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**A Study of the Reliability and Validity of the Use of
Open AI Chatbots to Assess EFL Learners Speech Acts
Performance: A Focus on Apology Speech Act**

*Dissertation Submitted to the Department of English in Partial Fulfillment
of the Requirements for the Degree of Master in Linguistics*

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Dedication

All praise is due to God, whose boundless grace enables the fulfilment of righteousdeeds.

This work is dedicated to my beloved parents, to whom my deepest gratitude goes for supporting me throughout my life. I also dedicate this to my late grandfather—may God have mercy on him— whose wisdom continue to inspire me. My sincere thanks go to my supervisor, whose expert guidance and encouragement have been instrumental in the completion of this thesis. My heartfelt appreciation extends to my dear friends Emad, Nasser, and Zaki, whose encouragement and companionship have been invaluable. Lastly, I dedicate this work to my special person.

Mohamed Djerida.

Dedication

To my perseverance and resilience, conquering every obstacle to achieve this significant milestone.

To my mother, whose boundless love, support, and encouragement have been my guiding light.

To Palestine, a symbol of resilience, hope, and strength amid challenges.

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Abstract

This study aims to study the potential use of open AI Chatbots to fulfill assessment actions. Pragmatic competence and specifically speech acts pose a significant challenge to EFL language teachers, thus this study examines the use of AI chatbots in assessing the speech acts performance. Through the descriptive method and the use three questionnaires, AI-based and traditional assessment tools, this study research designed aimed to examine the reliability and validity of using the AI-based assessment tool developed in this study and labeled “ActSpeak”. The findings of the study revealed lack of moderate perceptions about the effectiveness of the use of AI-based assessment tools and limited use of these tools for assessment purposes. ActSpeak was found to be highly valid and reliable as an AI-based assessment tool to test, evaluate and enhance apology speech act performance. This study is the first initiative in the Algerian EFL context and in the field of the use of an open AI ChatBot programmed to assess speech acts. This study calls for further interest among EFL teachers in the effective use of automated assessment tools to assess EFL learners’ communicative competence.

Keywords: Chatbot, Automated Assessment, EFL Classroom, Speech Acts, Apology Speech act, Communicative Competence.

List of Acronyms

EFL: English as a Foreign Language

AI: Artificial Intelligence

NLP: Natural Language Processing

ML: Machine Learning

DCT: Discourse Completion Test

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General Introduction

1. Background of the Study

In the evolving field of language acquisition, assessing EFL learners proficiency extends beyond traditional evaluations of grammar and vocabulary. Proficiency now includes the ability to engage in genuine communicative acts, with a particular focus on the pragmatic competence. The latter involves using language appropriately in various social contexts (Brown & Levinson, 1987), making it a crucial aspect of language proficiency.

Assessing the pragmatic competence presents unique challenges for educators and language testers. Traditional assessment methods often fail in capturing the dynamic and culturally complex nature of speech acts (Bardovi-Harlig, 2001; Taguchi, 2011). Apology speech acts, as a critical component of pragmatic competence, require not only linguistic precision but also cultural awareness and contextual sensitivity (Olshtain & Cohen, 1983; Kasper & Rose, 2003). Thus, teaching and assessing learners' pragmatic competence, particularly in performing speech acts like apologies, is a challenging mission for EFL teachers.

As educators and testers seek innovative and effective solutions, AI and chatbot technologies offer promising possibilities. OpenAI Chatbots, utilizing advanced natural language processing and machine learning algorithms, provide dynamic and interactive platforms that simulate real-life communicative scenarios, making them potentially suitable for assessing speech acts like apologies.

This study builds on the foundations of speech act theory, pragmatic competence, and technology-enhanced language learning. Speech act theory, introduced by Austin (1962) and further developed by Searle (1969), provides a foundation for understanding

how people perform various acts through language, such as apologizing, requesting, or promising. Pragmatic competence, as outlined by Canale and Swain (1980) and further refined by Bachman (1990), includes the knowledge and skills required to use language effectively in different social situations. In addition, the integration of AI in language learning and assessment represents a significant advancement in educational technology. AI tools like OpenAI Chatbots can analyze and respond to language input in real-time, offering immediate feedback and opportunities for practice. This interactivity and adaptability make AI a powerful tool for assessing complex linguistic skills like pragmatic competence.

2. Problem Statement

In EFL education, evaluating learners' ability to perform speech acts, especially apologies, is crucial for assessing language proficiency. Traditional assessment methods often fail in detecting the complex aspects of pragmatic competence, such as contextual appropriateness and cultural sensitivity required for speech acts (Taguchi, 2015b). As educators and language testers seek to overcome these challenges, the emergence of AI, particularly OpenAI, offers a promising approach for more dynamic and contextually rich assessments (Fryer & Carpenter, 2006).

Despite the increasing interest in using AI for language evaluation, there is still a significant gap in understanding the reliability and validity of OpenAI ChatBots in assessing the intricate aspects of speech act realization, particularly apologies by EFL learners. Existing research presents mixed findings on AI's ability to accurately evaluate such pragmatic competencies, underscoring the need for further empirical investigation (Chapelle & Voss, 2016).

This study explores the reliability and validity of using OpenAI Chatbots to assess EFL learners' ability to perform apology speech acts in various pragmatic contexts. It aims to bridge the gap in language assessment by investigating whether chatbot-based assessments can effectively evaluate learners' pragmatic competence.

Specifically, the research examines whether Chatbot-based assessments align with traditional methods and if they can distinguish between learners with different levels of pragmatic competence. Additionally, the study investigates the impact of chatbot-based practice on learners' real-life apology speech acts and evaluates user satisfaction and perceived usability of OpenAI Chatbots in EFL education.

3. The Research Questions

Aligned with the stated problem, this study aspires to answer the following questions:

- What are EFL teachers' perceptions about the use of AI-based assessment tools in assessing the communicative competence?
- How effective is the use of ActSpeak to assess Apology Speech Act performance among EFL students?
- To what extent is ActSpeak reliable in assessing Apology Speech Act performance among EFL students?
- To what extent is ActSpeak valid in assessing Apology Speech Act performance among EFL students?
- What is the impact of ActSpeak on EFL learners' development of apology speech acts?

These main questions encompass the key aspects of the study, focusing on the effectiveness, reliability, validity, and impact of OpenAI in assessing speech act realization, with a specific emphasis on apologies by EFL learners.

4. The Research Objectives

The focus of the present investigation is to evaluate the effectiveness of OpenAI in assessing the realization of apology speech acts by EFL learners, considering linguistic accuracy and cultural appropriateness, it mainly seeks to

- Explore EFL teachers' perceptions about the use of Open AI in assessing the pragmatic competence in order to examine their readiness to use such an assessment tool
- To examine the effectiveness is the use of ActSpeak to assess Apology Speech Act performance among EFL students
- To test the reliability of ActSpeak in assessing Apology Speech Act performance among EFL students
- To test the validity of ActSpeak in assessing Apology Speech Act performance among EFL students?
- To investigate the potential impact of ActSpeak on EFL learners' development of apology speech acts?

5. Significance of the Study

This study holds paramount significance within the fields of language assessment, education and artificial intelligence. By scrutinizing the reliability and validity of OpenAI in assessing the speech act realization of English as a Foreign Language (EFL) learners, specifically in apologies performance, this study suggests a significant advancement in

language assessment methodologies. Moreover, understanding the capabilities and limitations of AI-driven assessments can inform the development of more nuanced and effective evaluation tools, offering valuable insights for educators and language professionals.

Furthermore, the study's exploration into the impact of OpenAI on the pragmatic competence of EFL learners has direct implications for language education practices. Its findings can guide educators in optimizing language learning environments and integrating technology to enhance students' communicative abilities. Moreover, as artificial intelligence becomes increasingly integrated into educational landscapes, this research offers valuable guidance on the thoughtful integration of AI tools, specifically OpenAI, in language education.

By investigating the potential of OpenAI Chatbots in assessing pragmatic competence, particularly in apology speech acts, this study seeks to contribute to the development of more effective assessment methods, thus, contributing in the advancements in language assessment practices, educational strategies, and the integration of artificial intelligence in language education.

6. Research Method

This study makes use of the descriptive method to explore EFL teachers' perceptions and readiness to use AI as assessment tools of their learners' pragmatic competence, as well as to study the effectiveness, the validity and reliability of Open AI Chabots in assessing EFL learners' apology speech act.

7. Operational Definitions of the Research Variables

- **Open AI Assessment Tool:** refers to the application of OpenAI, as a tool for evaluating the speech act realization of EFL learners, with a specific emphasis on the formulation of apology speech acts. Operationally, this involves utilizing Open AI's natural language processing capabilities to analyze and assess learners' proficiency in performing apologies within simulated communicative scenarios.

- **Apology Speech Act Performance:** refers to the proficiency exhibited by EFL learners in formulating apologies within various communicative scenarios. Operationally, this involves evaluating learners' linguistic accuracy, cultural sensitivity, and contextual appropriateness when acknowledging fault, expressing remorse, and seeking forgiveness.

- **Act Speak** is an Open AI Chatbot programmed and suggested by the researcher for the purpose of this study. This chatbot was specifically designed for assessing EFL learners' pragmatic competence in the apology speech act. Its main purpose is to generate realistic scenarios requiring apologies, collect learners' responses, and evaluate these responses based on defined criteria. ActSpeak evaluates each apology response based on five key criteria: sincerity, acknowledgment of mistake, expressiveness of regret, clarity of apology, and promise of change.

Chapter One:

Artificial Intelligence and Apology Speech Act

Introduction

This chapter is devoted to the theoretical background of the study. It provides conceptualizations of the main variables of the study in addition to the related theoretical background needed to grasp a full understating of the interaction between this study variables. The first section is devoted to AI including its definitions, uses, use in assessments and challenges of the use of AI. The second section is devoted to Apology speech act. It holds an explanation of pragmatic competence, apology, and its relationship with the theory of speech acts and politeness, in addition to apologizing strategies. The third section examines the intersections between AI use in assessment and Apology speech acts.

1. Artificial intelligence

Artificial Intelligence (AI) is changing the world at an alarming rate; nevertheless, its contribution to education is obscure. Language education is no exception since much of this process now is mediated by AI technologies such as personalized learning platforms and intelligent tutoring systems. This section focuses on conceptualizations and pedagogical applications of AI in language education.

1.1 Definition of AI

AI is a developing fast division of computer science that has the aim of creating intelligent machines competent to perform tasks typically requiring human intelligence (Russell & Norvig, 2016). In accordance with Russell and Norvig (2016), AI includes the examination and design of algorithms and systems that let machines to perceive their environment, reason, learn from data and make decisions ortake actions in order to achieve some goals.

Machine learning, natural language processing and computer vision are among the techniques and technologies that fall under AI. These enable machines to mimic human thinking processes and behavior patterns (Nilsson, 2014). Through these techniques, AI systems can analyze complex data in its various forms, recognize patterns as well as adapt their behavior based on changes made in them using knowledge it has gained.

Moreover, AI has been defined by John McCarthy (2007) as "the science and engineering of making intelligent machines, especially intelligent computer programs." This definition emphasizes the goal of AI to simulate human intelligence through computational means.

Stuart Russell and Peter Norvig (2016) further describe AI as "the study of agents that receive percepts from the environment and perform actions," highlighting the agent- based approach where an AI system interacts with its environment to achieve specific outcomes. Additionally, Elaine Rich and Kevin Knight (2010) characterize AI as "the study of how to make computers do things at which, at the moment, people are better," suggesting the progressive aim of AI to enhance machine capabilities to surpass human performance in various tasks.

Marvin Minsky (1969), one of the founding figures of AI, defined it as "the science of making machines do things that would require intelligence if done by men." This definition underscores the focus on replicating human cognitive functions in machines. These various perspectives collectively underline the multifaceted nature of AI, which integrates disciplines such as computer science, mathematics, cognitive psychology, and neuroscience to develop systems capable of intelligent behavior.

1.2 Pedagogical Use of AI

In the world of education, AI has received substantial attention for its potential to transform teaching methods and improve learning outcomes. It is through employment of AI that those educators have been able to make personalized, adaptive learning experiences that are tailored to individual students' peculiarities and preferences.

One leading use of AI in pedagogy is the creation of intelligent tutoring systems (ITS). These platforms involve cutting-edge AI algorithms used for analyzing student performance data and offering personalized feedback and assistance (VanLehn, 2011). Instead, it can be ascertained by ITS systems which areas are problematic for students based on their response patterns or progress. The approach allows teachers to intervene in a case where they may be experiencing difficulties with particular topics or require additional materials. Through such means, learners become more engaged with what they do besides showing an understanding beyond classroom lessons in form of personal guidance particularized according to their needs.

Another way of using AI in pedagogy is by bringing together AI-powered platforms and instruments. These platforms are made interactive and stimulating through the addition of virtual simulations, gamification features, as well as adaptive content (Kaufmann & Schneider, 2018). For instance, AI-powered systems can be used to develop interactive queries, virtual experiments or simulations that allow students to apply their knowledge in real-life situations. This kind of experiential learning ensures active participation by students thus facilitating higher-order thinking abilities.

In addition, AI can help teachers monitor and assess student progress more effectively. By analyzing huge datasets such as student work samples or assessments with

AI algorithms, educators can obtain useful insights and patterns that inform their instructional decisions (Baker & Inventado, 2014). This approach makes educators data-driven so that they become more informed about what should be improved upon along with focused interventions for supporting student learning, thus, leading to better educational remedies which are more effective and accurate at the same time.

Pedagogical utilization of AI in general has a great potential to revolutionize the conventional ways of teaching and learning. By incorporating AI technologies into pedagogical relationship, educators can build dynamic and engaging learning environments that optimize student performance levels. This form of AI in education is personalized; adaptive and data-driven thus empowering the students to thrive as well as enabling the teachers offer them specific assistance thereby promoting an effective inclusive educational experience (Kaban & Stachowicz-Stanusch, 2023).

1.3 The use of AI in Assessment

AI is driving significant changes in the educational landscape. AI can offer innovative methods of measuring student learning outcomes, which are different from the traditional assessment methods that rely on standardized tests and teacher evaluations. In this regard, this paper discusses the potential uses of AI in assessment as well as issues to consider when implementing it.

AI has enormous possibilities for changing the way assessments are done through personalized, automated, and real-time information about student learning. The following are some key instances.

Personalized Assessments: Using AI systems, adaptive assessments may be created to alter questions according to each individual student's needs and learning

style (Baker, 2016). These can also include tailoring difficulty levels based on student performances and giving instant feedbacks that are highly personalized (Liu, 2014). Through such adaptable assessments a more accurate picture of student understanding and progress could be obtained than with traditional one-size-fits-all approaches (Baker, 2016).

Automated Scoring and Feedback: AI algorithms can be applied to score different forms of evaluation such as multiple-choice questions, short answer responses and essays themselves (Dey *et al.*, 2019). This not only saves educators valuable time but also enables immediate feedback for students, allowing them to identify their strengths and weaknesses promptly and adjust their learning strategies accordingly (Dey *et al.*, 2019).

Real-time Performance Analysis: AI is utilized to analyze student performance data in real-time that gives the teacher immediate insight into student understanding and areas where there might be difficulty (Baker, 2010). Early intervention is made possible through this system which help students who have difficulties in particular concepts hence preventing knowledge gaps from continuing to widen (Baker, 2010).

Automated Essay Scoring: AI-powered systems are increasingly becoming better at analyzing and scoring essays (Zhang *et al.*, 2019). These systems, still under development, will examine writing mechanics, grammar, or even content quality giving students useful feedback while potentially decreasing educator's workload on manual essay grading (Zhang *et al.*, 2019).

AI-powered Simulations and Assessments: AI offers interactive simulations and assessments that act like real-world scenarios (Shute, 2015). Thus, students learn in dynamic environments where their skills are integrated and tested holistically, rather than assessed using traditional methods of memorization rote learning and fragmented skill testing (Shute, 2015).

1.4 Use of AI in Language Teaching and Learning

By incorporating AI in language teaching and learning, the opportunity for improving the acquisition and proficiency of language can be explored thoroughly. Through applying AI to these systems, it would be possible to offer customized instructions and feedback to second language learners (Graesser, 2019). AI-enabled tutoring systems may then look at students' speech, pronunciation as well as their comprehension of texts so that they can give recommendations on practice activities that will help them overcome their challenges. By so doing, it will help those individuals become more confident and fluent in using foreign languages.

AI is being integrated into modern technologies used by people daily to improve language proficiency globally. With advanced AI algorithms that have been employed in such programs, individualized feedback becomes possible thus making these systems' performance intelligent (Graesser 2019). Consequently, it means that following an analysis of what a student has said or read aloud or even listened to while undertaking various exercises or tasks in a laboratory environment, there are recommendations made about how each single learner might improve his/her L2 speaking ability through additional readings or practices. It supports every student's own path towards fluency and confidence development.

The application of AI in teaching foreign languages has provided new opportunities for improving language learning outcomes. Technology employing AI provides innovative resources like platforms thus helping learners on their way from elementary stages towards mastery.

Intelligent tutoring systems have been developed as a remarkable example of employing AI technologies for language teaching purposes. These are computer

applications based on AI algorithms that render individualized advice and support concerning the improvement of a person's command of a foreign dialect (Graesser 2019). For instance, by analyzing the output given by students when they utter some words but do not write them down or answer questions after listening to dialogues recorded within certain educational programs; teachers often offer recommendations on how pupils may enhance their L2 speaking competence via more texts containing audio samples or other tasks for them to accomplish. It is their own way to reach fluency and self-assuredness.

Moreover, language learners have witnessed the rise of AI-driven language learning applications and chatbots. These apps employ natural language processing and machine learning to offer interactive language practice and conversational practice (Liu & Koedinger, 2017). For instance, students can engage in authentic conversations, receive quick feedback on their pronunciation and grammar, or even access tailor-made study materials. The learner engagement aspect improves upon these AI-embedded applications in terms of well-practiced opportunities as well as faster fluency in speech.

Furthermore, AI technologies make it possible to develop intelligent language assessment tools. Such tools can assess proficiency automatically by analyzing spoken, written and listening skills (Chapelle & Voss, 2016). Objective and immediate responses are available for individuals studying with help from AI assessment systems which assist them in monitoring their levels of achievements as well as finding areas that need improvement. Automated evaluations save time for both the tutor and student because they permit more frequent and efficient assessments for use in directing instruction.

Nevertheless, it is crucial to reckon the weaknesses of AI in language teaching and learning. Yet AI technology might find challenges in understanding the subtleties of

languages, cultural contexts, and idiomatic expressions (Graesser, 2019). Additionally, ethical concerns about data privacy and potential bias in AI algorithms need to be carefully addressed for fairness and inclusiveness.

To conclude, there are great potentials when using AI technology in language teaching and learning where personalized feedback is made possible as well as interactive practice done and automated assessment. Educators who embrace these technologies can create immersive experiences that make language learning lively for learners' specific needs thereby enhancing language development and cultural awareness among them.

1.5 Challenges and Considerations in Utilizing AI for Education

For all the exciting possibilities that AI presents to education, there are challenges and issues to address when it comes to its inclusion in classrooms and learning spaces. Recognizing these potential downfalls and navigating them proactively is essential for ensuring AI implementation. However, there are still some concerns about AI-assisted assessment that must be taken into account before adopting it.

One significant challenge is bias and fairness. The training data, which is a set of curated information used to teach an AI model specific tasks or accurate predictions, can entrench biases, leading to unfair assessments. To mitigate this, the selection of training data must be carefully managed to develop nonbiased AI assessments. This involves monitoring for potential bias in AI-based assessments and implementing strategies to reduce it (Eichhorn et al., 2019). Additionally, continuous monitoring, as an ongoing observation and assessment of an AI system's performance post-deployment includes regular evaluation of outputs, identification of errors or biases, and necessary adjustments to maintain accuracy and fairness (Liu et al., 2020). AI systems learning from biased data can enhance existing inequalities, disadvantaging some groups of students. For instance, prejudiced algorithms

may wrongly assess student performance based on irrelevant factors, leading to improper assessments or unfair educational outcomes. This challenge can be addressed through careful selection of training data, continuous monitoring for biases, and implementing mitigation measures to ensure educational equity and inclusiveness (Eichhorn et al., 2019).

Another concern is data privacy and security. The use of student information for AI-based evaluations raises privacy concerns. Responsible data gathering, storage, and usage guidelines must be established, adhering to stringent ethical considerations and relevant regulations (Eichhorn *et al.*, 2019). The use of student data in AI-supported educational tools raises genuine fears about privacy and the security of information. To conform to relevant regulations and ethical guidelines, educators and institutions must prioritize responsible data collection, storage, and use. This involves obtaining informed consent from students and their families, setting up robust security measures to protect sensitive information, and clearly communicating how data is used. Building trust and maintaining open communication with all stakeholders are crucial to alleviate these fears and encourage responsible data practices within AI-driven education (Eichhorn *et al.*, 2019).

Overreliance on automation is also a critical issue. AI should not replace the human element in appraisals. Educators should critically evaluate feedback generated by AI and incorporate their professional judgments to develop comprehensive assessments that consider a range of aspects of student learning beyond AI's capabilities (Eichhorn *et al.*, 2019). Moreover, the limited scope of AI in evaluating all areas of learning, such as critical thinking, creativity, and socio-emotional skills, is a concern. A combination of AI-based assessment methods with teacher observations, project-based assignments, and self-evaluation strategies will facilitate a more holistic appraisal system for students' learning (Eichhorn *et al.*, 2019).

2. Apology speech act

Introduction

This chapter focuses on the theoretical background of the study, specifically addressing the apology speech act. It provides conceptualizations of the main variables and offers the necessary theoretical background to understand the interaction between these variables. The section dedicated to the apology speech act explores pragmatic competence, apology as a concept, its relationship with the theory of speech acts and politeness, and the various strategies employed in apologizing. By examining these aspects, this chapter aims to provide a comprehensive understanding of the apology speech act and its significance within the broader context of communication and language studies.

2.1 Pragmatic Competence and Apologies

Pragmatic competence is the ability to use language effectively in social situations by understanding what words mean beyond their basic definitions (LoCastro, 2012). It is important for people to have this skill because it helps them communicate well with others. This is especially true when making apologies where one needs to consider factors like setting, status between individuals involved in the interaction and cultural expectations. One must be able to know when an apology should be given and how it should be framed so that it conforms with what society expects from such statements (Cohen, 1996).

Apologies are acts of communication that are done within a specific cultural and social context hence needing certain levels of pragmatic knowledge. Pragmatic competence equips an individual with necessary tools required for using appropriate language etiquette while expressing genuine regret or seeking pardon (Blum-Kulka & Olshtain, 1984). In case someone does not possess these skills, their apologies may fail to serve the intended purpose

thus leading to misunderstanding or even aggravating conflicts instead of resolving them.

An example of this is that Bataineh and Bataineh (2008) discovered in their investigation that American and Jordanian respondents had different views about how serious specific crimes were as well as what kind of apology strategies should be used for them. Thus, pointing out the importance of pragmatic competency in detecting cultural disparities and adjusting apologies to fit addressee expectations.

In a nutshell, one must possess sufficient knowledge in pragmatics if he or she wishes to succeed in performing speech acts concerned with making amends. This would involve being able to read social signals accurately while also understanding the context within which an offence was committed; realizing when an apology is required; knowing which tactics may work best depending on the target audience or situation; speaking words that show genuine remorse, express a desire for forgiveness/reconciliation, etcetera.

2.2 Apology Speech Act

Apologies, as an expressive speech act, reflect the speaker's attitude or emotion towards a statement. According to Leech (1983), apologizing is a convivial speech act aimed at maintaining harmony between the speaker and the listener. Apologies are common in everyday conversations as they help in acknowledging and compensating for offenses, thus restoring social harmony (Searle, 1969 ; Olshtain & Cohen, 1983). They are necessary when a person's actions or words offend another, requiring the offender to take responsibility and make amends. Apologies can stem from feelings of empathy, shame, guilt, or the desire to avoid negative consequences. They are expected to address various grievances, from physical harm to violations of rights or freedoms.

Goffman (1971) further categorizes apologies into those serving a disarming function,

aimed at softening potential conflicts, and those with a remedial purpose, focused on restoring balance after an offense. Remedial apologies are retrospective, involve self-demeaning elements from the speaker, and aim to support the offended party. Overall, apologies play a crucial role in social interactions by acknowledging offenses, expressing remorse, and working towards reconciliation.

2.3 Speech Act Theory and Apologies

Speech Act Theory, which was primarily developed by the philosophers J.L. Austin (1962) and J.R. Searle (1969), creates a system for understanding the usage of language as

actions. In its most basic form, this theory categorizes speech acts into three parts: locutionary act (the utterance's literal meaning), illocutionary act (intended communicative force or purpose) and perlocutionary act (actual effect achieved on listener).

Apologies have always had an important place within these illocutionary acts. Apology is mainly a type of speech act where the speaker admits wrongdoing and seeks for forgiveness or reconciliation with others (Olshtain & Cohen, 1983). Thus, through saying "I'm sorry" or "Please forgive me," one does not just speak words but also performs an apologizing that is designed to rectify offence committed and reinstate good terms between two people.

Yet, the truth is that apologies usually mix different kinds of speech. Besides apologizing as a core illocutionary act, there may be other speech acts such as:

- Expressions of regret (e.g., "I feel terrible about what happened.")
- Explanations or accounts (e.g., "I was running late because of traffic.")
- Offers of repair (e.g., "Let me make it up to you.")
- Promises of forbearance (e.g., "It won't happen again.")

These additional speech acts help strengthen an apology; they give more information about the situation or show how determined someone is to make up (Blum-Kulka & Olshtain, 1984).

When we put our understanding on apologies in terms of Speech Act Theory, it gives us deeper insights into their pragmatic functions and various language strategies used towards achieving communication aims. Such a theoretical base also shows that context matters most when interpreting apologies correctly with others who share common knowledge and expectations.

2.4 Apology and Politeness

According to Brown and Levinson (1987), apologies, within the framework of Politeness Theory, constitute acts of negative politeness aimed at positively influencing the hearer by signaling respect for their independence and free will. Apologizing serves as a face-saving act for the hearer (H) while simultaneously posing a face-threatening act for the speaker (S) (Brown & Levinson, 1987). This recognition of apologizing as an effort to maintain the hearer's face, thus constituting an inherent face-saving act for H, has been corroborated by other researchers as well, such as Blum-Kulka, House, and Kasper (1989).

Holmes (1995) further characterizes remedial apologies as instances of negative politeness, emphasizing their redressive purpose. However, she extends the notion of face benefit to both the hearer and the speaker, suggesting that apologies serve as face-supporting acts for both parties, leading to mutual benefit. Holmes (1995) notes that despite apologies being employed when the hearer's face is threatened, and thus classified as negative politeness strategies (Brown & Levinson, 1987), certain elements within the execution of apologies may also cater to the speaker's positive face needs.

2.5 The Structure and Cultural Variations of Apology Speech Acts

To express remorse, people tend to use the same pattern of words that they use for any other speech act. However, every society and situation has its own set of elements in this pattern which can be most influential or least important compared with others. A structure for apology was suggested by Cohen and Olshtain (1981) who gave five possible components:

- An expression of regret (e.g., "I'm sorry")
- An explanation or account of the situation (e.g., "I was stuck in traffic")

- An acknowledgment of responsibility (e.g., "It was my fault")
- An offer of repair (e.g., "I'll make it up to you")
- A promise of forbearance (e.g., "It won't happen again")

Not all apologies have each part described in this model but it is helpful because it shows how different speakers convey their apologies efficiently through various methods. However, it is very important to understand that the design and implementation of apology speech acts are influenced by cultural norms as well as expectations. Such components could be prioritized differently in various cultures or may use different linguistic and pragmatic approaches (Blum-Kulka et al., 1989).

In collectivist cultures for example, where maintaining group harmony is regarded highly while saving face is crucial, indicating regret and offering to mend things may take precedence over admitting guilt explicitly because the latter might seem too straightforward or threatening (Nakano, 2011). On the other hand, when an individualistic culture expects somebody to take responsibility for their actions it shows that they are being truthful.

Moreover, courtesy strategies like indirectness used in politeness or hedging and intensifiers can greatly differ among societies (Brown & Levinson, 1987). To illustrate this point further; some societies could require a less direct or elaborate apology for more serious offenses whereas others may prefer directness with brevity.

When we know the parts of an apology and how they are affected by different societies, it helps us see the connection between words and rules that make up language use. This understanding becomes particularly important because any person who has contact with other cultures needs to be able to communicate across them successfully;

teachers also need such knowledge if they want their students' communicative competence in a new language area fostered.

2.6 Apologizing Strategies

Apologizing is a complex act involving numerous strategies, as discussed by Cohen & Olshtain (1981), Trosborg (1995), and Ajmer (1996). According to Cohen & Olshtain (1981), five key strategies are employed in making an apology;

- First, an apology is conveyed directly using words such as sorry or apologize, which can be intensified with degree modifiers to convey the level of regret (Mendez-Naya, 2008), as illustrated by phrases like "I'm truly sorry."
- Second, acknowledgment of responsibility ranges from complete acceptance of fault ("It's entirely my fault") to various levels of denial or blame shifting.
- Third, providing an explanation offers indirect apology by explaining the context of the offense.
- Fourth, offering restitution involves proposing actions or compensation to address the harm caused.
- Finally, a commitment to prevent future offenses is made through a promise of non-repetition.

Trosborg (1995) further elaborates on these strategies, presenting a classification of seven apology strategies:

- minimizing offense severity,
- acknowledging responsibility,
- providing explanations,
- expressing concern for the offended party,

- promising forbearance,
- offering repair,
- and refusing responsibility, including explicit and implicit denial, justification, blaming others, or attacking the complainer.

Ajmer (1996) provides an extensive classification, outlining thirteen strategies including explicit apology, offering an apology, acknowledging an apology debt, expressing regret, demanding forgiveness, explicitly requesting forgiveness, giving an explanation, self-deprecation or self-reproach, minimizing responsibility, expressing emotion, acknowledging fault, promising forbearance, and offering redress. This detailed taxonomy enriches our understanding of diverse apology approaches, including self-deprecation, regret expression, emotional expression, and acknowledgment of owed apologies.

3. AI and the Assessment of Pragmatic Competence

In recent years, there has been a growing focus on the impact of AI in education, particularly in the area of language learning and assessment (Lee, 2022). Several studies have been conducted to explore the potential benefits of AI in education and assessment (González-Calatayud et al., 2021). Natural Language Processing (NLP) and machine learning developments have created opportunities to evaluate and understand speech acts such as apologies. AI has been increasingly utilized for the assessment of students' pragmatic competence (González-Calatayud et al., 2021).

In this area, one of the difficulties is getting AI systems to recognize different meanings that are brought about by slight changes in words used or context given within a

sentence (Khanpour et al., 2016). Machine learning can teach algorithms what patterns or features to look out for when differentiating an apology from other types of statements as well as classifying its parts (Khanpour et al., 2016). There have been some positive outcomes recently achieved in deep learning coupled with natural language understanding. Contextual information is captured by transformer-based language models like BERT thereby enabling them take account of contextual information thereby making them potentially useful tools for analyzing speech acts with regards to their pragmatics (Devlin et al., 2019).

Practical applications of AI in the assessment of Pragmatic Competence include automated scoring systems for language proficiency tests, chatbots for providing real-time feedback on language use, and virtual reality simulations for practicing and evaluating communicative skills. These AI-powered applications have shown promising results in providing objective and efficient grading, personalized feedback, and opportunities for authentic language practice (Dong, 2023). Additionally, AI systems can analyze large amounts of data to provide insights into students' pragmatic competence, identifying areas for improvement and tailoring instruction to individual needs.

However, it is important to consider the limitations and ethical considerations of using AI in the assessment of pragmatic competence (González-Calatayud et al., 2021). For example, AI systems may not fully capture the complexity and subtlety of human communication, leading to potential inaccuracies in assessments (Dong, 2023). Furthermore, there is a concern about the potential for bias in AI algorithms and the need for ongoing efforts to address and mitigate these biases (González-Calatayud et al., 2021).

Furthermore, the integration of AI systems in education should not replace human instructors, but rather be used as a complement to their feedback and guidance.

One of the main functionalities of AI in assessment is automatic grading of students (Gao et al., 2023). Numerous studies have analyzed the use of AI for automatic grading and compared it to traditional grading methods (Lee, 2022). These studies have reported significant improvements in the accuracy and efficiency of grading, indicating that AI-powered assessment tools have the potential to enhance the assessment of students' pragmatic competence (Gao et al., 2023). However, it is important to note that the use of AI in assessment also presents challenges (González-Calatayud et al., 2021). One significant challenge is the potential for AI to reinforce biases in feedback and assessment (Gao et al., 2023).

Chapter Two: The Field Study

Introduction

This study aims to examine the assessment of AI chatbots on the pragmatic competence of EFL learners in performing the apology speech act. The previous chapter reviewed the theoretical backgrounds and related research on AI and its relationship to language learning, as well as the apology speech act. Chapter two is devoted to the practical component of the research, detailing the methods and procedures employed. The chapter is divided into three main sections. Section one outlines the overall research design, describing the specific methodology, setting, participants, materials, instruments, and procedures utilized in the study. Section two focuses on the statistical analysis of the data collected and a discussion of the results. Finally, section three suggests pedagogical implications based on the findings, acknowledges limitations of the current study, and recommends directions for future research on this topic.

1. Research Methodology and Design

1.1 The Descriptive Method

To investigate the assessment of AI chatbots on the assessment of EFL learners in performing apology speech act, the descriptive method is used. This descriptive approach allows for an accurate and detailed examination of the phenomena under investigation. The findings of this descriptive study serve as the foundation for understanding how AI chatbots may assess and impact EFL learners' pragmatic competence, specifically related to the apology speech act. Moreover, it provides insight into the potential capabilities and limitations of utilizing AI chatbots for such assessment purposes within language learning contexts. Furthermore, it can allow to study the extent to which this tool can be valid and reliable as an assessment method.

1.2 The Setting and Participants

This study was conducted at Mohamed BOUDIAF University during the academic year 2023/2024. Third-year students from the department of English language and letters were conveniently selected to pilot and test the usability of the developed ChatBot “ActSpeak”. This sample of 30 students were chosen as third-year students are likely to have an advanced understanding of the apology speech act due to their extended exposure to English language learning and pragmatic instruction throughout their coursework. To further ensure diversity, the sample included an equal number of male and female students from different academic performance levels (high, medium, and low), capturing a comprehensive range of proficiency in the apology speech act.

Teachers sample included a total of 22 teachers. A number of 7 teachers from the department of English language and letters participated as experts in the validation stage of the study. In addition to the sample of 15 teachers who participated in the grounding phase of the study.

1.3 Research Tools

Given the stages of the investigation, the researchers used a number of tools. The main tool in this study is the developed “ChatBot” called by the developer “ActSpeak”. The latter, developed by the researcher Mohamed DJERIDA, evaluates and assesses the apology speech act of EFL learners. Furthermore, a Discourse Completion Test (DCT) of the apology speech act was used to validate “ActSpeak”. A total of three questionnaires were used with the EFL teachers and students. A questionnaire was administered to the 15 teachers participating in the grounding phase and another questionnaire was dedicated to the validation of the assessment tools. The third questionnaire was dedicated to the students who participated in the testing of the assessment tool.

1.3.1 ActSpeak

The main research tool that was developed exclusively for the objectives of this study is a custom AI chatbot based on the ChatGPT language model. This chatbot was specifically designed for assessing and improving EFL learners' pragmatic competence in the apology speech act. Its main purpose is to generate realistic scenarios requiring apologies, collect learners' responses, and evaluate these responses based on defined criteria. By focusing specifically on apology speech acts within simulated contexts and offering targeted feedback, ActSpeak aims to help EFL learners refine their pragmatic competence and achieve native-like proficiency in this crucial aspect of language use.

1.3.1.1 Development of ActSpeak

The objective of this study is to design a model with custom instructions in order to generate realistic scenarios, evaluate responses, and provide detailed feedback. Subsequently, training data was collected from diverse sources, with a particular focus on apologies and related expressions to ensure the model's comprehensive understanding of language usage and effective apologies.

The development of ActSpeak involved customizing ChatGPT by providing specific instructions tailored towards apology assessment. It was programmed to generate five distinct everyday situations spanning different social contexts where an apology would be appropriate. These scenarios are presented sequentially, allowing learners to provide responses one at a time without immediate feedback.

The model underwent supervised learning and fine-tuning using the GPT-4 architecture by reinforcement learning from human feedback (RLHF), thereby refining its evaluative and generative capabilities. Finally, customization included incorporating

specific instructions and defining five evaluation criteria: sincerity, acknowledgment of mistake, expressiveness of regret, clarity of apology, and promise of change.

1.3.1.2 ActSpeak Operations

This tool, operating through a systematic process, generates five distinct apology scenarios each carefully crafted to evoke different aspects of apology speech acts. These scenarios are then presented sequentially to learners, allowing them to focus on one scenario at a time. As learners provide their responses, the latest are collected without immediate feedback, ensuring an independent engagement with each scenario. The evaluation process involves assessing each response based on the five established criteria, assigning scores ranging from 1 to 5 for each criterion. An overall score for each apology is then calculated based on these individual criteria scores. After all responses are collected and evaluated, the GPT provides detailed feedback on each apology, highlighting the strengths and areas for improvement to guide learners in refining their speech acts.

ActSpeak evaluates each apology response based on five key criteria: sincerity, acknowledgment of mistake, expressiveness of regret, clarity of apology, and promise of change. Responses are scored on a 1-5 scale for each criterion, with 5 being native-like and 1 being non-native-like. An overall score and detailed feedback explaining strengths and areas for improvement are provided.

1.3.1.3 Applications of ActSpeak

The development of ActSpeak, a GPT-based assessment tool for EFL learners, entailed a complex yet immersive process that aimed at enhancing the learners' proficiency in their everyday situations' apology speech acts. Initially, this project was anchored on a clear objective, which is to develop a GPT-based tool for assessing and improving learners' ability to perform apologies in everyday interactions.

The benefits of ActSpeak for EFL learners are diverse, addressing both practical application and skill development. The tool offers targeted practice through real-life scenarios that reflect everyday situations, allowing the learners to improve their apology skills in realistic context. Furthermore, an objective evaluation is ensured through the use of specific, consistent criteria, providing clear benchmarks for learners to gauge their performance accurately. The comprehensive and detailed feedback delivers actionable insights into their strengths and weaknesses, enabling the learners to make targeted and specific improvements. Ultimately, this focused practice and feedback contribute to enhance communication skills, helping EFL learners to develop a more native-like proficiency and significantly improving their overall language proficiency.

1.3.1.4 Validity and Reliability of ActSpeak

The validity and reliability are inevitable step in the development of a test. ActSpeak reliability and validity were examined in the third stage of the study. First, reliability was examined using one technique which is the Guttman split-half technique. At this point, it is important to highlight the fact that ActSpeak reliability through test-retest technique was not possible due to the variable of maturation of the respondents who showed improvement in their apology speech acts and learning given the interactive nature of the assessment process. It was noticed that after the first interaction with AI the respondent shows significant improvement in their apology performance. This led to a change of their scores in the second testing.

The validity of “ActSpeak” was tested using the face and content validity through validation questionnaires for both experts and respondents. Another used method is the criterion-related validity, specifically concurrent validity through comparing the results of ActSpeak to the DCTs validated test.

1.3.2 The Discourse Completion Test (DCT)

DCT is known to be the most commonly used data collection tool in the field of Pragmatics, especially the study of speech behavior by native or non-native speakers. It is used in various situations such as cross-cultural, cross-cultural or multi-cultural communication and interlingual pragmatics. DCT is characterized by its ability to create hypothetical natural language situations and place respondents in them to evoke specific speech acts (Aydin, 2013). This may actually be due to the fact that DCT is easy to administer and large amounts of data can be generated in a short time (Bardovi-Harlig & Hartford).

In this study, the DCT originally used was adapted by Aydin (2013) and used by Beckwith and Deweale (2008). The DCT includes eight hypothetical situations; each situation involves an offense on the part of the speaker that warrants an apology. These scenarios include differences in strength, distance and level, as well as severity of crime.

According to Aydin (2013), most of the changes he implemented aimed to enhance the comprehension of the scenarios by making them more realistic. For example, in scenarios three and five, he specified the degree of lateness of the speaker to prompt apologies. Additionally, in scenario six, he modified the original DCT by Beckwith & Deweale (2008) from "Imagine you drove a car into someone else's car in the parking lot. What do you say to the owner of the car?" to "Imagine you were in a bus and you bumped into another passenger and broke his computer. What would you say to the passenger?" These adjustments were designed to make the situations more relatable and understandable for the participants, aligning them with real-life contexts they might encounter.

1.3.3 Teachers Perceptions about AI based Assessment Questionnaire

The questionnaire aimed to explore teachers' perceptions and practices regarding the use of AI in EFL assessment. It was administered to six universities EFL teachers, the questionnaire consisted of 19 items covering multiple sections, including demographic information, general perception of AI, current practices, specific focus on communicative competence and speech acts, training and support, and future perspectives.

The questionnaire, administered to six universities' EFL teachers, aimed to comprehensively explore their perceptions and practices regarding the utilization of AI in EFL assessment. It consisted of 19 items divided into distinct sections. Item 1, part of the first section focusing on demographic information, was designed to gather essential background data such as age, gender, teaching experience in EFL (years), and the highest level of EFL teaching qualification. Items 2 and 3, belonging to the second section, were crafted to gauge participants' familiarity with AI-based assessment tools, their perceived reliability compared to traditional methods, and an open-ended question regarding the accuracy of AI in assessing language proficiency.

Following this, the subsequent section, centered on current practices and integration of AI in EFL teaching, delved into item 4 through item 8, exploring the use frequency, aspects of language skills assessed, and participants' experiences regarding the advantages and disadvantages of AI in EFL assessment. Moving forward, items 9 through 12 (open-ended) in a specific focus section honed in on assessing communicative competence and speech acts, examining the importance, effectiveness, and challenges associated with using AI for this purpose. Additionally, items 13 through 15, part of a section dedicated to training and support in AI for EFL assessment, delved into participants' received training or professional development and their opinions on the need for more support in this

domain. Future perspectives on AI in EFL assessment were explored through items 16 and 17, regarding the evolution of AI and desired improvements in assessment tools. Finally, item 18 was an open-ended question provided participants with an opportunity in closing remarks to share additional comments or suggestions regarding AI in EFL assessment, concluding the questionnaire.

1.3.4 Students' Validation Questionnaire

This questionnaire (See Appendix A) was administered to gather supplementary data on participants' perceptions, experiences, and feedback regarding the use of “ActSpeak” Chatbot. This questionnaire involves seven items aimed to investigate their perceived levels of difficulty of “ActSpeak” and the levels of clearness of instructions. Furthermore, items 3 and 4 were designed to examine the affective impact of the use of ActSpeak including levels of stress and enjoyment. Items 5, item 6 and item 7 were designed to examine the effectiveness of “ActSpeak” in assessing and improving students' performance of the apology speech act. The students were asked to explain how helpful was the use of the AI Chabot. The final item in the questionnaire was devoted to examine students attitudes towards the use of AI-based assessment tool compared to the traditional means.

1.3.5 Experts' Validation Questionnaire

Similarly, a questionnaire was designed for the teachers. This questionnaire served as a validation tool to examine expert validity including face and content validity of the test. Accordingly, the questions focus was on the validity of the AI-based assessment tool.

The Experts' validation questionnaire includes 9 items designed to collect teachers opinions, after using ActSpeak, about the validity of the questions (item1) of the test,

clearness of instructions (item2), the cultural appropriateness of the scenarios (item3), effectiveness of the use of ActSpeak to test speech acts (item 4). Furthermore, teachers were asked about the engagement of the developed Chatbot (item5).

The pedagogical implication of ActSpeak was the concern of item 6 which asks teachers about the effectiveness of the provided detailed scoring lists, and the effectiveness of ActSpeak as a teaching aid (item7). At this point, teachers were asked to explain how effective they found the developed automated assessment tool (item8). Teachers were asked to evaluate the use of ActSpeak as a data collections tool (item9). The final item was kept for further comments and suggestions (item10)

1.5 Procedures

This study was conducted into three phases. The first phase was a grounding phase in which the researchers considered EFL teachers perceptions about the use of AI in EFL assessment in general and in the area of focus of this study which is pragmatic competence and speech acts. The objective of this stage is to confirm the assumption that the use of AI-based assessment is significantly limited in the higher education context specifically in the field of assessing speech acts. For this stage, the teachers' perceptions about AI-based assessment questionnaire is used.

After developing the AI-based assessment tool in this study "ActSpeak", the second stage of the study was to experiment its use. Accordingly, the tool was administered to a number of 30 pilot students to test their apology speech act performance. The same sample set for DCT written test. This test is meant to be used to test the criterion validity of "ActSpeak". After that, the same student responded to the validation questionnaires. Moreover, "ActSpeak" was administered to the seven expert teachers to examine its face and content validity. The experts responded to the validation questionnaire.

The third stage was the analysis of the validity and reliability of “ActSpeak” using the selected measures of validity and reliability including Chronbach’s Alpha reliability, split half reliability, face and content validity and criterion-related validity, specifically concurrent validity through comparing the results of ActSpeak to the DCTs validated test.

2. Data Analysis and Interpretation

2.1 Analysis of the Teachers' Perceptions about AI- based Assessment Questionnaire

The demographic information collected from the first section of the questionnaire revealed, as indicated in table 1, that the majority of respondents were female (83.3%), with the remaining being male (16.7%).

Table 1

Teachers' Gender Distribution

Gender	Number of Teachers	%
Male	7	47
Female	8	53
Total	15	100%

In terms of their highest level of EFL teaching qualification, 53% held a Master's degree, while 47% held a Doctorate degree. The teaching experience varied among respondents, with experience levels ranging from 1 to more than 10 years. Table 2 displays the teaching qualifications and experience of the teachers.

Table 2

Teachers Teaching Qualifications and Years of Experience

Item	Category	Number of teachers	%
Teaching Qualification	Master /Magister	8	53
	Doctorate	7	47
Years of Experience	1 to 5	5	33
	6 to 10	7	47
	more than 10	3	20

From table 2 a percentage of 33% are new teachers with 1 to 5 years. 47% of the teachers are mid-career teachers, while only 20% are experienced teachers with a teaching experience of more than 10 years.

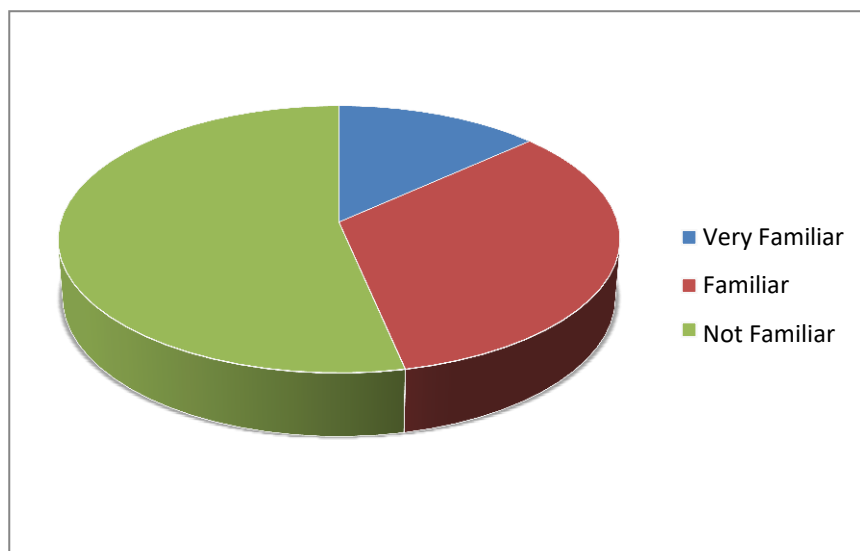
Regarding familiarity with AI-based assessment tools, table 3 displays the data obtained from this item.

Table 3:

Familiarity With AI-Based Assessment Tools

Familiarity With AI-Based Assessment Tools	Number of Teachers	%
Very Familiar	2	13,33
Familiar	5	33,33
Not Familiar	8	53,33
Total	15	100%

According to table 3 above, 33.33 % of the teachers reported being familiar with such tools, 13.33% were very familiar, and 53.33% were not familiar. This finding is graphically displayed in the following graph.



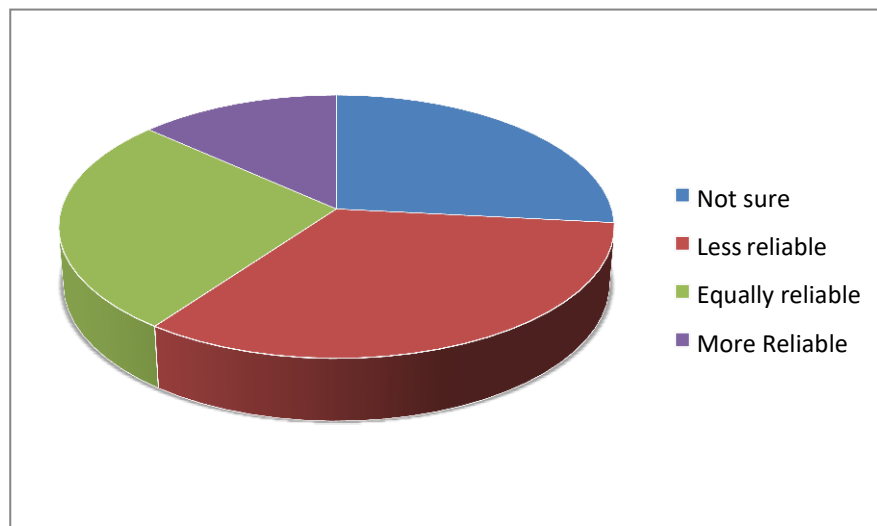
Graph 1: Familiarity with AI-Based Assessment Tools

When asked about the reliability of AI in EFL assessment compared to traditional methods, 33.3% perceived AI as less reliable, while 26,7% viewed it as equally reliable, 13,3% perceived AI to be more reliable than traditional methods. 4% were not sure if AI tools are reliable or not. Table 4 and graph 2 display clearly this finding.

Table 4

Perceived Reliability of AI in EFL Assessment Tools

Reliability of AI in EFL Assessment Tools	Number of Teachers	%
Not sure	4	26,7
Less reliable	5	33,3
Equally reliable	4	26,7
More Reliable	2	13,3
Total	15	100



Graph 2 : Perceived Reliability of AI in EFL Assessment

In response to whether AI can accurately assess EFL students' language proficiency, including communicative competence and speech acts, opinions were divided. Some teachers acknowledged AI's potential in assessing language proficiency, particularly in providing detailed feedback on grammar and vocabulary. However, they also highlighted AI's limitations in understanding nuanced contexts, cultural references, and interpersonal skills. One respondent emphasized that a combination of AI and human evaluation is ideal to address these shortcomings. Despite recognizing AI's potential.

The use of AI-based assessment tools in their EFL teaching practice varies among teachers. Only 33.3% of the respondents reported using, with the remaining 66.7% having never used such tools. Among those who used AI tools.

Table 5:

Usage of AI-Based Assessment Tools

Usage	Number of Teachers	Percentage%
Yes	5	33,3%
No	10	66,7%

Teachers who replied by yes were asked to specify their use, all teachers confirmed that they use Chatbots to generate, activities, tasks and exams questions. Thus, none of the teachers used the Chatbots as tools of assessment.

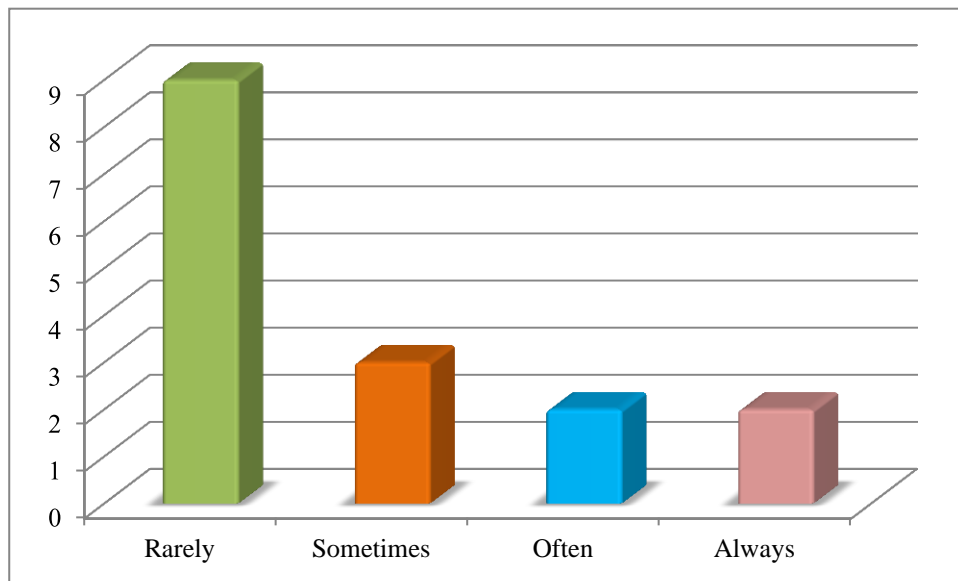
Furthermore, teachers were asked about the frequency of the use of AI tools for assessment purposes. Table 6 and graph 3 displays clearly the findings from this item.

Table 6 :

Frequency of Using AI Based Assessment Tools

Frequency	Number of Teachers	%
Rarely	9	60
Sometimes	3	20
Often	2	13,3
Always	2	13,3
Total	15	100%

From table 6, it seems that the majority (60%) of teachers rarely use AI based assessment in their practice. 20% indicated that that they use them sometimes, while 13,3% indicate a regular use. Graph 3 clearly displays this finding.



Graph 3 : Frequency of Using AI Based Assessment Tools

Regarding the question about the aspects of language skills assessed using AI, teachers highlighted that grammar (33,3%) and writing skills (33,3%) were equally emphasized.

In response to a question about the advantages of AI in EFL assessment teachers identified several advantages, such as: Automating repetitive tasks, providing consistent and efficient feedback, and reducing the burden of correction and evaluation.

When considering the effectiveness of AI tools to assess communicative competence and speech acts in EFL teaching, 66.7% of the respondents deemed it very important, while 33.3% found it somewhat important. However, none of the respondents had used AI tools specifically designed for assessing these competencies.

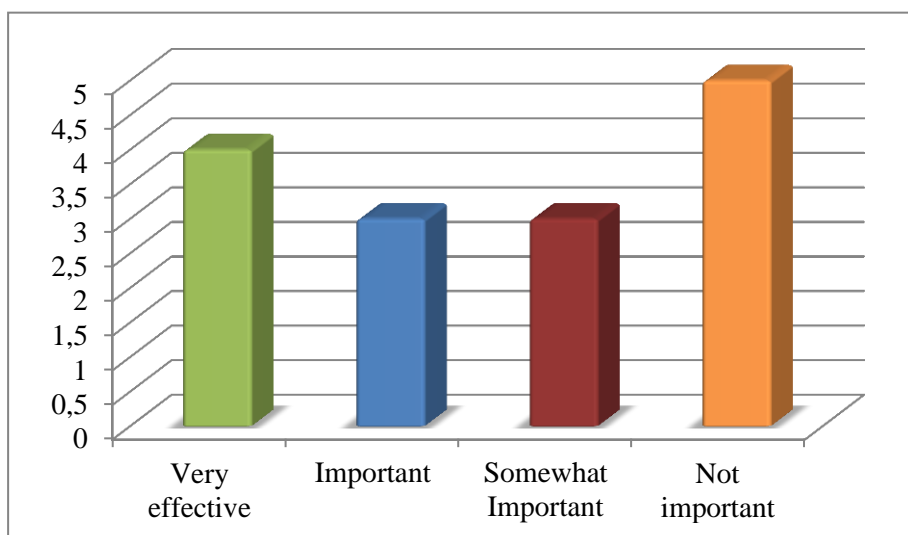
Those who had not used such tools expressed concerns about AI's importance in capturing students' communicative abilities. Teachers mentioned different perceptions about this fact as shown in the following table7.

Table 7:

Importance of Assessing Communicative Competence and Speech Acts in EFL Teaching

Effectiveness Level	Number of Teachers	%
Very effective	4	27%
effective	3	20%
Somewhat effective	3	20%
Not effective	5	33%
Total	15	100

From table 7 above, it is clearly that the majority think that the use of AI tools is somewhat and not effective (20%, 33%). While 27% think it is very effective. A percentage of 20% think it is important without emphasizing it. Graph 4 clearly displays this finding.



Graph 4 : Perceived effectiveness of AI tools use to assess communicative competence

Regarding training and support in AI for EFL assessment, the majority of respondents agreed that EFL teachers need more training and support to effectively integrate AI tools in their assessment practices. None of them believed in the opposite. This finding is displayed in table 9

support training	Number of Teachers	%
yes, absolutely	12	80
yes, somehow	3	20
No	0	0
Total	15	100

Then, respondents were asked if they received any training in this area. None of the participants indicated that he/she received any training since 100% confirmed that they did not receive any training or professional development related to using AI, while 66.7% had not.

Looking ahead, teachers envisioned a collaborative role for AI in EFL assessment, where AI complements human teachers by taking part in the assessment process. They

emphasized the need for AI tools to improve in contextual understanding, cultural sensitivity, and communication processes. However, respondents highlighted potential drawbacks including AI's limitations in understanding contexts and interpersonal dynamics of language use. Furthermore, teachers address aspects that require human judgment and contextual understanding

In conclusion, the overall results indicate a cautious yet open perspective among the teachers towards AI in EFL assessment. While familiarity with AI-based tools was moderate, the majority perceive AI as less reliable compared to traditional methods. Teachers acknowledge the potential advantages of AI, such as detailed feedback on language mechanics, but also highlight significant drawbacks. There is a good level of agreement on the importance of assessing communicative competence and speech acts, suggesting a potential area for AI tool development. The responses suggest a need for more training and support for teachers to effectively integrate AI in their assessment practices. Future perspectives and desired improvements in AI tools highlight the importance of enhancing AI's contextual and cultural understanding.

2.2 Act Speak Reliability and Validity Analysis

This section involved the analysis of the data obtained from tools designed to examine the validity and reliability of ActSpeak. Thus, the data are going to be presented under the categories of validity and reliability.

2.2.1 ActSpeak Validity

The first tool to assess ActSpeak validity was the teachers' validation questionnaire. Then the students' questionnaire was used to test both validity and effectiveness of the use of ActSpeak. Furthermore, concurrent validity was tested.

2.2.1.1 Experts Validity Questionnaire Data Analysis

The Expert teachers invited to participate in the validation of ActSpeak tested the tool through interacting with it and responding to the validation questionnaire. Data collected from this questionnaire is used confirm or reject the validity of ActSpeak.

The first item of the questionnaire about the validity of ActSpeak received overall census as 100% of the teachers agree that it tests apology speech act to a great extent. This finding confirms the high validity of ActSpeak. Clearness of instructions (item2) is also confirmed by all expert teachers (100% of agreement). Furthermore, the cultural appropriateness of ActSpeak was also examined by teachers (item3). Among the teachers 98% agreed on the fact that ActSpeak contents are culturally relevant. Only 2% of them think they are appropriate.

Teachers were asked to evaluate the effectiveness of the use of ActSpeak in testing apology speech acts (item4). Almost all teachers (89%) agreed on the fact that it is very effective in testing speech act. Among the teachers, 6% think it is effective and 5% believe it is moderately effective. Moreover, All the teachers (100%) agree on the fact that ActSpeak is very engaging (Item 5).

The teachers were asked to evaluate the scores and evaluation tables provided by ActSpeak at the end of the evaluation process (item6). The data collected from this item confirmed that the provided summary of evaluation is very effective (100% of agreement). Furthermore, all teachers agreed (100% of agreement) on the effectiveness of ActSpeak as a teaching aid (item 7).

One of the implications of ActSpeak is in research as a data collection tool for teachers interested in testing speech acts of apologies. Teachers were asked to evaluate this

implication. Interestingly, all teachers (100%) agree on its effectiveness as a data collection tool (item8).

Teachers were asked to explain why they find ActSpeak as an effective assessment tool. Answers to the 9th item are summarized in the following points;

The final item (item10) is kept for suggestions and recommendations. All teachers agreed on the importance of adding all speech acts to ActSpeak to assess them all. They also suggested promoting the conversational aspects of the assessment tool to make it more interactive.

To sum up, expert responses to the questionnaire confirmed the high level of validity of ActSpeak.

2.2.1.2 Students' Validity Questionnaire Data Analysis

Participants were first tested using the DCTs, then after a week they were tested using ActSpeak. They interacted with the ActSpeak open AI chatbot designed to assess apology speech act performance and then were subjected to the ICTs. After that they were invited to respond to the piloting questionnaire. The results are summarized in this section.

Students were first asked about the difficulty of ActSpeak tasks in the first item. The majority of students 88% confirmed that it is very easy, 10% confirmed that it was easy and only 2% think it is moderate. This finding confirms the relevance of ActSpeak to the levels of the intended audience and thus confirms one aspect of validity. Moreover, clearness of instructions as a major factor is the test validity and reliability are the main focus of the second item. A full consensus was marked at this item since 100% of the participants confirmed that ActSpeak instructions are very clear.

The affective dimension of the assessment process is investigated in items three and four. According to students' responses, 98% of them think that the test using ActSpeak is not stressful at all, only 1% think it is stressful. As for the enjoyment, 89% of the respondents confirmed that the test was very enjoyable, 10% confirmed that it was enjoyable and only 1% confirmed the opposite.

The finding from students' responses to item 6 confirmed that ActSpeak is very helpful in learning how to make apologies in English (97% or agreement). Students were asked about the benefits offered by ActSpeak while being assessed (item 5). Interestingly, students confirmed that interaction with ActSpeak was very fruitful since according to them it provided them with clarifications for difficult terms; it pointed to their mistakes and suggested solutions to improve the weak aspects. Some participants highlighted the fact that ActSpeak was asking them to take their time and uses cheer expressions to reduce anxiety or stress. Other students said that they benefited from a full explanation of effective apologies in English.

In the last item (item 7), students were asked to compare between the DCT and ActSpeak. Expectedly, all students think that ActSpeak is far better than the written DCT. The explanations provided by students include the following reasons;

- The interaction makes the testing process more stimulating and enjoyable, unlike the written DCT that is tiring and boring
- AI can provide instant feedback on responses, highlighting errors in grammar, coherence, or content
- AI can explain difficult vocabulary and provide synonyms
- AI can provide alternative scenarios if the scenarios are not clear

To conclude, the findings of students' validation questionnaire confirm the validity of ActSpeak as an assessment tool.

2.2.1.4 ActSpeak Validity Tests

Furthermore, the validity of ActSpeak was examined using experimental validity. The selected technique is the criterion related validity, specifically the concurrent validity through measuring the extent of correlation between students' scores in the apology speech act DCT, which is a highly valid test in studies related to EFL learners' speech acts, to the scores they received from ActSpeak. Table 8 represents the value of Pearson Correlation coefficient (r) used to measure concurrent validity.

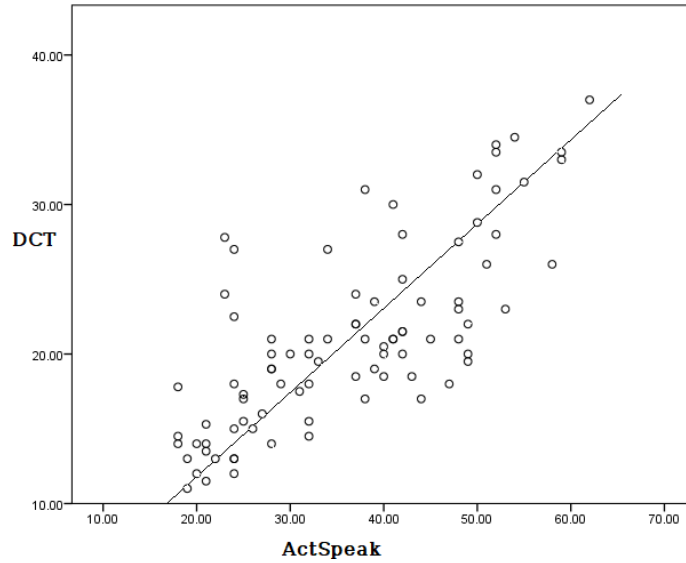
Table 8:
Concurrent Validity Analysis

		Apology DCT
ActSpeak	Pearson Correlation	.856**
Apology	Sig. (2-tailed)	.000
assessor	N	30

****.** Correlation is significant at the 0.01 level (2-tailed).

From table 8, the examination of the value of $r=0.85$, which is a statistically significant at the level of significance $p=0.01$, reveals a strong positive correlation between students' scores in the valid DCT and ActSpeak. This finding confirms the validity of ActSpeak since it generated scores that are strongly correlated to scores generated from a valid DCT.

Graph 5 below is a clear display of the existing correlation between ActSpeak evaluation and the DCT evaluation. The positive orientation of the scatter plot and the way the values are scattered around the imaginary line, being closer to form a line are a sign of a strong positive correlation.



Graph 5 : Concurrent Validity Analysis

2.2.2 Act Speak Reliability

The reliability of ActSpeak was measured using the Guttman split-half method of reliability analysis. The split half method implies the division of the test into two equal halves, one for odd numbered items and the other for even numbered items. The split half Guttman coefficient is, then, computed. Table 8 below displays the coefficients attained from the statistical analysis.

Table 9 :
The Guttman Split-half Coefficient value of the AIDQ

The scale	The half	Items	α	Guttman Split-half coefficient
ActSpeak	1	3	0.84	0.82
	2	2	0.82	0.80
Apologies assessor				

Apparently, the Apology speech act test reliability is an excellent reliability due to the high correlation between the scores of two halves of the test confirmed by the high values of Guttman Split-half coefficient (0,82, 0,80). So, the two measures of reliability

confirmed the high level of reliability of using the ActSpeak in measuring the EFL students' performance of the speech act of apology.

3. Pedagogical Implications of the study findings

The development and implementation of the "Actspeak" assessment tool have significant pedagogical implications for EFL learners and educators. "Actspeak" provides an innovative platform for learners to practice and receive feedback on their pragmatic competence, specifically in the use of apology speech acts. By leveraging AI technology, this tool offers immediate, personalized feedback, which can enhance learners' understanding and correct use of language in various social contexts. This real-time feedback is instrumental in helping learners identify and rectify their pragmatic errors, leading to more effective and efficient language acquisition. Additionally, the interactive nature of "Actspeak" can increase learner engagement and motivation, making the learning process more enjoyable and less intimidating, especially for those who might feel anxious about speaking in traditional classroom settings.

For educators, "Actspeak" serves as a valuable supplementary tool that can be integrated into classroom instruction and assessment practices. By automating the evaluation of learners' speech acts, this tool can significantly reduce the workload associated with grading and provide teachers with detailed insights into their students' pragmatic abilities. These insights can inform instructional strategies, allowing teachers to tailor their lessons to address specific areas where learners may struggle. Furthermore, the data generated by "Actspeak" can be used to track learners' progress over time, enabling a more targeted and personalized approach to language teaching. Overall, "Actspeak" has the potential to transform language education by providing a scalable, efficient, and engaging means of developing and assessing pragmatic competence in EFL learners.

4. Limitations

Despite the extensive efforts to ensure the robustness and comprehensiveness of this study, several limitations warrant acknowledgment. Firstly, the study's reliance on AI technology and its limited sample size present notable limitations. The use of an AI chatbot to evaluate the speech act of apology introduces constraints due to the current capabilities of the technology. While AI offers innovative ways to assess language use, it may not fully capture the complexities and nuances inherent in the human interactions. Additionally, variations in the chatbot's performance, resulting from updates and technological improvements, can also affect the consistency of the assessments. Furthermore, the limited sample size may restrict the generalizability of the findings. Despite careful participant selection, the sample may not adequately represent the broader population of EFL learners. Therefore, caution is advised when extrapolating these results to other contexts or larger populations.

5. Recommendations for Future Research

Future research should consider expanding beyond the speech act of apology to include other pragmatic speech acts such as requests, refusals, and compliments. This broader scope would provide a more comprehensive understanding of EFL learners' pragmatic competence and how it can be assessed using AI chatbots. Additionally, conducting longitudinal studies would be beneficial to examine how EFL learners' pragmatic competence develops over time. This approach can provide insights into the long-term effects of using AI chatbots for language assessment and how learners' abilities evolve with continuous interaction with such technology. To enhance the generalizability of the findings, future studies should aim to include larger and more diverse samples. Including participants from different educational institutions, cultural backgrounds, and

proficiency levels would provide a more comprehensive view of the effectiveness of AI chatbots in assessing pragmatic competence across various contexts.

General Conclusion

Conclusion

This dissertation has investigated the use of OpenAI chatbots for assessing the pragmatic competence of EFL learners, specifically focusing on the apology speech act. The study was driven by the need for reliable and valid assessment tools capable of evaluating the nuanced nature of pragmatic performance in language learning.

To achieve this objective, data were collected using an AI-based assessment tool called ActSpeak, designed to evaluate apology speech acts. The findings indicate that EFL teachers exhibited moderate perceptions towards AI-based assessment tools. Despite some skepticism, many teachers acknowledge the advantages of AI tools in delivering immediate, contextually relevant feedback, a feature that traditional methods often struggle to achieve.

ActSpeak demonstrated high validity and reliability in assessing apology speech acts, aligning closely with traditional assessment methods. Its ability to simulate real-life communicative scenarios and provide precise feedback confirmed its effectiveness. The successful validation of ActSpeak suggests that AI-based tools can significantly enhance the assessment process in EFL education, offering dynamic, interactive, and immediate feedback that improves the evaluation of communicative competence.

However, the effective implementation of AI-based assessment tools requires comprehensive teacher training. Educators need to be well-versed in the functionalities, benefits, and limitations of AI tools to integrate them seamlessly into their teaching practices. Additionally, educational policymakers should consider incorporating AI-based assessment tools into language education frameworks to standardize the assessment of pragmatic competence, ensuring a more holistic evaluation of language proficiency.

The study encountered limitations, including a small sample size and a focus on a single type of speech act. Future research should involve a larger and more diverse participant pool and explore additional speech acts and pragmatic competencies. Longitudinal studies could offer deeper insights

into the long-term effectiveness of AI-based assessment tools.

In conclusion, this dissertation has demonstrated the feasibility and effectiveness of using OpenAI chatbots for assessing the pragmatic competence of EFL learners, particularly in the context of apology speech acts. The findings advocate for further exploration and adoption of AI tools in language teaching, ultimately enhancing the communicative competence of EFL learners. This study represents a significant advancement in educational technology, opening new avenues for research and development in applied linguistics and second language acquisition.

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Appendices

Appendix A: Students' Validation Questionnaire

1. How difficult was the test provided by ActSpeak?

- very difficult
- moderate
- easy
- very easy

2. How clear are the instructions of ActSpeak

- Very clear
- clear
- Moderate
- Not clear at all

3. How stressed were you when you were using ActSpeak?

- Very stressed
- Not stressed at all

4. How enjoyable was the test of ActSpeak?

- Very enjoyable
- Enjoyable
- Boring
- Very boring

5. How helpful is ActSpeak in learning how to make apologies in English?

- Very helpful
- Helpful
- Moderately helpful
- Not helpful at all

6. If you say very helpful explain how helpful

.....
.....

7. Compared to the written test, which one do you like to be used in future assessments of your language skills?

Appendix B: Experts' Validation Questionnaire

1. To what extent does ActSpeak test apology speech act?

- To a great extent
- To some extent
- To a low extent
- It doesn't test it

2. To what extent are the instructions clear?

- To a great extent
- To some extent
- To a low extent
- Not clear at all

3. How culturally appropriate are the scenarios provided by ActSpeak?

- Very appropriate
- Appropriate
- Not appropriate

4. How effective is the use of ActSpeak to test apology speech acts of students?

- Very effective
- Effective
- Moderately effective
- Not effective at all

5. How engaging is ActSpeak?

- Very engaging
- Engaging
- Moderately engaging
- Not engaging at all

6. How effective is the provided summarized data set provided by ActSpeak?

- Very effective
- Effective
- Moderately effective
- Not effective at all

7. How helpful is ActSpeak as a teaching aid?

- Very helpful
- Helpful

- Moderately helpful
- Not helpful at all

8. How effective is ActSpeak as a data collection tool?

- Very effective
- Effective
- Moderately effective
- Not effective at all

9. If you find it very effective, can you explain how?.....

10. Add any comments or suggestions please

Appendix C: Teacher Perception and Practices in AI-Based Assessment

Dear teachers,

Thank you for participating in this questionnaire. Your feedback is valuable in understanding teachers' perceptions and practices regarding the use of AI in assessment.

Section 1: Demographic Information

1. Age: _____
2. Gender: _____
3. Teaching Experience in EFL (years): _____
4. Highest Level of EFL Teaching Qualification: _____

Section 2: General Perception of AI in EFL Assessment

- Please rate your familiarity with AI-based assessment tools:
 - Not familiar
 - Somewhat familiar
 - Very familiar

- How do you perceive the reliability of AI in EFL assessment compared to traditional methods?
 - Much less reliable
 - Less reliable
 - Equally reliable
 - More reliable
 - Much more reliable

- Do you think AI can accurately assess EFL students' language proficiency, including communicative competence and speech acts? Why or why not? (Open-ended)

Section 3: Current Practices and Integration of AI in EFL Teaching

- Have you used AI-based assessment tools in your EFL teaching practice?
 - Yes
 - No

- If yes, please answer the following: How frequently do you use AI-based assessment tools in your EFL teaching?
 - Rarely

- Occasionally
- Frequently
- Always

● What aspects of language skills do you currently assess using AI in your EFL teaching?
(Select all that apply)

- Speech acts
- Grammar
- Vocabulary
- Pronunciation
- Speaking fluency
- Writing skills
- Other: _____

● What are the advantages and disadvantages of using AI in EFL assessment from your experience? (Open-ended)

Section 4: Specific Focus: Assessing Communicative Competence and Speech Acts in EFL

● How important do you think it is to assess communicative competence and speech acts in EFL teaching?

- Not important
- Somewhat important
- Important
- Very important
- Extremely important

● Have you used AI tools specifically designed for assessing communicative competence and speech acts in EFL?

- Yes
- No

● If yes, please answer the following: How effective do you find these tools in capturing students' communicative abilities in EFL?

- Not effective
- Somewhat effective
- Effective

- Very effective
- Extremely effective

- What challenges do you face when using AI for assessing communicative competence and speech acts in EFL? (Open-ended)

Section 5: Training and Support in AI for EFL Assessment

- Have you received any training or professional development related to using AI in EFL assessment?

- Yes
- No

- Do you think EFL teachers need more training and support to effectively integrate AI tools in their assessment practices?

- Yes
- No

Section 6: Future Perspectives on AI in EFL Assessment

- How do you see the role of AI evolving in EFL assessment in the future? (Open-ended)
- What improvements or developments would you like to see in AI-based assessment tools for EFL? (Open-ended)

Section 7: Closing Remarks

Any additional comments or suggestions regarding AI in EFL assessment? (Open-ended)

Appendix D: The Apology speech act DCT

The Discourse Completion Task (DCT)

The current survey aims to investigate apology strategies in English as elicited by Algerian EFL learners. There are situations given below which possibly require apologies. Please read carefully to the situations and try to provide as closest respond as possible to your natural spoken respond to the situation. All responses will be kept anonymous.

Situation 1:

Imagine you are a university professor. You promised to return a student's essay today but you haven't finished reading it. The student showed up and asked for the essay. What would you say to the student?

Situation 2:

Imagine you are a student. You borrowed a book from one of your professors but you forgot to return it on time. You went to a meeting with the professor and the professor asked for the book. What would you say to the professor?

Situation 3:

Imagine you are the manager of a café. Today you have an interview with a student who wants to a job in the café. However you are half an hour late for the interview because of a meeting. The student is waiting for you in the café. What would you say to the student?

Situation 4 :

Imagine you are a waiter in an expensive restaurant. A costumer ordered beef but you brought chicken instead. The costumer mentions the mistake you made. What would you say to the costumer?

Situation 5:

Imagine you are a student who is often late. Today you are late for a meeting with a friend you are working on an essay with. Your friend has been waiting for you for two hours. What would you say to your friend?

Situation 6:

Imagine you were in a bus and you bumped into another passenger and broke his computer. What would you say to the passenger?

Situation 7:

Imagine you are working for a company. You offended a colleague during a meeting. After the meeting the colleague you offended made a comment about the incident to you by stating that he was offended by your comment. What would you say to your colleague?

.....
.....

Situation 8:

Imagine you are travelling on a bus. You put your bag in the rack, but it fell down and hit another passenger. What would you say to the passenger?

ملخص

تهدف هذه الدراسة إلى دراسة الاستخدام المحتمل لروبوتات شركة أوبن آيه آي المعتمدة على الذكاء الاصطناعي لتحقيق إجراءات التقييم. تشكل الكفاءة البراغمية، وتحديدًا الأفعال الكلامية، تحديًا كبيرًا لمعلمي اللغة الإنجليزية كلغة أجنبية، لذا تفحص هذه الدراسة استخدام روبوتات الدردشة بالذكاء الاصطناعي في تقييم أداء الأفعال الكلامية. من خلال المنهج الوصفي واستخدام ثلاث استبيانات، وأدوات التقييم التقليدية والمعتمدة على الذكاء الاصطناعي، صممت هذه الدراسة البحثية بهدف فحص موثوقية وصحة استخدام أداة التقييم المعتمدة على الذكاء الاصطناعي التي تم تطويرها في هذه الدراسة وأُطلق عليها "أكتسيك". كشفت نتائج الدراسة عن نقص في التصورات المتوسطة حول فعالية استخدام أدوات التقييم المعتمدة على الذكاء الاصطناعي واستخدام محدود لهذه الأدوات لأغراض التقييم. وُجد أن "أكتسيك" تتمتع بموثوقية وصحة عالية كأداة تقييم معتمدة على الذكاء الاصطناعي لاختبار وتقييم وتعزيز أداء فعل الاعتذار الكلامي. تعد هذه الدراسة أول مبادرة في سياق تعليم اللغة الإنجليزية كلغة أجنبية في الجزائر وفي مجال استخدام روبوت الدردشة المفتوح المعتمد على الذكاء الاصطناعي لتقييم الأفعال الكلامية. تدعو هذه الدراسة إلى مزيد من الاهتمام بين معلمي اللغة الإنجليزية كلغة أجنبية بالاستخدام الفعال لأدوات التقييم الآلي لتقييم الكفاءة التواصلية لمعلمي اللغة الإنجليزية كلغة أجنبية.

الكلمات المفتاحية: روبوت الدردشة، التقييم الآلي، فصل اللغة الإنجليزية كلغة أجنبية، الأفعال الكلامية، فعل الاعتذار الكلامي، الكفاءة التواصلية