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**Investigating the Effect of Project-Based Podcast
Production
On EFL Learners' Intonation Skills**

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Didactics of the English Language

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Abstract

The present study investigates the effect of project-based podcast production in improving EFL learners' speaking and intonation skills. More precisely, it seeks to investigate the effect of podcast-based activities on learners' stress, rhythm, and intonation patterns, as well as their attitudes regarding podcasts as a project-based learning tool. To attain these goals, the study used a quasi-experimental mixed-methods design that included both quantitative and qualitative methodologies. The participants included thirty-five first-year EFL students and seven oral expression teachers from the University of Khenchela. Data were obtained using pre and post-questionnaires, as well as a structured interview. The numerical data were evaluated using the Wilcoxon Signed-Rank Test, whereas the qualitative data were explored using thematic analysis. The study found that podcast-based activities, including listening, imitation, repetition, and self-recording, improved learners' awareness of pronunciation and intonation skills. The findings also showed an improvement in learners' motivation, confidence, and readiness to speak English. In addition, teachers expressed positive attitude toward the use of podcasts in EFL classrooms because of its function in giving authentic language exposure and meaningful speaking practice. Although the statistical analysis did not show a significant improvement in some aspects of learners' self-assessed intonation performance, the overall findings indicate that podcast-based project learning remains an effective pedagogical tool for supporting speaking development and increasing learner engagement in EFL contexts.

Key words: Project-based learning, Podcast, Speaking skills, EFL learners, Pronunciation

Dedication

First and foremost, all praise and thanks are due to Allah, who gave me strength and patience to complete this research.

To my beloved mother, the source of endless love and prayers, thank you for your support in every step.

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List of Abbreviations

EFL: English as a Foreign Language

PBL: Project-Based Learning

TBLT: Task-Based Language Teaching

CLT: Communicative Language Teaching

APA: American Psychological Association

SPSS: Statistical Package for Social Sciences

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Chapter one: General Introduction.

1. Introduction.

The current chapter introduces the topic "Investigating the Effect of Project-Based Podcast Production on EFL Learners' Intonation Skills". First, it provides context for the current research, which focuses on speaking abilities in EFL learners and the importance of intonation as a crucial suprasegmental feature. Second, it defines the problem that the study seeks to address, specifically the lack of emphasis on intonation in EFL classes and the restricted use of new methods such as podcast-based project work. Third, it describes the dissertation's study aims, which are primarily concerned with determining the effectiveness of project-based podcast creation in developing learners' intonation abilities and investigating learners' perceptions of this approach. Then it explains the research objectives that this study aims to address, which include the impact of podcast-based PBL exercises on students' intonation performance and attitudes regarding this learning tool. Next, it argues the significance of this work and highlights its potential contributions to the research field by emphasizing its pedagogical usefulness in improving speaking skills and incorporating technology into EFL classrooms. After that, it describes the thesis' format, which is divided into six major chapters: introduction, literature review, methods, results with discussion, and conclusion. Finally, it presents a conclusion that lays the way for the following chapter by emphasizing the importance of studying intonation development using innovative teaching methodologies such as project-based learning and podcast.

1.2. The Background to the Study.

Speaking is considered as a crucial skill in foreign language learning, allowing students to effectively communicate and interact in real-world situations. However, effective oral communication requires not only grammar and vocabulary knowledge, but also mastery of suprasegmental features such as intonation, which is critical in conveying meaning and expressing attitudes. Despite its importance, intonation remains one of the most difficult parts for EFL learners, with many students struggling to apply suitable pitch patterns and frequently producing monotonous speech. In recent years, educational reforms and technological advancements have fostered the integration of new teaching methods into EFL classes. Among these techniques, Project-Based Learning (PBL) has gained popularity due to its emphasis on learner-centered activities, teamwork, and real-world communication. According to research,

engaging learners in meaningful tasks and authentic language use can considerably improve their speaking skills, motivation, and engagement (Kemaloglu-Er, 2022; Rampeng et al., 2025). Furthermore, the use of digital tools such as podcasts has grown in popularity since they allow learners to consume as well as produce authentic spoken language. Podcasts, in particular, have proven to be a successful tool in language learning since they encourage engagement, develop listening and speaking abilities, and promote student autonomy. A study by Chaves-Yuste and de-la Peña (2023) found that using podcasts in EFL classes improves learners' linguistic ability, particularly in speaking and listening. Similarly, podcast-based project work has been discovered to raise learners' confidence and improve pronunciation through repeated practice and meaningful communication activities (Amorati et al., 2022).

However, whereas several research have looked at the impact of PBL and podcasts on overall speaking skills, little attention has been made to specific suprasegmental aspects like intonation. Several studies have found that EFL learners struggle to master intonation patterns, even when they are taught in phonetics or oral expression courses (Cherik, 2023). Furthermore, intonation education is frequently disregarded or treated carelessly in EFL classes, despite being crucial for efficient communication (Kubashi, 2023). As a result, there is an obvious need to investigate innovative instructional approaches that can help students enhance their intonation abilities in a more practical and engaging manner. Integrating podcast creation into a project-based learning framework could be a promising approach since it combines authentic speaking practice, collaboration, and technology-enhanced learning. As a result, the current study intends to evaluate the impact of project-based podcast production on EFL learners' intonation skills and contribute to filling this gap in the existing literature.

1.3. The Research Problem.

The current thesis seeks to address two interrelated issues, one at the practical level of EFL classroom education and the other at the universal research level.

First, at the level of EFL classes, it is argued that in EFL programs, intonation receives relatively less attention in the teaching of speaking skills, despite its critical role in effective communication. Previous research has found that teaching pronunciation focuses on segmental factors like specific sounds rather than suprasegmental aspects like intonation and rhythm (Taibi, 2017; Bengrait, 2020). As a result, many EFL learners struggle to produce natural

intonation patterns, which often results in monotonous or confusing speech. Therefore, more focus should be made on implementing practical and communicative approaches that explicitly target the development of learners' intonation skills. Second, at the universal level, numerous studies have found that Project-Based Learning (PBL) and podcasts improve learners' speaking skills (e.g., Kemaloglu-Er, 2022; Amorati et al., 2022; Chaves-Yuste & de la Peña, 2023). These studies typically show improvements in fluency, vocabulary, motivation, and overall speaking performance. However, very few researches have looked precisely at how integrating PBL with podcast production affects suprasegmental features like intonation. In most cases, intonation is seen as a secondary aspect or incorporated into general pronunciation without being considered an independent variable. As a result, it is suggested that researchers look at the impact of incorporating podcast-based project work on learners' intonation skills to see if this technique might lead to significant improvements in their usage of intonation patterns during speaking.

In summary, the current study combines the problem identified at the level of EFL classroom practice namely, the limited focus on intonation and the gap identified at the universal level namely, the lack of research on the effect of podcast-based PBL on intonation and attempts to address both within a unified research framework.

1.4. The Research Objectives and Questions.

The current study intends to fulfill the following three objectives:

- To investigate the effectiveness of project-based podcast production on developing EFL learners' intonation skills.
- To analyze students' performance in intonation before and after the PBL podcast intervention.
- To explore learners' attitudes and perceptions towards using podcasts as a project-based learning tool to enhance their speaking intonation.

The present research work aims to answer the following three questions:

- What are the main changes that appear in students' intonation after being involved in podcast projects?

- To what extent does participation in podcast production influence learners' use of stress, rhythm, and intonation patterns?
- How do learners perceive the use of podcasts as a PBL tool to develop their speaking intonation?

1.5. The Research Hypothesis.

To answer the research questions and investigate the effect of project-based podcast production on learners' intonation skills, the following hypotheses are proposed:

- **H1:** Project-based podcast production has a positive effect on improving EFL learner's intonation skills.
- **H0:** Project-based podcast production does not lead to any significant improvement in EFL learner's intonation skills.

1.6. The significance of the Research Work.

The primary motivation for carrying the current research is from the need to improve the quality of speaking instruction in EFL classes, with a specific emphasis on intonation as an important but often overlooked component of oral communication. Because many students fail to produce natural and meaningful speech due to insufficient knowledge of intonation patterns, this study aims to give a practical solution by including project-based podcast creation.

The current study's findings will assist EFL teachers adopt more effective and innovative teaching strategies by combining technology-enhanced and project-based approaches into their classrooms. It also may motivate teachers to shift away from traditional pronunciation teaching, which frequently focuses on single sounds, and toward meaningful communication and suprasegmental qualities such as intonation. This research will also help learners improve their speaking skills by providing opportunities for authentic language use, frequent practice, and collaborative learning through podcast production tasks. It may also enhance learners' motivation, confidence, and engagement, all of which are crucial for successful language learning.

Furthermore, this study will contribute new knowledge to the field of EFL education by focusing on intonation as a distinct variable rather than treating it as part of general pronunciation. Consequently, it is intended that this study will fill a gap in the current literature, particularly regarding the limited number of studies that investigate the effect of

integrating Project-Based Learning and podcast production on the development of learners' intonation skills.

1.7. The Dissertation's Structure

This dissertation consists of four chapters: general introduction, literature review, methodology, and results with discussion followed by general conclusion. The first introduces the key ideas of speaking skills and intonation, highlights the research topic, explains the research aims, questions, hypothesis and emphasizes the study's significance. The second chapter reviews the relevant literature on the topic. It consists of two sections. The first section gives a summary of speaking skills and intonation in EFL learning, emphasizing their key components and importance in efficient communication. The second section discusses project-based learning, including its concepts, characteristics, and its role in improving speaking skills, within the use of podcasts in EFL classes, emphasizing their effectiveness in increasing learners' speaking performance. The chapter also reviews previous researches and identifies a research gap. Chapter three is about the methodology used to study the research problem. It describes the research strategy, methodology, participants, and data collection tools. It also describes the study's procedures and methods for analyzing both quantitative and qualitative data. Chapter four discusses the findings obtained from the data analysis. It presents the results of the pre- and post questionnaire on learners' intonation performance, as well as the teacher's interview results, to provide a full picture of the influence of project-based work with using podcast, and then discussing these findings in the relation to the research questions and previous studies. More specifically, it evaluates the results, explains their consequences, and demonstrates how project-based podcast production helps learners improve their intonation skills. The dissertation concludes with a general conclusion that summarizes the study's principal findings, discusses its instructional implications, recognizes its limitations, and offers recommendations for further research.

1.8. The Conclusion.

This chapter aimed to provide the reader with a general summary of the research topic under consideration, namely the impact of project-based podcast creation on EFL learners' intonation skills. It addressed the research problem, objectives, and questions, highlighted the study's significance, and described the dissertation's overall framework. Prior to that, it provided context for the study by introducing essential ideas linked to speaking skills,

intonation, and the incorporation of new methodologies such as Project-Based Learning and podcasts into EFL instructions. However, acquiring a deeper understanding of the subject necessitates a more comprehensive review and critical analysis of the existing literature. As a result, the following chapter examines previous studies and theoretical frameworks on speaking skills, suprasegmental features, PBL, and podcast use in language learning. It should be mentioned that this thesis follows the criteria of the APA 7th edition style.

Chapter two: Literature review

2.1. Section one: Speaking Skills and Intonation.

2.1.1. Introduction

Speaking is considered as one of the most difficult language skills to master since it requires learners to comprehend meaning while also producing language, and it is the major mechanism by which people convey their thoughts, feelings, and intentions in daily conversation. In the context of English as a Foreign Language (EFL), learners often associate language proficiency with the ability to communicate orally and engage successfully with others. Speaking a foreign language is not only a linguistic accomplishment, but also a social and cognitive skill that enables students to participate in academic conversations, professional settings, and real-life situations.

Despite its importance in EFL learning, speaking remains one of the most difficult abilities for students to master. Learners frequently struggle to produce spoken language spontaneously, organize ideas in real time, and use appropriate vocabulary and grammar while maintaining fluency. These challenges may be increased by affective factors such as fear, the lack of confidence, and limited opportunity for significant speech practice both within and outside of the classroom. As a result, speaking is frequently seen as the most challenging talent, compared to listening, reading, and writing.

Speaking, in educational terms, is more than just producing words or sentences. It is a difficult skill that requires interaction, meaning negotiation, and the capacity to respond effectively in a variety of communicative contexts. As a result, both teachers and students must comprehend the nature of speaking, its distinguishing features, and its significance in EFL learning. This section aims to provide a theoretical overview of speaking skills by introducing the concept of speaking, presenting key definitions proposed by various scholars, emphasizing its main characteristics, and discussing its significance and the major approaches used in teaching speaking in the EFL context.

2.1.2. Definition of Speaking

Thornbury (2005) defines speaking as a communicative process that focuses on language production and interaction in everyday contexts. He emphasizes that speaking is not about grammatical correctness, but about active engagement and allowing communication to occur spontaneously. Newton and Nation (2020) support this viewpoint by emphasizing the

relevance of fluency and understanding, suggesting that successful speaking requires learners to not only create language but also understand and respond meaningfully to what others say. Similarly, Baker and Westrup (2003) emphasize the practical skills required for effective oral communication, such as clarity of expression and communicative confidence, especially in a second language setting. A comparison of these definitions reveals that, despite their differing emphases, speaking is widely viewed as an interactive and purposeful skill.

Furthermore, Newton and Nation (2020) stress cognitive aspects such as fluency and comprehension, whereas Baker and Westrup (2003) emphasize performance-related factors such as clarity and confidence. Taken together, these perspectives show that speaking needs more than just mechanical word production, but also interaction, comprehension, and meaningful expression. According to the researcher, this viewpoint is especially relevant in EFL classrooms. Several recent EFL pedagogical researches, particularly those focusing on classroom engagement and communicative practice, support to this larger concept of speaking skills. For example, studies on EFL classroom interactions and speaking growth emphasize the value of meaningful communicative practice that goes beyond drills and repetition.

According to research on the impact of authentic conversational situations, when learners are exposed to real-life speaking chances, their communication competence, confidence, and interactional awareness improve significantly (Karima & Khawla, 2025). Furthermore, studies on speaking development strategies show that incorporating activities like problem-solving tasks, presentations, and role play that encourage engagement, risk-taking, and interactive exchange can significantly improve learners' oral performance and communicative effectiveness.

While theoretical definitions of speaking emphasise interaction, fluency, and communicative efficiency, these characteristics are frequently affected by learners' linguistic and educational backgrounds. The significant presence of Arabic in Algerian EFL contexts shapes speaking competency, including both Standard Arabic and local dialects, which may interfere with learners' oral production in English. In this regard, Yahia (2024) investigated the impact of Arabic on Algerian first-year EFL students' speaking competence at KasdiMerbah University and discovered that speaking difficulties extend beyond grammatical errors to fluency, pronunciation, and spontaneous oral expression. The study also found that insufficient exposure to English both inside and outside the classroom causes students to rely excessively

on their first language, which lowers their confidence and overall speaking ability. According to the researcher, these findings emphasize the necessity of offering more relevant and engaged speaking opportunities for Algerian EFL learners in order to reduce L1 interference and improve communicative competence.

This line of research emphasizes the idea that speaking skills are not acquired in isolation; they are influenced by educational environments, instructional techniques, and opportunities for authentic language use. Speaking competency may be limited in circumstances where students lack exposure to English outside of the classroom or adequate interactional practice, such as many non-native environments. This viewpoint sets the stage for investigating specific learner populations, such as Algerian EFL students, and how linguistic, cultural, and instructional factors interact to influence speaking development.

2.1.3. Characteristics of Speaking Skills

Speaking skills are defined by various characteristics that lead to effective oral communication in an EFL context. One of the most important characteristics is fluency, or the capacity to create spoken words easily and without hesitation. According to Newton and Nation (2020), fluency allows students to maintain the flow of speech and engage in meaningful contact without excessive pauses or breaks in communication. Accuracy is closely related to fluency, as it entails the proper use of grammatical structures, vocabulary, and pronunciation. Thornbury (2005) argues that, while accuracy is necessary for clarity and comprehensibility, an overemphasis on correctness may limit students' ability to communicate and take communicative risks

Another important aspect of speaking is interaction, as speaking is a social activity that requires speakers to negotiate meaning. Baker and Westrup (2003) emphasize that effective speaking involves not only conveying ideas but also effectively reacting to others through turn-taking, clarification, and feedback. In addition, spontaneity is important in speaking competency because real-life communication frequently needs learners to develop language in real time without extensive planning. As Thornbury (2005) points out, spontaneous speech represents learners' ability to quickly access their linguistic resources and adjust their language to varied communicative settings. As a result, these characteristics show that speaking is a complicated skill that requires students to balance fluency, accuracy, interaction, and

spontaneity. Successful oral communication therefore depends on the balanced development of these characteristics rather than grammatical correctness alone. This understanding is especially important in EFL environments, such as the Algerian educational setting, where learners may have theoretical knowledge of English but lack sufficient opportunity to build fluent, interactive, and spontaneous speaking skills through authentic communicative practice.

2.1.4. Importance of Speaking in EFL Learning

Speaking plays a crucial role in EFL learning because it allows students to actively use the language in relevant contexts, which is necessary for building communicative competence. Through speaking, students use their linguistic expertise to express ideas, negotiate meaning, and engage in social interactions. Brown (2001) argues that speaking is critical for developing general communicative competence because it combines grammar, vocabulary, pronunciation, and pragmatic awareness in real time. In this sense, speaking is both a product of language acquisition and a powerful tool for learning itself.

Furthermore, speaking contributes to learners' confidence and motivation. According to Thornbury (2005), regular opportunities for oral communication assist learners overcome anxiety and build a sense of accomplishment, which encourages them to use language more frequently. When students can express themselves orally and be understood by others, they are more likely to participate actively in the learning process. Similarly, Newton and Nation (2020) note that speaking practice promotes fluency development and strengthens learners' ability to process language automatically, which is essential for effective communication. In addition, current Arab research emphasizes the educational usefulness of meaningful oral practice. For example, Bakir (2025) looked at the impact of interactive learning on building EFL speaking skills at the university level and discovered that interactive instructional approaches considerably improved learners' ability to communicate orally in English. The study stresses that providing interactive speaking chances in the classroom not only enhances fluency and communicative competence, but also motivates students to use the language with more confidence and frequency.

In EFL context, where exposure to the target language is frequently limited, speaking becomes even more important. Speaking activities give students valuable opportunity to use English effectively in the classroom. As a result, speaking serves both communicative and

pedagogical purposes: it helps learners converse successfully while also improving their overall language skills. This emphasizes the necessity for instructional approaches that stress meaningful speaking practice and create authentic communicative situations for the learners.

2.1.5. Approaches to Teaching Speaking

Given the central significance of speaking in EFL learning and in establishing communicative competence, academics and educators have recommended a variety of pedagogical approaches to improving learners' oral skills. These techniques share a common goal: to provide learners with meaningful opportunities to use language in real-world communication rather than focusing exclusively on form. Communicative Language Teaching (CLT), Task-Based Language Teaching (TBLT), and Project-Based Learning (PBL) are three of the most used ways to teaching speaking.

Starting with Communicative Language Teaching (CLT) by Canale and Swain (1980), focuses on increasing learners' communicative ability by emphasizing meaning over grammatical structure. They suggest that the capacity to engage effectively in real-life situations is essential for language learning, and that mistakes should be viewed as part of the learning process rather than obstacle. Building on this, Brown (2001) emphasizes that CLT promotes students to participate in interactive classroom activities such as role-playing, conversations, and information-gap exercises, which create a supportive environment for practicing fluency, accuracy, and confidence in speaking. Together, these perspectives highlight the usefulness of CLT in enhancing oral communication through authentic interactions.

Prabhu (1987) introduced Task-Based Language Teaching (TBLT), which builds on CLT's communicative principles by focusing training on meaningful activities. Prabhu stressed that learners develop language most effectively when they use it to fulfill real-life tasks like problem solving or information sharing, both of which need meaning negotiation. Newton and Nation (2020) build on this concept, demonstrating how task-based activities in EFL classrooms improve learners' spontaneous language production, fluency, and interaction competence. This combination of basic theory and recent classroom research demonstrates that TBLT offers a realistic framework for developing good speaking skills through purposeful, learner-centered activities.

Building on these communicative principles, Project-Based Learning (PBL) offers a more extended and learner-centered framework for speaking development. PBL engages learners in collaborative projects that culminate in a concrete final product, such as presentations or podcasts, requiring sustained oral interaction over time (Thomas, 2000). By integrating speaking into meaningful projects, PBL allows learners to practice language authentically, develop confidence, and refine their fluency and accuracy through repeated use. This approach is particularly relevant for EFL contexts, as it provides rich opportunities for extended speaking practice that may not be available in traditional classroom settings.

This part studied speaking skills as a central component of EFL learning, emphasizing their complexity and multidimensionality. Speaking was originally defined as an interactive process that goes beyond fluency, interaction, spontaneity, and communication efficacy in addition to grammatical accuracy. Drawing on both old and modern studies, the discussion emphasized that good speaking allows students to articulate meaning, negotiate comprehension, and actively participate in real-world communicative contexts.

2.1.6. Conclusion

The section also emphasized the value of speaking in EFL learning, especially in situations where exposure to the target language is limited. Speaking is critical to learners' overall language ability, confidence, and classroom engagement, according to studies conducted in international, Algerian, and broader contexts. Furthermore, a review of major approaches to teaching speaking, including Communicative Language Teaching, Task-Based Language Teaching, and Project-Based Learning, revealed that learner-centered and communicative approaches provide meaningful opportunities for oral practice and promote the development of speaking competence.

However, effective speaking involves more than just the ability to produce words and sentences; it is also determined by how communication is presented and interpreted. This includes prosodic elements like intonation, stress, and rhythm, which plays a vital role in expressing meaning and maintaining intelligibility. Therefore, to develop a comprehensive understanding of oral communication in EFL contexts, it is vital to investigate intonational skills and their role in efficient spoken engagement. The following section discusses

intonational skills, their major components, and the obstacles that EFL students face in mastering them.

2.1.2. Intonation and Prosody in EFL

2.1.2.1 Definition

Intonation and prosody represent essential suprasegmental features of spoken language, and play a central role in oral communication, particularly in (EFL) contexts. Roach stated that intonation refers to the use of pitch variation in speech, through which meaning is conveyed not only in words and grammatical structure, but also through changes in pitch that signal attitudes, emotions, and discourse functions in spoken language. It also helps distinguish between different types of utterances, such as questions and exclamations statements. In this sense, intonation makes spoken language more natural and understandable by complementing grammar and vocabulary.

Prosody on the other hand is concerned with the features of speech that go beyond the level of individual vowels and consonants, including rhythm, stress, and intonation. (Roach, 2009, p.179) he emphasizes that prosody encompasses pitch patterns, stress placement, and rhythmic organization, all of which contribute to producing natural and meaningful speech. Similarly, Wells (2006) defines prosody as the patterns of stress and intonation which characterize spoken language, highlighting its communicative importance of prosody. According to Wells, stress and intonation patterns help express the speaker's attitude, and convey meanings accurately. Taken together, Roach's and Wells's perspectives suggest that prosody and intonation function are essential for meaning-making resources in spoken language, shaping how utterances are interpreted beyond their grammatical structure.

However, despite their communicative importance, suprasegmental features remain relatively neglected in many EFL classrooms including the Algerian educational setting, these features often receive limited pedagogical attention, as priority is often given to grammatical accuracy and vocabulary development rather than prosodic competence, this imbalance can negatively impact the quality of learners spoken production and make it naturalness.

2.1.2.2. Elements of Intonation

Intonation is not a single feature but rather a combination of interrelated elements that work together to shape spoken discourse. In EFL learning, understanding these elements is

essential for developing intelligible and natural speech. The main elements of intonation include pitch, stress, and rhythm, each of which contributes differently to meaning and communication.

2.1.2.2.1. Pitch

Pitch refers to the perceived highness or lowness of the speaker's voice and constitutes the primary component of intonation. It is realized through variations in fundamental frequency and functions as a key resource for signalling grammatical structures, speaker attitudes, and communicative intentions. For example, rising pitch patterns are commonly associated with questions, incompleteness, or uncertainty, whereas falling pitch patterns typically signal statements, finality, or certainty (Roach, 2009).

In EFL contexts, pitch plays a crucial role in distinguishing sentence types and conveying pragmatic meaning. Research indicates that inappropriate or limited pitch variation may lead to misinterpretation, even when learners demonstrate accurate grammar and vocabulary use (Levis, 2018). Many EFL learners exhibit a restricted or flat pitch range, which often results in monotonous and less intelligible speech. Recent studies attribute this issue to limited exposure to authentic spoken input and insufficient pedagogical attention to suprasegmental features; particularly pitch variation, in pronunciation instruction (Derwing & Munro, 2015).

2.1.2.2.2. Stress

Stress refers to the relative emphasis placed on certain syllables, words, or phrases within an utterance. It functions at different levels, including word stress and sentence stress, and plays a key role in highlighting important information. In spoken English, stressed elements typically carry new or contrastive information, while unstressed elements support the overall rhythm of speech.

In EFL learning, incorrect stress placement can negatively affect intelligibility and listener comprehension. Learners may stress function words instead of content words or fail to highlight key information within a sentence. Studies indicate that stress misplacement often results from first language interference and from teaching practices that prioritize written accuracy over spoken features. As a result, learners may produce speech that is grammatically correct but pragmatically inappropriate or difficult to follow.

2.1.2.2.3. Rhythm

Rhythm refers to the pattern of stressed and unstressed syllables that gives speech its timing and flow. English is generally described as a stress-timed language, where stressed syllables occur at relatively regular intervals, while unstressed syllables are shortened. This rhythmic pattern significantly influences the naturalness and fluency of spoken English.

For EFL learners, mastering English rhythm is particularly challenging, especially for those whose first language follows a different rhythmic pattern. Difficulty with rhythm may lead to unnatural pacing, excessive pausing, or equal timing of syllables, which affects overall speech fluency. Recent research highlights that limited rhythmic awareness can hinder learners' ability to process and produce spoken discourse effectively, reinforcing the need for explicit instruction in rhythmic pattern.

2.1.2.3. Importance of Intonation

2.1.2.3.1. for Intelligibility

Intonation plays a vital role in speech intelligibility, as it helps listeners interpret meaning beyond the literal words used. Through variations in pitch, stress, and rhythm, speakers signal sentence types, highlight important information, and indicate discourse structure. When intonation patterns are inappropriate or absent, spoken messages may become difficult to follow, ambiguous, or misleading, even if they are grammatically correct. Therefore, intelligibility in spoken English depends not only on accurate pronunciation of sounds, but also on the effective use of intonation to guide listener understanding.

Intonation shapes meaning at multiple levels in spoken language. At the sentence level, rising and falling pitch patterns signal different types of utterances, such as questions, statements, and exclamations, while variations in stress and rhythm highlight important information and help organize spoken discourse. As Roach (2009, p. 165) states “Intonation plays a part in the expression of meaning, attitude and emotion in speech.” indicating that intonation is a meaningful component of spoken language. Through variations in pitch, speakers are able to convey attitudes, emotions, and intended meanings beyond the literal content of words. This suggests that comprehension in spoken discourse depends on the appropriate use of intonational patterns. For example, misplaced stress or monotone speech may alter the speaker's intended message and cause difficulties in comprehension. For EFL

learners, suprasegmental features are particularly crucial, as they can compensate for limited vocabulary or grammatical inaccuracies and help maintain overall intelligibility. In addition, Wells emphasizes that understanding spoken language is strongly influenced by intonation patterns, since listeners rely on pitch cues to infer meaning, intention, and attitude. Without appropriate intonation, spoken messages may become ambiguous or misleading, even when they are grammatically correct.

2.1.2.3.2. Communicative Effectiveness

Explicit instruction in intonation has been shown to play a critical role in enhancing learners' communicative competence in English. Zhuang (2015), in a doctoral study at Northern Arizona University, investigated the effectiveness of teaching intonation patterns to learners enrolled in an intensive English program. The study examined participants' ability to perceive and produce intonation before and after targeted instruction, revealing that explicit teaching significantly improved their performance. According to Zhuang, learners who received structured guidance on pitch movement, stress placement, and nuclear tones were better able to convey meaning, express attitudes, and organize discourse effectively. This indicates that intonation is not merely a decorative feature of speech, but a central element in making spoken language understandable and expressive.

The findings further suggest that the lack of explicit intonation instruction can result in speech that, although grammatically correct, may be misinterpreted by listeners or perceived as unnatural. From an EFL perspective, these results are particularly relevant, as many learners struggle with suprasegmental features that are often neglected in classrooms, including in the Algerian context. By integrating explicit intonation teaching into English language curricula, educators can enhance learners' oral proficiency, ensuring that they are able to communicate meaning clearly, maintain listener comprehension, and achieve greater communicative effectiveness.

Overall, Zhuang's (2015) study underscores the pedagogical importance of intonation as a structured system that directly contributes to both the intelligibility and the expressive quality of spoken English.

2.1.2.4. Common Intonation Problems among EFL Learners

EFL learners commonly face significant difficulties in acquiring appropriate intonation patterns, because intonation is less explicitly taught than segmental qualities like sound pronunciation or grammatical accuracy. One key challenge is learner's lack of understanding of pitch movement and its communicative functions. Many students concentrate largely on grammatical structures to convey meaning, ignoring the importance of rising and falling pitch in expressing attitudes, emotions, and discourse intentions. As a result, their speech may sound boring, unnatural, or pragmatically inappropriate.

Another common issue is that learners tend to transfer intonation patterns from their native language to English. Since intonation systems differ greatly between languages, negative transfer often results in improper pitch patterns that can cause misunderstandings or limit intelligibility. For example, learners may use a flat intonation in contexts that require pitch change, such as questioning, emphasis, or contrast, making their speech difficult to interpret for native or proficient listeners.

Furthermore, EFL learners often struggle to coordinate intonation with other suprasegmental elements, such as stress and rhythm. Intonation patterns are primarily realized on stressed syllables, and incorrect stress placement can disrupt pitch movement and later overall meaning. This difficulty is further intensified by limited exposure to authentic spoken English and insufficient opportunities for meaningful oral practice. Consequently, learners may produce grammatically accurate sentences but lack communication effectiveness due to inappropriate or absent intonation patterns.

2.1.2.5. Intonational Challenges of Algerian EFL Learners

Because of formal instruction places little emphasis on suprasegmental features, Algerian EFL learners have a particularly challenges in learning English intonation. Several Algerian studies show that speaking education tends to prioritize grammatical accuracy and vocabulary development, while features such as stress, rhythm, and intonation receive minimal attention. Linguistically correct utterances that lack naturalness and communicative efficacy as a result of this imbalance.

According to research conducted in the Algerian EFL environment, learners often have struggle with inappropriate pitch movement, especially when it comes to distinguishing

between rising and falling intonation patterns in statements and questions. Yahia (2024) for instance reports that Algerian first-year EFL students demonstrate noticeable weaknesses in spoken competence, particularly in prosodic features, which negatively affect the clarity and intelligibility of their speech. The study attributes these difficulties partly to first-language interference, as learners tend to transfer Arabic or French intonation patterns into English, resulting in non-target like pitch contours, contributes to these challenges.

Other Algerian studies on spoken English have similarly found that learners frequently rely on flat or monotonous intonation, regardless of communicative settings. Their capacity to convey emphasis, attitudes, or emotions all essential element of successful oral communication is hampered by this lack of pitch modulation. Moreover, these challenges are made worse by a lack of opportunities for oral practice and indicate exposure to real spoken English, which hinders learners ability to build an intuitive understanding of English intonation patterns.

Overall, Algerian EFL research suggests that intonational problems are pedagogical rather than phonetic. The marginalization of intonation in classroom procedures contributes to learners' persistent difficulties in achieving communicative effectiveness. These challenges underscore the critical necessity for explicit instruction and practice of intonation within speaking courses in Algerian EFL classrooms.

2.1.2.5.1. Influence of Arabic on English Intonation (in the Algerian context)

The impact of learners' mother tongue (Algerian Arabic) on the acquisition of English intonation has been highlighted by research undertaken in Algerian universities, exposing particular intonation challenges faced by EFL learners. For example, a Master's study by Taibi (2017) examined the intonational patterns used by Algerian Arabic speakers studying English at Mostaganem Research conducted University. The research compared the intonational contours of English and Algerian Arabic in various sentence types, including declarative, interrogative, imperative, and exclamatory sentences. According to the study learner's production of English intonation is influenced by the similarities and differences between Algerian Arabic and English intonational patterns. Specifically, certain similarities between the two languages pitch contours may aid in learning, while variances may result in improper English production patterns that compromise meaning and communicative clarity.

Similarly, Sadoune, Benmakhlouf & Goubaa (2021) investigated the influence of Algerian Arabic on the L2 intonation patterns of second-year undergraduate students at Kasdi

Merbah University, and the findings revealed that although some discrepancies still made proper intonational realization difficult, Algerian Arabic intonational patterns frequently had a positive impact on learners' acquisition of English intonation in many cases due to structural similarities,

When compared to native English speakers, Algerian EFL learners display intonational aberrations, according to another Algerian study that used speech analysis tools such as Speech Analyzer and Praat. These deviations were attributed partly to Arabic transfer, in which learner's intonation contours mirror patterns from their native speech, leading in pronunciations that occasionally impair comprehensibility and may be interpreted as having a foreign accent.

Together, these studies demonstrate that Arabic influence significantly shapes English intonation among Algerian EFL learners. This influence can sometimes help with acquisition due to similarities, but when differences are not appropriately addressed, it can also lead to persistent intonational errors. This emphasizes the necessity of targeted intonation education that emphasizes differences between learners L1 and English prosodic systems in order to enhance communicative efficacy.

The Algerian studies on the influence of Arabic on English intonation highlight that intonational difficulties for Algerian EFL learners stem from systematic issues related to cross-linguistic transfer and teaching methods. While there are some similarities in intonation between Algerian Arabic and English that could aid learning, excessive reliance on the L1 prosodic system leads to pitch inaccuracies, a restricted pitch range, and a monotonous speech quality. These deviations, while not always resulting in grammatical errors, significantly hinder communicative effectiveness by diminishing clarity, naturalness, and pragmatic appropriateness.

Moreover, the continued use of Arabic-based intonation patterns in English speech suggests that suprasegmental features are marginalized in Algerian EFL courses. Numerous studies have shown that trainees receive little corrective feedback on pitch, stress, or rhythm, and intonation is rarely explicitly taught. Consequently, students may acquire acceptable grammatical competence while still lacking prosodic proficiency, which can cause misunderstandings in real communicative contexts. In Algerian EFL training there is a glaring discrepancy between linguistic precision and communication effectiveness.

From a pedagogical perspective, these findings underscore the necessity of teaching strategies that explicitly address the contrasts between Arabic and English intonation systems. Increasing learners' understanding of how pitch movement varies between languages helps reduce negative transfer and improve comprehensibility. In order to aid Algerian EFL learners communicate more effectively and naturally orally, speaking courses must incorporate targeted intonation instruction.

2.1.2.5.2. Limited exposure and practice

Lack of exposure to real spoken English and inadequate oral practice chances are significant contributors to intonational issues among EFL learners, especially in the Algerian environment. Classroom instruction often relies heavily on textbooks and written materials, which offer limited representation of natural spoken discourse. For example, students might only come across intonation in reading-aloud activities or scripted conversations, where pitch variation is minimal and unrelated to real communicative purposes. As a result, learners may read sentences correctly but fail to use appropriate rising or falling intonation while speaking spontaneously, such as using a flat tone when asking questions or highlighting key information.

Additionally, meaningful speaking practice opportunities are often restricted to brief classroom interactions, giving learners little chance to explore with intonation in longer speech. For instance, students may hardly engage in role-plays, conversations, or presentations that require them to express attitudes, agreement, contrast, or uncertainty through pitch movement. Outside the classroom, many learners have limited access to English-speaking settings, which further reduces their exposure to real-world intonation patterns in movies, podcasts, or discussions. As a result, learners struggle to comprehend the functional use of intonation, leading to speech that is grammatically accurate speech that lacks expressiveness, natural rhythm, and communication clarity.

Furthermore, students are unable to establish automaticity in the use of suitable intonation patterns due to a lack of ongoing practice. Since intonation needs instantaneous coordination between pitch movement, stress, and meaning, a limited practice often results in hesitation and unnatural delivery during speech. Learners may focus excessively on word choice and grammatical accuracy, leaving little mental space for effective intonation control.

Consequently, even when students are aware of correct intonation rules, they might not apply when speaking naturally, which further reduces their ability to communicate effectively.

2.1.2.6. Conclusion

In summary, the examination of typical intonation problems among EFL learners has shown that a variety of linguistic, pedagogical, and contextual factors contribute to challenges in learning proper intonation patterns. Low awareness of pitch variation, negative transfer from the first language, insufficient coordination between intonation, stress, and rhythm, as well as restricted exposure to authentic spoken English are all common issues for EFL learners.. In the Algerian EFL context, these difficulties are exacerbated by the marginalization of suprasegmental elements in speaking instruction and the lack of meaningful opportunities for oral practice. Consequently, learners may demonstrate grammatical correctness while failing to achieve communicative efficacy and naturalness in spoken interaction. These findings underscore the urgent need for new pedagogical approaches that explicitly address intonation in communicative and learner-centered frameworks. Traditional teaching methods that prioritize form over function have proven ineffective in developing learners' prosodic competence because they often fail to give meaningful opportunities for practicing intonation in authentic contexts. Instead, effective instruction requires ways that encourage active learner participation, exposure to authentic spoken input, and purposeful oral production.

In this context, Project-Based Learning (PBL) and podcast production stand out as very important and interesting pedagogical methods in EFL instruction. These approaches create authentic learning environments in which learners can practice, monitor, and improve their intonation in relevant communicative situations by involving them in collaborative projects that require extensive spoken discourse. Thus, the following section investigates the theoretical foundations of Project-Based Learning and podcast production in EFL, highlighting their potential to enhance learners' speaking skills while also addressing the intonational difficulties outlined in the current study.

2.2. Section two: Project-based learning and Podcast production

2.2.1 Project based learning

In recent years, educational practices have changed more toward learner-centered approaches that emphasize active participation, meaningful learning, and real-world application. Traditional teacher-led instruction has been criticized for limiting students' opportunity to develop higher-order thinking and practical skills required in modern educational and professional contexts. Within this paradigm, Project-Based Learning (PBL) has evolved as a powerful instructional strategy that puts students at the center of the learning process by involving them in authentic projects that necessitate exploration, teamwork, and problem solving. Rather than relying exclusively on knowledge transmission, PBL enables students to build understanding via experience, making learning more relevant and connected to real-world circumstances.

2.2.1.1. Definition

Several scholars have characterized project-based learning, with each emphasizing various aspects of the approach. Thomas (2000/2022) defines PBL as an educational approach in which learning is organized around curriculum-relevant projects that challenge students to engage in difficult tasks such as problem solving, decision-making, and investigative activities. His definition highlights the project's centrality and position as the primary vehicle for learning, as opposed to a secondary classroom activity.

Similarly, Bell (2020) defines Project-Based Learning as a student-centered approach in which learners investigate real-world problems and difficulties, resulting in a meaningful product or presentation. Bell's definition emphasizes authenticity and real-world relevance, suggesting that PBL prepares students for the challenges of the twenty-first century by developing critical thinking, cooperation, and communication skills.

Larmer, Mergendoller, and Boss (2021) define PBL as a systematic teaching method that involves students in sustained inquiry to study complex problems over time. Unlike previous definitions, they emphasize the process of inquiry and reflection, emphasizing that learning in PBL is continuous and evolves through questioning, feedback, and revision.

Despite their differing in focus, these definitions share numerous similar principles. All researchers believe that Project-Based Learning is learner-centered and based on meaningful interaction with activities that reflect real-life situations. Thomas (2000/2022) focuses on projects' structural importance in the curriculum, whereas Bell (2020) stresses the skills and competences gained through real learning experiences. Meanwhile, Larmer et al. (2021) expand on these ideas, emphasizing the significance of sustained inquiry and reflection as critical components of effective PBL implementation.

Rather than presenting contradictory views, these perspectives can be seen as complementary. They argue that PBL is more than just finishing a project; it is about engaging students in a dynamic learning process that combines content knowledge, skill development, and reflective thinking. In the context of modern education, particularly in EFL classes, this integrated approach is perfectly aligned with the need to move beyond rote learning and give students opportunity to use language meaningfully in authentic communicative situation.

2.2.1.2. Characteristics of Project-based learning approach

Project-Based Learning is distinguished from traditional instructional approaches by a set of core characteristics that shape both the learning process and its outcomes. These characteristics collectively contribute to creating an active, meaningful, and learner-driven learning environment. Among the most frequently cited features in the literature are learner-centeredness, collaboration, real-world relevance, and the production of a final product.

2.2.1.2.1. Learner-Centeredness

Learner-centeredness is a key feature of Project-Based Learning, indicating a significant departure from traditional teacher-centered learning. In teacher-centered classrooms, the teacher is the major source of knowledge, and students frequently take a passive role, focused mainly on receiving information and producing it in examinations. PBL, on the other hand, puts students at the center of the learning process, encouraging them to investigate, make decisions, and take responsibility for their learning (Bell, 2020). This approach enables students to actively develop knowledge through inquiry and experience, rather than memorization.

However, while learner-centeredness is often regarded as a positive, it has limitations. Students who are accustomed to teacher-led instruction, such as those in many EFL programs,

may struggle with autonomy and self-regulation at first. Learner-centered tasks that lack proper direction and scaffolding may result in misunderstanding or superficial involvement. This emphasizes the need of combining learner autonomy with the teacher's role as a facilitator, providing structure and assistance throughout the project (Larmer et al., 2021).

2.2.1.2.2. Collaboration

Collaboration is another key characteristic of Project-Based Learning, as projects are often designed to be completed in groups. While collaborative learning provides several chances for engagement and peer support, there have been several limits reported in the literature. One prevalent issue is unequal involvement, in which more adept or confident students dominate tasks while others remain passive. This may limit learning chances for less active members and the efficacy of group work.

Furthermore, teamwork can sometimes result in off-task behaviour or disagreement if roles and responsibilities are not clearly established. In EFL environments, language proficiency gaps might exacerbate these issues, affecting learners' desire to participate orally. Therefore, effective cooperation in PBL needs careful preparation, explicit role distribution, and ongoing monitoring by the teacher to promote meaningful interaction and balanced involvement (Thomas, 2000/2022).

2.2.1.2.3. Real-World Relevance

Project-Based Learning stands out from more traditional educational approaches due to its emphasis on real-world relevance. PBL tasks are frequently grounded in actual problems or scenarios that reflect real-life contexts, making learning more meaningful and interesting for students. According to Bell (2020), when learners see assignments as relevant to their lives or future goals, their motivation and engagement increase significantly. This authenticity helps students to apply their information in practical situations rather than acquiring it as isolated content.

Real-world relevance is becoming more closely associated with digital literacy and media use in modern educational settings. PBL integrates with learners' daily experiences by incorporating real-world resources and platforms like as digital storytelling or online communication. In EFL courses, this relevance promotes meaningful language use since

students utilize English as a functional instrument for communication rather than as a merely academic subject.

2.2.1.2.4. Final Product: Process vs. Product

A final product is an important component of Project-Based Learning, but its usefulness extends beyond the product and includes the learning process that leads to it. While traditional instruction frequently focuses on the end result, PBL stresses the process planning, researching, drafting, revising, and reflecting as critical phases of teaching (Larmer et al., 2021). This process-oriented approach enables students to gradually acquire skills and deepen their understanding over time.

In EFL environments, the process-product balance is especially critical for improving speaking abilities. When the ultimate product is a podcast, students engage in repeated oral practice, self-monitoring, and peer feedback throughout the production process. These stages provide an excellent opportunity to improve speech, stress, rhythm, and intonation. Thus, podcast production as a final output within PBL does more than only demonstrate learning goals; it actively contributes to the development of speaking and intercultural abilities through persistent and meaningful practice.

2.2.1.3. Theoretical Foundations of Project-Based Learning

Project-Based Learning is based on well-established educational ideas that stress active learning, social engagement, and experiential learning. PBL's approach can be linked back to a variety of theoretical frameworks, the most notable of which being constructivism, collaborative learning, experiential and sociocultural theory. These ideas collectively explain how and why PBL promotes meaningful learning and skill development, particularly in language learning settings.

2.2.1.3.1. Constructivism

Constructivism is a key theoretical foundation of project-based learning, which is founded on Piaget's and following educational theorists' work, sees learning as an active process in which learners construct knowledge based on prior experiences and interactions with their environment. Rather of passively consuming information, students are encouraged to investigate, question, and reflect in order to develop meaningful understanding (Piaget, 1972).

Bell (2020) agrees that PBL is strongly aligned with constructivist concepts since it allows students to examine challenges, ask questions, and acquire understanding through inquiry. Rather of providing pre-prepared answers, PBL encourages students to engage in cognitive processes such as analysis, synthesis, and reflection. In EFL classes, constructivism promotes language acquisition by allowing students to develop linguistic knowledge through use, interaction, and contextualized practice rather than isolated grammar instruction.

However, constructivist learning, and by extension PBL, necessitates careful instructional design. Without proper direction, students may develop incomplete or incorrect understandings. This emphasizes the significance of scaffolding and teacher facilitation in PBL settings, especially in EFL classrooms where students may require linguistic and strategic support to engage effectively in difficult tasks.

Despite its benefits, constructivism has been criticized for imposing high cognitive demands on students, particularly those with little prior knowledge or competence levels. In such instances, learners may struggle to develop appropriate comprehension in the absence of adequate coaching. This constraint emphasizes that constructivist approaches, such as PBL, require careful scaffolding and instructional support, particularly in EFL classrooms.

2.2.1.3.2. Collaborative Learning

Collaborative learning theory emphasizes the importance of social interaction in knowledge production. Drawing on Vygotsky's (1978) work, this viewpoint contends that learning is most successfully accomplished through interaction with others, particularly within the learner's Zone of Proximal Development. Collaboration allows learners to co-create meaning, share viewpoints, and encourage one another's learning.

Project-Based Learning inherently integrates collaborative learning because students frequently work in groups to develop, research, and deliver projects. Johnson and Johnson (2019) contend that collaborative tasks foster deeper learning by fostering discussion, bargaining, and peer feedback. Collaboration is more than just a classroom approach in PBL environments; it is a fundamental mechanism for learning.

Collaborative learning is extremely effective for language development in EFL settings because it encourages natural communication and interaction. However, effective collaboration requires a clear structure and responsibility distribution. Without these

components, group activity may become unbalanced or ineffective, emphasizing the importance of intentional design and instructor monitoring in PBL implementation.

Although it encourages interaction and shared knowledge development, it can also result in unequal involvement among group members. More skilled or confident students may dominate assignments, while others become inactive. Furthermore, without explicit structure and supervision, collaboration can lead to off-task conduct, diminishing overall effectiveness.

2.2.1.3.3. Experiential Learning and Sociocultural Theory

Experiential learning theory increases the theoretical basis of project-based learning. Kolb (2015) describes learning as a cyclical process that includes concrete experience, reflection, conceptualization, and active experimentation. PBL mirrors this cycle by involving students in real-world tasks, fostering reflection on experiences, and allowing them to apply knowledge in new settings.

Sociocultural theory is closely related to experiential learning since it emphasizes the importance of cultural tools, language, and social context in learning. According to Vygotsky (1978), learning is a socially mediated process modified by contact and cultural practices. PBL aligns with sociocultural theory by integrating learning into relevant social activities and authentic environments.

These theories are especially useful in the field of language instruction. Project-based projects, such as podcast production, give students practical and socially important opportunities to employ language as a communicative tool. Through repeated practice, reflection, and engagement, learners can gradually improve not only language competence but also communicative and prosodic abilities such as stress, rhythm, and intonation.

Both approaches may be challenging to implement in contexts with strict curricula or limited time and resources. Furthermore, not all learning experiences necessarily result in meaningful reflection or learning outcomes. Without directed reflection and educational context, experiencing tasks may remain superficial rather than transformative.

2.2.1.4. Benefits of Project-Based Learning for EFL Learners

As a response to the limits of traditional, form-focused language instruction, project-based learning is becoming more popular in EFL classrooms. In many EFL classrooms, students are frequently exposed to English in controlled and artificial way, limiting

opportunities for meaningful language use. PBL, on the other hand, emphasizes purposeful involvement by combining language instruction with authentic projects. As a result, students are encouraged to use English as a means of communication, collaboration, and problem solving. According to research, PBL promotes EFL learners in a variety of ways, including linguistic growth, communicative competence, motivation, and learner autonomy.

2.2.1.4.1. Linguistic Benefits

Project-Based Learning helps to develop many language components, such as vocabulary, grammar, and pronunciation. Unlike traditional exercises that isolate linguistic forms, PBL integrates language acquisition into relevant circumstances, allowing students to encounter and utilize language organically. Stoller (2021) contends that PBL increases language acquisition by exposing students to rich input and encourages frequent language use at various stages of the project.

Furthermore, Beckett and Slater (2020) argue that persistent engagement in project work allows students to identify gaps in their linguistic knowledge. As students develop, review, and rewrite their projects, they become more conscious of their linguistic constraints and actively work to improve correctness and appropriateness. This technique promotes gradual language growth, especially in EFL settings where English exposure is typically limited to the classroom. As a result, PBL fosters an environment in which linguistic growth occurs via purposeful practice, rather than mechanical repetition.

2.2.1.4.2. Communicative Benefits

Project-Based Learning is very successful at improving students' communicative ability because it provides frequent and authentic chances for interaction. Collaborative project activities demand learners to discuss ideas, negotiate meaning, and engage in extended spoken engagement. Bell (2020) highlights that PBL promotes students to utilize language for genuine communicative purposes, which helps them build fluency and confidence in speaking.

In EFL classrooms, where speaking opportunities are frequently limited, PBL offers a supportive environment for oral development. Learners connect with their peers in low-anxiety contexts, which lessen the fear of making mistakes and promote risk-taking. These encounters help learners develop not only fluency but also pragmatic competence, as they learn how to conduct discussions, voice viewpoints, and respond correctly. Thus, PBL

promotes the entire development of speaking skills, progressing from accuracy to effective communication.

2.2.1.4.3. Motivational Benefits

Motivation plays a crucial role in successful language learning, and Project-Based Learning has been demonstrated to increase learners' motivation by making learning more interesting and relevant. According to Krajcik and Blumenfeld (2020), PBL increases intrinsic motivation by engaging students in projects that are relevant to their interests and real-life experiences. When learners comprehend the objective of an activity and recognize its practical usefulness, they are more inclined to put out effort and remain interested.

Additionally, the collaborative and creative aspect of PBL fosters a sense of ownership and responsibility among students. Working toward a common objective promotes perseverance and dedication, while having the opportunity to produce real results boosts learners' sense of accomplishment. In EFL environments where learners may be anxious or lack confidence, a supportive and inspiring environment is important for maintaining involvement and encouraging ongoing language usage.

2.2.1.4.4. Learner Autonomy and Engagement

Another significant advantage of project-based learning is its ability to encourage student autonomy and active participation. PBL enables students to take responsibility of their learning in a variety of ways, including planning, research, decision-making, and self-evaluation. According to Larmer et al. (2021), autonomy allows students to acquire important learning techniques and become more self-directed.

In EFL contexts, learner autonomy is especially crucial because language acquisition necessitates continuing exposure and practice outside of the classroom. Project-based learning encourages students to investigate resources autonomously, use digital tools, and report on their learning processes. This active participation promotes deeper engagement and helps students create long-term learning habits. As a result, PBL not only improves language competency but also provides students with abilities that go beyond language acquisition.

Overall, the advantages of project-based learning for EFL students are interrelated and mutually reinforcing. Meaningful language use promotes linguistic growth, contact improves communicative competence, relevance and engagement keep motivation high, and active

participation fosters learner autonomy. These benefits work together to produce a learning environment that tackles many of the obstacles that EFL learners confront. This integrated framework makes PBL ideal for including podcast production as an educational tool, providing learners with additional opportunity to practice speaking and developing intonational abilities in authentic scenarios.

2.2.1.5. Conclusion

This section investigated Project-Based Learning as a learner-centered pedagogical strategy based on solid theoretical underpinnings and backed by current educational research. The discussion emphasized the key PBL characteristics such as learner-centeredness, teamwork, real-world relevance, and a focus on both learning processes and final product. These concepts position learners as active participants in knowledge construction through meaningful engagement, social interaction, and experience learning, rather than passive receivers of information.

Project-Based Learning is clearly beneficial in EFL environments because it improves linguistic growth, communicative competence, motivation, and learner autonomy. Learners have more possibilities for oral practice thanks to sustained interaction and authentic assignments, which aids in the development of speaking abilities. Importantly, the emphasis on meaningful communication and frequent production produces a favourable environment for improving intonational characteristics such as stress, rhythm, and intonation.

Overall, Project-Based Learning emerges as a particularly useful framework for promoting speaking and intonation practice in EFL classes. Its emphasis on meaningful communication and authentic output is inherently compatible with teaching instruments that need continuous oral production. This pedagogical alignment sets the groundwork for investigating podcast production as an instructional practice that applies PBL principles while directly addressing the development of speaking and intercultural abilities.

2.2.2. Podcast in language learning

2.2.2.1. Definition

Podcasts have gained increasing attention as a teaching tool, especially for language learners. Technology has grown; podcasts have gained recognition as adaptable and easily accessible tools that enhance learning beyond traditional classroom boundaries.

Podcasts are commonly defined as digital audio (and sometimes video) files that can be downloaded or streamed online and accessible via a variety of devices, including computers and smart phones. According to Hasan and Tan (2025), podcasts are on-demand audio resources that let students choose the time, location, and speed of their education, which makes them particularly well-suited for independent and self-directed learning. In a similar vein, Dewi et al. (2025) characterize podcasts as educational materials that integrate digital accessibility with spoken discourse, allowing students to repeatedly interact with real-world linguistic input. While these definitions place a strong emphasis on adaptability and accessibility, other scholars draw attention to the pedagogical value of podcasts. According to Chaves-Yuste and de la Peña (2023), podcasts should be seen as interactive tools that can promote meaningful involvement when included into classroom activities rather than only as listening resources. According to this viewpoint, podcasts function as platforms for student interaction as well as input resources.

2.2.2.2. Types of podcast

Podcasts used in language learning can be classified into different types depending on their purpose and mode of use. One common distinction is between authentic podcasts and educational podcasts. Authentic podcasts are made for native or public audiences and expose learners to natural language use, whereas educational podcasts are made especially to assist learning goals. Maxida and Ayzada (2024) claim that instructional explanations that are tailored to the skill levels of learners, simplified language, and structured content are common features of educational podcasts. On the other hand, real-life speech, including natural intonation patterns, simplified forms, and spontaneous discourse, is richly exposed in authentic podcasts. Both kinds are useful, but how well they are used pedagogically determines how effective they are, according to Dewi et al. (2025).

The difference between podcasts created by teachers and those created by students is another significant one. Student-produced podcasts transform students from passive listeners into active content creators, whereas teacher-produced podcasts primarily function as input materials. Because it demands students to prepare, practice, and accomplish oral tasks, this production-oriented application is especially pertinent for speaking development.

Overall, research shows that different types of podcasts have different forms and purposes, but student-produced podcasts seem to provide more chances for active language usage, particularly when it comes to speaking-related skills development.

2.2.2.3. Educational Value of Podcasts in Language Learning

The ability of podcasts to facilitate language learning through repeated exposure, flexibility, and learner interaction is what gives them their educational value. Numerous studies have demonstrated how podcasts improve students' speaking and listening abilities. According to Chaves-Yuste and de la Peña (2023), podcasts foster socially relevant learning environments that boost student motivation and engagement. In a similar vein, Alfa et al. (2025) state that by enabling students to interact with material that represents contemporary problems, podcasts promote meaningful learning by raising relevance and interest.

From a pedagogical perspective, podcasts encourage learner autonomy by letting students set their own learning speed and go over material again as needed. According to Dewi et al. (2025), language learners who require consistent contact with the target language to enhance understanding and production will benefit most from this recurrent exposure. Thus, podcasts support language learning by encouraging engagement, autonomy, and meaningful interaction all essential elements for successful language acquisition in addition to offering input.

2.2.2.4. Authenticity and Multimodal Input

A key idea in communicative language instruction is authenticity, and podcasts are highly regarded for providing real language input. Learners are exposed to natural speech through authentic podcasts, which include accent, stress, rhythm, and intonation variations. According to Hasan and Tan (2025), podcasts provide multimodal information that improves comprehension and engagement when paired with tasks, pictures, or scripts. This multimodality facilitates deeper processing of oral elements by enabling learners to link spoken language with contextual clues. Similarly, Maxida and Ayzada (2024) emphasize that real-world pronunciation patterns that are frequently lacking in textbook materials can be recognized by students through realistic audio input.

However, other research warns that learning cannot be ensured by authenticity alone. In the absence of suitable educational scaffolding, students could find it difficult to comprehend real-world information. This shows that rather than being used in isolation, podcasts operate

best when included into structured teaching frameworks.

Therefore, research backs up the idea that while podcasts offer rich, real, and multimodal input, their instructional usefulness hinges on how well they are incorporated into language learning exercises.

2.2.2.5. Benefits of podcast production for intonational skills

As the emphasis on podcasts in language learning has switched from passive listening to active production, studies have highlighted their potential for enhancing learners' intonational skills. Podcast production requires learners to interact directly with spoken language, which generates good conditions for increasing suprasegmental qualities like stress, rhythm, and intonation.

First, podcast production promotes the development of stress, rhythm, and intonation by motivating students to create extended spoken discourse rather than individual phrases. Students must arrange their thoughts and present them in a logical and organic way when they are creating and recording podcast episodes. According to Maxida and Ayzada (2024), these kinds of exercises assist students practice proper stress placement and intonation contours while exposing them to English rhythmic rhythms. According to Chaves-Yuste and de la Peña (2023), speaking in front of a real audience also promotes students to use more organic speech patterns, which helps them control their prosody. In addition to improving prosodic qualities, podcast production allows for repeated practice and self-monitoring, which are uncommon in traditional speaking exercises. Unlike spontaneous classroom encounters, podcast tasks allow learners to record, listen to, and revise their oral output. Dewi et al. (2025) underline that this recursive process assists learners in identifying differences between their intended meaning and actual pronunciation, resulting in steady improvement in intonation and rhythm. Repeated recordings help learners improve control of their spoken production and become more confident speakers.

Furthermore, podcast production increases learners' awareness of pronunciation and intelligibility. Listening to their own recordings helps learners become more aware of how their speech sounds to others. According to Hasan and Tan (2025), this increased awareness pushes learners to prioritize clarity and listener comprehension over just crafting

grammatically accurate words. As a result, students have a more comprehensive grasp of speaking, encompassing both segmental and suprasegmental characteristics.

Podcast production is an effective instructional technique for building intonational skills because it combines extended speaking practice, self-reflection, and increased pronunciation awareness. These advantages are especially important in EFL environments, where learners frequently lack adequate opportunity to practice and monitor their spoken language. This topic inevitably leads to the question of how podcast creation might be effectively integrated into formal pedagogical frameworks like Project-Based Learning.

2.2.2.6. Integrating podcast production and project-based learning

Given the pedagogical usefulness of podcast production in strengthening speaking and intercultural abilities, experts are increasingly advocating for incorporating such practices into formal educational techniques. Project-Based Learning is an especially suitable framework since it stresses meaningful tasks, learner autonomy, and the creation of a tangible output. Integrating podcast production into PBL allows students to gain extensive speaking practice while working collaboratively toward a common communicative goal.

Podcast production can be effectively viewed as a project-based learning task. In a PBL framework, students are often expected to pick a topic, conduct research, design content, collaborate with peers, and create a final output. Podcast projects naturally fit into these stages, as students collaborate to create episodes, compose scripts, rehearse, and record spoken content. According to Dewi et al. (2025), project-based tasks increase long-term engagement and motivate students to accept responsibility for both the process and the outcome of their learning. Similarly, Hasan and Tan (2025) argue that learner-generated podcasts incorporate crucial PBL elements such as cooperation, real-world relevance, and learner autonomy.

In addition, PBL is suitable for improving speaking and intonation since it provides many and intentional opportunities for oral communication. Unlike isolated speaking exercises, project-based podcast activities demand learners to use spoken language throughout the project cycle, from discussion to negotiation, rehearsal, and final presentation. According to Chaves-Yuste and de la Peña (2023), realistic communication tasks in PBL contexts encourage natural speech patterns and focus on suprasegmental elements like rhythm and

intonation. Through frequent engagement and performance, learners gradually gain control over their oral production, making PBL a beneficial environment for intercultural growth.

Despite the increased interest in using PBL and podcasts in language learning, several research gaps remain. While many studies have looked at the influence of PBL on general language skills and student motivation, few have focused on its function in fostering intercultural competencies. Similarly, previous research on podcasts has primarily focused on listening comprehension or general speaking enhancement, frequently ignoring careful study of stress, rhythm, and intonation. Furthermore, research that explicitly combines Project-Based Learning, podcast creation, and intercultural development in EFL contexts particularly in non-native settings are still limited.

2.2.2.7. Suitability of PBL for developing Speaking and Intonation

Project-Based Learning is very useful and suitable for improving speaking skills and intonation because it provides significant and ongoing opportunities for oral communication. Unlike traditional methods, which frequently rely on controlled and contextualized speaking activities, PBL involves students in authentic tasks that necessitate ongoing interaction, discussion, and presentation. According to Bell (2020), learner-centered environments promote active language usage and assist learners in developing both fluency and confidence in speaking. Larmer et al. (2021) argue that the emphasis on process in PBL allows learners to practice, reflect on, and refine their oral performance over time.

Furthermore, PBL gives consistent exposure to spoken interaction, which is necessary for the development of suprasegmental elements such as stress, rhythm, and intonation. As students organize, negotiate meaning, and present their work, they are naturally expected to utilize language in extended conversation rather than single utterances. This continued use of spoken language increases their understanding of how meaning is communicated through prosody. As a result, PBL not only promotes the development of general speaking abilities, but also creates favourable conditions for improving intonational accuracy and overall speech intelligibility.

2.3. Review of previous studies

Several recent studies have looked into the use of podcasts in EFL contexts, specifically in terms of speaking and listening skills. These studies provide important insights on the effectiveness of podcast-based instructions for improving learners' oral skills.

Suseno (2024) did a study on the use of podcasts and digital tools to improve EFL learners' speaking skills. The findings suggested that learners who participated in podcast-based activities shown significant progress in their ability to convey thoughts, as well as in pronunciation and vocabulary utilization. The study concluded that podcasts give relevant input and allow for active language usage, both of which are necessary for improving speaking ability. This study focuses on the role of podcasts in addressing common speaking difficulties among EFL learners, particularly those related to limited exposure and lack of practice.

Similarly, Ali et al. (2024) conducted a library research study that examined the impact of podcasts on speaking and listening abilities. The findings showed that podcasts help learners improve their oral performance by offering realistic content, promoting self-regulated learning, and establishing a dynamic learning environment. This study is particularly relevant since it emphasizes authenticity and student agency, which correspond with communicative and learner-centered approaches in language instruction.

In another study, Chaves-Yuste and de la Peña (2023) discovered that using podcasts in EFL courses improves linguistic proficiency and fosters active engagement. The study also found that learners who utilized podcasts did better on speaking tasks than those who used traditional methods. This finding underscores the assumption that podcasts are not only input tools but also an effective way to improve spoken communication skills.

Furthermore, Akyıldız (2024) studied the impact of podcasting on increasing oral proficiency and self-regulated learning practices among EFL learners. The findings showed that podcast improves learners' speaking skills while also fostering independent learning and self-monitoring. This study is especially pertinent to the current research because it emphasizes the need of contemplation and self-awareness—key elements in establishing intonation and pronunciation. Moreover, Baramarta et al. (2024) investigated the effects of YouTube podcasts on students' speaking fluency. The results showed that learners improved at varied levels, with some obtaining higher fluency and coherence while others continued to struggle with pronunciation and consistency. This variation emphasizes that while podcasts are useful, their usefulness may depend on learners' competency levels and the sort of instructional support provided.

Taken together, these studies show that podcasts are effective resources for improving EFL learners' speaking skills, especially fluency, pronunciation, and motivation. They also

emphasize the importance of podcasts in fostering learner autonomy through repeated exposure and self-directed learning. However, a deeper analysis indicates that the majority of these studies concentrate on basic speaking and listening skills, with little attention paid to specific prosodic elements such as stress, rhythm, and intonation. Furthermore, few studies have studied podcast creation within a Project-Based Learning framework, particularly in regard to intonational development.

2.4. Conclusion

This chapter addressed the relevant literature on Project-Based Learning, podcast creation, and speaking abilities, with a special emphasis on intonation. The discussion emphasized that PBL is a learner-centered approach grounded in constructivist and collaborative principles that encourages meaningful language use through authentic tasks. It further underlined that podcasts, particularly when utilized as production tools, offer several chances for improving speaking abilities by exposing students to actual material and engaging them in active oral practice. Furthermore, the literature revealed that both PBL and podcast production help to improve learners' linguistic, communicative, and motivational outcomes, while also providing optimal settings for developing suprasegmental elements such as stress, rhythm, and intonation.

Despite these contributions, the review identified significant research gaps. While various research have investigated the efficacy of PBL in improving general language abilities, little attention has been paid to its specific role in fostering intonational competence. Similarly, research on podcasts has mostly focused on listening comprehension and general speaking performance, often neglecting detailed investigation of prosodic features. Furthermore, researches that integrate Project-Based Learning with podcast production in a single framework, particularly with a focus on intonation in EFL situations, are limited.

These gaps justify the necessity for the current study, which seeks to investigate the integration of Project-Based Learning and podcast creation as a pedagogical strategy to enhance EFL learners' speaking and intonational skills. By addressing these understudied areas, the study hopes to contribute to both theoretical understanding and practical application in language teaching.

Chapter Three: Methodology

3.1. Introduction

The present study aims to fulfill three main objectives: (1) to investigate the effectiveness of project-based podcast production on developing EFL learners' intonation skills. (2) To analyze students' performance in intonation before and after the PBL podcast intervention. (3) To explore learners' attitudes and perceptions towards using podcasts as a project-based learning tool to enhance their speaking intonation. It also seeks to answer three significant research questions: (1) what are the main changes that appear in students' intonation after being involved in podcast projects? (2) To what extent does participation in podcast production influence learners' use of stress, rhythm, and intonation patterns? (3) How do learners perceive the use of podcasts as a PBL tool to develop their speaking intonation? Furthermore, the study is guided by the following hypotheses: H1: Project-based podcast production has a positive effect on improving EFL learners' intonation skills. H0: Project-based podcast production does not lead to any significant improvement in EFL learners' intonation skills.

Building on the theoretical framework outlined in the previous chapter, this chapter outlines the methodological procedures adopted to collect and analyze the data, in addition to presenting the overall research design of the study. It begins by specifying the research approach implemented in this investigation. It then introduces the instruments employed to obtain the required data. Subsequently, it describes the criteria used for selecting the participants. After that, it details the procedures followed during the data collection process. Finally, it clarifies the methods used to analyze the collected data.

3.2. The Research Design

3.2.1. The Research Approach

The mixed-methods approach combines both quantitative and qualitative research methods within a single study to provide a comprehensive understanding of the investigated phenomenon (Cohen, Manion, & Morrison, 2018). It involves collecting and analyzing numerical as well as descriptive data, and integrating both sets of results to draw meaningful conclusions (Creswell & Creswell, 2018). Using a mixed-methods design allows the researcher to obtain more reliable and in-depth insights that may not be fully captured through the use of only one research approach.

In the context of the present study, both quantitative and qualitative methods were employed for data collection and analysis. Quantitative data were obtained through pre- and post-observation scores assessing students' intonation performance before and after the project-based podcast intervention. These scores were statistically analyzed to determine whether any significant improvement occurred. In addition, qualitative data were gathered through pre- and post-questionnaires in order to explore learners' perceptions and attitudes towards using podcast production as a project-based learning tool. Accordingly, the present research adopts a quasi-experimental mixed-methods approach.

3.2.2. The Research Instruments

In the present study, the aim was to investigate the effect of project-based podcast production on first-year EFL students' intonation skills and to explore their perceptions and attitudes towards using podcasts as a project-based learning tool. To achieve these objectives and to "increase the credibility and validity of the results" (Mishra & Rasundram, 2017, p.70), the study employed a triangulation strategy for data collection. Triangulation involves the use of two or more data collection methods in a single study to provide a comprehensive and corroborated understanding of the phenomenon under investigation (Cohen, Manion, & Morrison, 2018; Creswell & Creswell, 2018).

In the current research, two main types of instruments were used: first, pre-post questionnaire to assess students' intonation performance and attitude before and after the PBL podcast intervention; and second, the interview to examine teachers' perceptions towards podcast production as a learning tool. By combining both quantitative and qualitative instruments, the study aimed to ensure more reliable, valid, and in-depth findings regarding the impact of podcast-based PBL on students' intonational skills.

3.2.2.1. The Questionnaire

Questionnaires are considered one of the primary tools for collecting data in any research study (Zohrabi, 2013). They are defined as written instruments consisting of open-ended and closed-ended questions, to which participants are asked to provide their responses (Rowley, 2014). Questionnaires are particularly useful when the number of participants is relatively large, as they allow for efficient data collection from many respondents (Rowley, 2014). In addition, they can be administered in various ways, including by post, via e-mail, online platforms, or face-to-face distribution (Rowley, 2014). Moreover, it is crucial that the

questions included in a questionnaire are clear, concise, and free of complex terminology or abbreviations (Gray, 2004), as participants may have different levels of comprehension and familiarity with the topic. Therefore, designing questions that are simple, brief, direct, and easy to understand ensures that all respondents are able to provide accurate and meaningful answers. In addition, questionnaires can be administered at different stages of the research process, such as before and after an intervention, in order to examine possible changes in participants' responses (Cohen, Manion, & Morrison, 2018; Creswell & Creswell, 2018). In this respect, pre- and post-questionnaires are used to compare participants' initial and final perceptions, which helps the researcher identify any developments that may occur as a result of the implemented treatment.

3.2.2.1.1. Description of the Student's Questionnaire.

3.2.2.1.1.1. Pre-Questionnaire.

The questionnaire (see Appendix A) consists of eight questions divided into three sections. It includes primarily of closed-ended questions on a five-point Likert scale ranging from (1) strongly disagree to (5) strongly agree. This sort of question allows participants to express the degree of their agreement with the given statements and aids the data analysis process (Gray, 2004). A closed-ended question asks the respondent to select one of several prepared options (such as Likert scale responses) (Rowley, 2014). The use of such questions allows the researcher to collect quantitative data and simply compare participant responses. Furthermore, closed questions are less time-consuming and more practical when dealing with a large number of respondents (Gray, 2004).

The questionnaire is organized into three sections. The first one (Section A) collects background information about the participants, such as how long they have been learning English and whether they had previously heard English podcasts. The second one (Section B) focuses on students' self-assessment of their intonation skills, including their ability to employ rising and falling intonation, change pitch, and express meaning and emotions using intonation. The third one (Section C) focuses on students' attitudes about speaking English and their efforts to improve their pronunciation and intonation.

3.2.2.1.1.2. Post-Questionnaire.

The post-questionnaire (see Appendix B) was presented after the podcast-based project implementation to evaluate students' views of the activities and measure their improvement of

intonation skills and speaking attitudes. The questionnaire consists of four sections with closed-ended statements on a five-point Likert scale. The first section, entitled Evaluation of the Podcast Activity, contains four items designed to investigate students' perspectives on the usefulness, efficacy, and engagement of podcast-based activities for enhancing their intonation and speaking skills. It also investigates if students want to continue using podcasts in the future. The second and third sections, entitled Self-Assessment of Intonation Skills, and Students' attitudes toward speaking skills includes the same items in pre-questionnaire. The fourth section, named Open Feedback, consists of two open-ended questions designed to collect qualitative data about students' experiences with podcast-related activities. The first question investigates the most beneficial aspects of the podcast activity for enhancing students' intonation, while the second focuses on the main challenges students encountered when using podcasts for speaking practice. This section allows participants to freely express their thoughts, feelings, and personal comments on the intervention, resulting in deeper insights that closed-ended questions cannot fully capture. Overall, this questionnaire was designed based on the objectives of the current study and the theoretical framework related to podcast, speaking skills, and intonation development.

3.2.2.2. The Structured Interview

According to Kothari (2004), “the interview method of collecting data involves presentation of oral-verbal stimuli and reply in terms of oral-verbal responses” (p.97). Generally, interviews can be classified into several types, including structured, semi-structured, and unstructured interviews (Gray, 2004). The type adopted in the present study is the structured interview. In structured interviews, all questions are pre-prepared, and the interviewer follows a fixed set of questions without introducing any modifications during the interaction (Gray, 2004). This means that all participants are asked the same questions in the same order, ensuring that the data collected is consistent and comparable. In addition, the interviewer must minimize interaction and prevent influencing participants' responses by tone of voice, facial expressions, or any other type of bias (Gray, 2004).

In the present study, a structured interview was done with oral expression teachers to collect in-depth qualitative data concerning students' intonation challenges and the efficacy of employing podcast creation as a project-based learning resource. The interview aims to investigate teachers' perceptions on students' performance in intonation, the problems they

confront, and the possible benefits of incorporating podcast-based projects in enhancing learners' speaking skills.

3.2.2.2.1. Description of the Teachers' Interview

In addition to using questionnaires to investigate students' perceptions and attitudes toward the use of podcast production as a project-based learning tool, it was also important to interview a group of oral expression teachers about the topic at hand. The interview aims to collect data on teachers' attitudes, opinions, and perceptions regarding the effectiveness of project-based podcast production in enhancing students' intonation skills.

The interview (see Appendix C) consists of thirteen open-ended questions. Each set of questions has a different aim. The first set of questions tries to gather background information about the professors, such as their teaching experience, academic rank, and courses taught. The second set aims to investigate how teachers assess students' speaking abilities and identify the key challenges learners experience when speaking, particularly in terms of intonation. The third set of questions seeks to explore instructors' experiences with implementing project-based podcast activities, including how such projects are arranged and how effective they are in EFL classrooms. The fourth set of questions investigates the impact of podcast-based projects on students' intonation, such as their awareness and use of stress, rhythm, and pitch. The fifth and final set of questions seeks teachers' suggestions and recommendations for improving podcast-based projects and better supporting students in developing their intonation abilities.

3.2.3. Research Setting and Participants

The first step in every research project is to select the target population, or the group to which the researcher intends to generalize the findings (Ary et al., 2009). However, due to practical constraints such as time and accessibility, it is frequently not feasible to research the entire population. As a result, the researcher selects a sample from the accessible population, representing the group that can be reached and investigated (Ary et al., 2009).

The current study, the target population consists of EFL learners and oral expression teachers. However, due to practical constraints, the study focuses on a sample of first-year EFL students at the University of Khenchela, as well as a number of oral expression professors from the same setting. These participants were chosen because they are actively involved in the teaching and learning of speaking skills, notably intonation, making them appropriate for the objective of the current study.

3.2.3.1. Sampling Strategy

Choosing an appropriate sampling technique is an important step in conducting credible research because it helps the researcher to collect relevant data from a representative sample of participants (Kothari, 2004). Sampling is the process of picking a subset of a population in order to draw conclusions about the whole (Ary et al., 2009). In general, sampling techniques are classified into two types: (random) and non-probability (non-random) sampling (Cohen, Manion, & Morrison 2018). While probability sampling provides all members with equal chances of selection, non-probability sampling is based on accessibility and the researcher's judgment.

In this investigation, a non-probability convenience sampling technique was used. The participants were chosen based on their availability and accessibility; they were first-year EFL students and oral expression teachers at the University of Khenchela. This method of sampling is appropriate for quasi-experimental studies in educational contexts where the researcher works with existing groups.

3.2.3.2. Students' Sampling

The students in the current study were chosen using a non-probability convenience sampling technique. The participants included around thirty-five (35) first-year EFL students from the University of Khenchela who were easily accessible to the researcher. This method of sampling was chosen for practical reasons such as time limits and convenience of access. The chosen students were considered appropriate for this study because they are actively involved in developing speaking skills, particularly intonation, which is the primary focus of the research. Furthermore, they were available to participate in all phases of the quasi-experimental design, including the pre- and post-intervention stages.

3.2.3.3. Teachers' Sampling

The current study's teacher sample was also selected utilizing a non-probability convenience sampling technique. The participants included seven (7) oral expression teachers from the University of Khenchela who were available and willing to participate in the study. This sample approach was chosen for practical reasons such as availability and ease of contact.

The selected teachers were deemed appropriate for the aim of this study since they are directly involved in teaching speaking skills and have prior experience assessing students' oral

performance, particularly intonation. Their participation provided vital insights on students' challenges and the efficacy of project-based podcast production in EFL classes.

3.2.4. Data collection Methods

After defining the research design, identifying the participants, and presenting the instruments used in the present study, it is necessary to move to the data collection phase. Data collection is defined as the systematic process of gathering and measuring information related to the variables of the study in order to answer research questions and address the objectives of the research (Kabir, 2016).

In the present study, data were collected through two main instruments: Pre-Post questionnaires and a structured interview. The questionnaires were administered to first-year EFL students before and after the implementation of the project-based podcast activity in order to explore their perceptions and attitudes towards the use of podcasts as a learning tool. Additionally, oral expression teachers were interviewed in a structured manner to obtain detailed qualitative information regarding their perspectives on students' intonation challenges and the efficacy of podcast-based project learning. What follows is a detailed description of how the data were collected using each of these instruments.

3.2.4.1. Administration of the Students Questionnaire

The questionnaire (see Appendix A and B) was designed and administered online using Google Forms. It was distributed to first-year EFL students at the University of Khenchela via social media platforms and e-mail. Some students completed the questionnaire immediately after receiving it, while others responded at different time intervals. It is important to note that the questionnaire was given out twice: before and after the implementation of the project-based podcast activity. The pre-questionnaire aimed to explore students' initial perceptions, whereas the post-questionnaire was used to determine whether students' attitudes had changed after finishing the project. In addition, participants received detailed instructions on how to answer the questionnaire.

The goal of the study was also explained to them, and they were urged to ask for clarification if need. During the intervention phase, students were introduced to podcast production and given guidance on intonation practices and recording techniques. Then they were divided into groups and asked to create their own podcasts on specific topics. As part of

the project-based learning project , students actively participated in podcast content creation through listening, rehearsing, recording, and speaking practice.

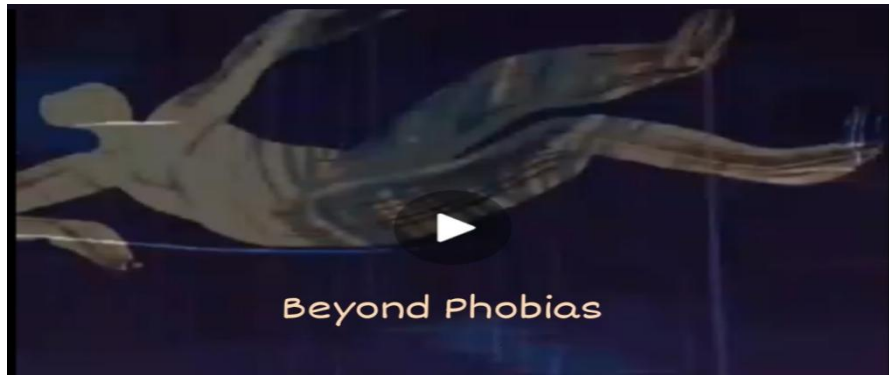


Figure 1: Student's Podcast Production

3.2.4.2. The Interview Process

The interview was conducted face to face with seven oral expression teachers at the University of Khenchela. This approach was chosen because it made it possible to communicate directly with the participants and easier to gather comprehensive and extensive data. All participants were interviewed individually in a comfortable setting, which helped them express their opinions and experiences freely. With the participants' permission, the interviews were audio recorded in order to ensure accuracy and reliability in data collection. this made it possible for the researcher to review the answers throughout the analysis stage. The interview process took approximately one week to be completed, during which all participants were cooperative and provided valuable insights, attitudes, and perceptions related to the topic under investigation. In this respect, Salmons (2009) states that face-to-face interviews enable the researcher to build rapport with participants and get more detailed and meaningful responses.

Chapter Four: Data Analysis and Discussion

Chapter Four Data Analysis and Discussion

4.1. Data Analysis.

Data collection is a crucial stage in any research study; however, it simply offers raw information, which cannot be analyzed or discussed without additional processing. In other words, the gathered data is worthless until it is carefully analysed. As a result, data analysis is an important step that allows the researcher to organize, evaluate, and make sense of the acquired information in order to answer research questions and develop meaningful findings.

The current study used a mixed-methods data analysis methodology. To be more explicit, the data was analyzed using both quantitative and qualitative methodologies. Quantitative analysis was used to examine the students' questionnaire, calculating frequencies, percentages and presenting the data in tables and figures to detect patterns and changes in students' responses before and after the intervention. On the other hand, the interviews with the professors were analyzed using qualitative analysis. The responses were examined using thematic analysis, which involves organizing data into themes and categories based on recurring concepts and patterns. This approach enabled the researcher to acquire greater insights into teachers' perceptions on students' suprasegmental features challenges and the success of project-based podcast production.

4.1.1. The Interview's Analysis Procedure

The interview with oral expression teachers aims to collect in-depth qualitative data regarding their perspectives on students' speaking performance, notably intonation, stress and rhythm, and their views on the effectiveness of project-based podcast production as a teaching tool. The obtained data were analyzed using thematic analysis, which involves discovering, organizing, and interpreting recurring themes and patterns in the participants' responses. The analysis is provided question by question, with each item being reviewed in terms of its purpose, followed by a thematic interpretation of the teachers' responses.

Q1: How do you evaluate student's speaking skills?

This question aims to explore the methods and criteria used by oral expression teachers to assess students' speaking skills, including fluency, pronunciation, and communicative competence. The answers that the interviewees provided are classified into the following elements:

Chapter Four Data Analysis and Discussion

The use of evaluation criteria: When grading speaking skills, most teachers highlighted certain components. For example, two participants listed criteria including fluency, grammar, vocabulary, pronunciation, and speaking duration. This suggests that teachers rely on a variety of linguistic factors to provide a full assessment of students' speaking skills.

The use of structured assessment procedures: One of the teachers emphasized the use of oral presentations and rubrics as formal tool for evaluation. This shows that some teachers use systematic and planned techniques to evaluating student performance.

Variations in students' speaking levels: Teachers noted that students' performance varies greatly, with some being skilled speakers and others struggling to complete fundamental speaking tasks. Similarly, other teacher classified the learners' level as generally elementary, observing that while some show confidence, many still struggle with fluency, vocabulary, and grammatical accuracy. Finally, it is worth mentioning that one participant did not provide a complete response, which could indicate a misunderstanding of the question or a lack of clarity in expressing their evaluation methodology.

The data show that teachers utilize a variety of criteria and methods to assess students' speaking abilities, with a focus on fluency, pronunciation, and accuracy. However, the results show a significant difference in students' speaking ability, showing that learners have varying levels of proficiency. This emphasizes the importance of good instructional methodologies, such as project-based podcast production, to improve students' speaking skills.

Q2: Which of the four skills do you consider the most difficult for students?

This question seeks to discover which language skills teachers believe are the most challenging for students in order to better understanding learners' obstacles and explain the current study's emphasis on speaking abilities.

The emphasis on speaking as the most challenging skill: The majority of teachers identified speaking as the most difficult skill for learners. other teacher further explained that productive skills are often more difficult than receptive ones, underlining that speaking is especially tough due to pronunciation issues, as English words are not always pronounced exactly as they are written. This demonstrates the complexities of spoken production, particularly in terms of pronunciation and intonation.

Chapter Four Data Analysis and Discussion

The perception of writing as a difficult skill: Some teachers thought writing was the most challenging skill, justifying that writing depends on mastery of other abilities such as listening, speaking, and reading, and that it is frequently highlighted in tests. This suggests that writing is regarded as a complicated, integrative skill that necessitates numerous competencies.

Overall, the results show that speaking is viewed as the most challenging skill by the majority of teachers, owing to difficulties with pronunciation and oral production. This supports the current study's focus on developing speaking abilities, notably intonation, through project-based podcast production. However, some participants' perception of writing as a difficult skill underlines the linked nature of language skills and the necessity for a balanced approach in language training.

Q3: Which aspect of speaking do students find most difficult and why?

This question aims to identify the most challenging components of speaking from teachers' viewpoints, as well as the underlying causes of these issues, in order to understand the factors that limit students' oral performance.

The difficulties of achieving fluency and accuracy: Several teachers cited fluency as the most difficult component of speaking. One of them ascribed the difficulties to student's fear of making mistakes and the lack of practice outside of class. Similarly, one found that students struggle to maintain speech due to restricted vocabulary and frequent pauses, affecting both fluency and accuracy. Another teacher went on to explain that students prefer to think in their original language, translate, and then speak, disrupting the natural flow of communication.

Confidence and psychological factors: some teachers underlined that confidence is a major issue affecting students' speaking performance, explained that this lack of confidence is closely linked to motivation, stress, and anxiety, which make students afraid of making mistakes and, consequently, less able to speak fluently. The data show that both linguistic and psychological factors influence student's speaking difficulties. While the lack of vocabulary and over thinking hinder fluency, anxiety and fear of making mistakes influence confidence. These findings emphasize the necessity of implementing interesting and supportive teaching strategies to assist students reduce fear, increase confidence, and enhance their fluency and overall speaking ability.

Q4: Have you ever implement project-based podcast activities?

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The purpose of this question is to find out whether oral expression teachers have prior experience incorporating project-based podcast activities into their teaching practices, as well as to determine how well such activities are integrated into EFL classrooms.

Teachers Familiarity with Project-based podcast activities:

The majority of teachers reported having prior experience with project-based or podcast-related activities. However, the type of implementation differs. For example, some teachers referred to activities like role-playing and fieldwork presentations, which have components of project-based learning but are not podcast projects. Similarly, others stated that podcast-like activities are occasionally incorporated into presentations or speaking assignments, but not as long-term projects. In contrast, other teacher reported more regular use, emphasizing the importance of such exercises in improving speaking skills.

Lack of implementation due to context constraints: Other teachers stated that they do not use podcast-based activities, due to the lack of technical resources and the absence of a language lab, which make recording-based activities impossible to perform. This emphasizes the influence of institutional and technological constraints on instructional methods. The data indicate that, while most teachers are familiar with project-based or podcast-related activities, their implementation is often restricted or informal. Lack of resources and the absence of systematic integration make it difficult to use podcast projects effectively in EFL courses. This highlights the need of implementing well-designed project-based podcast activities, such as those recommended in the current study.

Q5: How do you usually organize such projects in your classroom?

The aim here is to explore how teachers plan project-based activities in their classrooms, in order to discover the procedures, techniques, and practices they employ when carrying out such projects.

Project planning and preparation: One teacher underlined the necessity of introducing the project in advance and providing students with adequate preparation time. Similarly, another teacher detailed a structured process that included topic selection, brainstorming, script drafting, rehearsal, recording, and evaluation. This demonstrates a methodical approach to organize project-related activities.

Student involvement and autonomy: teachers emphasized that students should be given the opportunity to choose topics, partners, and organize their work. They also emphasized the

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necessity of choosing topics based on students' interests and using simple language. This demonstrates the importance of student-centered learning in project organization.

The clarity of aims and outcomes: Some respondents highlighted that projects should have specific intended outcomes, including both visible and deeper learning objectives. In this context, one participant claimed: *"I usually organize projects depending on my objectives and what you want learners to learn"* meaning that planning projects depending on the teachers' objectives and what students are expected to achieve.

The findings suggest that organizing project-based activities necessitates careful preparation, clear objectives, and active student participation. Teachers typically follow structured steps while fostering learner autonomy and participation. These features are critical for the successful implementation of project-based podcast creation because they foster an engaging learning environment that can help students improve their speaking and intonation skills.

Q6: What is your opinion about using podcasts in EFL classrooms?

This question aims to explore teachers' perspectives on the use of podcasts in EFL classrooms and their perceived efficacy in increasing students' language abilities.

The role of podcasts as a source of authentic input: Several teachers underlined the value of exposing students to real language use. For example, one teacher mentioned that podcasts *"provide authentic listening input and enhance students' exposure to real language use,"* whereas another teacher considered them as *"the best tool for input."* This demonstrates the effectiveness of podcasts in developing learners' listening and linguistic awareness.

How podcasts help learners improve their speaking skills: According to one of the participants, podcasts *"create opportunities for students to practice speaking in a more engaging and creative way."* In the same context, another one stated that students *"can't improve their speaking skills without listening to podcasts,"* underlining the relevance of podcasts in oral development.

Motivation and self-directed learning: Other teachers stated that they always encourage students to listen to podcasts in order to improve their level, learn new things, and practice the language outside of the classroom. Additionally, podcasts can be *"immensely beneficial and rewarding if implemented wisely,"* implying that their effectiveness is dependent on adequate integration into instruction.

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Overall, the findings show that teachers have very positive attitudes on the use of podcasts in EFL classrooms. They believe they are a useful tool for offering authentic feedback, improving speaking abilities, and increasing learner autonomy.

Q7 Do you think podcasts are effective in teaching speaking skills? Why?

This question seeks to investigate teachers' views on the effectiveness of podcasts in enhancing students' speaking skills, as well as to understand the reasons behind their viewpoints.

The function of podcasts in giving real language models: One respondent stated that podcasts provide *"an endless auditory wealth of authentic language use"* and are an excellent model for pronunciation and speaking. Similarly, another teacher noted that podcasts teach students stress, intonation, and articulation by imitating native speakers. This demonstrates that podcasts are viewed as a reliable source of real-world language input.

The role of podcasts in boosting speaking performance: Some teachers noted that podcasts assist students to develop pronunciation, fluency, and coherence, while recording activities allow students to reflect on their performance through self-evaluation. They also confirmed that podcasts assist students enhance their speaking skills and pronunciation. Other teacher noted that the efficiency of podcasts is based on the learning objective. While they provide exposure to true language and diverse accents, they may be difficult for beginners due to the complexity and natural aspects of real speech, such as pauses.

Overall, the results show that podcasts are widely regarded as a good method for teaching speaking skills, notably pronunciation, fluency, and suprasegmental features. However, their effectiveness may differ depending on the learners' level and educational objectives. This suggests that podcasts should be properly chosen and integrated into teaching procedures to maximize their benefits.

Q8: Do you think that podcast projects help students improve their intonation? How?

This question aims to investigate teachers' perceptions on the effectiveness of podcast projects in enhancing students' intonation and to comprehend the mechanisms through which this improvement may occur.

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Awareness and self- monitoring: Teachers emphasized that podcast projects enable students to listen to their own recordings, and thus increasing their awareness of how they communicate. Learners can notice and change aspects including stress, rhythm, and pitch with repeated practice.

Exposure and imitation of authentic input: It was underlined that listening to well-articulated podcasts helps students learn natural intonation patterns. Learners can examine how intonation works in real contexts and then try to replicate similar patterns in their own speech.

learning via practice and repetition: Some answers stressed the importance of techniques like recording, shadowing, and imitation in developing intonation because they provide constant opportunities for practice.

Finally, a more conditional perspective was observed. It was indicated that the success of podcast projects depends on the quality of the materials and the teacher's assistance. In other words, without adequate training, students may struggle to appropriately recognize and utilize intonation features.

Overall, the findings suggest that podcast projects might be a useful technique for enhancing students' intonation because they combine exposure to authentic material, active practice, and self-reflection. However, their success is dependent on careful implementation and effective guidance from teachers to ensure that students can properly detect and exploit intonation features.

Q9: Do students become more aware of their intonation when recording themselves?

This question seeks to determine whether recording activities assist students acquire awareness of their intonation and speaking performance.

Developing self-awareness through listening: Teachers underlined that listening to their own recordings helps students become more conscious of their own speech, especially intonation. However, one respondent stated that intonation may not be the first thing student's notice, as they may initially focus on more basic aspects such as tone or pronunciation.

Error detection and self-correction: It was emphasized that recording allows students to discover their flaws, particularly in pronunciation and intonation, and work on improving them in future performances.

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Self-assessment and independent learning: Some replies said that recording encourages learners to examine themselves, which helps them learn more successfully than listening to others.

Overall, the data indicate that recording has a considerable impact on students' awareness of their intonation and overall speaking performance. It encourages self-evaluation and assists learners in identifying and correcting their mistakes, making it an effective strategy for improving speaking skills.

Q10: What techniques or activities do you use to help students practice stress and rhythm?

This question aims to determine the approaches and classroom activities used by teachers to assist students practice stress and rhythm, which are fundamental components of intonation.

Listening and exposure exercises: Teachers reported using auditory materials such as authentic conversations, movies, and listening exercises to introduce students to natural stress and rhythm patterns. This helps learners become more aware of how these features are used in real-world communication.

Repetition and imitation techniques: Shadowing, repetition drills, and modeling were among the most popular activities. Teachers encourage students to repeat accurate models and imitate pronunciation patterns, which aids in the development of stress and rhythm with practice.

Reading and performance exercise: Some answers emphasized the use of reading aloud, dialogue, role-playing, storytelling, and even poetry. These activities allow students to experience stress and rhythm in relevant and contextualized situations.

Explicit instruction and awareness rising: Teachers also emphasize discussing intonation principles, stress patterns, and the distinctions between types of spoken language. In addition, creative techniques were utilized, such as asking students to identify significant words in a sentence in order to place appropriate stress, or playing games like recognizing rhyming patterns.

The data show that teachers use a number of strategies, including exposure, practice, and explicit instruction, to help learners build stress and rhythm. These findings show that including similar tasks into podcast-based projects can give students with valuable and effective opportunities to develop their intonation abilities.

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Q11: Which aspects of intonation such as(stress, rhythm or pitch variation)do students find it most difficult and why?

This question aims to identify the most difficult components of intonation for students and investigates the reasons behind these difficulties.

Stress as the primary obstacle: The majority of teachers thought that stress is the most problematic issue for students. They frequently struggle to determine which words or syllables should be emphasized, particularly in sentences where meaning depends on correct stress placement.

Lack of awareness and understanding: Teachers pointed out that most students are unaware of stress rules and how intonation works in English. They have difficulty distinguishing between stressed and unstressed words or syllables, which impact their overall speaking performance.

The influence of the native language: Some respondents stated that stress is difficult because it does not function the same way in the student's first language. As a result, learners struggle to grasp this concept and apply it appropriately in English.

Lack of exposure to authentic feedback: It was also noted that students' challenges are exacerbated by their lack of exposure to real-world English use. Students cannot internalize natural patterns of stress, rhythm, and pitch fluctuation unless they have received adequate listening practice.

Overall, the results show that stress is the most problematic feature of intonation for EFL learners, owing to a lack of awareness, language differences, and insufficient exposure to authentic information. This emphasizes the necessity of including activities that give learners with rich listening input and chances for practice, which can help improving their mastery of intonation features.

Q12: What suggestions would you give to improve podcast-based projects?

The question seeks teachers' suggestions for improving the implementation of podcast-based projects in EFL classrooms.

The careful selection of podcast content: Teachers underlined the necessity of selecting relevant podcasts based on language level, clarity of pronunciation, and relevance to learning objectives. They also emphasized the importance of considering cultural issues and avoiding unsuitable or misleading content.

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Authentic models and intonation features: It was suggested that students listen to podcasts with native or standard pronunciation so they can observe and reproduce proper stress, rhythm, and pitch.

Providing clear guidance and structure: Some replies suggested that teachers provide clear instructions and well-organized work to ensure that students understand how to accomplish podcast projects properly.

The availability of resources and tools: Teachers noted that having access to recording equipment or language laboratories can help them implement podcast activities. However, simple instruments like smart phones can be employed as practical replacements.

Overall, the data show that successful podcast-based projects require careful planning, suitable material selection, and competent mentoring. Providing students with authentic feedback, clear instructions, and appropriate equipment can enhance the success of these projects and help students develop their intonation and speaking skills.

Q13: How can teachers better support students in developing their intonation features?

This question aims to investigate effective ways that teachers might employ to assist students in developing their intonation features, such as stress, rhythm, and pitch.

Exposure to authentic input: Teachers strongly emphasized the importance of continuous exposure to the target language through listening activities. Students benefit from frequent exposure to authentic content because it allows them to internalize natural intonation patterns.

Practice and repetition: It was emphasized that regular speaking practice, dialogue repetition, and performance-based activities are essential for improving intonation.

Feedback and error correction: Teachers emphasized the significance of giving constructive comments and addressing students' mistakes. This helps learners become aware of their errors and gradually improve their pronunciation.

Student participation and interaction: Encouraging students to actively participate in class work in groups, and engage with interesting topics was also listed as an excellent method for improving learning. Peer contact and motivation contributes with better acquisition of intonation features. Overall, the findings suggest that developing intonation necessitates a combination of exposure, practice, feedback, and involvement. Teachers play an important role in helping students navigate these processes. Integrating podcast-based projects can help

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with these features by giving authentic input, opportunity for repeated practice, and meaningful interaction.

4.1.2. The Questionnaire's Analysis Procedure.

The questionnaire was used as the primary data collecting method for gathering quantitative data about students' perspectives and attitudes toward the use of project-based podcast production to improve their speaking intonation. It was administered in two phases: before (pre-questionnaire) and after (post-questionnaire) the implementation of the intervention, with the aim of investigating possible changes in students' views and their self-reported development of intonation. To achieve this, the data from both phases were statistically examined using the Wilcoxon Signed-Rank Test. This non-parametric statistical test compares two related samples to see if they differ significantly. It was chosen for the current study because the data are paired (gathered from the same individuals before and after the intervention) and based on ordinal replies (e.g., Likert scale). As a result, the Wilcoxon test is preferable to parametric alternatives because it does not rely on the assumption of normal distribution and produces reliable results even with small samples.

4.1.2.1. Pre-Questionnaire

Section A: Background Information.

This section contains two questions that aim to gather general background information about the participants. The data gathered from this section are analyzed using descriptive statistical analysis, to present the distribution of participants based on their years of studying English.

Q1: Years of studying English.

The table displays how students are distributed according to how long they have been studying English. It can be observed that the majority of participants (48.6%) have been studying English for less than five years, followed by those who have studied for 5 to 8 years (31.4%). A smaller percentage of students (14.3%) reported studying English for more than 12 years, with only a minority (5.7%) falling into the 9-12 year category. This suggests that most participants have insufficient exposure with the English language, which may affect their speaking skills and intonation development.

Table 1: Years of Studying English.

Years of Studying English	Percentage (%)
Less than 5 years	48.6%
5-8 years	31.4%
9-12 years	5.7%
More than 12 years	14.3%

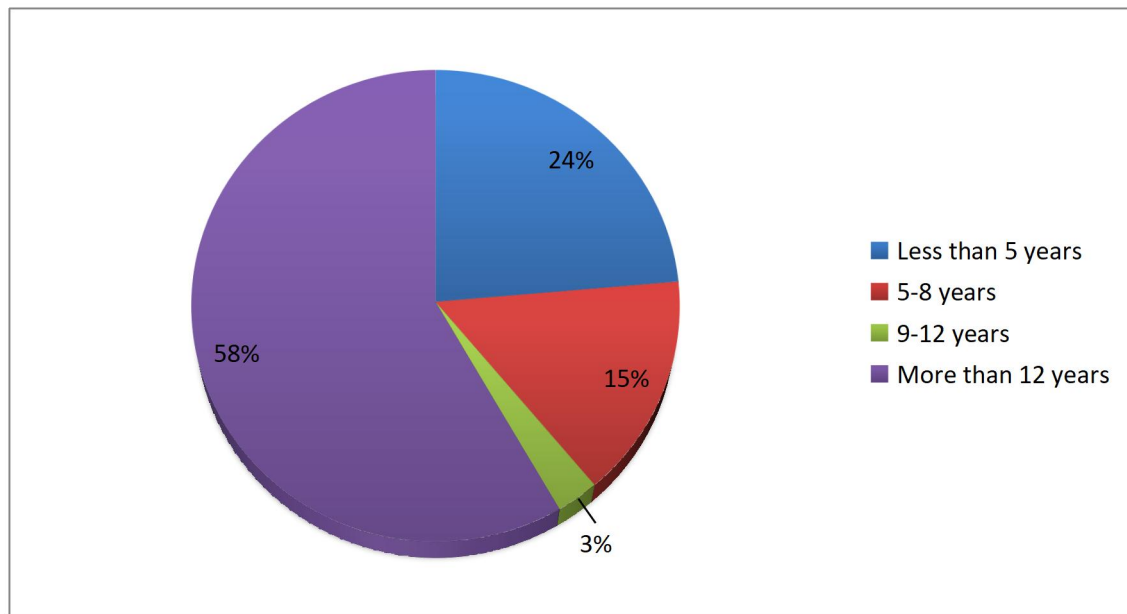


Figure 1: years of Studying English

Q2: Have you ever listened to English podcast?

The table shows students' prior experience listening to English podcasts. It is obvious that the majority of participants (77.1%) have never listened to English podcasts, while only a small percentage (22.9%) had prior familiarity with them. This suggests that most students are unfamiliar with podcasts as a learning tool, emphasizing the importance of include podcast-based activities in this study. It also means that any improvement seen after the intervention could be related to the new exposure.

Table 2: Student's Experience with Listening to English Podcasts.

Response	Percentage (%)
Yes	22.9%
No	77.1%

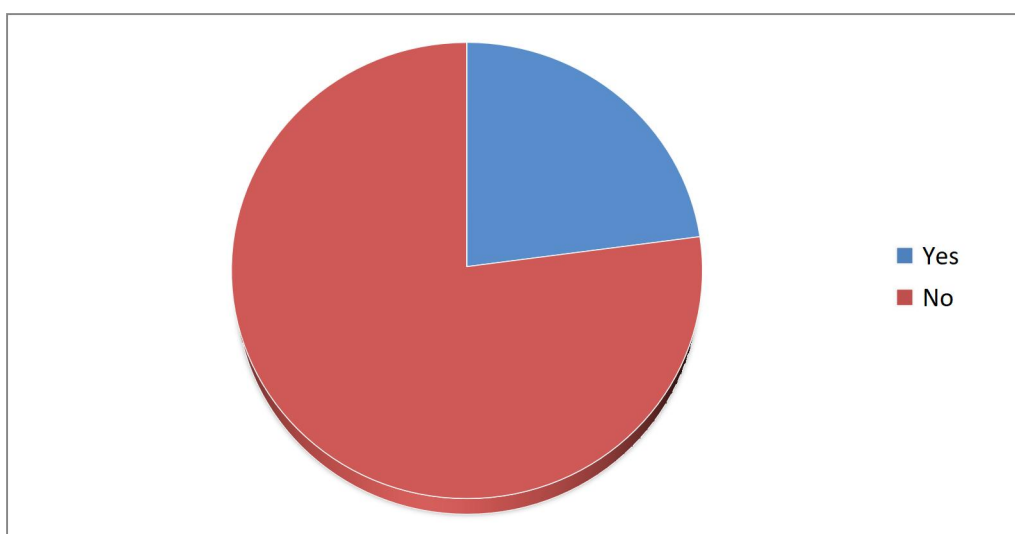


Figure 2: Student's Experience with Listening to English Podcasts.

Section B: Self-Assessment of Intonation Skills

To investigate the effect of project-based podcast production on EFL learners intonation skills and their attitudes toward speaking English, a Wilcoxon Signed-Rank Test was conducted. The results are presented below, organized individually by section.

Table 3: Wilcoxon Signed-Rank Test Ranks for Section B (Post_Total_B - Pre_Total_B)

Ranks (Section B)	N	Mean Rank	Sum of Ranks
Negative Ranks	9	12.72	114.50

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Positive Ranks	15	12.37	185.50
Ties	1		
Total	25		

Table 4: Test Statistics for Section B

Test Statistics	Value
Z	-1.021
Asymp. Sig. (2-tailed)	0.307

As illustrated in Table 2, the Wilcoxon Signed-Rank Test for Section B yielded a Z value of -1.021 with an asymptotic significance (p-value) of .307. Because the obtained p-value ($p = .307$) is greater than the standard alpha level of 0.05, the statistical difference between the pre-test and post-test scores is not statistically significant. Consequently, based on the students' self-assessment of their intonation skills, the null hypothesis (H_0) is retained, and the alternative hypothesis (H_1) is rejected for this specific section. Looking at the ranks in Table 1, although 15 students reported an improvement in their self-assessed intonation skills and 1 remained unchanged, the overall statistical shift was not strong enough to prove a definitive improvement within the timeframe of the treatment.

Section C: Attitudes toward Speaking English

Table 5: Wilcoxon Signed-Rank Test Ranks for Section C (Post_Total_C - Pre_Total_C)

Ranks (Section C)	N	Mean Rank	Sum of Ranks
Negative Ranks	1	1.50	15.50
Positive Ranks	22	12.48	274.50

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Ties	2		
Total	25		

Table 6: Test Statistics for Section C

Test Statistics	Value
Z	-4.167
Asymp. Sig. (2-tailed)	0.000

In sharp contrast, the results for Section C showed a highly significant statistical shift. As shown in Table 4, the Z value is -4.167 with an asymptotic significance of 0.000 ($p < 0.001$). Since this value is well below the standard significance threshold of 0.05, it indicates a highly significant positive change in the participants' attitudes toward speaking English after engaging in project-based podcast production. The ranks table (Table 3) further supports this finding, revealing that 22 out of 25 students demonstrated higher positive attitude scores in the post-test, while only 1 student showed a decrease, and 2 remained tied. This indicates that the pedagogical intervention was remarkably effective in enhancing the learners' affective domain and psychological willingness to speak the language.

4.3. Pedagogical Synthesis

When synthesizing these findings, an interesting pedagogical pattern emerges. While the project-based podcast production did not result in an immediate, statistically significant leap in how students strictly self-assessed their mechanical intonation skills (Section B), it profoundly transformed their attitudes and confidence toward speaking English (Section C). From a psychological and linguistic perspective, this suggests that producing podcasts primarily reduces language anxiety and builds a supportive framework for oral expression. Over time, this enhanced positive attitude and increased confidence are essential prerequisites that naturally pave the way for long-term improvement in specific phonological and intonation features.

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4.1.2.2. Post-Questionnaire

Section A: Evaluation of the Podcast Activity

Q1: Listening to podcast helped understanding intonation.

The table presents that the majority of students (68.6%) had positive attitudes, indicating that podcasts improved their understanding of intonation. In contrast, only 8.6% had negative attitudes, while 22.9% remained neutral.

Table 7: Listening to podcast helped understanding intonation

Responses	Frequency	Percentages
Strongly Disagree	3	8.6%
Disagree	0	0%
Neutral	8	22.9%
Agree	14	40.0%
Strongly Agree	10	28.6%

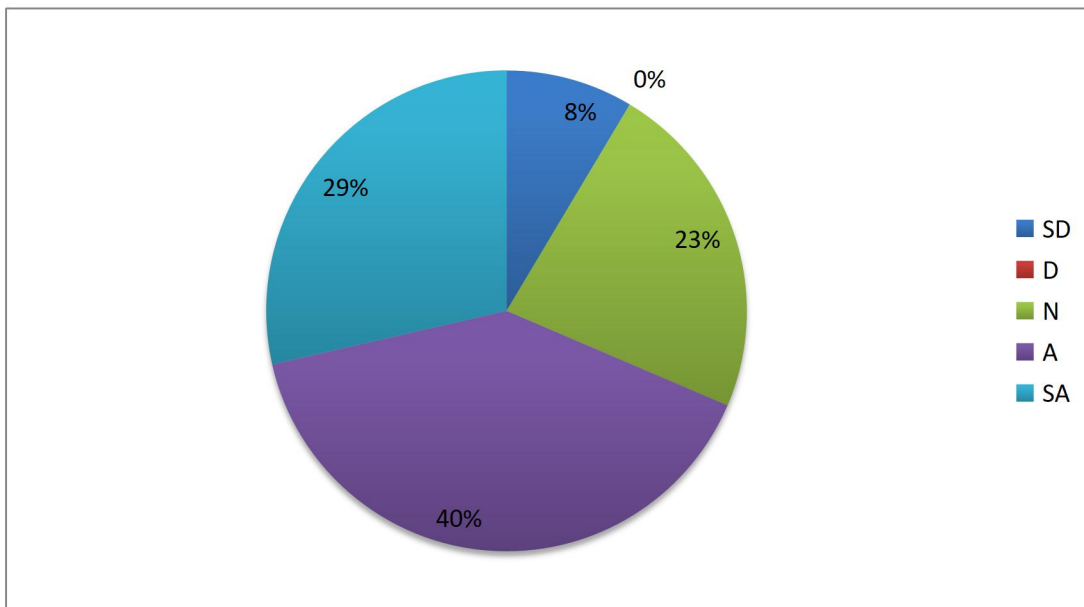


Figure 3: Listening to podcast helped understanding intonation

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Q2: Podcast activities were engaging.

A total of 68.6% of students reported positive feedback, found that podcast activities were engaging and interesting. Only a small percentage of students expressed disagreement.

Table 8: Podcast activities were engaging

Responses	Frequency	Percentages
Strongly Disagree	1	2.9%
Disagree	2	5.7%
Neutral	8	22.9%
Agree	10	28.6%
Strongly Agree	14	40.0%

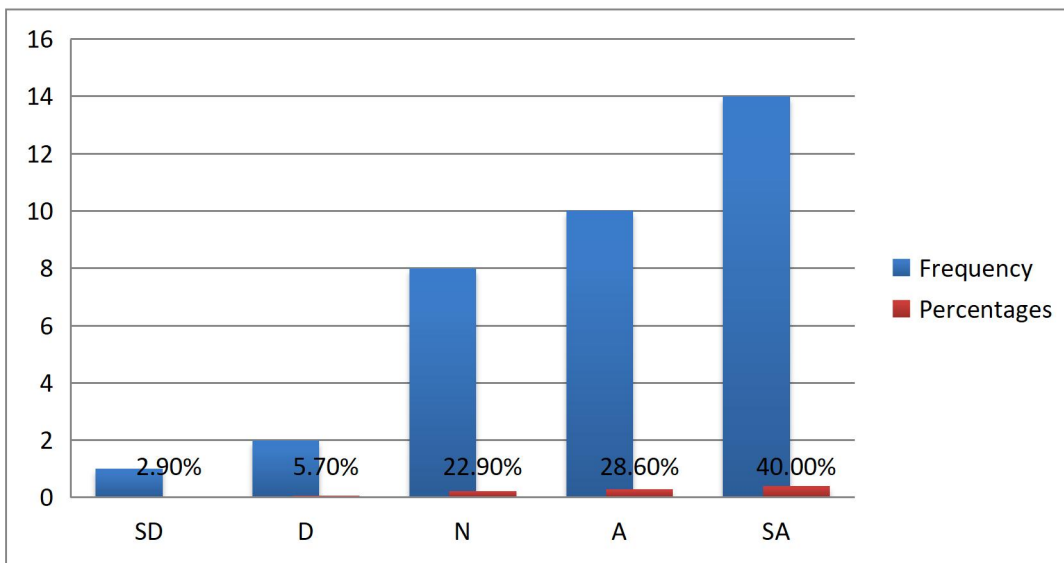


Figure 4 : Podcast activities were engaging

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Q3: Podcast vs traditional methods.

The results show that 74.3% of students responded positively, showing that podcasts were more effective than traditional techniques.

Table 9: Podcast vs traditional methods

Responses	Frequency	Percentages
Strongly Disagree	1	2.9%
Disagree	3	8.6%
Neutral	5	14.3%
Agree	12	34.3%
Strongly Agree	14	40.0%

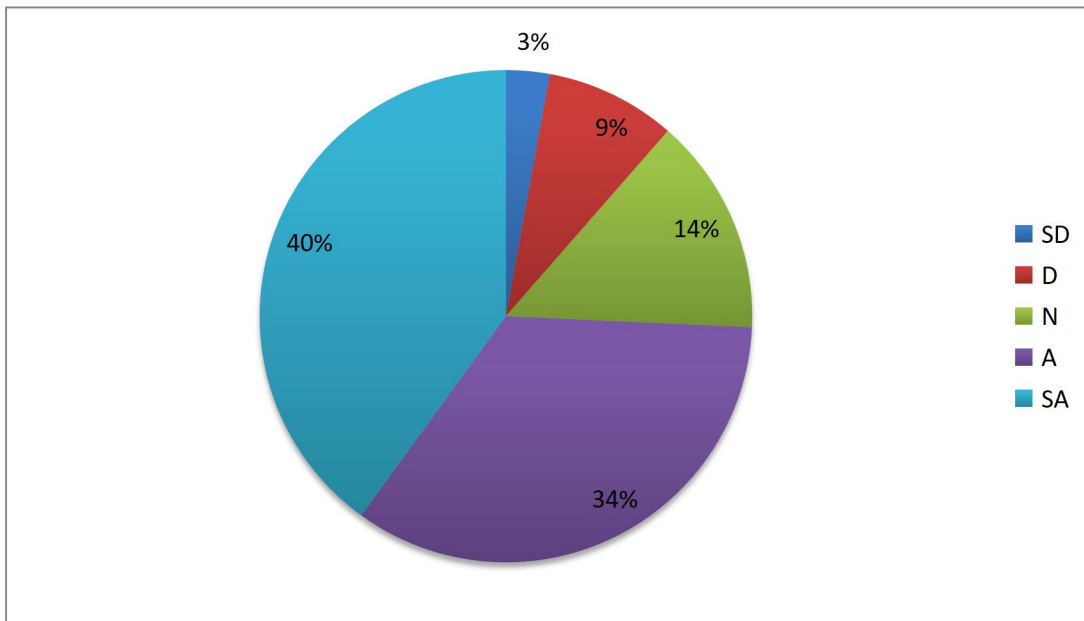


Figure 5: Podcast vs traditional methods

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Q4: Future use of Podcasts.

The findings show that 68.6% of students are willing to continue using podcasts in the future.

Table 10: Future use of Podcasts.

Responses	Frequency	Percentages
Strongly Disagree	4	11.4%
Disagree	0	0%
Neutral	7	20.0%
Agree	16	45.7%
Strongly Agree	8	22.9%

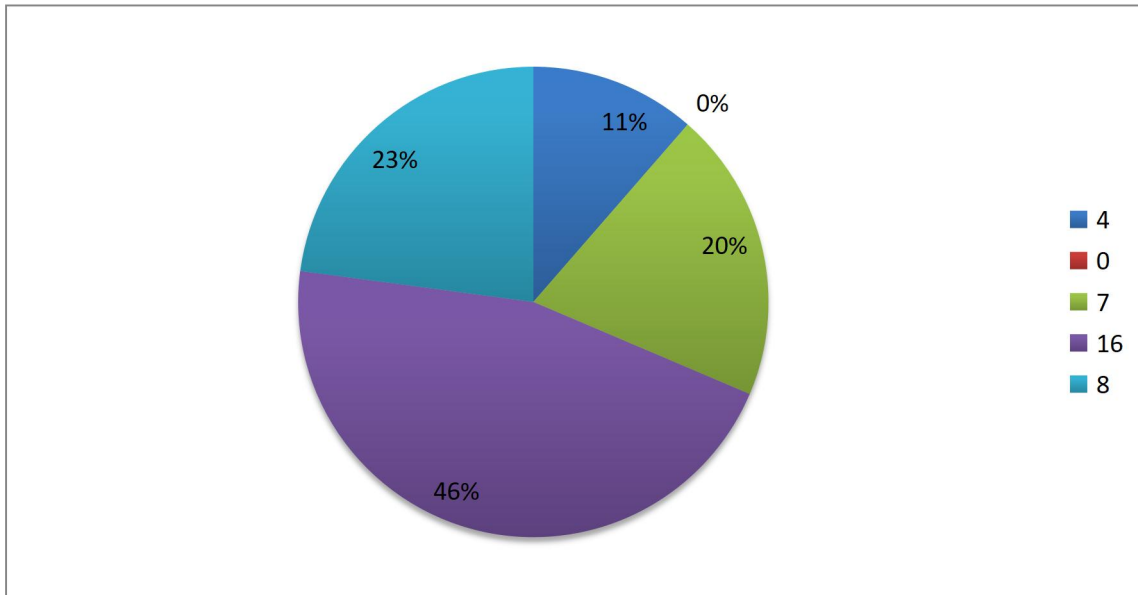


Figure 6: Future use of Podcasts

Overall, the descriptive analysis shows that students had positive attitudes toward the podcast activity. Most students agreed that listening to podcasts improved their comprehension and practice of English intonation, increased their motivation, and engaged them to keep using podcasts to study English in the future.

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Section D: Open Feedback

Q1: What was the most helpful part of the podcast activity for improving your intonation?

The aim of this question is to explore the student's perceptions about the most beneficial aspects of the podcast exercises for developing their intonation.

Listening to native speakers and authentic input: The most beneficial aspect of the podcast activity, according to the majority of students, was listening to native speakers. They clarified that they were able to identify the natural patterns of stress, rhythm, pitch, and tone variation in real conversation by being exposed to authentic pronunciation.

Imitation and shadowing: Many students stressed the necessity of repeating speakers' pronunciation and intonation patterns. According to the responses, shadowing helped learners sound more natural, improve their accent, and speak more fluently.

Self-reflection and self-awareness: Several participants stated that recording and comparing their own voices with the original podcast helped them discover errors and improve their pronunciation and intonation. This suggests that podcast activities facilitated self-reflection and evaluation.

Improvement of confidence and speaking practice: Some students reported that podcast exercises allowed them to speak more freely and confidently, without over thinking, which improved their speaking performance.

Finally, a few students discussed the importance of podcasts in developing relevant skills such as listening comprehension, vocabulary development, and comprehending emotional meaning through tone variation. Overall, the findings indicate that podcast activities give learners with authentic exposure, opportunities for imitation and practice, and enhanced self-awareness, all of which contribute to the development of intonation skills. The findings also show that podcasts provide an interactive and participatory learning environment that promotes speaking improvement.

Q2: What did you find most challenging about using podcast for speaking practice?

The question seeks to highlight the main challenges that students found when using podcasts for speaking and intonation practice.

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Difficulty understanding fast speech: Most students indicated that native speakers speak too fast, making it difficult to follow pronunciation, intonation, and related speech patterns. They also expressed struggling to catch all of the words and accurately imitate the speaker.

Difficulty reproducing intonation, rhythm, and stress patterns: Many participants stated that, while they could sometimes understand the topic, reproducing natural intonation and speaking fluently without pauses remained difficult. Matching pitch variation, rhythm, and stress patterns was noted as challenging and unnatural at times.

Pronunciation and connected speech difficulties: Some learners noticed problems with pronunciation, linking sounds, and connected speech. These features make native speech look faster and more difficult to imitate correctly.

Lack of feedback and practice challenges: A few students mentioned that podcasts sometimes require passive listening with no quick correction or feedback, making it difficult for them to determine whether their pronunciation and intonation were correct. Others cited problems in keeping continual practice.

Vocabulary and terminology: Some students cited vocabulary and unfamiliar terminology as extra challenges, particularly when podcasts contained specialized terms or complex idioms.

Overall, the findings show that, while podcasts can help learners improve their speaking and intonation, they still face problems like as speed, pronunciation, connected speech, and a lack of feedback. These difficulties underline the need of teacher direction, frequent exposure, and systematic practice in helping students to gradually adapt to authentic spoken English.

4.1.3 Discussion of the Results.

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4.1.3.1 The Interview Results.

Evaluating Students Speaking Level: The results of (Q1) revealed that teachers assess students' speaking skills based on a variety of criteria, including fluency, pronunciation, vocabulary, and grammatical accuracy. Some teachers use formal methods like oral presentations and rubrics, while others emphasize the differences in students' speaking talents. These findings are similar with Jack C. Richards (2008), who noted that speaking assessments should consider several factors such as fluency, accuracy, and pronunciation. Similarly, H. Douglas Brown (2004) claimed that effective speaking evaluation necessitates the application of specific criteria and performance-based assessments.

Speaking Difficulties: The results of questions (Q2) and (Q3) revealed that speaking is considered the most challenging skill, owing to issues with fluency and lack of confidence. These findings are consistent with Penny Ur's (1996) who argued that speaking is one of the most difficult skills for EFL learners due to real-time processing and limited practice chance. In the same vein, Scott Thornbury (2005) remarked that learners frequently struggle with fluency and reluctance due to limited vocabulary and a fear of making mistakes.

Teacher's Experience with Podcast Projects: The results from (Q4) and (Q5) showed that podcast- or project-based activities are not fully implemented and frequently lack structured. This is consistent with Thomas Markham (2011), who stated that project-based learning requires clear preparation and systematic direction to be effective. In addition, John W. Creswell (2018) emphasized the significance of well-designed instructional processes in educational research contexts.

Effectiveness of Podcasts in Speaking: The results of (Q6) and (Q7) demonstrated that podcasts are beneficial at developing speaking abilities, particularly pronunciation and fluency. These findings are supported by Mark Stanley (2006), who found that podcasts improve language learning by providing authentic input. In the same context, Hayo Reinders (2011) contended that digital resources like podcasts improve student engagement and speaking development.

Podcasts and Intonation Development.

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The data from (Q8) and (Q9) revealed that recording and podcast projects increase students' awareness of intonation and help them to self-correct. This finding is in line with Jack C. Richards' (2008) who emphasised that speaking development needs practice, feedback, and self-awareness. Furthermore, H. Douglas Brown (2001) emphasized the value of repetition and self-evaluation in improving pronunciation skills.

Intonation Difficulties: The findings of (Q11) suggested that stress is the most challenging feature of intonation due to a lack of awareness and L1 interference. This supports the findings of Peter Roach (2009), who stated that stress and rhythm are complicated elements that differ between languages. As a result, students may find it difficult to determine which syllables or words should be stressed. Furthermore, insufficient exposure to authentic spoken English hinders learners' capacity to internalize natural stress patterns, which contributes to their difficulties in mastering this aspect of intonation.

Teaching Techniques and Support: The results of (Q10) and (Q13) showed that exposure, repetition, and feedback are important techniques for improving intonation. This goes in line with Jeremy Harmer (2007), who stressed the value of practice and feedback in language learning. Furthermore, Marianne Celce-Murcia (2010) stated that pronunciation instruction should incorporate listening, repetition, and communicative exercises.

Improving Podcast Projects: The results of (Q12) suggested that podcast projects require careful planning, appropriate materials, and clear guidance. Thomas Markham (2011) supports these findings, emphasizing the need of clear objectives and structured design for successful projects. This could be explained by the fact that podcast-based projects demand a variety of abilities, including listening, speaking, and collaborating, which necessitate clear organization and assistance from teachers. Without proper guidance, students may focus more on completing the task than on improving their speaking skills. Furthermore, choosing relevant and interesting podcast content is critical to keeping students motivated and achieving meaningful learning results.

4.1.3.2 Discussion of the Students Questionnaire

The questionnaire results aimed to explore the effectiveness of project-based podcast production on learners' intonation skills and attitudes toward speaking English. The findings highlighted two key dimensions. On the one hand, Section B, which focused on students' self-

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assessment of intonation skills, found no statistically significant differences between the pre-test and post-test scores. Section C, which tested students' attitudes toward speaking English, showed a considerable improvement after the intervention.

In Section B, the Wilcoxon Signed-Rank Test revealed that the improvement in students' self-assessment of intonation abilities was not statistically significant ($p = .307 > .05$). Several students reported improvements in their ability to use stress, rhythm, and pitch variation, although the statistical difference was limited. This result could be explained by several factors. First, some participants may not have answered the questionnaire as they supposed to in both the pre-test and post-test, reducing the reliability of their responses. Second, intonation development is a complicated phonological skill that typically necessitates long-term exposure and consistent practice before meaningful progress is observable.

In contrast, section C results showed significant differences in learners' attitudes about speaking English after participating in podcast-based activities ($p = .000 < .05$), the majority of participants reported increased motivation, confidence, and willingness to speak English. These findings suggest that podcast projects improved learners' affective domains by reducing anxiety and creating a more engaging speaking environment. These findings are consistent with those of Abdous et al. (2009), who claimed that podcasts improve learners' motivation and involvement in language acquisition. Nonetheless, the qualitative findings from open-ended questions and teacher interviews contradicted this statistical limitation to some extent. Many students reported that listening to native speakers, imitating, shadowing, repeating, and self-recording helped them become more aware of stress and intonation patterns. Similarly, teachers stressed how podcasts expose students to actual language use while also encouraging self-correction and pronunciation awareness. These findings are consistent with previous research by Hassan and Hoon (2013) and Sze (2006), who discovered that podcasts improve pronunciation awareness, listening comprehension, and speaking development through frequent exposure to authentic speech.

Based on these data, the first research question about changes in students' intonation after podcast exposure was partially answered. Although the quantitative results did not show a statistically significant improvement in self-assessed intonation skills, the qualitative data revealed a noticeable increase in learners' awareness of stress, rhythm, and pronunciation characteristics. The second research question, which looked into how podcast production

Chapter Four Data Analysis and Discussion

affects learners' use of stress, rhythm, and intonation patterns, was also answered using questionnaire and interview results. As for the third research question, the findings clearly demonstrated that learners typically had positive perceptions of podcasts as a project-based learning tool. Students found podcast exercises useful, motivating, and interesting, while teachers saw them as effective tools for exposing students to actual language and improving oral practice.

Regarding the research objectives, the study successfully evaluated learners' perspectives of podcast-based learning and investigated the function of podcasts in enhancing speaking intonation and attitudes toward oral expression. Although the statistical analysis did not demonstrate significant improvements in intonation self-assessment, the qualitative data and students' perspectives indicated that podcasts contributed significantly to learners' speaking and pronunciation awareness.

Finally, the findings only partially supported the alternative hypothesis (H1), which suggested that project-based podcast production improves EFL learners' intonation skills. The findings had a positive impact on learners' confidence, motivation, awareness, and attitudes about speaking English. However, because Section B showed no statistically significant improvement, the null hypothesis (H0) could not be entirely rejected in terms of quantitative self-assessed intonation skills within the duration of the experiment.

General Conclusion

General Conclusion

The current study explored the effectiveness of project-based podcast production in improving EFL learners' intonation skills and attitudes toward speaking English. More precisely, it aimed to investigate the impact of podcast-based activities on learners' stress, rhythm, and intonation patterns, as well as their attitudes regarding podcasts as a project-based learning tool. To achieve these goals, the study used a quasi-experimental mixed-methods design that combined quantitative and qualitative data gathering tools, including pre- and post-questionnaires and teacher interviews. The numeric data were evaluated using the Wilcoxon Signed-Rank Test, whereas the qualitative data were analysed thematically.

The study's findings were mixed, but overall positive. On the one hand, a statistical analysis of students' self-assessment of intonation abilities revealed no statistically significant change following the intervention. This shows that developing intonation features may necessitate a longer time of exposure and practice than the current experiment allows. Nonetheless, the qualitative findings from both open-ended questionnaire responses and teacher interviews revealed that students learned more about pronunciation, stress, rhythm, and pitch variation by listening to authentic podcasts, imitating, shadowing, and self-recording exercises. In contrast, the study found that students' views toward speaking English improved significantly. They reported feeling more motivated, confident, and involved in oral practice after taking part in podcast-based projects. Similarly, teachers acknowledged podcasts' educational importance in exposing students to real language use while also fostering engaged and meaningful speaking practice. Despite these useful findings, the study had a few limitations. First, the sample size was small, which limits the findings' generalizability. Second, the intervention's duration was limited, which may not have resulted in statistically significant increases in learners' intonation skills. Third, some students may not have answered the questionnaire consistently. Based on these limits and findings, various recommendations can be proposed for further research. Future research should include longer experimental interventions in order to notice more measurable progress in intonation skills over time. Researchers may also employ more diverse samples to increase the validity and generalizability of the results. It would also be useful to investigate the usefulness of podcasts in improving other speaking sub-skills like fluency, accuracy, and speaking confidence. Finally, teachers are encouraged to integrate podcasts and other real audio recordings into EFL

General Conclusion

lessons, providing learners with meaningful exposure to natural spoken English and creating more engaging chances for oral communication.

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Appendices

Appendix A : Student's Pre-Questionnaire

Dear Student,

This questionnaire is part of research study that aims to investigate the effectiveness of using podcast production through project-based learning to improve students' intonation skills in English. Your responses will help the researcher better understand students' perception of their speaking abilities, particularly their use of intonation in English.

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

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

Section A: Background Information

1. Years of Studying English:
2. Have you ever listened to English podcasts?

Section B: Self-Assessment of Intonation Skills

Item	Statement	1	2	3	4	5
1	I know how to use rising and falling intonation in English					
2	I can vary my voice pitch when speaking English					
3	My intonation helps listeners understand my Meaning.					
4	I feel confident when speaking with correct intonation					
5	I can distinguish between different English intonation patterns					
6	I find English intonation difficult to use correctly.					

Section C: Attitudes toward Speaking English

Item	Statement	1	2	3	4	5
1	I enjoy speaking English in class.					

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2	I feel confident when speaking English in front of others.					
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Appendix B: Student's Post-Questionnaire.

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

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

Section A: Evaluation of the Podcast Activity

Item	Statement	1	2	3	4	5
1	Listening to podcasts helped me to better Understand English intonation.					
2	The podcast activities were engaging and interesting.					
3	I found it easier to practice intonation using Podcasts than traditional methods.					
4	I will continue to use podcasts to enhance my English in the future.					

Section B: Self-Assessment of Intonation Skills

Item	Statement	1	2	3	4	5
1	I know how to use rising and falling intonation in English					
2	I can vary my voice pitch when speaking English					
3	My intonation helps listeners understand my Meaning.					
4	I feel confident when speaking with correct intonation					
5	I can distinguish between different English intonation patterns					
6	I find English intonation difficult to use correctly.					

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Section C: Attitudes toward Speaking English

Item	Statement	1	2	3	4	5
1	I enjoy speaking English in class.					
2	I feel confident when speaking English in front of others.					

Appendix C: Teacher's Interview

This interview is conducted as part of a Master's research entitled "Investigating the Effect of Project-Based Podcast Production on Students' Intonational Skills." The purpose of this interview is to explore teachers' perspectives on the use of project based podcast activities in EFL classrooms and their impact on developing students' intonation skills. Your participation is highly valuable and will contribute to a better understanding of effective teaching practices. All the information provided will be kept confidential and used only for research purposes. You are kindly requested to answer the following questions honestly and based on your teaching experience. Thank you for your time and cooperation.

A/ Background Information:

- For how long you have been teaching English?
- Academic rank:
- Courses that you have taught during your academic career.

B/Speaking skills Assessment:

1. How do you evaluate student's speaking level?
2. Which skill that you consider the most difficult one for students?

Listening Reading Writing Speaking

3. Which aspect of speaking do students find most difficult? Why?

Confidence Interaction Fluency Accuracy

C/Project-based Podcast Implementation:

4. Have you ever implemented project-based learning activities?
5. How do you usually organize such projects in your classroom?

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6. What is your opinion about using podcasts in EFL classrooms?
7. Do you think podcasts are effective in teaching speaking skills? Why?

D/ Effects on student's Intonation:

8. Do you think that podcast projects help students improve their Intonation? How?
9. Do students become more aware of their intonation when recording themselves?
10. What techniques or activities do you use to help students practice stress and rhythm?
11. Which aspects of intonation (such as stress, rhythm, or pitch variation) do students find most difficult and why?

E/ Suggestions and Recommendation:

12. What suggestions would you give to improve podcast-based projects?
13. How can teachers better support students in developing their intonation features?

المخلص:

تهدف هذه الدراسة الى التحقيق في فعالية انتاج البودكاست القائم على التعلم بالمشاريع في تطوير مهارات التنغيم لدى متعلمي اللغة الانجليزية كلغة اجنبية' بالاضافة الى استكشاف اثره على تحسين مهارات التحدث و اتجاهات المتعلمين نحو استخدام البودكاست قي القسم.

اعتمدت الدراسة على منهج شبه التجريبي ذي المقاربة المختلطة' حيث تم جمع البيانات الكمية و النوعية معا للحصول على فهم اعمق لموضوع البحث. شارك فيها حوالي 35 طالبا من السنة الاولى ليسانس تخصص لغة انجليزية بجامعة خنشلة , بالاضافة الى 7 اساتذة مادة التعبير الشفهي. و تمثلت ادوات جمع البيانات في استبيان قبلي و بعدي, الى جانب مقابلات مع الاساتذة المشاركين. كما خضع الطلبة لتجربة تعليمية قائمة على انجاز مشاريع بودكاست جماعية.

اظهرت نتائج الدراسة ان أنشطة البودكاست ساهمة في رفع وعي الطلبة بعناصر التنغيم مثل النبر و الايقاع و تغيرات النغمة, كما ساعدتهم على تحسين الثقة بالنفس و الدافعية للمشاركة في أنشطة التحدث.

كذلك عبر الاساتذة و الطلبة عن مواقف ايجابية تجاه استخدام البودكاست باعتباره وسيلة تعليمية تفاعلية توفر تعرضا حقيقيا للغة الانجليزية.

في ضوء هذه النتائج, خلصت الدراسة الى ان انتاج البودكاست القائم على التعلم بالمشاريع يشكل اداة فعالة لدعم مهارات التحدث لدى متعلمي اللغة الانجليزية, و خلق بيئة تعليمية اكثر تفاعلا و تحفيزا.

Résumé:

Cette étude cherche à évaluer l'efficacité de la création de podcasts basée sur l'apprentissage par projets pour le développement des aptitudes à l'intonation chez les étudiants en anglais langue étrangère (EFL). Elle vise aussi à étudier l'effet de cette méthode sur le développement des compétences orales et les opinions des élèves concernant l'emploi des podcasts en salle de classe. L'analyse porte spécifiquement sur l'influence des projets de podcasts concernant l'emploi de l'emphase, du tempo et des modèles d'intonation dans la communication orale en anglais.

Pour approfondir la compréhension du sujet étudié, l'étude a recours à une méthode quasi-expérimentale mixte intégrant des données tant quantitatives que qualitatives. Cette recherche a mobilisé approximativement 35 étudiants de première année en Master d'anglais à l'Université de Khenchela, ainsi que 7 professeurs spécialisés dans l'expression orale. Le questionnaire pré et post-test, ainsi que les entretiens réalisés avec les professeurs, faisaient partie des moyens utilisés pour la collecte de données. Les étudiants ont aussi pris part à une démarche éducative axée sur la création de projets de podcasts collaboratifs.

Les résultats ont indiqué que les activités liées au podcasting ont permis d'éveiller la conscience des étudiants aux composantes de l'intonation comme l'accentuation, le tempo et les fluctuations de ton. Elles ont aussi contribué à renforcer leur motivation, leur assurance et leur participation aux activités orales. En outre, les professeurs et les étudiants ont manifesté une attitude favorable à l'usage des podcasts en tant qu'instrument pédagogique interactif fournissant une immersion authentique dans la langue anglaise.

Pour conclure, cette recherche met en évidence que la création de podcasts fondée sur l'apprentissage par projets peut servir d'instrument efficace pour encourager le développement des compétences orales des apprenants EFL et promouvoir un cadre d'apprentissage plus interactif et motivant.