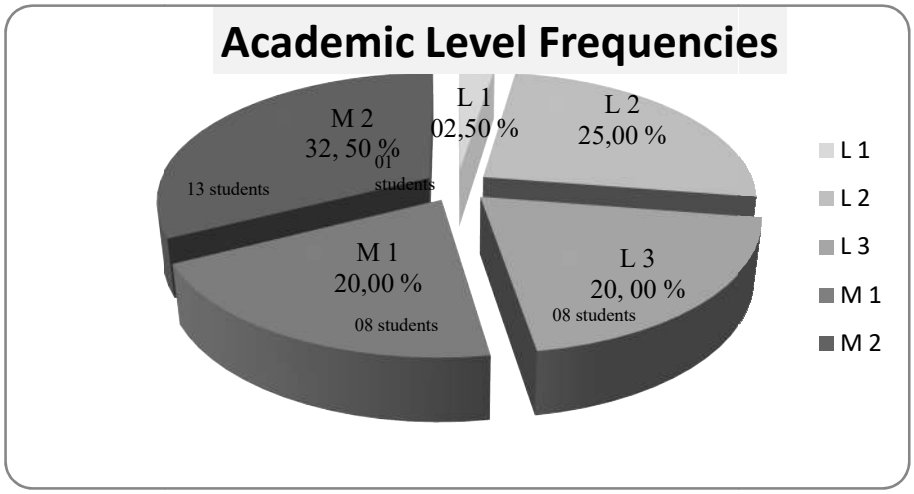
NS	Educational Level	Frequency	Percentage
01	**L 1**	01	02,50 %
02	**L 2**	10	25,00 %
03	**L 3**	08	20,00 %
04	**M 1**	08	20,00 %
05	**M 2**	13	32,50 %
	Total	40	100 %

Source: Department Administration, 2026.

Table (10) shows the classification of the participants according to their educational level, indicating a diversity within the sample. The highest percentage was recorded for “M2” students with (32,50 %), which reflects a strong participation of postgraduate students in the study. This is followed by “L2” students at (25,00 %), while both “L3” and “M1” represented equal percentages of (20,00 %) each, showing a balanced representation between these academic levels. In contrast, “L1” students had the lowest participation rate with only (2,50 %), indicating limited representation of first-year students in the sample.

Figure 06:

Characteristics of Participants by Academic Level.



c. Specialty:

Table 11:

Characteristics of Participants by Specialty.

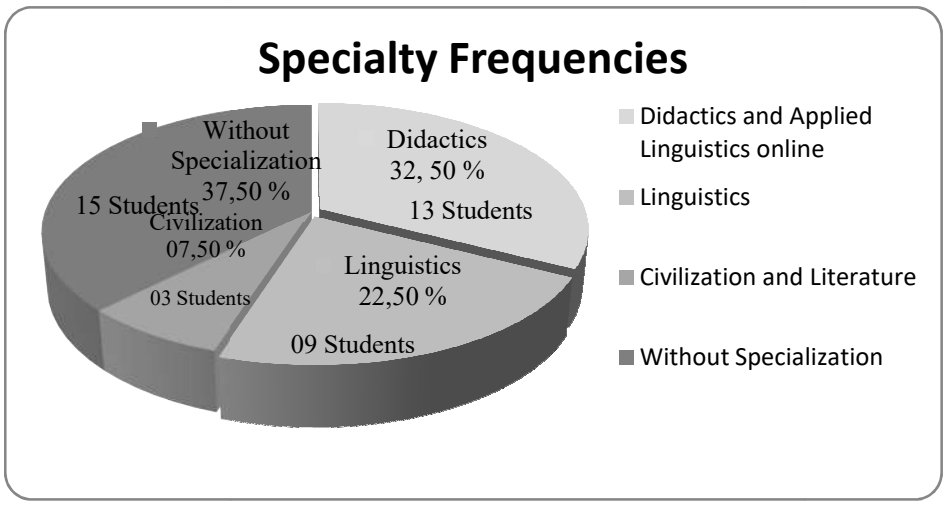
NS	Specialty	Frequency	Percentage
01	Didactics and Applied Linguistics online	13	32,50 %
02	Linguistics	09	22,50 %
03	Civilization and Literature	03	07,50 %
04	Without Specialization	15	37,50 %
	Total	40	100 %

Source: Department Administration, 2026.

Table (11) The table shows the classification of the participants according to their specialty, indicating a certain diversity within the sample. The highest percentage was recorded in the "Without Specialization" category (37,50 %), which reflects that a considerable number of participants do not belong to a specific academic specialization. This is followed by "Didactics and Applied Linguistics online" with (32,50 %), showing a relatively high representation of participants specialized in language teaching and applied linguistics. "Linguistics" accounted for (22,50 %) of the sample, whereas "Civilization and Literature" represented the lowest percentage with only (07,50 %), indicating limited participation from this specialty.

Figure 07:

Characteristics of Participants by Specialty.



Source: Excel program outputs, 2007.

2.13. The Study Limitations:

The limitations of this research are as follows:

2.13.1. Thematic Limitations: It consists of The Use of Mobile Applications for Pronunciation Practice among Algerian EFL Learners.

2.13.2. Spatial Limitations: The research is Confined to The Department of Letters and English Language in Mohamed BOUDIAF university of M'sila.

2.13.3. Temporal Limitations: The study was conducted during the second semester of the 2025/2026 academic year.

2.13.4. Human Limitations: The focus is on All students of the Department of Letters and English Language at the University of M'sila.

2.13.5. Methodological Limitations: The focus is on descriptive approach.

2.14. The Study Instrument General Description:

The primary instrument used in this study was a structured questionnaire designed to investigate learners' perceptions of mobile applications for pronunciation practice. The questionnaire consisted of items covering five dimensions: Perceived Usefulness, Ease of

Use, Motivation and Engagement, Feedback and Improvement, and Autonomy and Accessibility. Responses were measured using a five-point Likert scale ranging from strongly disagree to strongly agree. The instrument was developed based on relevant literature and previous studies in Mobile-Assisted Language Learning (MALL). It was administered to EFL learners to collect quantitative data related to the study objectives.

2.15. The Study Design and Procedures:

This study adopted a descriptive survey research design to explore learners' perceptions of using mobile applications for pronunciation practice. Data were collected through a questionnaire administered to the selected participants. The collected responses were coded, organized, and analysed using appropriate statistical techniques. Ethical considerations, including voluntary participation and confidentiality, were respected throughout the research process. The procedures were carefully implemented to ensure the reliability and validity of the obtained data.

2.15.1. Study Design:

The present study employed a descriptive quantitative design, which was considered appropriate for investigating participants' perceptions and attitudes toward mobile-assisted pronunciation learning. This design enabled the researcher to gather numerical data from a relatively large sample and analyse it statistically. It focused on describing existing phenomena without manipulating any variables. The descriptive approach provided a clear understanding of learners' views regarding the effectiveness of mobile applications for pronunciation practice. Consequently, it allowed for the accurate interpretation of the collected data and the achievement of the study objectives.

- **Independent Variables:** Gender, Academic Level, Specialty.
- **Dependent Variable:** The Pronunciation Practice among Algerian EFL Learners.

2.15.2. Study Procedures:

After reviewing various studies, theories, and concepts, and mastering analysis, observation, interpretation, and the ability to connect similarities and identify the main and different components for constructing a questionnaire, the researcher proposed the main components and dimensions of the topic. These dimensions are appropriate for the use of mobile applications for pronunciation practice among learners of English as a foreign language. The researcher developed five dimensions for the scale and their operational definitions: (perceived benefit, ease of use, motivation and participation, feedback and improvement, and independence and accessibility).

1. Collected secondary data to establish the theoretical framework.

2. Finalized the questionnaire after validation and reliability testing, then distributed it to the sample.

3. Compiled and processed responses using statistical software.

4. Interpreted results and formulated recommendations.

2.15.3. The Statistical Analysis Techniques Used:

The following statistical methods were employed in the study:

- Pearson Correlation Coefficient, for measuring validity.
- Cronbach's Alpha Coefficient, for measuring reliability.
- Arithmetic Mean and Standard Deviation.
- Percentages.
- One-Sample T-test to calculate differences.
- One Way ANOVA. Besides, we relied on (SPSS, V 26) to analyse data after reviewing, quantifying, and coding them to facilitate their tabulation.

2.15.4. Inference:

The Method and Tools adopted in this study were appropriate for achieving the research objectives and answering the research questions. The selected methodology provided a systematic framework for collecting and analysing the required data.

Furthermore, the research instrument proved to be valid and reliable for measuring the study variables. The procedures followed ensured the accuracy and credibility of the findings. Therefore, the chosen method and tools contributed significantly to the scientific rigor and overall quality of the study.

CHAPTER THREE:

RESULTS, DISCUSSION AND RECOMMENDATIONS

3.1. Introduction:

The Results and Discussion section is one of the most important parts of a research study, as it presents and interprets the findings obtained from data analysis. It enables the researcher to answer the research questions and test the proposed hypotheses. In this section, the results are presented objectively through tables, figures, and statistical analyses. The findings are then discussed and interpreted in relation to the theoretical framework and previous studies. Therefore, this section contributes to understanding the significance of the results and their implications for the research problem.

3.2. Test of Normality:

Since the sample size is less than 50, i.e. we have 40 individuals, we choose the Shapiro-Wilk test to test for normality.

Before proceeding with the statistical operations and treatments of the hypotheses, the student made sure that the nature of the data followed a normal distribution or not, with the aim of choosing the appropriate statistical methods and tools for the hypotheses in order to ultimately obtain real results. To find out the type of distribution, the student performed the Shapiro-Wilk Test, sometimes called good fit or goodness of fit, and Table N° (00) shows the results of the Shapiro-Wilk Test.

Table 12:

Tests of Normality (Shapiro-Wilk results).

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Total_Score	0,122	40	0,138	0,961	40	0,181

a. Lilliefors Significance Correction.

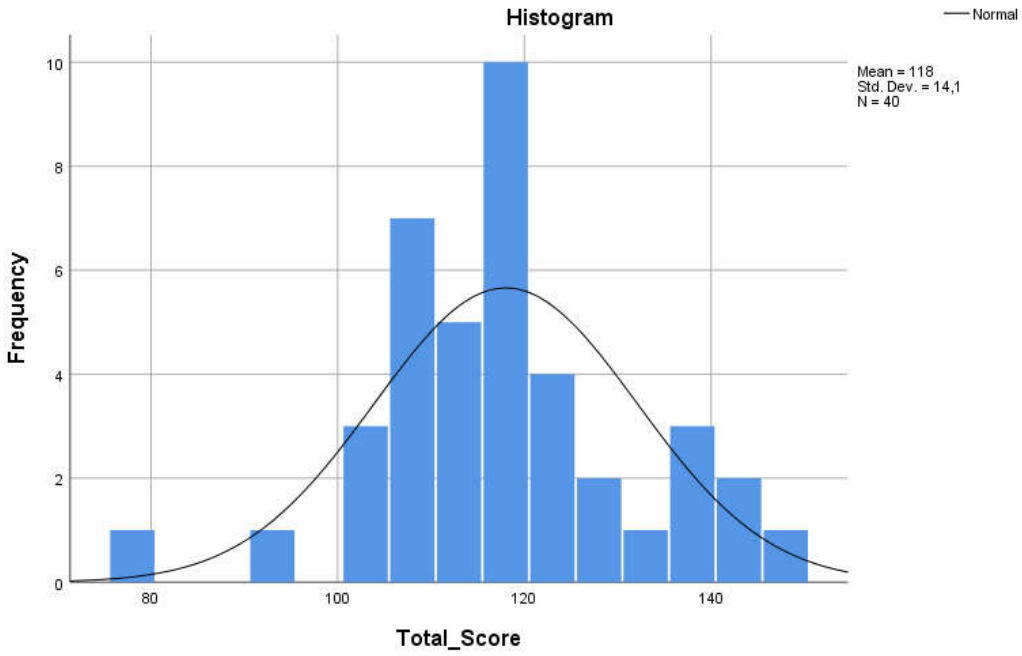
Source: SPSS output version 26.

The statistical analysis of the questionnaire results shows that the significance value (Sig = 0,181) according to the Shapiro-Wilk test is greater than (0,05), indicating that the

sample data were drawn from a population whose data follows a normal distribution. Figure (3.1) illustrates the normal distribution of the data collected by the data collection instrument.Therefore, we use parametric tests.

Figure 08:

Normal Distribution of Data from the Data Collection Instrument.



Source: SPSS outputs based on statistical data processing.

3.3. Presentation, Analysis of Study Results:

3.3.1. Main Research Hypothesis:

This hypothesis states that: "The level of use of mobile phone applications for pronunciation training among Algerian learners of English as a foreign language is high". To test the hypothesis, Calculated the Descriptive statistics (means, standard deviations, percentages) were used to analyse responses. Scores were converted to a five-point scale (1–5), with intervals of 0,80:

- very high (≥ 4,20, ≥ 80 %),

- high (3,40 – 4,20, 70 – 80 %),

- moderate (2.60 – 3.40, 60 – 70 %),

- low (1.80 – 2.60, 50 – < 60 %),

- and very low (< 1,80, < 50 %).

Table 13;

Means, Standard Deviations, Percentages, Rank, and Level.

NS	Items	Mean	SD	Percentage (%)	Rank	Level
01	Mobile apps help me improve my English pronunciation.	4,13	0,607	82,50	04	High
02	Using mobile apps enhances my speaking accuracy.	4,18	0,747	83,50	03	High
03	Pronunciation apps make learning	4,05	0,749	81,00	07	High
04	I notice improvement in my pronunciation after using apps.	4,03	0,698	80,50	10	High
05	Mobile apps help me learn correct stress and intonation.	4,05	0,749	81,00	07	High
06	These apps are useful for practicing difficult sounds.	4,20	0,687	84,00	01	Very High
07	Mobile pronunciation apps are easy	3,98	0,733	79,50	15	High
08	I find app instructions clear and	3,85	0,770	77,00	25	High
09	I can practice pronunciation without technical difficulties.	3,88	0,791	77,50	20	High
10	Navigation within pronunciation apps	3,65	0,893	73,00	27	High
11	I quickly learn how to use new pronunciation apps.	4,03	0,832	80,50	10	High
12	Using these apps does not require	3,88	0,992	77,50	20	High
13	Mobile apps motivate me to practice pronunciation regularly.	3,95	0,846	79,00	18	High
14	I enjoy using apps to improve my	4,13	0,723	82,50	04	High
15	App features (games, rewards, etc.) make learning fun.	4,05	0,749	81,00	07	High
16	I feel more confident when practicing	4,00	0,751	80,00	13	High
17	I am more engaged when learning pronunciation through apps.	3,78	1,050	75,50	26	High
18	I spend more time practicing pronunciation using apps.	3,20	1,114	64,00	30	Moderate
19	Mobile apps provide useful feedback on my pronunciation.	3,93	0,997	78,50	19	High

20	I can identify my pronunciation mistakes through apps.	3,88	0,939	77,50	20	High
21	Instant feedback helps me improve	4,20	0,758	84,00	01	Very High
22	Apps help me compare my pronunciation with native speakers.	3,98	0,947	79,50	15	High
23	Feedback from apps is clear and	3,88	0,853	77,50	20	High
24	I correct my pronunciation based on app feedback.	4,00	0,877	80,00	13	High
25	I can practice pronunciation anytime using mobile apps.	4,10	0,810	82,00	06	High
26	Mobile apps allow me to learn at my	4,03	1,025	80,50	10	High
27	I do not need a teacher to practice pronunciation with apps.	3,55	0,876	71,00	29	High
28	Mobile apps make pronunciation practice more flexible.	3,98	0,733	79,50	15	High
29	I rely on mobile apps for independent pronunciation practice.	3,65	0,975	73,00	27	High
30	Mobile apps increase my responsibility for learning	3,88	0,853	77,50	20	High

Source: SPSS output version 26.

- **SD:** Standard Deviation.

The Table (13) indicates the descriptive statistics of respondents' perceptions regarding the use of mobile applications for pronunciation practice among Algerian EFL learners. Overall, the results indicate highly positive attitudes toward the effectiveness, usability, motivational value, feedback quality, and autonomous learning opportunities provided by mobile pronunciation applications. Most items obtained high or very high levels of agreement, with mean scores ranging from (3,20 to 4,20) and percentages ranging from (64,00 % to 84,00 %).

Within the Perceived Usefulness dimension (Items 1 – 6), all statements achieved high or very high levels of agreement. The highest-ranked item was "These apps are useful for practicing difficult sounds" (M = 4,20, SD = 0,687, 84,00 %), indicating that learners strongly value mobile applications as effective tools for mastering challenging pronunciation features. Similarly, the items related to improving speaking accuracy (M = 4,18) and enhancing pronunciation performance (M = 4,13) received high levels of endorsement. These findings

suggest that participants perceive mobile applications as valuable educational resources that contribute significantly to pronunciation development.

Regarding the Ease of Use dimension (Items 7 – 12), participants generally expressed favourable opinions about the usability of mobile applications. The highest mean within this dimension was recorded for the statement “I quickly learn how to use new pronunciation apps” (M = 4,03, SD = 0,832), indicating that learners adapt easily to new technological tools. However, the item “Navigation within pronunciation apps is simple” received a comparatively lower mean score (M = 3,65, SD = 0,893), suggesting that some learners may encounter minor difficulties when navigating application interfaces. Nevertheless, all items remained within the high level category, reflecting overall satisfaction with application usability.

In the Motivation and Engagement dimension (Items 13 – 18), the results demonstrate that mobile applications contribute positively to learner motivation. The item “I enjoy using apps to improve my pronunciation” achieved a high mean score (M = 4,13, SD = 0,723), indicating strong learner enjoyment and interest. Likewise, the presence of interactive features such as games and rewards was positively evaluated (M = 4,05). However, the statement “I spend more time practicing pronunciation using apps” obtained the lowest mean score in the entire questionnaire (M = 3,20, SD = 1,114), corresponding to a moderate level. This finding suggests that although learners appreciate mobile applications, this appreciation does not necessarily translate into extended practice time for all participants.

The Feedback and Improvement dimension (Items 19 – 24) also yielded highly positive results. The statement “Instant feedback helps me improve faster” ranked first jointly among all items (M = 4,20, SD = 0,758, 84,00 %). This result highlights the importance of immediate corrective feedback in promoting pronunciation learning. Furthermore, participants reported that applications help them identify and correct

pronunciation errors effectively, demonstrating the pedagogical value of feedback mechanisms embedded in pronunciation applications.

Concerning the Autonomy and Accessibility dimension (Items 25 – 30), respondents acknowledged the flexibility and independence offered by mobile applications. The item "I can practice pronunciation anytime using mobile apps" obtained a high mean score (M = 4,10, SD = 0,810), emphasizing the convenience of mobile learning. Similarly, participants agreed that applications allow them to learn at their own pace (M = 4,03). Nevertheless, the item "I do not need a teacher to practice pronunciation with apps" recorded a relatively lower mean score (M = 3,55, SD = 0,876), suggesting that while learners value autonomous learning, many still recognize the importance of teacher guidance in pronunciation development.

An examination of the standard deviations reveals generally low to moderate dispersion, indicating a reasonable degree of agreement among participants. Most SD values ranged between (0,60 and 1,00, reflecting consistency in responses. The highest variability was observed for the item concerning spending more time practicing pronunciation through applications (SD = 1,114), suggesting differing experiences among learners regarding actual usage patterns.

In conclusion, the findings clearly demonstrate that Algerian EFL learners hold positive perceptions toward the use of mobile applications for pronunciation practice. Participants particularly value the usefulness of these applications, their ability to provide immediate feedback, and the flexibility they offer for autonomous learning. Although motivation and engagement levels were generally high, the moderate score related to practice duration suggests that future efforts should focus on encouraging more sustained and regular use of mobile applications for pronunciation improvement. Overall, the results provide strong evidence supporting the integration of mobile-assisted pronunciation learning into EFL educational contexts.

To confirm the results of the first hypothesis, increase certainty, and provide additional reliability, the hypothetical mean was used, and these are the results below.

Table 14:

One-Sample Statistics Results.

N S	Dimensions	N	Mean	Std. Deviation	Std. Error Mean
01	Perceived Usefulness	40	24,63	3,152	0,498
02	Ease of Use	40	23,25	3,664	0,579
03	Motivation and Engagement	40	23,10	3,636	0,575
04	Feedback and Improvement	40	23,85	4,246	0,671
05	Autonomy and Accessibility	40	23,18	3,615	0,572
Overall Score		40	118 ,00	14,100	2,229

Source: SPSS output version 26.

The table (14) presents the descriptive statistics of the five dimensions measuring learners' perceptions of mobile applications for pronunciation practice. The results show that all dimensions obtained relatively high mean scores, indicating positive attitudes toward the use of mobile applications in learning English pronunciation. Thehighest mean score was recorded for the Perceived Usefulness dimension (M = 24,63, SD = 3,152), suggesting that participants strongly recognized the benefits of mobile applications in improving their pronunciation skills. This was followed by the Feedback and Improvement dimension (M = 23,85, SD = 4,246), highlighting the importance of feedback features in supporting pronunciation development. The dimensions of Ease of Use (M = 23,25), Autonomy and Accessibility (M = 23,18), and Motivation and Engagement (M = 23,10) also yielded favorable mean scores, reflecting positive learner experiences across these aspects. Furthermore, the relatively low standard error values indicate that the sample means are reliable estimates of the population means. Overall, the total mean score (M = 118,00, SD = 14,100) confirms that participants held generally positive perceptions regarding the use of mobile applications for pronunciation practice.

Table 15:

One Sample t Test Compares the Mean with a Hypothetical value.

NS	Dimensions	t	df	Sig. (2-tailed)	Mean Difference	95 % Confidence Interval of the Difference	
						Lower	Upper
01	Perceived Usefulness	13,295	39	0,000	6,625	5,62	7,63
02	Ease of Use	9,063	39	0,000	5,250	4,08	6,42
03	Motivation and Engagement	8,871	39	0,000	5,100	3,94	6,26
04	Feedback and Improvement	8,714	39	0,000	5,850	4,49	7,21
05	Autonomy and Accessibility	9,053	39	0,000	5,175	4,02	6,33
Overall Score		12,559	39	0,000	28,000	23,49	32,51

Source: SPSS output version 26.

The table (15) showed the results of the One-Sample t-test conducted to examine whether the participants' responses toward the use of mobile applications for pronunciation practice significantly differed from the hypothetical mean. The findings reveal that all calculated t-values are very high and statistically significant at the level of (0,000), which is lower than the adopted significance level of (0,05). This indicates that the participants' responses were significantly positive across all dimensions of the study.

Regarding the "Perceived Usefulness" dimension, the calculated t-value reached (13,295) with a mean difference of (6,625). The confidence interval ranged between (5,62) and (7,63), which does not include zero, confirming the statistical significance of the result. This finding suggests that participants strongly perceived mobile applications as useful tools for improving English pronunciation practice.

For the "Ease of Use" dimension, the obtained t-value was (9,063) with a mean difference of (5,250). The confidence interval ranged from (4,08 to 6,42), indicating a stable and reliable difference. These results demonstrate that learners generallyconsidered mobile applications easy to use and accessible for pronunciation learning purposes.

Similarly, the “Motivation and Engagement” dimension produced a statistically significant t-value of (8,871) and a mean difference of (5,100). The confidence interval values (3,94 – 6,26) further support the reliability of this result. This finding reflects that mobile applications contributed positively to increasing learners’ motivation and engagement during pronunciation practice activities.

Concerning the “Feedback and Improvement” dimension, the results showed a highly significant t-value of (8,714) with a mean difference of (5,850). The confidence interval extended from (4,49 to 7,21), confirming that participants positively evaluated the feedback features provided by mobile applications and their role in improving pronunciation accuracy and performance.

For the “Autonomy and Accessibility” dimension, the t-value reached (9,053) with a mean difference of (5,175). The confidence interval ranged between (4,02 and 6,33), which confirms the significance and consistency of the findings. This result indicates that participants appreciated the autonomous learning opportunities and the accessibility offered by mobile applications, allowing them to practice pronunciation independently at any time and place.

At the level of the “Overall Score,” the findings revealed a very high t-value of (12,559) with a mean difference of (28,000). The confidence interval ranged from (23,49 to 32,51), demonstrating a strong positive overall perception toward the use of mobile applications for pronunciation practice. The absence of zero within all confidence intervals confirms the robustness and statistical reliability of the results.

Overall, the results indicate that Algerian EFL learners hold highly positive attitudes toward the use of mobile applications for pronunciation practice across all studied dimensions. The statistically significant differences and high mean differences suggest that these applications play an effective role in enhancing pronunciation learning, improving

learner engagement, facilitating autonomous learning, and providing useful feedback for language development.

3.3.1.1. Ranking of Dimensions:

Descriptive statistics (means, standard deviations, percentages) were used to analyse responses. Scores were converted to a five-point scale (30 – 150), with intervals of (24) For Overall Score, While For Dimensions Scores were converted to a five-point scale (30 – 150), with intervals of (4,80)

For Dimensions

- very high (≥ 25,20, ≥ 80 %),
- high (20,40 – 25,20, 70 – 80 %),
- moderate (15,60 – 20,40, 60 – 70 %),
- low (10,80 – 15,60, 50 – < 60 %),
- and very low (< 10,80, < 50 %).

For Overall Score

- very high (≥ 126, ≥ 80 %),
- high (102 – 126, 70 – 80 %),
- moderate (78 – 102, 60 – 70 %),
- low (54 – 78, 50 – < 60 %),
- and very low (< 54, < 50 %).

Table 16:

Ranking of Dimensions by Expected Answer.

N S	Dimensions	IN	N	Mean	SD	Percentage (%)	Rank	Level
01	Perceived Usefulness	06	40	24,63	3,152	82,10	01	High
02	Ease of Use	06	40	23,25	3,664	77,50	03	High
03	Motivation and Engagement	06	40	23,10	3,636	77,00	05	High
04	Feedback and Improvement	06	40	23,85	4,246	79,50	02	High
05	Autonomy and Accessibility	06	40	23,18	3,615	77,27	04	High
Overall Score		30	40	118,00	14,100	78,67		High

Source: SPSS output version 26.

The table (16) Demonstrates the descriptive statistics of the five dimensions of the questionnaire and the overall score. The results indicate that all dimensions achieved a high level of evaluation, with percentages ranging from (77,00 % to 82,10 %), reflecting positive perceptions toward the use of mobile applications for pronunciation practice. The highest-

ranked dimension was Perceived Usefulness (M = 24,63, SD = 3,152, 82,10 %), suggesting that participants strongly acknowledged the effectiveness of mobile applications in improving their pronunciation skills. The Feedback and Improvement dimension ranked second (79,50 %), highlighting the importance of feedback features in supporting language learning. The dimensions of Ease of Use (77,50 %), Autonomy and Accessibility (77,27 %), and Motivation and Engagement (77,00 %) also received high ratings, indicating favourable learner experiences across these areas. Furthermore, the relatively moderate standard deviation values reveal a reasonable degree of agreement among participants. Overall, the total score achieved a high percentage of (78,67 % (M = 118,00, SD = 14,100), confirming that learners hold positive attitudes toward the use of mobile applications for pronunciation practice.

3.3.2. Second Research Hypothesis:

This hypothesis states that: "There were no statistically significant differences at the ($\alpha \leq 0,05$) level between the mean responses of university students regarding the Use of Mobile Applications for Pronunciation Practice among Algerian EFL Learners, attributable to the gender variable (male, female)". To test the hypothesis, an independent sample (t-test) was used, and the result was as shown in the following table:

Table 17:

Independent Samples Test Results.

Variables	Gender	N	Mean	SD	Levene Test			T	df	Sig	decision
					F	Sig	decision				
Perceived Usefulness	Male	20	25,40	2,604	1,590	0,215	Equal variances assumed	1,585	38	0,121	Non-Signification
	Female	20	23,85	3,514							
Ease of Use	Male	20	24,65	3,498	0,097	0,757	Equal variances assumed	2,587	38	0,014	Signification
	Female	20	21,85	3,345							
Motivation and Engagement	Male	20	23,50	3,606	0,137	0,714	Equal variances assumed	0,691	38	0,494	Non-Signification
	Female	20	22,70	3,715							
Feedback and Improvement	Male	20	24,30	4,485	0,877	0,355	Equal variances assumed	0,665	38	0,510	Non-Signification
	Female	20	23,40	4,057							

Autonomy and Accessibility	Male	20	23,40	3,676	0,031	0,861	Equal variances assumed	0,389	38	0,699	Non-Signification
	Female	20	22,95	3,634							
Overall Score	Male	20	121,25	13,599	0,002	0,962	Equal variances assumed	1,480	38	0,147	Non-Signification
	Female	20	114,75	14,175							

Source: SPSS output version 26.

The table (17) presents the results of the independent samples t-test according to gender differences regarding the use of mobile applications for pronunciation practice among Algerian EFL learners. The findings reveal that there are no statistically significant differences between male and female participants in most dimensions, namely Perceived Usefulness, Motivation and Engagement, Feedback and Improvement, Autonomy and Accessibility, as well as the Overall Score, since the significance values are higher than (0,05). However, a statistically significant difference was found in the "Ease of Use" dimension (Sig = 0,014 < 0,05) in favor of male participants, whose mean score (24,65) was higher than that of females (21,85).

Moreover, the Levene's Test results indicate that the variances are equal across all dimensions, as all significance values exceeded (0,05). These findings suggest that gender does not have a significant influence on most aspects of mobile application use for pronunciation practice, except for the perceived ease of use. Overall, both male and female learners showed relatively similar attitudes toward the use of mobile applications in pronunciation learning.

The table presents the results of the independent samples t-test conducted to examine gender differences regarding the use of mobile applications for pronunciation practice among Algerian EFL learners. Before interpreting the t-test results, Levene's Test for Equality of Variances was applied to determine whether the variances between male and female participants were homogeneous. The significance values of Levene's Test for all dimensions were higher than 0.05, indicating that the assumption of equal variances was met; therefore, the "Equal variances assumed" row was adopted in interpreting the results.

Regarding the “Perceived Usefulness” dimension, male participants obtained a higher mean score (M = 25,40, SD = 2,604) than females (M = 23,85, SD = 3,514). However, the significance value (Sig = 0,121) exceeded the 0,05 level, indicating that the difference between males and females was not statistically significant. This suggeststhat both genders similarly perceived the usefulness of mobile applications for pronunciation practice.

For the “Ease of Use” dimension, the findings revealed a statistically significant difference between male and female learners (t = 2,587, df = 38, Sig = 0,014 < 0,05). Male participants recorded a higher mean score (M = 24,65) compared to females (M = 21,85). This result indicates that male learners perceived mobile applications as easier to use than female learners. Such a difference may be related to variations in technological familiarity, confidence in using digital tools, or frequency of interaction with mobile applications.

Concerning the “Motivation and Engagement” dimension, males achieved a mean score of (23,50), while females obtained (22,70). Nevertheless, the significance level (Sig = 0,494) demonstrated that the observed difference was not statistically significant. This finding implies that both male and female participants shared relatively similar levels of motivation and engagement when using mobile applications for pronunciation learning.

Similarly, in the “Feedback and Improvement” dimension, male participants scored slightly higher (M = 24,30) than females (M = 23,40). Yet, the significance value (Sig = 0,510) was greater than (0,05), confirming the absence of statistically significant gender differences. Therefore, both groups appeared to have comparable perceptions regarding the role of mobile applications in providing feedback and improving pronunciation skills.

With respect to the “Autonomy and Accessibility” dimension, the mean scores of males (M = 23,40) and females (M = 22,95) were very close. The significance level (Sig = 0,699) further confirmed that no statistically significant difference existed between genders in this dimension. This suggests that both male and female learners equally appreciated the accessibility and autonomous learning opportunities offered by mobile applications.

At the level of the “Overall Score,” male participants obtained a higher mean score (M = 121,25, SD = 13,599) compared to females (M = 114,75, SD = 14,175). However, the significance value (Sig = 0,147) remained above the threshold of (0,05), indicating that the overall difference between genders was not statistically significant. Consequently, gender does not appear to play a decisive role in shaping learners’ overall perceptions and attitudes toward the use of mobile applications for pronunciation practice.

In general, the findings demonstrate that male and female Algerian EFL learners share similar perceptions regarding most dimensions related to mobile-assisted pronunciation learning. The only significant difference emerged in the “Ease of Use” dimension, favouring male participants. This may indicate the need to provide additional technical guidance or training for some learners to ensure equal ease of access and interaction with mobile learning applications.

3.3.3. Third Research Hypothesis:

This hypothesis states that: "There were no statistically significant differences at the ($\alpha \leq 0,05$) level between the mean responses of university students regarding the Use of Mobile Applications for Pronunciation Practice among Algerian EFL Learners, attributable to the specialty variable (Licence, Didactics and Applied Linguistics online, Linguistics, Civilization and Literature)".

Table 18:

One Way Anova Results.

Variables	Groups	Sum of Squares	df	Mean Square	F	Sig.	
Perceived Usefulness	Between Groups	98,667	3	32,889	4,101	0,013	Signification
	Within Groups	288,708	36	8,020			
	Total	387,375	39				
Ease of Use	Between Groups	75,319	3	25,106	2,017	0,129	Non-Signification

	Within Groups	448,181	36	12,449			
	Total	523,500	39				
Motivation and Engagement	Between Groups	122,923	3	40,974	3,756	0,019	Signification
	Within Groups	392,677	36	10,908			
	Total	515,600	39				
Feedback and Improvement	Between Groups	139,469	3	46,490	2,969	0,045	Signification
	Within Groups	563,631	36	15,656			
	Total	703,100	39				
Autonomy and Accessibility	Between Groups	42,585	3	14,195	1,094	0,364	Non-Signification
	Within Groups	467,190	36	12,977			
	Total	509,775	39				
Overall Score	Between Groups	1502,485	3	500,828	2,884	0,049	Signification
	Within Groups	6251,515	36	173,653			
	Total	7754,000	39				

Source: SPSS output version 26.

The table (18) Illustrates the results of the One-Way ANOVA test conducted to determine whether there are statistically significant differences among the groups regarding the dimensions of mobile application use for pronunciation practice. The analysis compares the variance between groups with the variance within groups in order to examine the effect of the independent variable on the studied dimensions.

Regarding the “Perceived Usefulness” dimension, the findings revealed statistically significant differences among the groups, as the significance value reached (Sig = 0,013), which is lower than the adopted significance level of (0,05). The calculated F value was (4,101), indicating that the variation between groups was greater than the variation within groups. This result suggests that participants differed in their perceptions of the usefulness of mobile applications for pronunciation practice according to the studied variable.

Concerning the “Ease of Use” dimension, the results indicated no statistically significant differences among the groups, since the significance value was (Sig = 0,129), which exceeds (0,05). The obtained F value (2,017) demonstrates that the observed differences among participants were not strong enough to be considered

statistically meaningful. Therefore, the participants shared relatively similar perceptions regarding the ease of using mobile applications.

For the “Motivation and Engagement” dimension, the ANOVA test showed statistically significant differences among the groups (F = 3,756, Sig = 0,019). This finding indicates that the groups varied in their levels of motivation and engagement when using mobile applications for pronunciation learning. Such differences may reflect variations in learners’ interest, technological exposure, or learning preferences.

Similarly, the “Feedback and Improvement” dimension displayed statistically significant differences, with a significance value of (Sig = 0,045), which is below the threshold of (0,05). The F value reached (2,969), suggesting that participants’ evaluations of the role of mobile applications in providing feedback and improving pronunciation differed across groups. This may indicate that some groups benefited more effectively from the corrective and supportive features offered by these applications.

On the other hand, the “Autonomy and Accessibility” dimension did not reveal statistically significant differences among the groups, as the significance value was (Sig = 0,364). The low F value (1,094) confirms that participants had relatively similar perceptions concerning the accessibility of mobile applications and their role in promoting autonomous learning opportunities.

At the level of the “Overall Score,” the results demonstrated statistically significant differences among the groups, where the F value reached (2,884) with a significance level of (Sig = 0,049), which is slightly below (0,05). This finding indicates that the groups differed significantly in their overall attitudes and perceptions toward the use of mobile applications for pronunciation practice.

In general, the ANOVA results reveal that significant differences were found in several dimensions, namely “Perceived Usefulness,” “Motivation and Engagement,” “Feedback and Improvement,” and the “Overall Score,” while no significant differences

appeared in “Ease of Use” and “Autonomy and Accessibility.” These findings suggest that participants’ perceptions of mobile-assisted pronunciation learning vary according to certain group characteristics, particularly in relation to usefulness, engagement, and feedback effectiveness.To calculate the difference in whose favor, we apply Scheffé's post-hoc test. the results are below.

Table 19:

Multiple Comparisons of Results.

Multiple Comparisons							
Scheffe							
Dependent Variable	(I) Specialty	(J) Specialty	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Perceived Usefulness	Didactics and Applied Linguistics online	Linguistics	-,436	1,228	,988	-4,04	3,17
		Civilization and Literature	-2,769	1,814	,515	-8,09	2,55
		English Only	2,431	1,073	,182	-,72	5,58
	Linguistics	Didactics and Applied Linguistics online	,436	1,228	,988	-3,17	4,04
		Civilization and Literature	-2,333	1,888	,678	-7,87	3,20
		English Only	2,867	1,194	,144	-,63	6,37
	Civilization and Literature	Didactics and Applied Linguistics online	2,769	1,814	,515	-2,55	8,09
		Linguistics	2,333	1,888	,678	-3,20	7,87
		English Only	5,200	1,791	,053	-,05	10,45
	English Only	Didactics and Applied Linguistics online	-2,431	1,073	,182	-5,58	,72
		Linguistics	-2,867	1,194	,144	-6,37	,63
		Civilization and Literature	-5,200	1,791	,053	-10,45	,05
Motivation and Engagement	Didactics and Applied Linguistics online	Linguistics	-,282	1,432	,998	-4,48	3,92
		Civilization and Literature	5,718	2,115	,081	-,49	11,92
		English Only	2,451	1,251	,296	-1,22	6,12
	Linguistics	Didactics and Applied Linguistics online	,282	1,432	,998	-3,92	4,48
		Civilization and Literature	6,000	2,202	,077	-,46	12,46
		English Only	2,733	1,393	,295	-1,35	6,82
	Civilization and Literature	Didactics and Applied Linguistics online	-5,718	2,115	,081	-11,92	,49
		Linguistics	-6,000	2,202	,077	-12,46	,46

		English Only	-3,267	2,089	,494	-9,39	2,86
	English Only	Didactics and Applied Linguistics online	-2,451	1,251	,296	-6,12	1,22
		Linguistics	-2,733	1,393	,295	-6,82	1,35
		Civilization and Literature	3,267	2,089	,494	-2,86	9,39
Feedback and Improvement	Didactics and Applied Linguistics online	Linguistics	,128	1,716	1,000	-4,90	5,16
		Civilization and Literature	1,128	2,534	,978	-6,30	8,56
		English Only	3,995	1,499	,087	-,40	8,39
	Linguistics	Didactics and Applied Linguistics online	-,128	1,716	1,000	-5,16	4,90
		Civilization and Literature	1,000	2,638	,986	-6,74	8,74
		English Only	3,867	1,668	,166	-1,03	8,76
	Civilization and Literature	Didactics and Applied Linguistics online	-1,128	2,534	,978	-8,56	6,30
		Linguistics	-1,000	2,638	,986	-8,74	6,74
		English Only	2,867	2,503	,728	-4,47	10,20
	English Only	Didactics and Applied Linguistics online	-3,995	1,499	,087	-8,39	,40
		Linguistics	-3,867	1,668	,166	-8,76	1,03
		Civilization and Literature	-2,867	2,503	,728	-10,20	4,47
Overall Score	Didactics and Applied Linguistics online	Linguistics	1,709	5,714	,993	-15,05	18,47
		Civilization and Literature	9,821	8,441	,718	-14,93	34,57
		English Only	13,421	4,993	,083	-1,22	28,06
	Linguistics	Didactics and Applied Linguistics online	-1,709	5,714	,993	-18,47	15,05
		Civilization and Literature	8,111	8,785	,837	-17,65	33,87
		English Only	11,711	5,556	,236	-4,58	28,00
	Civilization and Literature	Didactics and Applied Linguistics online	-9,821	8,441	,718	-34,57	14,93
		Linguistics	-8,111	8,785	,837	-33,87	17,65
		English Only	3,600	8,334	,979	-20,84	28,04
	English Only	Didactics and Applied Linguistics online	-13,421	4,993	,083	-28,06	1,22
		Linguistics	-11,711	5,556	,236	-28,00	4,58
		Civilization and Literature	-3,600	8,334	,979	-28,04	20,84

Source: SPSS output version 26.

The Scheffé post hoc test was conducted to determine the specific differences among the four specialties regarding Perceived Usefulness, Motivation and Engagement, Feedback and Improvement, and the Overall Score. The results indicate that none of the pairwise

comparisons reached the conventional level of statistical significance (p > 0,05), suggesting that students from different specialties generally shared similar perceptions toward the use of mobile applications for pronunciation practice. For the Perceived Usefulness dimension, no significant differences were found between any pair of specialties, although the comparison between Civilization and Literature and English

Only approached significance (p = 0,053). Similarly, the Motivation and Engagement dimension showed no statistically significant differences among the specialties, despite relatively large mean differences involving the Civilization and Literature group. Concerning Feedback and Improvement, all significance values exceeded (0,05), indicating a comparable evaluation of feedback-related features across specialties. Regarding the Overall Score, none of the comparisons revealed significant differences, although the difference between Didactics and Applied Linguistics Online and English Only was close to statistical significance (p = 0,083). Furthermore, all confidence intervals included zero, providing additional evidence for the absence of significant group differences. These findings suggest that specialization does not substantially influence students' attitudes toward mobile applications for pronunciation learning. Overall, the results confirm a high degree of consistency in perceptions across the different academic specialties represented in the study.

3.4. Discussion and Interpretation of Study Results:

3.4.1. Discussion and Interpretation of the First Hypothesis:

The results related to the first hypothesis revealed that the level of mobile application use for pronunciation practice among Algerian learners of English as a Foreign Language (EFL) was high. This finding can be explained by the widespread ownership of smartphones among university students and the ease of accessing educational applications anytime and anywhere. Moreover, these applications provide an interactive learning environment that enables learners to practice pronunciation continuously beyond the classroom setting.

This result is consistent with several previous studies that highlighted the effectiveness of mobile applications in foreign language learning, particularly in developing speaking and pronunciation skills. These studies have shown that learners prefer educational applications because they offer flexibility, autonomy, and immediate feedback, which help them identify and correct pronunciation errors and improve their linguistic performance.

The finding can also be interpreted in light of Constructivist Theory, which emphasizes that learners actively construct knowledge through interaction with various learning resources. Mobile applications provide diverse opportunities for exploration, practice, and self-directed learning, thereby enhancing the learning process and encouraging active engagement in language acquisition.

Furthermore, this result is supported by Self-Directed Learning Theory, which suggests that learners are more successful when they have control over their learning process. Mobile applications allow learners to choose learning activities that suit their needs and proficiency levels while enabling them to learn at their own pace. This flexibility contributes to increased motivation and greater responsibility for learning outcomes.

In addition, the finding can be explained through the Technology Acceptance Model (TAM), which posits that individuals are more likely to adopt technology when they perceive it as useful and easy to use. The high level of mobile application usage observed in this study may therefore reflect learners' positive perceptions of the educational value of these applications and their effectiveness in improving English pronunciation skills. Consequently, the widespread use of mobile applications for pronunciation practice demonstrates learners' awareness of the benefits of mobile-assisted language learning and its role in fostering more effective, autonomous, and engaging language learning experiences.

3.4.2. Discussion and Interpretation of the Second Hypothesis:

The results related to the second hypothesis indicated that there were no statistically significant differences in the use of mobile applications for pronunciation practice among Algerian EFL learners attributable to gender, except for the dimension of ease of use, where significant differences were observed. This finding suggests that both male and female students make use of mobile applications for pronunciation practice to a similar extent and perceive their educational value in comparable ways.

One possible explanation for this result is that mobile technologies have become widely accessible to university students regardless of gender. Both male and female learners are exposed to similar educational environments and have equal opportunities to benefit from mobile-assisted language learning tools. As a result, gender may no longer be a determining factor in the adoption and use of educational applications.

This finding is consistent with several previous studies that reported no significant gender-based differences in the use of mobile learning technologies. These studies concluded that learners' engagement with mobile applications is primarily influenced by their learning needs, motivation, and perceived usefulness rather than by demographic characteristics such as gender.

The result can also be interpreted in light of the Technology Acceptance Model (TAM), which emphasizes that technology adoption is mainly determined by perceived usefulness and perceived ease of use. Since both male and female students recognize the benefits of mobile applications for improving pronunciation skills, they are likely to demonstrate similar levels of usage.

Furthermore, Self-Directed Learning Theory provides additional support for this finding. Both male and female learners are capable of managing their own learning processes and using technological resources to achieve their language-learning goals. The availability of pronunciation applications enables learners to practice independently and according to their individual needs.

The significant difference observed in the ease-of-use dimension may be attributed to differences in technological experience, familiarity with specific applications, or personal preferences regarding digital tools. However, this difference did not affect the overall level of application use. Therefore, the findings suggest that gender has a limited impact on the use of mobile applications for pronunciation practice, while factors such as accessibility, motivation, and perceived effectiveness play a more influential role.

3.4.3. Discussion and Interpretation of the Third Hypothesis:

The results related to the third hypothesis revealed statistically significant differences in the use of mobile applications for pronunciation practice among Algerian EFL learners attributable to academic specialization. However, no significant differences were found in the dimensions of ease of use and autonomy and accessibility. This finding suggests that students' academic backgrounds may influence the way they perceive and utilize mobile applications for pronunciation learning.

One possible explanation for these differences is that students from different specializations may have varying levels of exposure to English language learning and

technology-based educational resources. Learners whose academic programs require frequent use of English are more likely to recognize the importance of pronunciation practice and therefore make greater use of mobile applications.

This finding is supported by previous studies that emphasized the role of academic specialization in shaping learners' attitudes toward educational technologies. These studies reported that students enrolled in language-related fields tend to show higher levels of engagement with language-learning applications due to the direct relevance of such tools to their academic and professional needs.

The result can also be interpreted in light of Constructivist Theory, which emphasizes that learning is influenced by learners' prior knowledge, experiences, and educational contexts. Students from different academic specializations bring different learning experiences and needs, which may affect their interaction with mobile applications and their perception of their usefulness for pronunciation practice.

Moreover, the Technology Acceptance Model (TAM) provides a useful framework for understanding these findings. According to this model, users are more likely to adopt technology when they perceive it as beneficial to their goals. Therefore, students whose specialization places greater emphasis on English communication may perceive pronunciation applications as more useful and consequently use them more frequently.

The absence of significant differences in the dimensions of ease of use and autonomy and accessibility may be explained by the widespread availability of smartphones and the user-friendly design of modern mobile applications. Regardless of their specialization, most students are familiar with mobile technologies and can easily access educational applications whenever needed.

Overall, the findings indicate that academic specialization plays an important role in shaping students' use of mobile applications for pronunciation practice. Nevertheless, the

universal accessibility and ease of use of these applications make them valuable learning tools for students across different fields of study.

- Conclusion:

The present study investigated the use of mobile applications for pronunciation practice among Algerian learners of English as a Foreign Language (EFL) at the Department of English Language and Literature, Mohamed Boudiaf University of M'Sila. The study aimed to determine the level of mobile application use and to examine whether significant differences existed according to gender and academic specialization.

The findings revealed that the overall use of mobile applications for pronunciation practice was high among the participants. This result highlights the growing importance of mobile-assisted language learning and the increasing reliance of students on digital tools to improve their pronunciation skills. The study also found no statistically significant differences in the overall use of mobile applications attributable to gender, except for the dimension of ease of use. This suggests that both male and female learners generally benefit from and engage with these applications in similar ways.

Furthermore, statistically significant differences were found according to academic specialization, indicating that students' educational backgrounds influence their use of pronunciation applications. However, no significant differences were observed in the dimensions of ease of use and autonomy and accessibility.

Overall, the results confirm the educational value of mobile applications in supporting English pronunciation learning. These applications provide learners with flexible, accessible, and interactive opportunities for practice beyond the classroom. Therefore, integrating mobile technologies into language learning environments may contribute to improving learners' pronunciation skills, promoting autonomous learning, and enhancing the overall effectiveness of English language instruction.

3.5. Recommendations of the Study:

Based on the results of the study, we can offer some suggestions that would improve the effectiveness of the topic under study and have positive outcomes and benefits for students learning English as a foreign language, including the following:

- Encouraging Algerian EFL learners to use mobile applications regularly to improve their English pronunciation skills outside the classroom.
- Integrating pronunciation mobile applications into EFL teaching programs to support traditional classroom instruction.
- Training teachers on how to effectively incorporate mobile-assisted pronunciation practice into their teaching strategies.
- Developing educational mobile applications adapted to the linguistic needs and proficiency levels of Algerian EFL learners.
- Conducting further research on the impact of mobile applications on other language skills such as speaking fluency, listening comprehension, and vocabulary acquisition.

As for the proposed future studies related to the topic, they are as follows:

- The Effectiveness of Artificial Intelligence-Based Mobile Applications in Improving English Pronunciation among Algerian EFL Learners.
- Students' Attitudes and Motivation Toward Using Mobile Applications for Developing Speaking and Listening Skills in EFL Contexts.

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Appendices

Appendix 01: List of the experts who judged the questionnaire.

NS	Full name of the expert	Academic Degree	Academic Rank	Specialty	University
01	CHERIET Imane	Doctorat	Professor	English Language	M'sila
02	BELKHODJA Ibtissem	Doctorat	Professor	English Language	M'sila

Appendix 02: Questionnaire Pilot Sheet.

Questionnaire:The Use of Mobile Applications for Pronunciation Practice among Algerian EFL Learners. A field study in the English Departmentat Mohamed Boudiaf University of M'Sila

Instructions:

Dear participant,

This questionnaire is designed for academic research purposes only. As part of the preparation of a Master's dissertation in English, specializing in Didactics and Applied Linguistics, at Mohamed Boudiaf University of M'sila, for the academic year (2025-2026), this research aims to collect data related to its topic: "**The Use of Mobile Applications for Pronunciation Practice among Algerian EFL Learners**"

Therefore, the researcher is interested in your voluntary participation and valuable contribution, your honest opinions and experiences, and your objective answers. Please note that you can provide feedback by placing a checkmark (×) in the box that represents your viewpoint. All your answers will be kept strictly confidential and will only be used for scientific research purposes. There are no right or wrong answers; completing this questionnaire will only take a few minutes of your time.

Thank you for your time and cooperation.

First: Optional Demographic Information (if needed for analysis):

- Gender: Male☐ Female☐

- Education Types: Univ (Ordinary university student)☐ UFC (University of Continuing Education)☐

- Academic Level: L1 ☐ L2 ☐ L3 ☐ M1 ☐M2 ☐

- Specialty: - Didactics and Applied Linguistics online ☐

- Linguistics ☐

- Civilization and Literature ☐

- Translation ☐

- Other ☐

- University Name: ……

Appendix 03:

Closed-Ended Questions about The Use of Mobile Applications for Pronunciation Practice among Algerian EFL Learners.

(Use a 5-point Likert scale unless otherwise stated)

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

NS	**Items**	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
Dimension 1: Perceived Usefulness						
01	Mobile apps help me improve my English pronunciation.					
02	Using mobile apps enhances my speaking accuracy.					
03	Pronunciation apps make learning more effective.					
04	I notice improvement in my pronunciation after using apps.					
05	Mobile apps help me learn correct stress and intonation.					
06	These apps are useful for practicing difficult sounds.					
Dimension 2: Ease of Use						
07	Mobile pronunciation apps are easy to use.					
08	I find app instructions clear and understandable.					
09	I can practice pronunciation without technical difficulties.					
10	Navigation within pronunciation apps is simple.					
11	I quickly learn how to use new pronunciation apps.					
12	Using these apps does not require special skills.					
Dimension 3: Motivation and Engagement						
13	Mobile apps motivate me to practice pronunciation regularly.					
14	I enjoy using apps to improve my pronunciation.					
15	App features (games, rewards, etc.) make learning fun.					
16	I feel more confident when					

	practicing with apps.					
17	I am more engaged when learning pronunciation through apps.					
18	I spend more time practicing pronunciation using apps.					
Dimension 4: Feedback and Improvement						
19	Mobile apps provide useful feedback on my pronunciation.					
20	I can identify my pronunciation mistakes through apps.					
21	Instant feedback helps me improve faster.					
22	Apps help me compare my pronunciation with native speakers.					
23	Feedback from apps is clear and understandable.					
24	I correct my pronunciation based on app feedback.					
Dimension 5: Autonomy and Accessibility						
25	I can practice pronunciation anytime using mobile apps.					
26	Mobile apps allow me to learn at my own pace.					
27	I do not need a teacher to practice pronunciation with apps.					
28	Mobile apps make pronunciation practice more flexible.					
29	I rely on mobile apps for independent pronunciation practice.					
30	Mobile apps increase my responsibility for learning pronunciation.					

Thank you for your cooperation.

Appendix 04: Questionnaire Main Sheet

Questionnaire:The Use of Mobile Applications for Pronunciation Practice among Algerian EFL Learners. A field study in the English Departmentat Mohamed Boudiaf University of M'Sila

Instructions:

Dear participant,

This questionnaire is designed for academic research purposes only. As part of the preparation of a Master's dissertation in English, specializing in Didactics and Applied Linguistics, at Mohamed Boudiaf University of M'sila, for the academic year (2025-2026), this research aims to collect data related to its topic: "**The Use of Mobile Applications for Pronunciation Practice among Algerian EFL Learners**"

Therefore, the researcher is interested in your voluntary participation and valuable contribution, your honest opinions and experiences, and your objective answers. Please note that you can provide feedback by placing a checkmark (×) in the box that represents your viewpoint. All your answers will be kept strictly confidential and will only be used for scientific research purposes. There are no right or wrong answers; completing this questionnaire will only take a few minutes of your time.

Thank you for your time and cooperation.

First: Optional Demographic Information (if needed for analysis):

- Gender: Male☐ Female☐

- Specialty: - Licence ☐

- Didactics and Applied Linguistics online ☐

- Linguistics ☐

- Civilization and Literature ☐

Second: Closed-Ended Questions about The Use of Mobile Applications for Pronunciation Practice among Algerian EFL Learners. (Use a 5-point Likert scale unless otherwise stated)

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

N S	**Items**	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
Dimension 1: Perceived Usefulness						
01	Mobile apps help me improve my					

	English pronunciation.					
02	Using mobile apps enhances my speaking accuracy.					
03	Pronunciation apps make learning more effective.					
04	I notice improvement in my pronunciation after using apps.					
05	Mobile apps help me learn correct stress and intonation.					
06	These apps are useful for practicing difficult sounds.					
Dimension 2: Ease of Use						
07	Mobile pronunciation apps are easy to use.					
08	I find app instructions clear and understandable.					
09	I can practice pronunciation without technical difficulties.					
10	Navigation within pronunciation apps is simple.					
11	I quickly learn how to use new pronunciation apps.					
12	Using these apps does not require special skills.					
Dimension 3: Motivation and Engagement						
13	Mobile apps motivate me to practice pronunciation regularly.					
14	I enjoy using apps to improve my pronunciation.					
15	App features (games, rewards, etc.) make learning fun.					
16	I feel more confident when practicing with apps.					
17	I am more engaged when learning pronunciation through apps.					
18	I spend more time practicing pronunciation using apps.					
Dimension 4: Feedback and Improvement						
19	Mobile apps provide useful feedback on my pronunciation.					
20	I can identify my pronunciation mistakes through apps.					
21	Instant feedback helps me improve faster.					
22	Apps help me compare my pronunciation with native speakers.					
23	Feedback from apps is clear and understandable.					
24	I correct my pronunciation based on app feedback.					

Dimension 5: Autonomy and Accessibility						
25	I can practice pronunciation anytime using mobile apps.					
26	Mobile apps allow me to learn at my own pace.					
27	I do not need a teacher to practice pronunciation with apps.					
28	Mobile apps make pronunciation practice more flexible.					
29	I rely on mobile apps for independent pronunciation practice.					
30	Mobile apps increase my responsibility for learning pronunciation.					

Thank you for your cooperation.

Appendix 05: The First Hypothesis Results Using SPSS, V 26.

Statistics

		Gender	Specialty	Mobile apps help me improve my English pronunciation.	Using mobile apps enhances my speaking accuracy.	Pronunciation apps make learning more effective.	I notice improvement in my pronunciation after using apps.	Mobile apps help me learn correct stress and intonation.	These apps are useful for practicing difficult sounds.	DT1
N	Valid	40	40	40	40	40	40	40	40	40
	Missing	0	0	0	0	0	0	0	0	0
Mean		1,50	2,50	4,13	4,18	4,05	4,03	4,05	4,20	24,63
Std. Deviation		,506	1,301	,607	,747	,749	,698	,749	,687	3,152

Statistics

		Mobile pronunciation apps are easy to use.	I find app instructions clear and understandable.	I can practice pronunciation without technical difficulties.	Navigation within pronunciation apps is simple.	I quickly learn how to use new pronunciation apps.	Using these apps does not require special skills.	DT2
N	Valid	40	40	40	40	40	40	40
	Missing	0	0	0	0	0	0	0
Mean		3,98	3,85	3,88	3,65	4,03	3,88	23,25
Std. Deviation		,733	,770	,791	,893	,832	,992	3,664

Statistics

		Mobile apps motivate me to practice pronunciation regularly.	I enjoy using apps to improve my pronunciation.	App features (games, rewards, etc.) make learning fun.	I feel more confident when practicing with apps.	I am more engaged when learning pronunciation through apps.	I spend more time practicing pronunciation using apps.	DT3
N	Valid	40	40	40	40	40	40	40
	Missing	0	0	0	0	0	0	0
Mean		3,95	4,13	4,05	4,00	3,78	3,20	23,10
Std. Deviation		,846	,723	,749	,751	1,050	1,114	3,636

Statistics

		Mobile apps provide useful feedback on my pronunciation.	I can identify my pronunciation mistakes through apps.	Instant feedback helps me improve faster.	Apps help me compare my pronunciation with native speakers.	Feedback from apps is clear and understandable.	I correct my pronunciation based on app feedback.	DT4
N	Valid	40	40	40	40	40	40	40
	Missing	0	0	0	0	0	0	0
Mean		3,93	3,88	4,20	3,98	3,88	4,00	23,85
Std. Deviation		,997	,939	,758	,947	,853	,877	4,246

Statistics

		I can practice pronunciation anytime using mobile apps.	Mobile apps allow me to learn at my own pace.	I do not need a teacher to practice pronunciation with apps.	Mobile apps make pronunciation practice more flexible.	I rely on mobile apps for independent pronunciation practice.	Mobile apps increase my responsibility for learning pronunciation.	DT5	Total_Score
N	Valid	40	40	40	40	40	40	40	40
	Missing	0	0	0	0	0	0	0	0
Mean		4,10	4,03	3,55	3,98	3,65	3,88	23,18	118,00
Std. Deviation		,810	1,025	,876	,733	,975	,853	3,615	14,100

Appendix 06: The second Hypothesis Results Using SPSS, V 26.

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
DT1	Male	20	25,40	2,604	,582
	Female	20	23,85	3,514	,786
DT2	Male	20	24,65	3,498	,782
	Female	20	21,85	3,345	,748
DT3	Male	20	23,50	3,606	,806
	Female	20	22,70	3,715	,831
DT4	Male	20	24,30	4,485	1,003
	Female	20	23,40	4,057	,907
DT5	Male	20	23,40	3,676	,822
	Female	20	22,95	3,634	,813
Total_Score	Male	20	121,25	13,599	3,041
	Female	20	114,75	14,175	3,170

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DT1	Equal variances assumed	1,590	,215	1,585	38	,121	1,550	,978	-,430	3,530
	Equal variances not assumed			1,585	35,033	,122	1,550	,978	-,435	3,535
DT2	Equal variances assumed	,097	,757	2,587	38	,014	2,800	1,082	,609	4,991
	Equal variances not assumed			2,587	37,923	,014	2,800	1,082	,609	4,991
DT3	Equal variances assumed	,137	,714	,691	38	,494	,800	1,158	-1,543	3,143

	Equal variances not assumed			,691	37,966	,494	,800	1,158	-1,543	3,143
DT4	Equal variances assumed	,877	,355	,665	38	,510	,900	1,352	-1,838	3,638
	Equal variances not assumed			,665	37,625	,510	,900	1,352	-1,839	3,639
DT5	Equal variances assumed	,031	,861	,389	38	,699	,450	1,156	-1,890	2,790
	Equal variances not assumed			,389	37,995	,699	,450	1,156	-1,890	2,790
Total_Score	Equal variances assumed	,002	,962	1,480	38	,147	6,500	4,392	-2,392	15,392
	Equal variances not assumed			1,480	37,935	,147	6,500	4,392	-2,393	15,393

Appendix 07: The Third Hypothesis Results Using SPSS, V 26.

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
DT1	Didactics and Applied Linguistics online	13	25,23	2,522	,699	23,71	26,75	21	30
	Linguistics	9	25,67	3,000	1,000	23,36	27,97	20	30
	Civilization and Literature	3	28,00	1,732	1,000	23,70	32,30	27	30
	English Only	15	22,80	3,098	,800	21,08	24,52	17	27
	Total	40	24,63	3,152	,498	23,62	25,63	17	30
DT2	Didactics and Applied Linguistics online	13	25,15	4,079	1,131	22,69	27,62	17	30
	Linguistics	9	22,78	3,193	1,064	20,32	25,23	17	28
	Civilization and Literature	3	23,00	3,606	2,082	14,04	31,96	20	27
	English Only	15	21,93	3,173	,819	20,18	23,69	14	26
	Total	40	23,25	3,664	,579	22,08	24,42	14	30
DT3	Didactics and Applied Linguistics online	13	24,38	3,355	,931	22,36	26,41	20	30
	Linguistics	9	24,67	2,291	,764	22,91	26,43	20	28
	Civilization and Literature	3	18,67	3,055	1,764	11,08	26,26	16	22
	English Only	15	21,93	3,751	,968	19,86	24,01	13	28
	Total	40	23,10	3,636	,575	21,94	24,26	13	30
DT4	Didactics and Applied Linguistics online	13	25,46	3,431	,951	23,39	27,53	20	30
	Linguistics	9	25,33	3,041	1,014	23,00	27,67	21	30
	Civilization and Literature	3	24,33	5,132	2,963	11,59	37,08	20	30
	English Only	15	21,47	4,596	1,187	18,92	24,01	12	27
	Total	40	23,85	4,246	,671	22,49	25,21	12	30
DT5	Didactics and Applied Linguistics online	13	23,92	3,818	1,059	21,62	26,23	18	30
	Linguistics	9	24,00	3,708	1,236	21,15	26,85	20	30
	Civilization and Literature	3	20,33	3,215	1,856	12,35	28,32	18	24
	English Only	15	22,60	3,397	,877	20,72	24,48	16	30
	Total	40	23,18	3,615	,572	22,02	24,33	16	30

Total_Score	Didactics and Applied Linguistics online	13	124,15	14,696	4,076	115,27	133,03	107	150
	Linguistics	9	122,44	12,177	4,059	113,08	131,80	104	143
	Civilization and Literature	3	114,33	4,509	2,603	103,13	125,53	110	119
	English Only	15	110,73	13,183	3,404	103,43	118,03	78	127
	Total	40	118,00	14,100	2,229	113,49	122,51	78	150

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
DT1	Between Groups	98,667	3	32,889	4,101	,013
	Within Groups	288,708	36	8,020		
	Total	387,375	39			
DT2	Between Groups	75,319	3	25,106	2,017	,129
	Within Groups	448,181	36	12,449		
	Total	523,500	39			
DT3	Between Groups	122,923	3	40,974	3,756	,019
	Within Groups	392,677	36	10,908		
	Total	515,600	39			
DT4	Between Groups	139,469	3	46,490	2,969	,045
	Within Groups	563,631	36	15,656		
	Total	703,100	39			
DT5	Between Groups	42,585	3	14,195	1,094	,364
	Within Groups	467,190	36	12,977		
	Total	509,775	39			
Total_Score	Between Groups	1502,485	3	500,828	2,884	,049
	Within Groups	6251,515	36	173,653		
	Total	7754,000	39			

Appendix 08: Post Hoc Tests (Multiple Comparisons) Results using SPSS, V 26.

Multiple Comparisons

Scheffe

Dependent Variable	(I) Specialty	(J) Specialty	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
DT1	Didactics and Applied Linguistics online	Linguistics	-,436	1,228	,988	-4,04	3,17
		Civilization and Literature	-2,769	1,814	,515	-8,09	2,55
		English Only	2,431	1,073	,182	-,72	5,58
	Linguistics	Didactics and Applied Linguistics online	,436	1,228	,988	-3,17	4,04
		Civilization and Literature	-2,333	1,888	,678	-7,87	3,20
		English Only	2,867	1,194	,144	-,63	6,37
	Civilization and Literature	Didactics and Applied Linguistics online	2,769	1,814	,515	-2,55	8,09
		Linguistics	2,333	1,888	,678	-3,20	7,87
		English Only	5,200	1,791	,053	-,05	10,45
	English Only	Didactics and Applied Linguistics online	-2,431	1,073	,182	-5,58	,72
		Linguistics	-2,867	1,194	,144	-6,37	,63
		Civilization and Literature	-5,200	1,791	,053	-10,45	,05
DT2	Didactics and Applied Linguistics online	Linguistics	2,376	1,530	,500	-2,11	6,86
		Civilization and Literature	2,154	2,260	,823	-4,47	8,78
		English Only	3,221	1,337	,142	-,70	7,14
	Linguistics	Didactics and Applied Linguistics online	-2,376	1,530	,500	-6,86	2,11
		Civilization and Literature	-,222	2,352	1,000	-7,12	6,68
		English Only	,844	1,488	,955	-3,52	5,21
	Civilization and Literature	Didactics and Applied Linguistics online	-2,154	2,260	,823	-8,78	4,47
		Linguistics	,222	2,352	1,000	-6,68	7,12
		English Only	1,067	2,232	,972	-5,48	7,61
	English Only	Didactics and Applied Linguistics online	-3,221	1,337	,142	-7,14	,70
		Linguistics	-,844	1,488	,955	-5,21	3,52

		Civilization and Literature	-1,067	2,232	,972	-7,61	5,48
DT3	Didactics and Applied Linguistics online	Linguistics	-,282	1,432	,998	-4,48	3,92
		Civilization and Literature	5,718	2,115	,081	-,49	11,92
		English Only	2,451	1,251	,296	-1,22	6,12
	Linguistics	Didactics and Applied Linguistics online	,282	1,432	,998	-3,92	4,48
		Civilization and Literature	6,000	2,202	,077	-,46	12,46
		English Only	2,733	1,393	,295	-1,35	6,82
	Civilization and Literature	Didactics and Applied Linguistics online	-5,718	2,115	,081	-11,92	,49
		Linguistics	-6,000	2,202	,077	-12,46	,46
		English Only	-3,267	2,089	,494	-9,39	2,86
	English Only	Didactics and Applied Linguistics online	-2,451	1,251	,296	-6,12	1,22
		Linguistics	-2,733	1,393	,295	-6,82	1,35
		Civilization and Literature	3,267	2,089	,494	-2,86	9,39
DT4	Didactics and Applied Linguistics online	Linguistics	,128	1,716	1,000	-4,90	5,16
		Civilization and Literature	1,128	2,534	,978	-6,30	8,56
		English Only	3,995	1,499	,087	-,40	8,39
	Linguistics	Didactics and Applied Linguistics online	-,128	1,716	1,000	-5,16	4,90
		Civilization and Literature	1,000	2,638	,986	-6,74	8,74
		English Only	3,867	1,668	,166	-1,03	8,76
	Civilization and Literature	Didactics and Applied Linguistics online	-1,128	2,534	,978	-8,56	6,30
		Linguistics	-1,000	2,638	,986	-8,74	6,74
		English Only	2,867	2,503	,728	-4,47	10,20
	English Only	Didactics and Applied Linguistics online	-3,995	1,499	,087	-8,39	,40
		Linguistics	-3,867	1,668	,166	-8,76	1,03
		Civilization and Literature	-2,867	2,503	,728	-10,20	4,47
DT5	Didactics and Applied Linguistics online	Linguistics	-,077	1,562	1,000	-4,66	4,50
		Civilization and Literature	3,590	2,307	,498	-3,18	10,36
		English Only	1,323	1,365	,816	-2,68	5,33

	Linguistics	Didactics and Applied Linguistics online	,077	1,562	1,000	-4,50	4,66
		Civilization and Literature	3,667	2,402	,515	-3,38	10,71
		English Only	1,400	1,519	,837	-3,05	5,85
	Civilization and Literature	Didactics and Applied Linguistics online	-3,590	2,307	,498	-10,36	3,18
		Linguistics	-3,667	2,402	,515	-10,71	3,38
		English Only	-2,267	2,278	,804	-8,95	4,41
	English Only	Didactics and Applied Linguistics online	-1,323	1,365	,816	-5,33	2,68
		Linguistics	-1,400	1,519	,837	-5,85	3,05
		Civilization and Literature	2,267	2,278	,804	-4,41	8,95
Total_Score	Didactics and Applied Linguistics online	Linguistics	1,709	5,714	,993	-15,05	18,47
		Civilization and Literature	9,821	8,441	,718	-14,93	34,57
		English Only	13,421	4,993	,083	-1,22	28,06
	Linguistics	Didactics and Applied Linguistics online	-1,709	5,714	,993	-18,47	15,05
		Civilization and Literature	8,111	8,785	,837	-17,65	33,87
		English Only	11,711	5,556	,236	-4,58	28,00
	Civilization and Literature	Didactics and Applied Linguistics online	-9,821	8,441	,718	-34,57	14,93
		Linguistics	-8,111	8,785	,837	-33,87	17,65
		English Only	3,600	8,334	,979	-20,84	28,04
	English Only	Didactics and Applied Linguistics online	-13,421	4,993	,083	-28,06	1,22
		Linguistics	-11,711	5,556	,236	-28,00	4,58
		Civilization and Literature	-3,600	8,334	,979	-28,04	20,84

الملخص:

هدفت هذه الدراسة إلى استقصاء استخدام تطبيقات الهواتف المحمولة لتدريب النطق لدى متعلمي اللغة الإنجليزية كلغة أجنبية في الجزائر. أجريت الدراسة ميدانيا في قسم اللغة الإنجليزية وآدابها بجامعة محمد بوضياف بالمسيلة. كما بحثت الدراسة ما إذا كانتا لاختلافات في مستوى استخدام تطبيقات الهواتف المحمولة تعزى إلى الجنس والتخصص الأكاديمي. ولتحقيق هذه الأهداف،اعتمد المنهج الوصفي التحليلي نظرا لملاءمته لطبيعة البحث. تألفت العينة من 40 طالبا مسجلين خلال العام الدراسي 2026/2025 وتم اختياره من خلال أخذ عينة عشوائية بسيطة. استخدم استبيان صمم من طرف الطالب كأداة أساسية لجمع البيانات. تم تقييم الخصائص السيكومترية للأداة (الصلاحية والموثوقية)، وأظهرت النتائج مستويات مرضية،مما يؤكد ملاءمتها. تم تحليل البيانات التي تم جمعها باستخدام الحزمة الإحصائية للعلوم الاجتماعية باستخدام تقنيات إحصائية متنوعة. كشفت النتائج عن ارتفاع مستوى استخدام تطبيقات الهاتف المحمول لتدريب النطق بين متعلمي اللغة الإنجليزية كلغة أجنبية الجزائريين. علاوة على ذلك، لم تلاحظ فروق ذات دلالة إحصائية بين متوسط درجات استخدام تطبيقات الهاتف المحمول الإجمالية تبعا للجنس عند مستوى دلالة، باستثناء بعد سهولة الاستخدام، حيث لوحظت فروق ذات دلالة إحصائية. كما أظهرت النتائج فروقا ذات دلالة إحصائية بين متوسط الدرجات تبعا للتخصص الأكاديمي عند مستوى دلالة، باستثناء بعدي سهولة الاستخدام والاستقلالية وإمكانية الوصول، حيث لم تلاحظ فروق ذات دلالة إحصائية.

الكلمات المفتاحية: تطبيقات الهاتف المحمول؛ ممارسة النطق، اللغة الإنجليزية كلغة أجنبية؛ متعلمو اللغة الإنجليزية كلغة أجنبية للجزائريين، تعلم اللغة بمساعدة الهاتف المحمول.