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**AI Tools and Language Anxiety: Exploring How AI Tools can Help Reduce
Language Learning Anxiety in Speaking Among EFL Students: Case of 1st Year
EFL Learners at Tlemcen University**

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requirements for Master's Degree in Didactics of Foreign Languages

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Dedications

All praise is to Allah, by whose grace all good deeds are accomplished, after seeking his help and completing this work by his guidance. Truly, it was not easy. With all my love and pride, I dedicate the fruits of my graduation.

To those whom Allah has commanded me to honor with kindness and guidance, to those who carried me weakness upon weakness, and whose prayers were the secret behind my reaching this moment, so they may take pride in me. My dear parents, may Allah bless their lives and protect them as they protected me.

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Imane

Dedications

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Abstract

Speaking anxiety is a common issue among EFL students in classroom situations which affects their education. With the development of technology, artificial intelligence appears as a solution to help students reduce this problem. To fill this gap, this study aims at exploring how AI tools can help reduce speaking anxiety. In addition, it addresses how it affects students' engagement by expressing the reasons behind this situation. To address this, a case study is conducted with first-year EFL students at Tlemcen university. The mixed method approach is applied to gather both quantitative and qualitative data using students' questionnaires, teachers' interviews, and classroom observations. Results reveal that the majority of students suffer from speaking anxiety, as shown by symptoms like changing their voice and hesitation when answering. In addition, fear of making mistakes is their major anxiety-provoking. Results also show that students actually engage with AI tools to improve their speaking performance by making chats with robot as if they are real people and correcting their grammar mistakes. Based on the findings gained in this study, some suggestions and thoughts are given for EFL learners and teachers to overcome language speaking anxiety.

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List of Acronyms

EFL: English as a Foreign Language

AI: Artificial Intelligence

L1: Mother/ First Language

L2: Second/ Foreign Language

SLA: Second Language Acquisition

GAD: Generalized Anxiety Disorder

VR: Virtual Reality

ML: Machine Learning

NLP: Natural Language Processing

AIED: Artificial Intelligence in Education

VT: Virtual Tutor

ChatGPT: Chat Generated Pre-trained Transformer

POE: Platform for Open Exploration

General Introduction

With the rapid advance of technology, Artificial Intelligence (AI) has proven its role as an effective factor in developing educational aspects and enhancing speaking skills. Many students are fluent in speaking English during the classroom and put great efforts into learning it, but they suffer from a major problem which is fear of speaking in front of the other party. This phenomenon has become especially prevalent among first-year EFL students, particularly at Tlemcen university, especially after the change in the educational system they experience after transitioning from secondary school to university. Artificial Intelligence offers a promising solution to mitigate this problem by offering innovative and advanced methods and can be helpful in this situation.

Speaking anxiety is one of the most common psychological problems, especially among English language students. In the case of first-year EFL learners at Tlemcen university, many of them suffer from confusion, fluctuations in tone of voice, and facial expressions, even though they know the answer. The latter stems from their fear of making linguistic mistakes or being ridiculed for unclear pronunciation, which prevents them from participating in class and prevents them from advancing their level and improving their fluency. Artificial intelligence offers advanced solutions to reduce this anxiety by empowering students with AI-enabled applications that help them with pronunciation and correct mistakes, boosting their confidence and ability to communicate effectively and fluently.

The source of motivation of this work stemmed from our observations of EFL students' speaking anxiety, whether during their research presentations or their interactions with teachers, and the emergence of physical symptoms such as hesitation in answering questions and facial blushing. The purpose of this research is to understand the impact of language anxiety on students' speaking English, identify how Artificial Intelligence tools can support them in improving their speaking skills, and outline the challenges and limitations of using these tools to investigate language learning anxiety during speaking. This study seeks to answer the following research questions:

1. How can AI tools improve speaking skills for EFL learners?

2. What is the impact of language anxiety on English learners speaking performance?
3. What are the challenges and limitations faced by EFL users of AI tools to reduce language anxiety during speaking practice?

Based on the research questions raised in this study, a set of hypotheses are presented:

1. Using AI tools may create significant improvements in students' speaking skills such as pronunciation, fluency and vocabulary usage.
2. Language anxiety may negatively impact the speaking skills, leading to low self-confidence, fear of making mistakes and difficulty forming meaningful sentences.
3. AI tools may help alleviate students' anxiety when speaking, but some challenges such as the inability to provide the same emotions and interactions as real-life people, may weaken their ability to provide a stress-free environment.

The dissertation at hand is divided into two chapters. The theoretical part discusses the role of Artificial Intelligence tools in reducing speaking anxiety among EFL students. However, the practical part aims to collect data on students' speaking anxiety and their interaction with Artificial Intelligence tools in the classroom. It also presents some suggestions and recommendations for reducing speaking anxiety among English language learners.

Chapter One: The Role of AI in Reducing Speaking Anxiety

1.1. Introduction

1.2. Speaking in Language Learning

1.2.1. The Importance of Speaking Skills in Contexts

1.2.2. Challenges Faced by EFL Students in Speaking

1.2.3. The Psychology of The Learner and Speaking

1.2.3.1. Cognitive Factors in Learning to Speak

1.2.3.2. Emotional and Motivational Factors

1.2.3.3. Social and Environmental Factors

1.3. Anxiety in Language Learning

1.3.1. Language Anxiety in EFL Context

1.3.2. Types of Anxiety

1.3.3. Effective Strategies to Reduce Language Anxiety

1.3.4 AI Tools to Reduce Speaking Anxiety

1.4. AI Revolution in Education

1.4.1. The Role of AI Tools in Speaking

1.4.2. The Role of AI Tools in Reducing Anxiety

1.5. Conclusion

1.1. Introduction

In the light of the rapid development witnessed by the world today, English has become an essential tool for communication across cultures and peoples for EFL learners, mastering speaking skills is of utmost importance, as it opens doors to advanced opportunities. However, many students face significant challenges in developing these skills. These challenges, which include the ability to think quickly and express ideas clearly, become even more complex when students encounter psychological barrier such as language anxiety. This anxiety can lead to avoiding communication with others and a loss of confidence in their language abilities. In recent years, major technological developments, particularly in the field of Artificial Intelligence, have led to the emergence of innovative tools that support language learning, these tools provide interactive educational experiences, allowing learners to practice speaking in a comfortable and stress-free environment. They also help address the psychological barriers faced by many EFL learners. This chapter aims to explore how AI tools can help reduce language learning anxiety particularly in speaking, among EFL students. It will review the importance of speaking, the challenges students face, and the impact of anxiety on learning, with a focus on how technology can enhance the learning experience, making it more effective and comprehensive.

1.2. Speaking in Language Learning

Speaking is a key language skill that enables effective communication and interaction. It allows learners to express ideas, share information, and thoughts in real-time communication. Nunan (2003) argues that many people feel that speaking in a new language is harder than reading, writing, or listening for two reasons. First, unlike reading or writing, speaking happens in real time: usually the person you are talking to is waiting for you to speak right then. Second, when you speak, you cannot edit and revise what you wish to say, as you can if you are writing.

According to Chaney (1998), speaking is the process of building and sharing meaning through the use of verbal and nonverbal symbols in a variety of contexts. Mastering speaking skills is essential, as they play a crucial role in learning to

communicate effectively in English. Among the four core language skills, speaking is particularly important for interaction. It is a key component of the communication process and often appears during the spoken cycle, especially in the Joint Construction of Text phase. However, learning to speak English is not an easy task. English teachers need effective strategies to present material clearly and in a way that engages students (Chaney & Burk, 1998, as cited in Firharmawan & Elfira, 2023).

1.2.1. The Importance of Speaking Skills in EFL Contexts

When it comes to mastering a new language, speaking is a crucial skill in EFL contexts, as it directly impacts communication and language proficiency. It enables learners to engage in meaningful conversations, express their thoughts, and build relationships, both personally and professionally (Bailey, 2005). Let's take a closer look at why speaking skills are essential in EFL contexts:

Table 1.1: The Importance of Speaking Skills in EFL Contexts

Feature	Description
Active engagement	Speaking boosts memory of vocabulary and grammar by actively engaging the brain and reinforcing learning through real-time language use (Votipka, 2024).
Improved pronunciation	Regular speaking practice helps the learner develop proper pronunciation and intonation (Votipka, 2024).
Immediate feedback	Speaking provides instant feedback, this feedback helps the learner correct mistakes on the spot and improve their language skills more quickly (Votipka, 2024).
Building confidence	As the learner becomes more comfortable expressing their self, they'll find it easier to engage in conversations (Votipka, 2024).
Enhanced fluency	The only way to achieve fluency is through consistent speaking practice. The more the learner speaks, the more natural their language use becomes (Votipka, 2024).
Cultural awareness and social integration	Speaking English enables cultural exchange and social integration, helping to establish connections and foster positive relationships (Nunan, 1999).
Improved listening and cognitive skills	Practicing speaking enhances listening skills because both skills are interdependent. It also requires cognitive abilities like critical thinking, problem-solving, and quick decision-making (Harmer, 2007).

Access to global opportunities	Speaking English opens doors to a world of academic, cultural, and professional opportunities. In an increasingly globalized world, the ability to communicate in English is a key factor in accessing these opportunities (Bailey, 2005).
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1.2.2. Challenges Faced by EFL Students in Speaking

English is studied and learned in Algeria from primary school to university, this means that students spend about 16 years studying the language. Despite this extensive period of learning, many students still struggle to speak English fluently. This raises a critical question: why, after 16 years of learning English, do students find it difficult to speak English effectively? There is a serious issue that needs to be addressed to understand why students cannot communicate confidently in English even after years of study.

Studying English as a foreign language presents significant challenges for students worldwide. These challenges range from linguistic difficulties, such as mastering grammar, vocabulary, and pronunciation, to cultural barriers that require a deeper understanding of English-speaking cultures for effective communication. Additionally, students often face psychological obstacles, including fear of making mistakes and a lack of self-confidence, as well as environmental factors, such as limited access to educational resources and opportunities for practical language use. Understanding these challenges is crucial for developing effective strategies to support EFL learners and enhance their language acquisition journey. These challenges can be categorized in the following table:

Table 1.2: Challenges Faced by EFL Students in Speaking

Difficulty	Description
Grammar	Grammar is essential for effective communication, but students often struggle with it, leading to frequent unnoticed errors that hinder clarity. Despite preparation, gaps between their first and foreign language cause persistent mistakes, and students lack confidence in their grammar skills (Normawati et al.,2023).
Pronunciation	Many students struggle with pronunciation, making errors that affect their speaking. Inhibition also adds to the problem, leading to unclear communication (Normawati et al.,2023).

Vocabulary	For EFL students, mastering the meaning of words from a new language can be very challenging. A low mastery of the meaning of the vocabulary can cause problems that affect fluency in speaking (Normawati et al.,2023).
Feelings of shyness	Another factor that makes it difficult for students to engage in English conversations in class is shyness. They feel nervous talking to teachers and classmates. Shyness makes them forget words and grammar rules. They also lack confidence. Teachers should help students overcome self-doubt so they can speak English more confidently (Singh,2023).
Fear of making mistakes	Students often fear making mistakes while speaking English. They worry about being judged or criticized by others. This fear can stop them from speaking. But making mistakes is normal. To improve, they need to learn from their mistakes and keep trying (Singh,2023).
Lack of motivation	Lack of motivation also affects students' ability to speak English well without interest in the language, they find it hard to improve. Motivation from teachers, classmates, and parents is essential to help them succeed in learning English (Singh,2023).
Anxiety when speaking in public	Feeling anxious about speaking English in public is a common challenge for some students. This nervousness often prevents them from expressing themselves or communicating effectively in front of others. To feel more confident and at ease, students should focus on staying calm, practicing proper breathing techniques, and reminding themselves of the reasons they began learning English in the first place (Singh,2023).

1.2.3. The Psychology of The Learner and Speaking

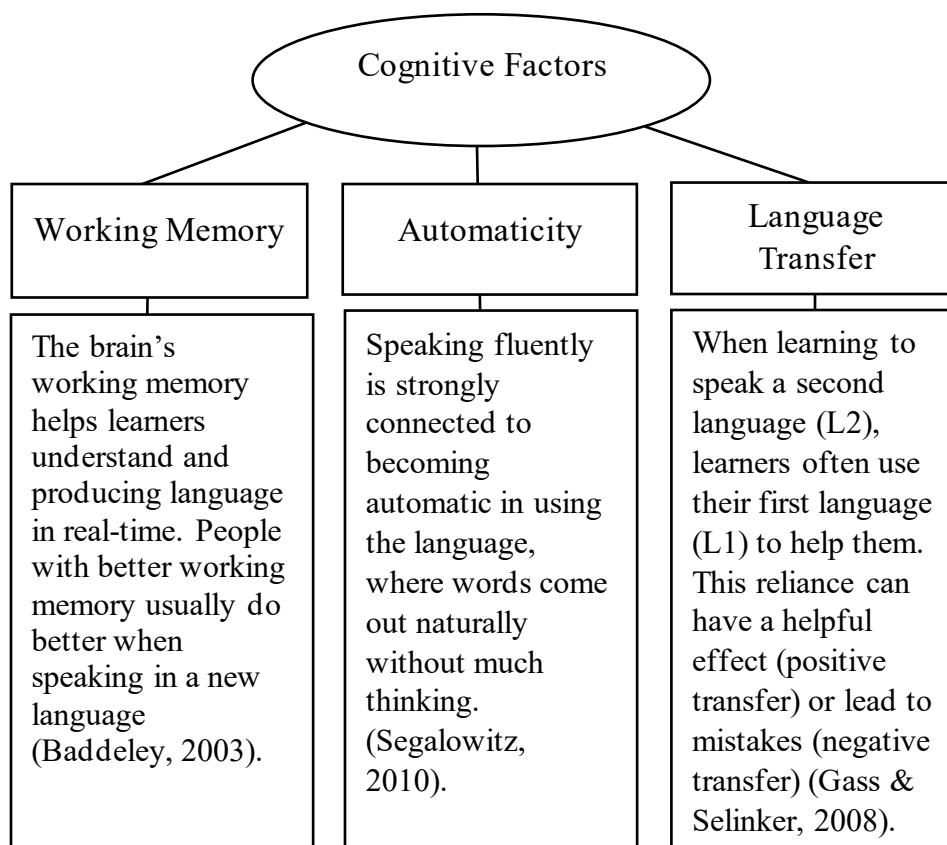
The psychology of the learner refers to the study of cognitive, emotional, and social processes that influence how individuals acquire, retain, and apply knowledge. It explores aspects such as motivation, perception, memory, and learning strategies that impact a learner's ability to understand and process information (Ormrod, 2016). While, the psychology of speaking focuses on the mental processes involved in speech production, including language acquisition, cognitive load, anxiety, and communication skills. It examines how psychological factors like confidence, self-efficacy, and social interaction shape a person's ability to speak effectively (Levelt, 1989).

1.2.3.1. Cognitive Factors in Learning to Speak

Learning to speak a new language relies on cognitive factors like memory and attention, understanding these factors can help improve speaking skills and

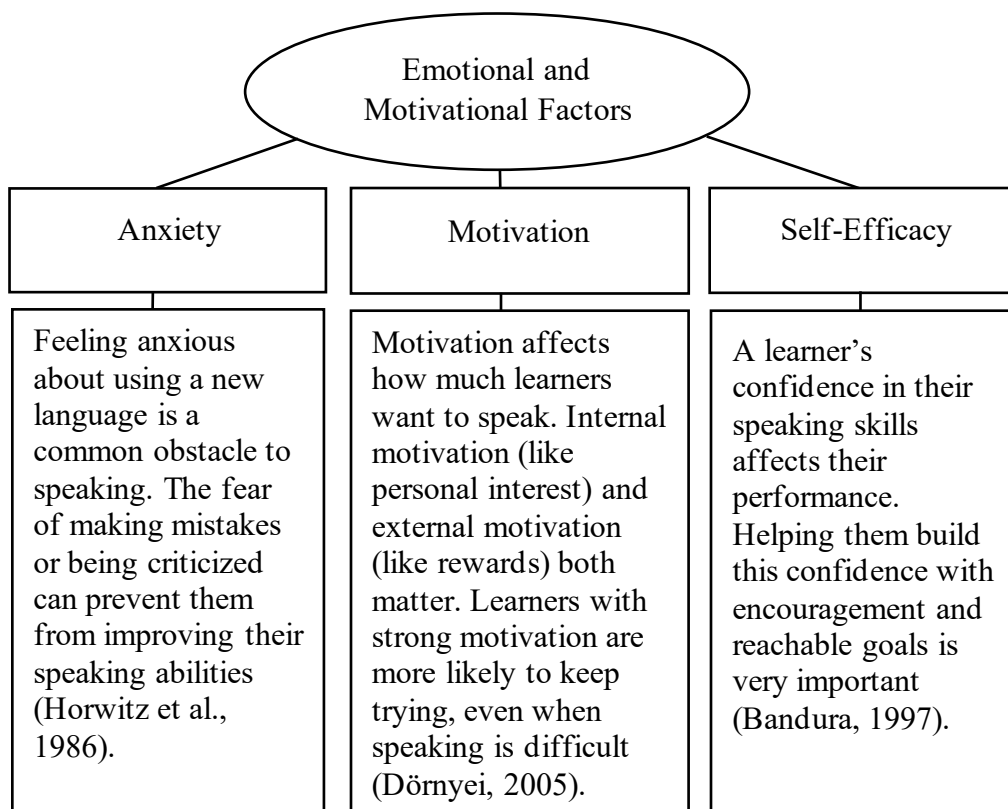
overcome challenges in language learning. The following diagram explains these factors:

Figure 1.1: Cognitive Factors in Learning to Speak



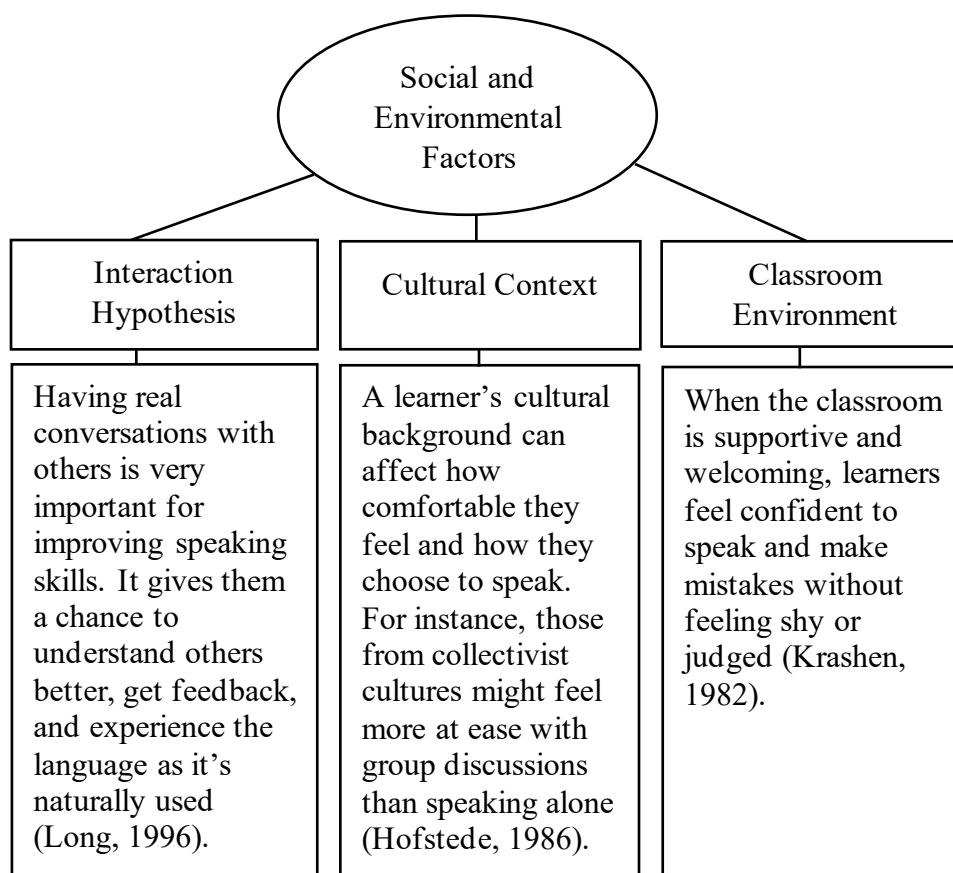
1.2.3.2. Emotional and Motivational Factors

Emotions and motivation greatly impact language learning, especially when speaking. Feelings like anxiety or confidence can affect how willing learners are to speak, while motivation keeps them engaged. Recognizing these factors can help create a positive environment for learners to practice and improve their speaking skills. This is explained bellow:

Figure 1.2: Emotional and Motivational Factors

1.2.3.3. Social and Environmental Factors

Social and environmental factors affect language learning by providing opportunities to practice and interact with others. A positive, inclusive classroom that values cultural diversity can enhance learners' motivation, reduce anxiety, and support the development of speaking skills. This is demonstrated bellow:

Figure 1.3: Social and Environmental Factors

The psychology of the learner plays a crucial role in the process of acquiring speaking skills, particularly in second language acquisition (SLA). Understanding the cognitive, emotional, and social factors that influence learning can help educators design more effective teaching strategies.

1.3. Anxiety in Language Learning

Language learning is the process of learning certain language to comprehend the language and including its rules, grammar, pronunciation, vocabulary, sentence structure, to communicate effectively. Learners may feel anxious at different points. However, it is essential to recognize that this anxiety is not necessarily a sign of a mental health disorder. It is a normal and natural response, as people often experience such emotions when dealing with challenging or unfamiliar situations. Anxiety is a

common human emotion that everyone feels from time to time (Ekalestari et al., 2023).

In line with this, Freeman and Ditomasso (2015, as cited in Ekalestari et al., 2023) claim that anxiety is a common, natural feeling among humans, especially when speaking a new language, but it does not actually indicate a psychological disorder. Horwitz et al. (1986) introduces the idea of foreign language anxiety, describing it as a psychological construct involving self-perceptions, beliefs, emotions, and behaviours that emerge specifically from the process of learning a foreign language. Hammad (2022) notes that anxiety triggers a brief rise in negative emotions, often linked with physical symptoms, weakened cognitive performance, and problematic behaviours.

1.3.1. Language Anxiety in EFL Context

Foreign language anxiety, also known as xenoglossophobia, is the feeling of unease, worry, nervousness and apprehension experienced in learning or using a second or foreign language. The feelings may stem from any second language context whether it is associated with the productive skills of speaking and writing or the receptive skills of reading and listening (MacIntyre & Gardner, 1994).

Anxiety is the subjective feeling of tension, apprehension, and worry associated with an arousal of the autonomic nervous system. Second language researchers and theorists have long been aware that anxiety is often associated with language learning. Teachers and students feel strongly that anxiety is major obstacle to be overcome in learning to speak another language, and several recent approaches to foreign language teaching, such as community language learning and suggestopedia, are explicitly directed at reducing learner anxiety (Horwitz et al., 1986).

1.3.2. Types of Anxiety

Language anxiety can be categorized into three broader types, they are put as follows:

Table 1.3: Types of Anxiety

Type	Definition
Trait Anxiety	It refers to a stable characteristic of individuals who tend to experience anxiety across various situations, including language learning. People with trait anxiety generally show a high level of anxiety in most aspects of life, which can negatively affect their language learning process. This type of anxiety is pervasive and does not usually dissipate quickly (Horwitz, Horwitz, & Cope, 1986).
State Anxiety	Is a temporary form of anxiety that occurs in specific situations, such as speaking a foreign language in front of a group or taking a language exam. Unlike trait anxiety, state anxiety comes and goes with the triggering situation, and is not a long-term characteristic of the individual (MacIntyre & Gardner, 1991).
Situational Anxiety	This type of anxiety arises in specific language-learning contexts, such as speaking in front of a class or taking oral exams. It is context-dependent and does not occur unless the individual is exposed to these particular situations (Young, 1991).

1.3.3. Effective Strategies to Reduce Language Anxiety

With the increasing interest in learning English, anxiety has become a major challenge for language learners. According to a study by Horwitz et al (1986) Many people believe they have a mental barrier that prevents them from learning a foreign language, even though they may be successful in other fields, and possess strong motivations and admiration for the language they want to learn. Often, this barrier stems from anxiety, which negatively impacts their performance in language learning classes. Despite these challenges, there are strategies that learners and teachers can adopt to build a classroom culture that strengthens the teacher-student relationship. This relationship is an essential element in creating a supportive and inclusive learning environment.

Fujii (2016) discusses a study conducted by Tsui's (1996) in the classroom by applying a methodology based on self-observation of teachers through video recording of their daily classes to analyse their teaching behaviours and identify problems that cause students anxiety. Based on the observations, the teachers developed new teaching methods to address language anxiety and then tested them for 4 weeks. Several strategies were developed, such as encouraging students to participate without fear of making mistakes and enabling them to share their answers

with their colleagues before speaking in front of the class. In addition, trust was enhanced between the teacher and the students. This study confirmed that overcoming language anxiety is a gradual process. On the other hand, Riasati (2011) study revealed several strategies and solutions for reducing language anxiety. Teachers play a key role in creating a positive learning environment that reduces psychological stress and in using group-based activities. Students can transform their fear of mistakes into curiosity about learning and view language as a means of expression and communication. Additionally, they can prepare for each lesson in advance to reduce the feeling of being lost, which increases anxiety.

In recent years, advances in artificial intelligence (AI) have significantly improved the accuracy and sensitivity of diagnosing and treating various anxiety disorders, these AI-driven approaches often reduce reliance on traditional medications (Das&Gavade,2024). Building on this, Showzone Team (2024) highlighted strategies that help individuals overcome presentation anxiety. For instance, AI can design personalized training programs based on experiential exposure, enabling individuals to gradually overcome their fear of public speaking through structured training. Additionally, AI tools can enhance communication skills by offering guidance on storytelling techniques, encouraging speakers to focus on one person at a time, and utilizing memory- shortening techniques to reduce speaking anxiety.

1.3.4. AI Tools to Reduce Speaking Anxiety

English language learning is closely tied to human psychology, as the learner's psychological state forms the foundation of the learning process. thinking about the language plays a significant role in acquiring skills, particularly speaking skills. Liu (2006) highlighted that anxiety is prevalent in foreign language classes, negatively affecting learners' performance. In recent years, artificial intelligence (AI) has emerged as a transformative factor in reducing anxiety and depression. For instance, the Generalized Anxiety Disorder (GAD) tool. Based the GAD-7 diagnostic manual, is used to diagnose anxiety for at least six months, accompanied by symptoms such as fatigue and difficulty concentrating, to be diagnosed with GAD

(Zafar et al., 2024). To further explore the role of AI tools in addressing speaking anxiety, three key advancements stand out:

1.Virtual reality (VR) has proven effective in helping individuals with anxiety achieve greater concentration during mindfulness sessions. These sessions are clinical exercises designed for individuals who struggle with focus. In a study involving 1,344 participants, the Oculus Rift VR mindfulness headset was used to attend a mindfulness conference. The results showed significant improvements in reducing negative emotions and enhancing focus on positive experiences compared to traditional mindfulness sessions (Ren, 2020).

2.Standard AI techniques for managing anxiety and mental health disorders: AI has the potential to revolutionized mental health care by providing personalized treatment. Machine learning (ML) algorithms analyse patterns from existing data to form hypotheses and predict future outcomes. This is made possible by two key factors which are the relatively new field of health data analysis and the rapid development of sensors and monitoring devices that generate high-quality, real-time data (Pintelas et al., 2018).

3.Natural Language Processing (NLP) and Chatbots in Mental Healthcare: is an advanced AI technology that provides immediate support and psychological educational content, it can analyse user input to identify signs of distress, anxiety or depression (Bending et al., 2019). the healthcare industry was among the first to adopt AI technologies due to the vast amount of data generated. This has led to the development of new tools to assist patients, particularly those facing social stigma (Pandey et al., 2022).

1.4. AI Revolution in Education

Recent decades have witnessed significant developments in the field of artificial intelligence, particularly in education (AIED), offering advanced solutions including smart learning systems and methods for interacting between teachers and students. It also provides advanced analytical tools that enhance effective communication between them without barriers, thus placing greater emphasis on skill

development than memorizing information (Kamalov et al., 2023). According to Harry (2023), education is undergoing a revolution thanks to artificial intelligence, which enables personalized learning for each student according to their needs. It also increases educational efficiency by automating routine tasks such as grading, data analysis, and school administration. Furthermore, it provides educational experiences, such as chatbots, which make learning more engaging. However, the role of artificial intelligence in education remains limited to supporting teachers and enabling them to deliver engaging learning experiences for learners (Fitria, 2023).

1.4.1. The Role of AI Tools in Speaking

English speaking skills are essential in various fields. Particularly in education, especially in the era of globalization. These skills are no longer just an additional advantage but have become a fundamental requirement for success. In academic environments, speaking skills enhance effective communication between students and teachers. This is supported by Bestari et al., (2024) who emphasize speaking as one of the most critical skills in teaching English, as it enables students to express their thoughts and ideas effectively. However, Students often face challenges such as lack of confidence, pronunciation difficulties, and fear of making mistakes while speaking. To address these challenges, AI-powered learning methods have emerged as a significant solution, playing a crucial role in facilitating students' speaking skills (Pangestu&Suwartono,2024). The integration of artificial intelligence into education has become one of the most important technological advancements, transforming educational activities in schools and universities (Mulianingsih et al., 2020, as cited in Fadiah&Akbar,2024). Among the various AI-driven innovations, adaptive learning and virtual tutors (VR) have proven particularly effective in enhancing English speaking proficiency.

1. Adaptive learning: powered by artificial intelligence, has become a reality (Sun et al., 2019) It is defined as a teaching method that relies on modern technological developments, such as advanced algorithms and AI (Dhaniswara, 2023). Adaptive learning systems for English-speaking enable continuous monitoring of students' progress and adapt to their individual needs, unlike traditional methods, adaptive

learning enhances student's interests and goals, while increasing their confidence and proficiency in speaking English (Qin & Zhong, 2024, p.273).

2.Virtual tutor (VR): is an effective educational tool for enhancing the communicative abilities of EFL learner's (Shorey et al., 2020). It creates a more interactive and inclusive learning environment (Bahari, 2022), revolutionizing traditional language teaching methods, particularly in improving English speaking skills (Damio & Ibrahim, 2019). While many people are initially unfamiliar with VR applications, and lack knowledge about how to use them, studies have shown their effectiveness. For example, Madina, a 25-year-old female participant, stated, "...it gives the almost true experience of giving out speech .. , it really felt like i am truly giving a presentation in front of strangers"(as cited in Damio& Ibrahim, 2019, p.241).

More than 80% of the participants reported enjoying preparing for presentations using VR applications (Damio & Ibrahim, 2019). Additionally, participants noted that AI tools help them feel calm and relaxed, communicate their ideas clearly, reduce anxiety during communication, and increase self-confidence.

1.4.2. The Role of AI Tools in Reducing Anxiety

Over the years, the use of artificial intelligence (AI) has significantly transformed the educational experiences of English language learners, AI has become an essential tool for improve pronunciation and helping students speak more confidently, for example, chatbots voice recognition systems and smart applications provide instant feedback on pronunciation and speaking skills (Nguyen, 2024). These tools also address the challenge of giving individual attention to students in large classes, offering a way to motivate learners to engage in conversations without anxiety and improve their verbal communication skills.

According to McFarland (2024), the use of AI-powered tools in the field of public speaking represents a significant leap forward in educational development. These tools provide innovative solutions to enhance speech delivery, enabling students to improve their speaking abilities and capture the attention of their audience.

some of the best AI- supported tools specifically designed to develop speaking skills are as follows:

Pronounce: It is a smart platform that relies on artificial intelligence to enhance speaking skills, focusing on improving pronunciation, fluency, and oral expression in English and other languages. It analyses speech in real time and provides users with feedback to help them improve their language proficiency (Heinrichs, 2024).

Figure 1.4: AI-Powered Pronounce Tool



Yoodli: is a free tool for improving English speaking, helping users eliminate redundant words, avoid inappropriate phrasing, and manage speaking time. After recording a speech, it provides students with written transcripts highlighting errors and personalized feedback, boosting confidence and developing effective communication skills (Pricilia& Ralmansyah,2024).

Figure 1.5: The Yoodli AI-Powered Speech Coaching Tool

Orai: Dwyer and Madison (2012, as cited in Huda ,2024) conducted a study involving a large number of students at Midwestern University. Their research revealed that public speaking is one of the most challenges students’ face. To treat it, students can use the Orai application to enhance their speaking skills before engaging in conversations. Huda and Mahbub (2024) noted that, according to a quick overview video, with the Orai app, users get instant feedback on key aspects of communication such as speech rate, facial expressions, etc.

Figure 1.6: The Orai AI-Powered Tool

1.5. Conclusion

In conclusion, AI tools have significant potential to reduce language learning anxiety among EFL students, especially in speaking. By providing a supportive, non-judgmental environment for practice, AI-powered applications can help learners build confidence, improve pronunciation, and enhance fluency. AI minimizes the fear of making mistakes and boosts communication skills. As technology advances, AI will continue to enhance language learning by creating a more engaging and comfortable environment for EFL students worldwide.

Chapter Two: Research Design, Data Analysis, and Results

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2.1. Introduction

After presenting the theoretical part that highlighted how AI tools can help reduce language anxiety during speaking among EFL students, this chapter seeks to introduce the practical part of this research. It collects and analyses quantitative and qualitative data to ensure the comprehensiveness of the results. It includes questionnaires administered to first-year English language students, interviews with teachers, and classroom observations. This data seeks to interpret the presented findings and compare them to prior research hypotheses.

2.2. Setting Description

This study was conducted at the university of Tlemcen, Algeria, specifically in the department of English first-year students, as one of the most prominent educational institutions in Algeria, the university houses a vibrant English Department, which focuses on foundational language skills (listening, speaking, reading, and writing) as well as concepts in English literature and linguistics. The study targets first-year students who have recently transitioned from secondary school to university, with approximately 1503 students enrolled in the program and 72 experienced teachers specializing in English language teaching. The department is equipped with advanced educational facilities, including state-of-the-art language laboratories and a library rich in English-language resources.

This environment provided an ideal setting to explore the role of artificial intelligence in addressing language anxiety among EFL students. By examining the experiences of both students and teachers, the study offers a comprehensive perspective on the development of speaking skills.

2.3. Method Used

Case studies are a form of research method that investigates individuals, projects, or organizations to develop insights gathered in collected data. It composed of three types: exploratory case study (these types of case studies are very popular in the social sciences). Descriptive case study (It aims to find connections between the

subject being studied and a theory). And the explanatory case study (aims to explain the reasons behind the occurrence of an issue).

According to Bromley (1990), a case study is regarded as a "systematic inquiry into an event or a set of related events which aims to describe and explain the phenomenon of interest" (p. 302). In other words, a case study is a methodological research approach used to generate an in-depth understanding of a contemporary issue or phenomenon within a bounded system. Case study research involves an in-depth investigation of an individual, group, or event to gain insights into a real-life phenomenon (Coombs, 2022). There are three types of case studies: instrumental (single) case study, collective (multiple) case study, and intrinsic case study. Based on the research objectives, this study adopts an exploratory case study approach. The researcher has chosen a single instrumental case study, as the focus is on one specific group: first-year students at Tlemcen. Studying this particular case allows the researcher to draw broader conclusions and produce scientifically valid results.

This research investigates how AI tools can help reduce language learning anxiety, particularly in speaking, among EFL students. Additionally, it aims to determine whether the use of AI in speaking practice is beneficial for learning English as a foreign language. If AI tools can effectively reduce speaking anxiety, they could serve as valuable resources for both teachers and learners, making language learning more effective and engaging.

2.4. Sample Selected

Sampling is a very important process in research. The choice of an appropriate sample determines the value of the collected data and the success of the study. There are two main methods of sampling (Cohen & Holliday, 1996). The researchers must decide whether to opt for a probability sample (also known as a random sample) or a non-probability sample (also known as a purposive sample). This study examines first-year students in Tlemcen. Due to the chosen case study approach, the researcher selects a suitable sampling method. To ensure the sample

accurately represents the population, the researcher adopts a representative sampling framework within the probability sampling method. This method aligns the study's goal of generalizing the findings with the sampling design, resulting in a structured and systematic investigation.

2.4.1. Students' Profile

This study was conducted with 31 students, both male and female. Females constitute the majority of the sample with a percentage of 87%. While males represent a smaller percentage of 13%. As part of their profile, the respondents were asked about their age. The data reveals that their ages range from 18 to 20 years old. The researcher explored diverse student perspectives on how AI tools can reduce speaking anxiety among EFL learners, enhancing the validity of the data and allowing for an in-depth analysis of AI's role in boosting confidence and speaking skills.

2.4.2. Teachers' Profile

The number of interviewed teachers is five, all of whom are female. The selection was made based on their extensive expertise and professional experience of over 15 years in their fields including sociolinguistics, educational psychology, didactics, applied linguistics and English for specific purposes.

2.5. Research Tools

The research tools used in this study include student questionnaires, teacher interviews, and classroom observation. Student questionnaires aim to measure their levels of speaking anxiety before and after using AI tools, as well as to gather their opinions and impressions of these technologies. Teacher interviews contribute to understanding educators' perspectives on the effectiveness of AI in reducing language anxiety and improving students' confidence. Additionally, Classroom observations allow for the collection of data on students' interactions with AI tools within the classroom, providing insights into their engagement and behaviour.

2.5.1. Students' Questionnaire

According to Bhandari (2023), A questionnaire is a research tool used to collect and analyse data from a group of people. It involves designing accurate and reliable questions that align with the research objectives, arranging them logically, and selecting an appropriate method for distribution and response collection.

Questionnaires include three main types of questions: open-ended questions, closed-ended questions, and multiple-choice questions. Closed-ended questions include multiple-choice options as answers, from which participants can choose one.

To achieve comprehensiveness in data collection, the researcher included a variety of question types (See Appendix A). This approach enables the collection of both quantitative and qualitative information. The table below illustrates the specific objectives of each part of the questionnaire.

Table 2.1: Questionnaire Rubrics' Objectives

Question	Objectives
Rubric 1	It aims at examining the distribution of age and gender among EFL learners
Rubric 2	It aims at assessing students' self-perception of their speaking skills, identify challenges they face in oral communication, and understand their emotional comfort during speaking activities
Rubric 3	It aims at exploring the impact of language anxiety on students' participation in speaking activities, and understand the main reasons behind this anxiety
Rubric 4	It aims at exploring students' experiences with AI-based tools for speaking practice, their perceived benefits, whether these tools help reduce speaking anxiety

2.5.2. Teachers' Interview

The interview is an effective data collection tool that utilizes a variety of sensory channels, including verbal, nonverbal, visual, and auditory cues, as well as electronic contexts relying on written texts. This method is characterized by the interviewer's ability to guide the conversation to elicit comprehensive and authentic responses (Cohen et al., 2018). One of its primary goals is to serve as the main means of gathering information to achieve research objectives.

There are three types of interviews: structured, unstructured, and semi-structured. For this study, the researchers select a semi-structured interview as the primary data collection method (See Appendix B). This approach serves as the sole source of information, allowing multiple participants to share their knowledge and experiences on a specific topic (DiCicco-Bloom & Crabtree, 2006). Five interviews were conducted with teachers specializing in teaching English as a foreign language. The table below outlines the objectives of each rubric of the interview.

Table 2.2: Interview Rubrics' Objectives

Question	Objectives
Rubric 1	It aims at gathering background information about the interviewee's role for context and credibility
Rubric 2	It aims at investigating speaking anxiety in EFL contexts, identify its symptoms, analyse its impact on students' performance and participation, and how the teachers' presence influences this anxiety
Rubric 3	It aims at exploring the role of AI tools in EFL classrooms, their effectiveness for speaking practice, students' attitudes, and how they complement teacher guidance

2.5.3. Classroom Observation

A classroom observation checklist was utilized to monitor and identify signs of students' speaking anxiety and the role of AI. Marshall and Rossman (1989) define observation as "The systematic description of events, behaviours, and artifacts in the social setting chosen for study" (p. 79). In the current study, the researcher employed two types of observation: structured and non-participant.

Structured observation involves the use of a checklist to assess learners' engagement and interactions. Non-participant observation, on the other hand, is a qualitative data collection method where the observer does not participate in the educational process. Instead, the observer focuses on analysing behaviours and interactions that occur in the classroom. The aim was to observe learners' engagement

and learning processes, as well as their language-speaking anxiety, and to explore how AI could help reduce it (See Appendix C).

2.6. Data Analysis

This section aims to analyse quantitatively and qualitatively data. Quantitatively by using numerical and statistical data processing, and qualitatively by focusing on the analysis of interviews and observations to ensure the accuracy of the results and provide a comprehensive overview of the study.

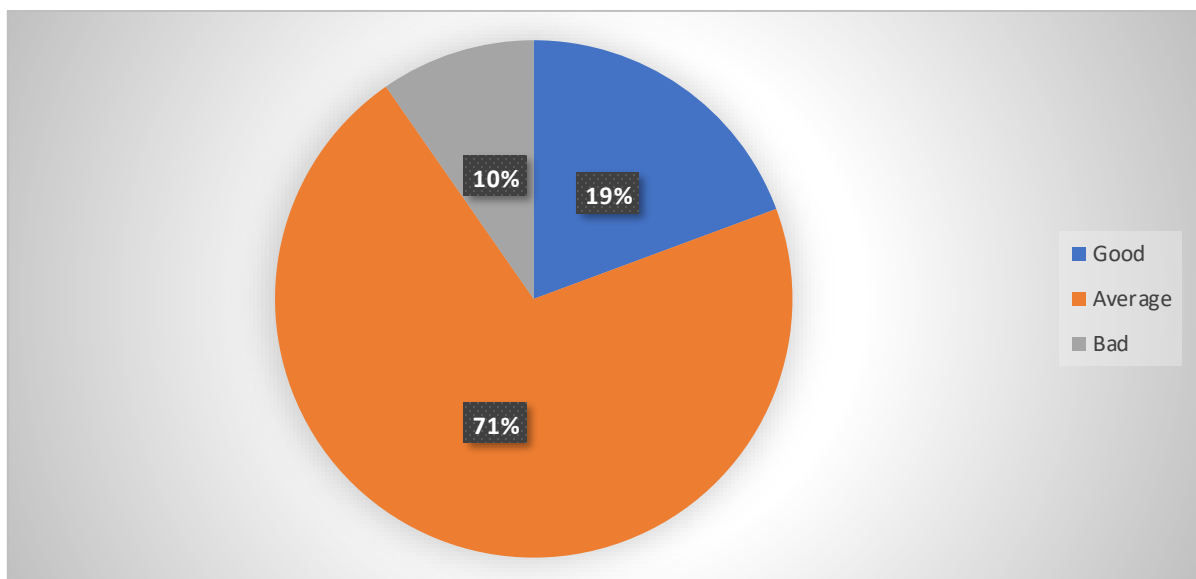
2.6.1. Students' Questionnaire Analysis

Within the framework of the field study, the results of the questionnaire included 31 English language students, and the following results were obtained:

Rubric One: Speaking in EFL students

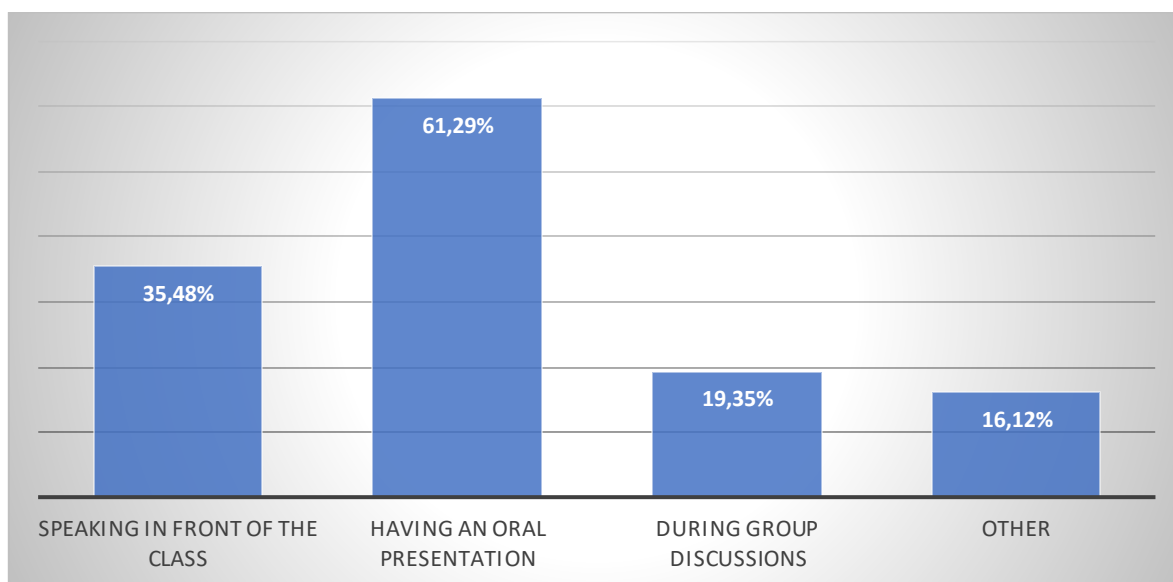
This rubric is devoted to assessing students' perceptions of speaking skills, communication challenges, and how they feel about speaking in class. Results show that most of students (71%) rated their level as average, while (19%) considered their performance as good, and (10%) as a bad level. This is shown in figure 2.1:

Figure 2.1: EFL Students Speaking Level

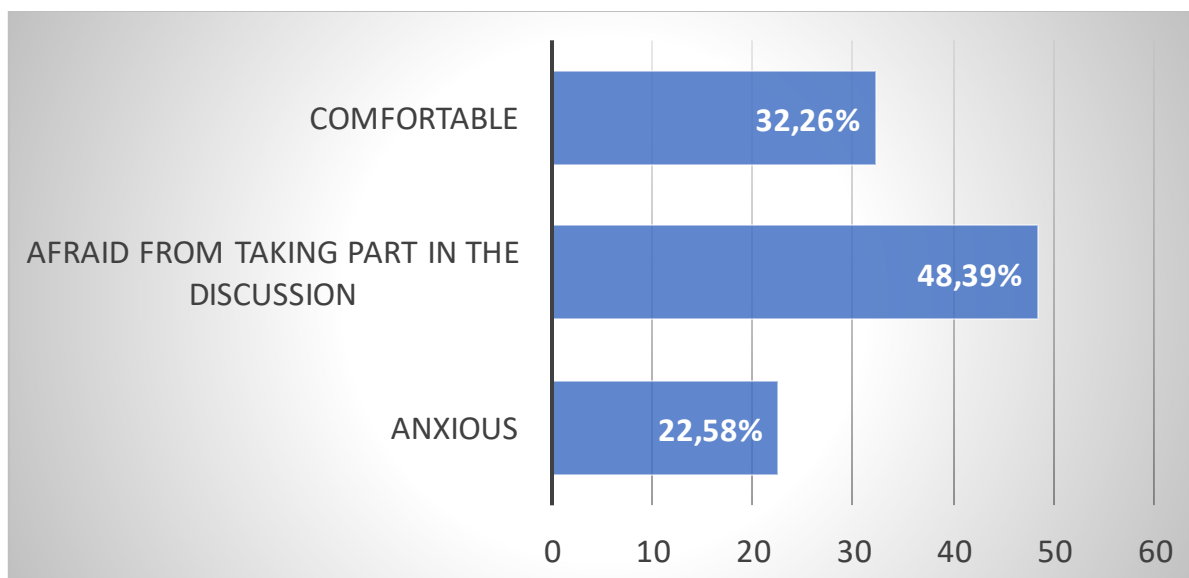


For the second question, students were asked about the main difficulties that may face when speaking. It was revealed that (61,29%) of students struggle with speaking activities like oral presentations, while (35,48%) thought that speaking in front of the class is challenging around public speaking. Furthermore, (19,35%) of students appear to be uncomfortable during group discussions. Then, only (16,12) claimed with other experiences, including limited vocabulary, fear of being misinterpreted, social anxiety, losing words even when they know the correct answers and disturb by their classmates. The results are displayed in figure 2.2:

Figure 2.2: Understanding Learners Speaking Difficulties in EFL Context

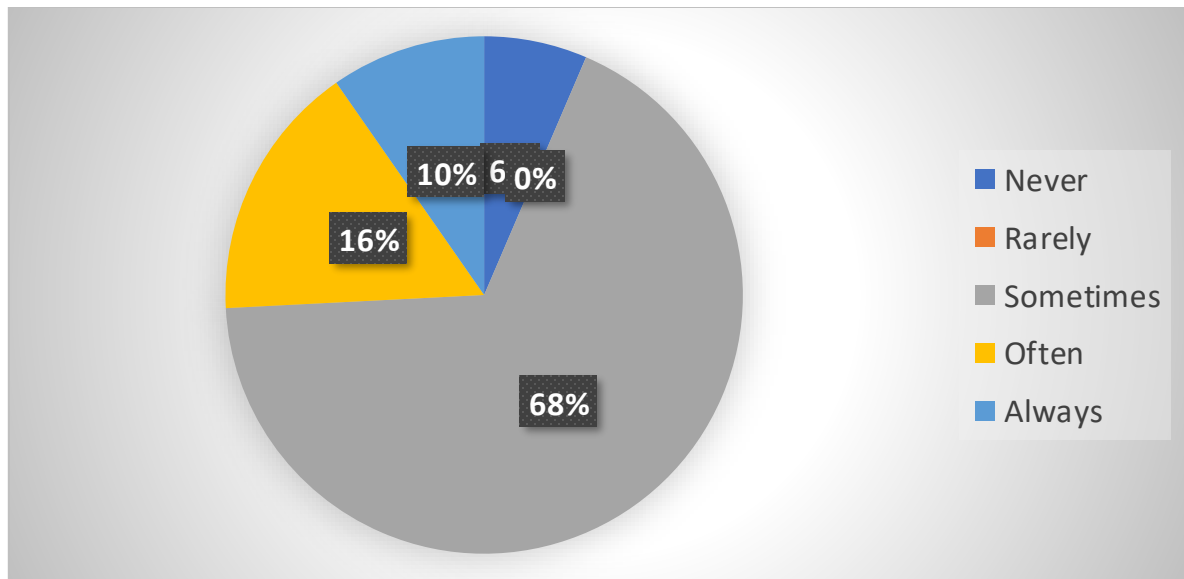


In the 3rd question, participants were questioned on their feeling during class discussions. It was identified that the majority of students (48,39) reported that they are afraid from taking part in the discussions. In addition, (32,26) asserted that they feel comfortable. Then, (22,58%) experience anxious when speaking up. This is put in the following figure:

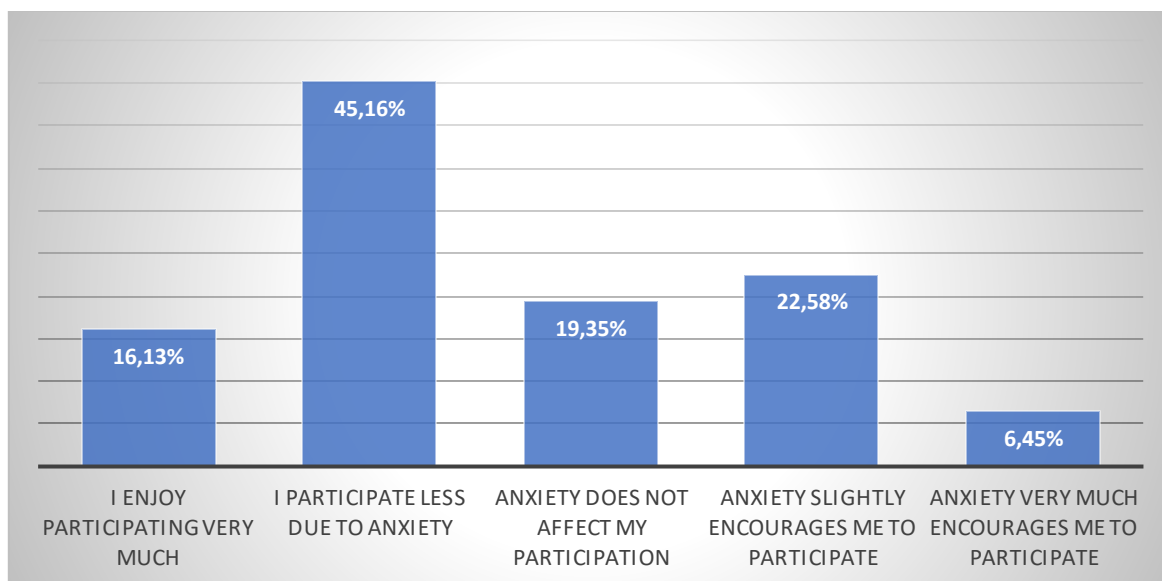
Figure 2.3: Exploring Students Feelings During Classroom Discussions**Rubric Two: Anxiety in the classroom**

This rubric focuses on English speaking anxiety, how it affects students' participation by highlighting the main reasons behind this situation.

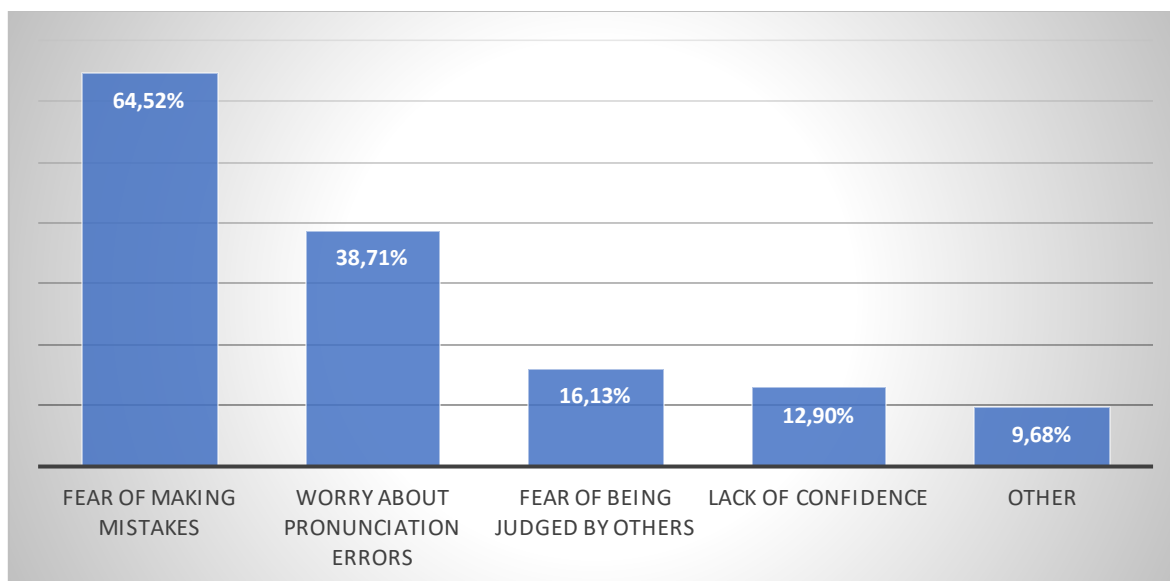
As for the 4th question, learners were asked to know if they experience anxiety when speaking English in front of others. Five groups of answers were created: "Never", "Rarely", "Sometimes", "Often" and "Always". It was identified that (68%) declared that speaking anxiety happened sometimes. While (16%) believed that it happened often. Moreover, (10%) mentioned that they are always experience anxiety. Only (6%) reported by never. All students argued that it rarely happened (0%). Results are as follows:

Figure 2.4: Identifying Students Experience on Speaking Anxiety

In the 5th question, students were asked in the questionnaire how does language anxiety affect their participation in speaking activities. Data showed that (45,16%) participate less due to anxiety. Yet, (22,58%) claimed that anxiety slightly encourages them to participate. In contrast, (19,35%) was the percentage of participants who said that anxiety does not affect their participation. Some students (16,13%) stated that they enjoy participating very much. According to (6,45%) of them, anxiety very much encourages them to participate. The figure bellow illustrates the findings:

Figure 2.5: The Impact of Language Anxiety on Speaking Participation

In the 6th question, learners were requested about the main reasons of speaking anxiety. The results highlighted that the majority (64,52%) of students have fear of making mistakes. However, (38,71%) of them asserted that they worry about pronunciation errors. Then, (16,13%) claimed that they fear of being judged by others. Lack of confidence is a notable reason for (12,9%) of these students. A small percentage of students have other reasons (9,68%), one of them told that she feels anxious when someone speak during her presentation. Another one fear of speaking in public. As for the last one said that he blanks out and lose words. The results are represented in figure 2.6:

Figure 2.6: Addressing The main Causes of Anxiety in English Speaking**Rubric Three: AI Tools to reduce speaking anxiety**

This rubric is about the use of AI based tools in improving English speaking skills and explores whether they are helpful in reducing language anxiety or not.

In the 7th question participants were asked if they used AI based tools for improving speaking skills and what they learn from them. It was found that the answer to this question was “Yes” from (68%) of students. We only obtained sixteen people gave us explanations concerning their learning through AI Tools. Thirteen of them said that it helped them improve their pronunciation. One student argued that it helped them speak fluently, getting information and new things about different topics. On the other hand, one said that it is beneficial to forge better speaking skills and helped him with his formality issues. The last one pointed to help her doing her activities and in correcting grammar mistakes. In contrast (32%) select the option “No” as an answer. This implies that they developed their speaking skills without the use of any AI Tools.

In the 8th question students were asked if they found AI Tools helpful in reducing anxiety while speaking English. The results showed (81%) selected the first

option which is “Yes” and (19%) selected the option “No”, collected only one explanation involving that AI hasn’t helped her speaking or lowered her anxiety.

2.6.2. Teachers’ Interview Analysis

Rubric One: Classroom speaking anxiety

This rubric aims to understand the effects of speaking anxiety on EFL students and how the teacher presence may influence it.

Question 1 was asked to define speaking anxiety in EFL context, the teachers provide us with various definitions based on their personal viewpoints, all of them state that this situation happens when students feel nervous about speaking in front of others, making it hard for students to express themselves, especially during presentations. The five teachers agree that speaking anxiety is a common issue among EFL students, especially when they are new and unfamiliar with their peers. Due to their fear of public speaking, and limited prior opportunities to practice speaking English. They highlight that anxiety can show in both physical and mental ways, which negatively impacts students’ speaking performance.

Question 2 was posed to identify the common signs of anxiety that the teacher notice when students speak English, three teachers state that the most common signs are hesitation, shaking hands, lack of confidence and blushed like a tomato. One of them thinks that students avoid eye contact and speak in a low voice. however, a different teacher observes that some students speak without thinking it through. From their opinions the five teachers collectively observe physical and behavioural signs of speaking anxiety in EFL students, they also note cognitive symptoms like forgetting grammatical structures, blocking, and losing words due to the pressure of speaking. These signs vary depending on the student and situation, but they all agree that anxiety disrupts fluency and performance.

Question 3 was about gathering information about how does language anxiety affect students speaking performance to participate in class. from their

responses, the first teacher says that it a matter of not being well prepared. One teacher explains that the role of the teacher is the way to make students feel at ease like using motivating sentences. Another teacher points out that some students avoid speaking. the fourth one mentions that it's not about knowing the language perfectly, but about gaining confidence and improving how they speak. The last teacher identifies a source of phobia when speaking in the classroom. The five teachers view speaking anxiety as a common and complex issue influenced by both external and internal factors by identify that anxiety affect students' performance differently. They emphasize that teachers play a key role in reducing this anxiety by creating a supportive and encouraging learning environment.

Question 4 was asked about if anxious students tend to speak less, even when they know the correct answers. Based on their responses, three teachers agree that some students take it as a push to improve, while others find it hard and become less talkative in class due to fear of mistakes. Thus, two teachers state that supportive teachers and active classrooms help students believe in themselves more. The teachers have mixed views on whether anxiety causes students to speak less in class. Some believe that anxiety causes students to give very brief responses due to fear of mistakes, others argue that it can motivate students to try harder or speak differently.

Question 5 was requesting about whether the presence of the teacher influence students' anxiety levels by mentioning specific ways. All of them state that the role of the teacher was important, three teachers state that they explain by using a similar idea by mention ways as create good atmosphere, influence students' performance, giving them chances to speak. Another teacher states about controlling the anxiety of students like giving them activities. The last one shares that teachers encourage students by give them yes/no questions so that they can speak in front of people. All five teachers strongly agree that the teacher plays a central role in helping students manage speaking anxiety in the EFL classroom. They highlight that teacher

should create a positive and supportive atmosphere, where students feel safe to speak without fear of judgment.

Rubric Two: AI tools for EFL learners

This rubric aims to understand teachers experiences with AI, especially in the context of speaking anxiety and suggestions for improving AI integration in the classroom.

Question 6 was posed about whether teachers used AI powered language tools in the classroom or not. Teachers share different views. One of the teachers use AI tools for writing reports or technical terms, another teacher faces difficulties but still uses AI recordings, the third one employs it for pronunciation practice and uses Gemini for master's students. Only two teachers avoid relying on it. Overall, the teachers express differing levels of familiarity and use of AI tools in their teaching. Some teachers have incorporated AI in useful ways, while others either lack access or prefer traditional methods like videos and listening exercises. These differences highlight both the benefits of AI in language learning and the practical challenges that can limit its use in some classroom settings.

Question 7, thus, was wandered to knowing how often students use AI tools for speaking practice. From their point of views, one can say that they use it for testing, assessment or assignment, one teacher believes that as they are new, they don't utilize it. Another teacher states that AI used as a plagiarism tool. A fourth teacher mentions that it works intermittently. However, the last teacher notes that students use it for power point presentations. The teachers observe that while some students are using AI tools, their usage is often limited or ineffective. while a few teachers see potential benefits when AI is used properly, most feel that students need more guidance to use these tools effectively for genuine language development.

Question 8 was devoted to acknowledging the applications that could be useful for speaking practice. A pair of teachers are satisfied with using ChatGPT or

Poe for educational purposes. The following teacher relies on Duolingo which is the easiest way for language learning. One teacher see that students use AI tools such as Canva and power points for creating presentations. Lastly, one of them answers that they not use any particular tool. The teachers have mixed familiarity and access to AI tools for oral language teaching, while some actively use applications, others face financial and technological limitations that restrict their use of AI tools. As a whole some see AI as helpful but insufficient alone, while others prefer traditional tools for classroom activities.

Question 9 aims to find out whether there are any technical difficulties that frustrate students. Every teacher has unique opinions. The first teacher says that students need to know the correct way of how using AI. A teacher states that students have trouble with pronunciation and don't clearly understand AI vocabulary. The third teacher mentions that they use it unprofessionally. On the other hand, another teacher unsure if her students use AI or not. The last teacher argues that when AI gives students incorrect feedback, it can make them feel discouraged. Most teachers agree that technical difficulties, such as difficulty with pronunciation and poor speech recognition, affect students' confidence, especially when used incorrectly, which can hinder their language progress.

Question 10 was asked for knowing the feeling of students about using AI tools. From their perspectives, a pair of teachers believe that students feel both interest and motivation when rely on it. Another teacher reminds for a specific point that students don't understand the content, they just copy answers so that they are neither engaged nor skeptic. The fourth teacher, in this context, she mentions the use of Google only because they are familiar with it that's why they are engaged with it. Only one teacher says that in her module students don't need AI tools, as a result, she didn't know their feeling. Most teachers agree that students are excited about using AI tools, but they often struggle to adapt to them, either out of fear or by copying without understanding anything. Some see them as a stimulating learning tool. These

differing views stem from the perception that students' experience with these technologies is still in its infancy.

Question 11 was posed to see whether AI tools always provide supportive and confidence fostering feedback, or can they sometimes increase anxiety. From their reflections, one can say that AI helps with presentations if they know how to use it, if they don't it will cause stress. For the second teacher, AI tools are more supportive than stressful which can provide students with an active environment. The third one noted that AI tools can be helpful, but they need training to not overuse it. However, another teacher said that it is helpful with language but not with confidence. Moreover, she said that repeating words show how people react to new things. The last one sees that AI tools make students feel motivated. Most teachers agree that AI tools support students if it is used correctly, providing them with a safe and fearless environment. However, some argue that AI alone may not be sufficient to eliminate anxiety, especially for students with weak skills.

Question 12 was devoted to knowing how AI tools can complement their role as a language teacher. Three teachers agree that AI tools give feedback, the first one focuses on extra practice and instant feedback which can improve their speaking skills, the second one concentrates on helping students improve their speaking without waiting for the teacher, AI also helps him correct answers, the following one said that it gives them ideas, learn ways to study. As for the last two teachers, one said that it offers her by giving them fast corrections and fun activities while the other said that teacher's role are changing not becoming less important, but totally different. Most teachers agree that AI tools can be a supportive tool in language teaching, providing instant feedback. However, teachers assert that AI will transform their role and remain a supportive element in the educational environment without replacing teachers.

Question 13 was about getting teacher's views for whether AI tools alone help students overcome speaking anxiety, or do they need teacher guidance. All

respondents state that teacher guidance is essential. First, one said that feedback from teachers and classmates is interesting while AI gives them quick information. Second, one mentioned that AI alone can't help students manage their speaking anxiety. Third, a teacher said that AI powers the course but is not the only tool for complete the role of the teacher. Regarding the final two teachers, both of them think that while AI can facilitate speaking practice, teacher guidance is considered as a vital way for students to improve their speaking skills. Teachers generally agree that AI tools can be a useful tool to help students reduce speaking anxiety by providing quick and immediate practice, but the teacher's role remains essential in guiding them build confidence.

Question 14 was raised regarding if AI tools could be designed to better simulate real world communication. Based on their views, two teachers said that students need training to use AI properly. On the other hand, another teacher points out that they can use AI at university or outside to learn. An additional teacher admits that she was not trained, she just using it like most people do. A teacher believes that real communication happening between robot and students for correcting their mistakes immediately. Most teachers agree that improving AI tools to simulate realistic communication requires specialized training for students and teachers to use them effectively, interactive robots are proving their ability to facilitate communication, but knowing how to use them is even more important.

Question 15 highlighted the teacher's suggestions on how AI tools could be designed or implemented to better support students with speaking anxiety. Their feedback was quite interesting and provide valuable insights for students. Firstly, two teachers suggest training on how using AI for academic purposes. Secondly, another teacher supports the idea of encouraging students to talk, express their feelings and share emotions, also asks them to stay at the end of the course to know the reasons behind their anxiety. Whereas, one teacher maintains that AI can help develop language but teachers are needed for building students' confidence. Ultimately, another one suggests that students should know how to use it in a positive way.

teachers agree to train students and teachers to use Artificial Intelligence tools for academic purposes correctly, integrate them as an auxiliary tool only, not as a human substitute, and educate students about their pros and cons to ensure their safe use.

2.6.3. Classroom Observation Analysis

The classroom observation for this study was held in the department of English language first year students which lasted 5 sessions. Results are taken, which was about how AI tools can help reduce language learning anxiety in speaking among EFL students.

During these sessions, we noticed that some students were confident and talked with the teacher using correct grammar, while others stayed completely silent. Both genders were participating actively, the majority of females students interacted positively and eventually felt comfortable enough to discuss with one another without relying on the teacher, although a few students had grammar errors, they were able to speak appropriately and stay on topic, they responded to the teachers' questions with confidence, speaking clearly and in a way that everyone could easily hear and their answers were thoughtful. In contrary, some males' students kept using the same words over and over. It was observed that one of them copy what their friends talk, this might mean they need more vocabulary practice or confidence to explain their ideas clearly.

Moreover, many physical signs of nervousness are subtle, but others are quite noticeable. In particular, they spoke with shaky voices, that is to say their anxiety made them speak words that is hard to understand for example "Em", "Uh", girls often touched their hair, tapping fingers on surfaces. As for boys they avoided eye contact with the teacher, putting their hands in their pockets. In fact, it was observed another category in both sexes which is blushing upon speaking. These physical symptoms were clearly noted during presentation session. Additionally, one of the male students was confidently presenting but when his friend asked a question, he made a mistake when responding, so that he became visibly flustered, paused and

seemed to shut down and unable to continue. Although anxiety can negatively impact speaking performance.

It was noted that students generally responded well to these techniques. While participation levels were encouraging, some learners hesitated due to shyness or fear of making mistakes. While others have relied on Artificial Intelligence like ChatGPT. On the other hand, it has been seen that a teacher was using crossword puzzles for creating a welcoming environment for apprehensive learners. One teacher gave students pictures to discussed about it, and find out what the course will be about.

To conclude, students were engaged and successively interact with teachers. It was clearly that using AI tools is very helpful, it increased confident in peer interactions and make the sessions more joyful, also facilitate on students to find words and sharing ideas.

2.7. Data Interpretation

The researchers proposed three objectives for their research work. The first objective aims to explore how AI tools support EFL learners to enhance their speaking skills. The second aims to examine how anxiety affects EFL students speaking performance. While the third one aims to identify the challenges and limitations of AI tools in reducing speaking anxiety among EFL learners. These objectives rely on analysing the data collected from questionnaire, interview and observation.

The first hypothesis identifies that learners who use AI-Powered language tools may show significant improvement in their speaking skills. According to students' responses, AI powered language tools helped them improve their speaking skills including pronunciation, fluency, vocabulary and correcting grammar mistakes, these are notices in the response of question 7 which shows that AI tools target the key element outlined in the hypothesis. However, regarding teachers' perspectives in the interview are divided, with some actively incorporating AI tools in their

classroom while others do not. Teachers confirmed that AI may be helpful in improving speaking skills by practice and pronunciation using different applications like ChatGPT, Poe. But teachers' guidance is still needed in classroom to effectively improve their learning. Subsequently, the observation data proved that students are depending on AI tools because it enhances their confidence to interact easily. While others they fear of judgment of making mistakes. Students who can speak freely and with comfortable its due to teacher classroom management and how he encourages them to speak. Furthermore, the learner should know how to use these AI tools in order to develop their speaking skills. The results gathered from the questionnaire, interview and observation indicate that AI tools can be effectively employed in the EFL classroom. These findings confirm the 1st hypothesis.

The second hypothesis highlights the effect of language learning anxiety among EFL students in speaking performance. In this context, the data of the questionnaire shows that most students participate less due to anxiety which means language anxiety negatively impacts students' participation in speaking activities. Thus, anxious students often engage less in different levels depending on the situation like participation, presentation and it enhances their confidence. Moreover, the reasons behind their anxiety are fear of making mistakes, (Appeared in figure 2.6), afraid about pronunciation errors, as they often fear being judged negatively by their teachers, this fear leads to avoid participating during speaking practice. As for teachers, it was revealed that they observed significant impact for anxious students, especially when they speak in audible voice, avoid eye contact and hesitation. These symptoms happened when anxiety affect both body and emotions. This means that EFL learners are suffering from anxiety. Results show that anxiety can affect students' participation in the classroom when they are unprepared or some students they just avoid speaking. The observation data revealed that anxiety affects students speaking skills in a negative way. Many students exhibit discomfort, and reduced participation in discussions. Results also indicate that the teachers use various

activities to reduce anxiety among learners. These results confirm the second hypothesis.

Concerning the third hypothesis which emphasizes the use of AI tools in helping reduce language anxiety during speaking practice. However, there are several challenges, such as the inability to share the same feelings and emotions as humans, which can prevent students from experiencing a truly stress-free environment. Results from questionnaire show that AI tools help learners to speak English by using AI robot to discuss with it. Enhancing their vocabulary and correct their grammar mistakes. The results asserts that learners are relying on AI tools to help them establish their thinking and performance. The classroom observation in this case study shows that EFL learners are depending on using AI powered applications like ChatGPT for quick answers to their questions. On the other hand, some students feel uncomfortable in using AI tools because they don't know how to use them properly. The recommended replies from the teachers' interview, admit that sometimes, they copy ideas and information without fully understanding them, and they may not even grasp their meaning. In this case, teachers play a vital role in supporting students psychologically and emotionally by creating an interactive environment that encourages dialogue and teamwork. While AI can help improve English speaking skills, the teacher remains the primary force in the classroom. They are able to motivate students, create a fun atmosphere, and accept their mistakes without getting bored, making the teaching approach more enjoyable and effective. In this way, the last hypothesis is confirmed.

2.8. Recommendations and Suggestions:

Based on the research findings gathered from students' questionnaire, teacher's interview, and classroom observation. The following suggestions aim to support the integration of AI tools in language learning environments to reduce speaking anxiety among EFL learners.

- To overcome language anxiety, the teacher should be like a researcher in exploring the students' problems, weaknesses and motivating them. In this way, their speaking performance improves and their stress is reduced.
- Necessary support should be provided to educational institutions by providing teachers with continuous training and schools with advanced tools for teaching English as a foreign language, especially in non-English speaking countries.
- Learners can rely on methods such as daily practice and positive thinking, in addition to focusing on understanding grammar, vocabulary, and sentence structure, which increases their mastery of the language.
- Find a friend to practice speaking skills to correct mistakes without any shame, rely on talking to themselves at home, focus only on important things and maintain calm.
- Using Artificial Intelligence (AI) tools in the educational context, such as ChatGPT, to support and develop education, additionally, teachers educate students on how to use them ethically rather than for purposes such as cheating, which helps them enhance their skills.
- Furthermore, teachers can combine traditional teaching methods with technological materials, for example, by delivering face-to-face lessons and complementing them with interactive digital presentations and videos.

In the end, applying these suggestions will allow AI tools to significantly improve EFL learners speaking performance by creating a supportive environment and building self-confidence.

2.9. Conclusion

This chapter investigated the analysis of the role of AI in reducing language speaking anxiety in EFL contexts. Data were carrying out through mixed methods approach, combining students' questionnaire, teacher's interview and classroom observation, to gather both qualitative and quantitative data to align the research hypotheses presented in this study. At the end, the researcher provided some

suggestions for EFL learners and teachers that can help them use AI tools and how they can reduce their speaking anxiety.

General Conclusion

Language learning, particularly speaking in a second or foreign language, often provokes anxiety in students. This phenomenon, known as language learning anxiety. This type of anxiety can greatly affect learners by decreasing their willingness to speak and their performance, especially in EFL learners. In the last few years, Artificial Intelligence has started playing an important role in language learning, tools like chatbots and recognition apps can help EFL students practice speaking without the fear of being judged or making mistakes in front of others. This study aims to investigate how AI tools can be effectively used and integrated in EFL teaching to reduce students' anxiety and improve their speaking abilities. The research seeks to provide insights into how AI tools can create more supportive and effective language learning environments.

By designing and carrying out a case study, supported by data from students' questionnaires, teacher's interviews, and classroom observations, the three hypotheses put forward were confirmed. The findings indicate that most students suffered from speaking anxiety, emphasizing the reasons behind this, such as fear of making mistakes, being judged by others and sometimes a lack of confidence, all of which negatively impacted their performance. Students were more engaged when using AI tools because they received immediate feedback. In addition, the role of teachers also was too important in creating a peaceful and supportive setting for students.

This study aimed to provide a descriptive account of the existing circumstances regarding the use of AI tools to reduce speaking anxiety among EFL students. In this regard, this research faced some limitations. The first limitation was the absence of AI as a field of study at Tlemcen university. If students had been engaged in using them at classroom, the findings could have been more relevant to determine whether they truly help students reduce anxiety. Likewise, most teachers were not familiar with using AI tools to provide us better responses concerning this study. Second, there is a lack of articles that speaks about AI tools and how it can help reduce speaking anxiety. Lastly, having meetings with teachers was a difficult task since they were busy all the time and some refused to be recorded. However, despite of all these limitations, the researchers were able to achieve their goal.

Based on the study, several recommendations have been put forward to enhance the current situation. Firstly, teachers are encouraged to establish clear rules and consistent routines to ensure better classroom organization and explore innovative teaching methods. Additionally, fostering a strong, respectful, and trusting relationships with students is essential to make them feel comfortable speaking. Lastly, both students and teachers should be trained on how to use AI tools positively.

As a conclusion, while this study highlights the significant impact of language anxiety on English learners' speaking performance, further research is needed to explore the underlying causes and long-term effects of this anxiety. Future studies might investigate how classroom environment, teaching methods, and the integration of AI tools to enhance the speaking skills can significantly contribute to increasing students' anxiety, as it serves as a valuable resource that can improve language speaking in various aspects. Since learners are already engaging with AI applications, it would be beneficial to design learning environments that aligns with their interests while guiding them on how to use these tools responsibly and ethically.

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Appendices

Appendix A

Students' questionnaire

Dear students,

This questionnaire is an essential part of our research, its aims to explore how AI tools help reduce language learning anxiety in speaking among EFL Students. Please read each question carefully, mark (✓) to the appropriate answer(s), and use the space provided to elaborate on your responses when needed. Your honest and thoughtful answers are crucial for the success of our study. Thanks in advance for collaborating with us!

Rubric One: Students' Profile

Age:

Gender: a- Male ☐

b- Female ☐

Rubric Two: Speaking in EFL Students

1)How do you consider your speaking level?

Good ☐ Average ☐ Bad ☐

2) What are the main difficulties you face when speaking?

- Speaking in front of the class ☐
- Having an oral presentation ☐
- During Group discussions ☐
- Other (please specify) ☐

.....

3) How do you feel during class discussions?

- Anxious ☐
- Afraid from taking part in the discussion ☐
- comfortable ☐

Rubric Three: Anxiety in The Classroom

4) Do you experience anxiety when speaking English in front of others?

Never ☐ Rarely ☐ Sometimes ☐ Often ☐ Always ☐

5) How does language anxiety affect your participation in speaking activities?

- I enjoy participating very much ☐
- I participate less due to anxiety ☐
- Anxiety does not affect my participation ☐
- Anxiety slightly encourages me to participate ☐
- Anxiety very much encourages me to participate ☐

6) What are the main reasons for your anxiety when speaking English?

- Fear of making mistakes ☐
- Worry about pronunciation errors ☐
- Fear of being judged by others ☐
- Lack of confidence ☐
- Other (please specify) ☐

.....

Rubric Four: AI Tools to Reduce Speaking Anxiety

7) Have you ever used AI-based tools (e.g. chatbots, voice recognition apps) for improving your speaking skills?

Yes ☐ No ☐

If yes, what did you learn from them? Justify your answer, please

.....

.....

8) Do you find AI tools helpful in reducing your anxiety while practicing English speaking?

Yes ☐ No ☐

How?

.....

Thank you for your cooperation

Appendix B

Teachers' Interview

Dear teacher,

Thank you for joining this interview. We are researching how AI-powered language tools support EFL students in improving speaking skills and reducing language learning anxiety. Your insights as a teacher will help us understand the effectiveness, challenges, and limitations of using AI for speaking practice. Your responses will be used confidentially for research purposes. We appreciate your time and expertise in sharing your experiences with AI tools in language learning. Let's begin!

Rubric One: Background Information

Before starting the interview, could you please introduce yourself? This could include your position at Tlemcen university, your area of specialization, and your years of teaching experience.

.....

Rubric Two: Classroom Speaking Anxiety

1-How would you define speaking anxiety in an EFL context?

.....

2-What are common signs of anxiety that you notice when students speak English?

.....

3-How does language anxiety affect students speaking performance and willingness to participate in class?

.....

4-Do anxious students tend to speak less, even when they know the correct answers?

.....

5-Does the presence of the teacher influence students' anxiety levels? if so, in what ways?

.....

Rubric Three: AI Tools for EFL Learners

6-Have you used AI-powered language tools in your classroom? if so, which ones?

.....

7-How often do your students use AI tools for speaking practice?

.....

8-What are some specific AI tools or applications that you have found useful for speaking practice?

.....

9-Are there any technical difficulties (e.g., poor speech recognition, limited vocabulary understanding, that frustrate students and contribute to anxiety?

.....

10-How do students generally feel about using AI tools? Are they motivated, engaged, or skeptical?

.....

11-Do AI tools always provide supportive and confidence - fostering feedback, or can they sometimes increase anxiety?

.....

12-How do you think AI tools can complement your role as a language teacher?

.....

13-In your opinion, can AI tools alone help students overcome speaking anxiety, or do they need to be used alongside teacher guidance and peer interaction?

.....

.....

14-How do you think AI tools could be designed to better simulate real-world communication?

.....

.....

15-Do you have any additional thoughts or suggestions on how AI tools could be designed or implemented to better support students with speaking anxiety?

.....

.....

Thank you for your time and consideration

Appendix C

Classroom Observation Grid

Faculty: Foreign Languages, English Department

Module: Oral Expression

Time: 5 sessions

Class Observed: First-Year License

Academic Year: 2025

- **Table 1: Speaking Performance Observation Checklist**

Category	Comments/ Observations
Speaks Competence	
Avoids repetitive language	
Uses correct grammar	
Responds appropriately to questions	
Uses clear and audible voice	
Stays on topic	
Others	
Others	

• **Table 2: Language Anxiety Observation Checklist**

Category	Comments/ Observations
Trembling hands or voice	
Avoiding eye contact with the teacher	
Pretending to be busy	
Takes a long time to respond	
More anxious speaking in front of the whole class	
Appears frustrated or shuts down after making mistakes	
Others	

• **Table 3: AI Tools to Avoid Anxiety Observation Checklist**

Category	Comments/Observations
Frequency of AI tool usage	
Students use of AI Tools?	
Teacher use of AI tools?	
Increased confidence in peer interactions after using AI tools	

What are the AI tools used?	
Others	

Summary: This study describes how Artificial Intelligence (AI) tools can help reduce speaking anxiety among EFL students, focusing on how they contribute to improving language proficiency using a mixed-methods approaches. After analysing the data, it was found that AI tools helped reduce speaking anxiety, including pronunciation, fluency, and vocabulary improvement, relying on AI-enabled applications through optimal use. However, some students faced technical difficulties, such as a lack of emotional interaction compared to humans. This study concludes that AI tools are an effective support for developing speaking skills, but they must be balanced with effective human interaction.

Keywords: Artificial Intelligence (AI), EFL, Speaking Anxiety

الملخص: تصف هذه الدراسة كيف يمكن لأدوات الذكاء الاصطناعي أن تساعد في الحد من قلق التحدث لدى طلاب اللغة الإنجليزية كلغة أجنبية، مع التركيز على كيفية مساهمتها في تحسين إتقان اللغة باستخدام مناهج متعددة. بعد تحليل البيانات، وُجد أن أدوات الذكاء الاصطناعي ساعدت في الحد من قلق التحدث، بما في ذلك تحسين النطق والطلاقة والمفردات، بالاعتماد على التطبيقات المدعومة بالذكاء الاصطناعي من خلال الاستخدام الأمثل. ومع ذلك، واجه بعض الطلاب صعوبات تقنية، مثل نقص التفاعل العاطفي مقارنةً بالبشر. تخلص هذه الدراسة إلى أن أدوات الذكاء الاصطناعي تُعدّ دعمًا فعالاً لتطوير مهارات التحدث، ولكن يجب أن يكون هناك توازن بينها وبين التفاعل البشري الفعال.

الكلمات المفتاحية: الذكاء الاصطناعي، اللغة الإنجليزية كلغة أجنبية، قلق التحدث.

Résumé: Cette étude décrit comment les outils d'intelligence artificielle (IA) peuvent contribuer à réduire l'anxiété de parler chez les étudiants d'anglais langue étrangère, en se concentrant sur leur contribution à l'amélioration des compétences linguistiques grâce à des approches mixtes. L'analyse des données a révélé que les outils d'IA contribuaient à réduire l'anxiété liée à la parole, notamment en termes de prononciation, de fluidité et d'amélioration du vocabulaire, grâce à une utilisation optimale des applications basées sur l'IA. Cependant, certains étudiants ont rencontré des difficultés techniques, comme un manque d'interaction émotionnelle par rapport aux humains. Cette étude conclut que les outils d'IA constituent un soutien efficace au développement des compétences orales, mais qu'ils doivent être équilibrés par une interaction humaine efficace.

Mots Clés : Intelligence Artificielle (IA), Anglais Langue étrangères (ALE), l'anxiété de parler.