

**In PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA
MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH
Abd Elhafid Boussouf University Center - Mila**



***Institute of Letters and Languages
Department of Foreign Languages
Branch: English***

The Role of Chatbots in Promoting Autonomous Learning among EFL Secondary School Pupils

A Dissertation Submitted in Partial Fulfillment for the Requirements of the Master Degree in
Didactics of Foreign Languages

Presented by:

- 1) Aya SAHLI
- 2) Cheima BOUCHAHDANE

Supervisor: Dr. Rima MEDJEDOUB

Board of Examiners:

Chairman: Dr Djalal MANSOUR
Supervisor: Dr Rima MEDJEDOUB
Examiner: Dr Fahima NOUICHI

2025

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Dedication 1

“My success lies with Allah. In Him I trust; and to Him, I turn”. Hud 8

“Praise to Allah, who has guided us to this; and we would never have been guided if Allah had not guided us”. El Araf 43

Peace be upon our Prophet Mohammed.

This work is dedicated to:

The students of Gaza, whose dreams were buried beneath the rubble, whose voices were silenced before their names could be called on any graduation list. We carry your memory like a candle in the dark. We see you, we remember you. You are not forgotten.

My parents for their support and sacrifices; no words are better than the words of Allah. For that I say: *“My Lord, have mercy on them, as they raised me when I was small”* Al-Isra'24.

My twin sister, Asma.

My brothers: Abd-Elrahman, Yasser, Yassine, Idriss.

My partner on this work Aya.

My friends.

Cheima.

Dedication 2

In the name of Allah, the Most Gracious, the Most Merciful

“And say, my lord, increase me in knowledge”. Surah Taha (20:114).

Without his guidance, none of this would have been possible.

Peace be upon our Prophet Mohammed.

I dedicate this work to my beloved parents and my grandma; your love lit every step of this journey. This achievement is as much yours as it is mine. *No crown or title could ever compare to the gift of your endless care.*

To my elder brother *Rafik*, you're my strong and quit support.

To *Charef*, your courage and loyalty give me the strength to keep going.

To *Yahia*, your smile and energy lighten my darkest days.

To *Maram*, the gentlest bloom in our tree.

To my besties.

To the university students of Gaza who were martyred in their pursuit of knowledge, your dreams live on, and your sacrifice will never be forgotten. *“And never think of those who have been killed in the cause of Allah as dead. Rather, they are alive with their Lord, receiving provision”. (Surah Aal-E-Imran, 3:169).*

To everyone who, in ways big or small, helped me along the way. Thank you from the heart.

Aya.

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Abstract

In the arena of foreign language learning, learner autonomy has long been recognized as a vital factor of success; however, strategies for boosting it in digital environments remain under researched especially at the secondary level. The present study explores the role of chatbots in fostering autonomous learning among third-year EFL secondary school pupils in Algeria. It aims to examine whether the use of chatbots contributes to the development of pupils' self-directed learning practices. To achieve this objective, four research questions were set: (1) Are EFL secondary school pupils familiar with the use of chatbots to enhance their autonomy? (2) To what extent do chatbots enhance autonomy among EFL secondary school pupils? (3) What are pupils' and teachers' perceptions about the use of chatbots to promote pupils' autonomous learning? (4) Is there a gap between pupils' and teachers' perceptions of chatbot use in fostering autonomous learning? In order to respond to these questions, two semi-structured questionnaires were administered to a sample of 64 pupils and 35 teachers, gathering their perceptions regarding the impact of chatbots use on learner autonomy. The findings provide insights into the extent to which chatbot technologies support independent learning in EFL contexts and highlight the similarities and discrepancies between pupils' and teachers' views. The study concludes by offering a set of recommendations for both pupils and teachers in order to clarify the concept of learner autonomy and encourage its practical implementation in the educational process.

Keywords: Chatbots, Autonomous learning, EFL learners, secondary school pupils, Language learning technology

List of Abbreviations and Acronyms

AI: Artificial Intelligence

EFL: English as a Foreign Language

NLP: Natural Language Processing

SDL: Self-directed Learning

Q: Question

List of Tables

Table 2.1: Pupils' Gender.....	43
Table 2.2: Pupils' Stream.....	44
Table 2.3: Pupils' Level in English.....	44
Table 2.4: Chatbots' Use.....	45
Table 2.5: Reasons for Not Using Chatbots.....	46
Table 2.6: The Use of Chatbots in Learning.....	46
Table 2.7: Difficulties in Using Chatbots.....	47
Table 2.8: Over-Reliance on Chatbots' Effects.....	48
Table 2.9: The Use of Chatbots in English Learning.....	49
Table 2.10: Types of Chatbots Used by Pupils.....	49
Table 2.11: Reasons for using Chatbots in English Language Learning.....	50
Table 2.12: Pupils' Perceptions about Chatbots' Responses.....	51
Table 2.13: Pupils' Recommendations for Using Chatbots in English Learning.....	52
Table 2.14: Environment where Pupils do their Homework.....	53
Table 2.15: Lessons' Preparation.....	54
Table 2.16: Pupils' Reflection on Their Exam and Assignment Performance.....	54
Table 2.17: The Use of Chatbots for Practicing English.....	55
Table 2.18: Chatbots as a Time Manager.....	56
Table 2.19: Participants' Teaching Experience.....	58

Table 2.20: Teachers' Attitudes toward the Use of Mobile Phones for Educational Purposes during Class.....	59
Table 2.21: Teachers' Perceptions of Pupils' Reliance on Classroom Instruction versus Technological Resources.....	60
Table 2.22: Teachers' Perceptions of Chatbots in Supporting Student's Time Management and Learning Progress Tracking	62
Table 2.23: Teachers' Recommendations of Chatbots to Their Pupils.....	63
Table 2.24: Teachers' Perceptions of the Negative Effects of Chatbots in EFL Learning	64

List of Figures

Figure 1.1 Developing autonomy through teaching	32
Figure 1.2 The Zimmerman's three-phase cyclical self-regulated learning model and its sub processes.....	38

Table of Contents

Dedication 1	2
Dedication 2	3
Acknowledgements	4
Abstract	5
List of Abbreviations and Acronyms	6
List of Tables.....	7
List of Figures	9
Table of Contents	10
General Introduction	13
2. Aims of the Study.....	14
3. Research Questions	14
4. Research Methodology.....	15
5. Research Structure.....	15
Chapter One:Teoretical Part.....	16
Introduction	16
Section One: Chatbots	17
1.1 Definition of Chatbots	18
1.2 How do Chatbots work?	18
1.3 History of Chatbots.....	19
1.4 Chatbots in EFL Learning	19

	11
1.5 Chatbots' Limitations and Challenges.....	21
Section Two: Autonomous Learning	22
2.1 Definition of Autonomy	23
2.2 Levels of Autonomy	24
2.3 Learner Autonomy.....	25
2.4 Characteristics of Autonomous Learner	26
2.5 Factors Influencing Learner Autonomy	27
2.6 Teacher Autonomy	29
2.7 Autonomy in the Educational Context	30
2.8 Promoting Learner Autonomy in EFL Learning	31
Section Three: Chatbots and Autonomous Learning	33
Conclusion.....	39
Chapter Two: Practical Part	40
Introduction	40
2.1 Research Aim	40
2.2 Research Design	40
2.3 Population and Sample	41
2.4 Data Collection Tools.....	41
2.5 Pupils' Questionnaire	42
2.5.1 Administration of the Pupils' Questionnaire	42
2.5.2 Description of the Pupils' Questionnaire	42
2.5.3 Analysis of the Pupils' Questionnaire.....	43

2.6 Teachers' Questionnaire	56
2.6.1 Description of the Teachers' Questionnaire	56
2.6.2 Administration of the Teachers' Questionnaire	57
2.6.3 Analysis of the Teachers' Questionnaire	58
2.6.4 Discussion of the Main Findings of the Pupils' and Teachers' Questionnaires	65
2.7 Implications, Limitations and Recommendations	69
2.7.1 Implications of the Study	69
2.7.2 Limitations of the Study	70
2.7.3 Recommendations	71
2.7.3.1 Recommendations for pupils	71
2.7.3.2 Recommendations for Teachers	72
2.7.3.3 Recommendations for School Administrators	72
2.7.3.4 Recommendations for Policy Makers	73
2.7.3.5 Recommendations for Future Researchers	73
Conclusion	74
General Conclusion	75
References	76
Appendices	81
ملخص	86
Résumé	87

General Introduction

The field of education has seen widespread use of technology in the past few decades; it can be used through many tools known as chatbots where they can function as service assistants or as educational agents by providing personalized learning experiences to help students promote their autonomous learning. Chatbots have become essential elements that have the potential to support the domain of teaching-learning: they act as intelligent tools that adapt student's habits and needs, where they combine artificial intelligence (AI) and natural language processing (NLP). This enables them to interact to a certain level of conversation with human beings providing immediate support by answering questions which give them the ability to act as virtual teaching assistants.

Despite their increasing presence in education and their recognized benefits, their role in secondary education especially in promoting learner autonomy remains under-researched. Digital tools and AI-powered systems, particularly chatbots, have contributed significantly to language learning; however, the existing studies have focused largely on higher education, leaving a notable gap about the effectiveness of these tools in secondary education. This research aims to address this gap by delving into how chatbots can be integrated in secondary school English as a Foreign Language (EFL) learning to enhance younger learners' autonomy. For instance, Chaiprasurt et al. (2022) explored the impact of chatbots on university students' motivation and achievement in blended learning; Al-Abdullatif et al. (2023) investigated how chatbots influenced learning strategies among Saudi higher education students; and Huang et al. (2023) conducted a scoping review that analyzed chatbot effects on various motivational factors in adult learners.

2. Aims of the Study

This study aims to enrich the field of chatbots use in education by studying how these technologies affect pupils' autonomy through their EFL journey. Shedding light on the aspects of autonomy, including self-regulation, reflection, and motivation that foster a learner's independence in language learning. Additionally, the study explores the challenges and limitations of chatbots use in EFL learning.

3. Research Questions

The research questions are formulated to guide this study and ensure a focused investigation. They are stated below.

1. Are EFL secondary school pupils familiar with the use of chatbots to enhance their autonomy?
2. To what extent do chatbots enhance autonomy among EFL secondary school pupils?
3. What are pupils' and teachers' perceptions about the use of chatbots to promote pupils' autonomous learning?
4. Is there a gap between pupils' and teachers' perceptions of chatbot use in fostering autonomous learning?

4. Research Methodology

To meet the objectives of this study and gather comprehensive data, a descriptive research design was adopted to explore the role of chatbots in promoting autonomous learning among EFL secondary school pupils. This approach was selected for its effectiveness in providing a clear picture of the current state of educational practices and participants' perceptions within a real-world context. A mixed method, combining quantitative and

qualitative approaches, was used to collect and analyze data systematically through two distinct questionnaires; one for EFL teachers and the other one for pupils. The teachers' questionnaire was designed to assess instructors' awareness, attitudes, and experiences concerning the use of chatbots in the classroom and their perceived impact on learner autonomy. While the pupils' questionnaire examined students' engagement with chatbots tools in relation to their autonomous learning behaviors. Data analysis involved descriptive statistics and qualitative review of open-ended responses. This dual approach provided a comprehensive understanding of both teachers and learners perspectives, offering valuable insights into the integration of chatbots to support learner autonomy in secondary EFL contexts.

5. Research Structure

This dissertation is made up of two chapters, framed by a general introduction and a general conclusion. The first chapter is divided into three sections that offer theoretical perspectives on the topic. The initial section discusses the concept of chatbots, including their definition, history, function, the role in educational settings, and the limitations. The second section addresses autonomous learning, outlining its definitions, history, levels and influencing factors. The third section, titled "Chatbots and Autonomous Learning," explores the ways in which chatbot technologies can contribute to fostering learner autonomy in EFL contexts. The second chapter is dedicated to the analysis and interpretation of the data obtained from the questionnaires administered to both pupils and teachers. Drawn to the close, the second chapter ends with mentioning the major limitations of the study along with a variety of recommendations for pedagogy and further research agendas.

Chapter One: Theoretical Part

Introduction

Since 1970, the concept of autonomous learning has become part of broader shift towards learner-centered education, emphasizing the learners' ability to take responsibility for their own learning process, to set goals and evaluate progress independently. In the context of EFL, pupils' autonomy in secondary school plays a vital role in developing language skills beyond the classroom environment. As learner-centered approaches get more attention, researchers and educators have explored various tools to support autonomy. Among these tools are chatbots, which have recently gained attention as interactive digital tools capable of facilitating autonomous language learning. Yet, most studies on the use of chatbots to support autonomous learning have primarily focused on adult learners, with relatively limited research addressing their application among secondary school pupils. This introduces chatbots and explains their use in EFL learning. It also gives an overview of autonomous learning. Finally, it tries to explain the possible influence of chatbots on the learners' autonomy especially when considering foreign language learning.

Section One: Chatbots

In recent years, the way people interact with digital systems has seen a significant transformation. Among the most notable innovations in this field are conversational systems known as chatbots. They have emerged to facilitate this interaction by allowing users to engage in a dialogue-like exchange with machines. These systems are programmed to assist humans in different life sectors, including business, healthcare, customer service, and education. While some of these systems rely on predefined rules and scripted responses, others are powered by more advanced technologies that enable them to understand and respond in a more flexible and intelligent manner. Regardless of their complexity, such tools

have begun to make an impression in the domain of education, where they are gradually being explored for their potential to enhance the learning experiences.

1.1 Definition of Chatbots

A chatbot is an AI-powered conversational agent, designed to simulate human-like interaction and assist in various tasks. They are used on websites, apps, and messaging platforms. These technologies vary based on their complexity, functionality and technology. Aleedy et al. (2019) stated that chatbots are computer programs being part of messaging application, which tend to emulate conversations like a human being. This can be done by text messaging and by navigating buttons or with simulated voice to offer some service. It is understood that the ability of chatbots which is embedded in mimicking human conversations makes them versatile and adaptable tools for different services. This highlights their role in automating interactions, improving user engagement and instant assistance in various fields including education. However, not all chatbots are AI-powered systems, there are simple chatbots or the so called rule-based agents that interact on the ground of predefined rules and respond to user's input through keywords or limited menu selection. These agents have existed for decades and serve as foundational tools in the development of conversational systems. One of the earliest and most iconic examples is ELIZA designed to simulate conversation by mimicking a Rogerian psychotherapist, primarily to demonstrate NLP (Weizenbaum, 1966). Another widely recognized simple chatbot that gained popularity for its engaging conversational style is Mitsuku (now known as Kuki) developed by Steve Worswick that has won multiple Loebner Prizes. The most recent examples of simple chatbots include educational bots embedded in platforms like Telegram (grammar bot), they provide basic vocabulary and grammar exercises through fixed-choice interactions.

1.2 How do Chatbots Work?

Chatbots work by using a combination of AI techniques, such as NLP, machine learning and sometimes pre-programmed rules to understand and respond to user input. According to Adamopoulou and Moussiades (2020), a chatbot is a software application designed for dialogue, capable of engaging with users and interpreting their inputs through NLP. These digital assistants can be broadly classified into two types: rule-based and AI-powered. When a user types or speaks to a chatbot, the system interprets the input, determines the intent, and selects a suitable response. The rule-based assistants follow a structured approach where responses are programmed based on keywords, patterns, or specific commands. The bot looks for terms that match users' query and responds accordingly. They are limited because they cannot handle complex or unexpected enquiries that deviate from their pre-programmed rules. On the other hand, the AI-powered assistants use ML and NLP to understand and generate responses dynamically; they evaluate input, recognize intent, and adapt their replies based on context rather than relying on predefined scripts. Over time, they learn from interactions, which enhance their accuracy and capacity to manage more complex discussions. As Adamopoulou and Moussiades (2020) explained that AI-based chatbots are trained through machine learning algorithms that can train the model using training datasets. Through the use of these machine learning algorithms, it is not needed to manually code new pattern-matching rules, which allows for more flexibility of the chatbot and is also not dependent on domain-specific knowledge. As a result, they are more intelligent and adaptable compared to rule-based bots.

1.3 History of Chatbots

In 1950, Alan Turing proposed the turning test named "Can machines think?", and it was the beginning of the idea of a chatbot (Adamopoulou & Moussiades, 2020). His theory of

intelligent machines engaging in human interaction led to the creation of the first chatbot ELIZA in 1966. Despite its limited knowledge and ability to discuss specific topics, ELIZA inspired the development of other chatbots. An improvement over Eliza was a chatbot with a personality named PARRY and ALICE which were developed in the 1970s and 1990s. PARRY was respectively developed by psychiatrist Kenneth Colby; it mimicked paranoid schizophrenia and exhibited disordered thinking and delusions. Despite its advanced features like personality and better control, it has low language understanding, emotion expression, response speed, and learning capabilities. ALICE was developed by Dr. Richard Wallace in 1995; it is a more advanced version of Eliza, focusing on NLP. It uses AI Markup Language, a rule-based scripting language, and has a vast Knowledge Base of 41,000 templates and related patterns, but lacks intelligent features for human-like responses. In the 2000s, virtual assistants like Smarterchild helped people with daily tasks by retrieving information from databases. In 2010, mainstream voice assistants like Siri, Google Assistant, Amazon Alexa, and Microsoft Cortana emerged, with many more unique but similar functions (Loafers, 2023). These voice assistants connect to the internet and create meaningful responses quickly. In March 2023, OpenAI released the GPT-4 model, which has trillions of parameters compared to its predecessor's millions. Additionally, this new version is capable of generating images and videos along with texts (Loafers, 2023).

1.4 Chatbots in EFL Learning

EFL learning refers to the process of learning English by the individuals whose native language is not English. This can take place in various contexts, such as formal classrooms, online courses, or self-study. Typically, the main goal of EFL learners is to improve their fluency and communication skills to better participate in global conversations, business, or education. Thus, the EFL settings are to help non-native speakers develop their skills in reading, writing, speaking and listening in English. This process often includes understanding

grammar, vocabulary and cultural nuances of the language. Indeed, with the significant advances in multimedia technology, educational innovations have taken hold in EFL contexts (Kim, Cha & Kim, 2019). The process of learning English can be done using various language learning tools such as textbooks, dictionaries, posters and charts. However, with the rise of technology such tools have developed like apps and chatbots to become important resources in enhancing the EFL learning experiences. In recent years, Chuah and Kabilan (2021) along with Kim et al. (2019) have introduced and implemented chatbots in English language education to enhance and transform teaching practices. These conversational assistants are revolutionizing EFL learning by providing instant feedback, conversation practice and pronunciation correction through AI and NLP. They are available around-the-clock which enables students to study at their own pace and improve their skills without feeling rushed creating an anxiety-free atmosphere. Through gamified content and real-time conversations, chatbots enhance learning engagement and motivation. Furthermore, they support autonomous learning by encouraging students to take charge of their own progress while providing individualized direction. As Lambebo and Chen (2024) emphasized, chatbots offer continuous availability, empowering students to access educational content anytime, thereby fostering autonomous and flexible learning. This set of services will allow learners to practice English anytime, making the learning experience more flexible and engaging.

Empirical studies on AI chatbots are still scarce in the EFL fields (Kim, Cha & Kim 2020), and many unanswered questions exist regarding the implementation of chatbots (Yanguas 2010) in education. Furthermore, previous research has had mixed results with respect to their effectiveness according to proficiency levels. For example, according to Fryer and Carpenter (2006), chatbots are most effective for advanced foreign language learners, but they may be less suitable for beginners who are still developing foundational skills. This is because the chatbots were originally designed to interact with native speakers, and thus, they

are generally incapable of, or are poor at noticing, pronunciation, spelling, or grammar mistakes. However, Kim (2016) reported that all students at different proficiency levels whether intermediate or advanced can benefit from learning with an AI chatbot.

Recently, the utilization of chatbots as virtual tutors to facilitate the improvement of language proficiency and communicative competence in the target language has seen a significant uptick (Zhang et al., 2023). In fact, the method by which this AI technology is (or is not) adopted must be understood by both language education experts and chatbot developers, as chatbot technology is widely used in language instruction yet under investigated.

1.5 Chatbots' Limitations and Challenges

While chatbots offer significant opportunities to enhance learning through adaptive and personalized experiences, it is equally important to consider the limitations that may compromise their overall effectiveness. Indeed, existing chatbots have a few limitations. The main challenge for a chatbot right now is understanding the context of a conversation and generating a relevant response (Suta et al., 2020). Chatbots should be seen as complementary tools rather than replacements for human interaction and teacher guidance. To start with, the limitations of the chatbots that use AI in their operations, these assistants rely heavily on large datasets for training because the quality of their responses is directly related to the quality of the responses they are trained on. The chatbot could provide inappropriate or unsuitable answers if that data is biased or incomplete. Besides, if the user's queries fall outside of the system's training data, they may offer irrelevant and confusing responses. Although AI chatbots are better than rule-based systems at comprehending context, they still struggle with complex conversations, nuances, emotional tones, and cultural references. Additionally, they

lack true emotional intelligence, which makes it really challenging for them to respond to sensitive and emotionally charged situations.

In contrast, rule-based chatbots are less flexible and responsive than AI-powered systems since they are dependent on prewritten scripts and structured decision trees. They are less successful at involving EFL students in real-world discussions because they are unable to comprehend natural language beyond preprogrammed commands. This often results in shallow interactions, with minimal capacity for personalization or adaptation to individual learning needs. Consequently, rule-based chatbots may fail to adequately support autonomous learning in more complex or varied linguistic contexts (AbuShawar & Atwell, 2015).

Section Two: Autonomous Learning

The concept of autonomy has become increasingly important in the field of EFL, as it aligns with the shift from traditional teacher-centered methods to more learner-centered approaches. This concept was defined by many scholars over the years to give insight into how learners can take responsibility for their own learning processes, make informed decisions about their language development, and engage in self-directed practices that enhance their language acquisition outside of traditional classroom settings. Autonomy in language learning refers to the ability of learners to take control of their own learning process, actively engage in decision-making, and assume responsibility for their learning outcomes. This section aims to give a detailed overview of autonomy, including its definition, history, and levels, along with the characteristics of the autonomous learners and teachers and how to boost it.

2.1 Definition of Autonomy

The word autonomy is derived from auto-nomos, a Greek word. Auto means “self” and nomos means “rule or law”. Auto-nomos refers to a state where one gives oneself his/her own law. This etymology dates back to Confucius (551-479 BC), who considered that children and young people should be trained from the beginning to face life by themselves. Although this concept originates from politics, it can be used in any field.

Dickinson (1987) defined autonomy as “a situation in which the learner is fully responsible for decisions about their own learning and the implementation of those decisions” (p. 11). He viewed learner autonomy as decision-making in leaning context. According to him, autonomy refers to the situation in which the learner is responsible for the decisions concerned with his or her learning and the implementation of these decisions. Autonomous learning is defined as a circumstance where the learner is solely responsible for all decisions related to their learning and for implementing those decisions out (Gardner & Miller, 1996). This means that the learner takes full control over their own learning process, from setting goals and selecting resources, deciding what, how, and when to study to evaluating outcomes. It also involves putting those decisions into action without relying on a teacher or external guidance. This kind of learning requires a high level of self-motivation, discipline, and responsibility, as the learner becomes the main decision-maker in their educational journey.

The definition that most closely aligns with the focus of present research is the one offered by Holec (1981). He defined autonomy in language education as “the ability to take charge of one’s own learning.” This definition is particularly relevant to the current study as it emphasizes the learner’s active role in managing their learning process, making decisions, and taking responsibility for their progress.

2.2 Levels of Autonomy

In the late 1990's a number of researchers claimed that the notion of autonomy is a matter of levels. Nunan (1997) introduced a model of five levels of autonomy that refer to the learner actions comprising 'awareness', 'involvement', 'intervention', 'creation', and 'transcendence'. He also involved two dimensions in getting the full depiction of learner autonomy, namely 'content' and 'process'. For instance, at the lowest level of learner autonomy, learners are aware of pedagogical goals. Therefore, most learners at this level know what materials they are using. Consequently, they can select their learning strategy since learners identify the implications of the tasks contained in the materials. The five levels are explained below.

a. Awareness: Learners are made aware of the pedagogical goals and content of the materials they are using, and for that, they can identify strategy implications of pedagogical tasks and identify their own preferred learning styles/strategies.

b. Involvement: Learners are involved in selecting their own goals and objectives from a range of alternatives on offer. They make choices among a range of options.

c. Intervention: Learners are involved in modifying and adapting the goals and content of the learning program. They modify/adapt tasks.

d. Creation: Learners make initiatives to create their own learning goals and objectives. They create their own tasks.

e. Transcendence: Learners go beyond the classroom and make links between the content of the classroom with the world beyond the classroom. Learners become teachers and researchers.

2.3 Learner Autonomy

Learner autonomy is described as a very complicated or multifaceted construct. First, it is generally considered as an ability of knowing how to learn. Second, it is regarded as an ability to control one's learning activities. Third, it is seen as an ability for detachment or for learning without the involvement of a teacher. Fourth, it is said to be a capacity to make and carry out choices or an ability to perform rational decision-making processes over learning activities. More specifically, it is viewed as an ability to give responses beyond usual instructions.

Generally, autonomy in language education is broadly defined as: "An ability to take charge of one's own learning" (Holec, 1981, p. 3). Accordingly, autonomous learning can stand for the learners' capacity to self-direct their own learning, which means taking responsibility for decisions concerning different aspects. He notes that this ability is not inborn but must be acquired either by natural means or by formal learning, i.e. in a systematic deliberate way, and pointed out that: "To take charge of one's learning is to have the responsibility for all the decisions concerning all aspects of this learning" (Holec, 1981, p. 3). In addition, Holec, as a prominent figure within the field of autonomy, suggested the theoretical basis and pedagogical implications of learner autonomy, and thus he was called "The father of learner autonomy." Since then, the notion of learner autonomy has been tackled by many researchers and educationalists who gave different definitions to the term. However, some of them did not agree with Holec's definition, such as Little, who said that: "Autonomy is a capacity for detachment, critical reflection, decision making and independent action. It entails that the learner will develop a particular kind of psychological relation to the process and content of his learning" (1991, p. 3–4). Little's interpretation had provided a new significant dimension that was not mentioned in the previous definitions of autonomy. This

ignored dimension is related to the field of psychology; it consists of psychological characteristics, which are represented in learner autonomy as key concepts. On the other hand, Dickenson considered learner autonomy as decision-making in learning context. (Dickenson, 1987)

2.4 Characteristics of Autonomous Learner

The concept of learner autonomy, as introduced by Holec (1981), is fundamentally grounded on the idea that learners should take control over their own learning processes. In his famous book *Autonomy and Foreign Language Learning (1981)*, he explained that an autonomous learner is someone who is able to manage their own learning by taking full responsibility for all decisions related to it, including what, how, and when to learn. This control entails setting goals, selecting appropriate methods, monitoring progress and evaluating outcomes. In order to engage meaningfully in autonomous learning, learners must exhibit a set of interrelated cognitive, metacognitive, and affective characteristics that enable them to function independently and effectively within a learning context. Autonomy also involves a cognitive dimension, this means that they are willing to make conscious effort to understand what, why and how they are learning. However, Little (1991) has a different point of view about autonomous learners he said that: “Autonomous learners can understand the purpose of their learning program, unequivocally recognize the conscientiousness for their learning” (p. 11). This means that, for him autonomous learners are self-directed and actively engaged in their own educational journey. They clearly understand why they are learning, take full responsibility for their progress, set specific goals, plan and carry out learning tasks independently and continuously assess their performance to ensure effective learning.

Moreover, Kumaravadivelu supported Little’s definition and maintained that: “supporting learners to be autonomous means providing them with more opportunities to be

successful.” (Kumaravadivelu, 2003, p. 131) However, Nunan (1995) argued that the autonomous learner is the one who is able to find the best strategy to learn and to be successful. He saw that: “Learners who have reached a point where they are able to define their own goals and create their own learning opportunities have, by definition, become autonomous.” (1995, p. 145). From Huttunen’s point of view: “A learner is fully autonomous when he is working individually or in a group, taking responsibility for the planning, monitoring and evaluating of his studies” (1986, p. 95). In the same context, Candy (1991) considered that autonomous learners have some competencies. These competencies make them characterized by particular features such as methodical, logical, reflective, flexible, self-aware, creative, responsible, self-sufficient, etc.

Benson, on his part, suggests that: “Autonomous learners are more educated individuals who have the ability to take the charge and contribute not only to their learning process, but also in their social life” (2001, p. 1). However, Thanasoulas (2000) defines the autonomous learner like somebody whose life has a consistency that drives from a coherent set of beliefs, values and principles and also who engages in a still-continuing process of criticism and reevaluation.

2.5 Factors Influencing Learner Autonomy

The development of learner autonomy is influenced by a range of psychological and contextual factors that either facilitate or impede students’ capacity to take control of their own learning. In this regard, two broad categories of factors are commonly identified: internal (psychological) factors and external (contextual) factors.

Internal factors encompass psychological constructs such as motivation, self-efficacy, metacognitive awareness and learning strategies. These elements shape how learners view

their ability to manage and direct their educational experiences. As Little (1991) asserted, "autonomy is essentially a matter of the learner's psychological relation to the process and content of learning" (p. 4). This highlights the importance of internal dispositions and self-perceptions in autonomous learning. Learners with high intrinsic motivation and strong self-regulatory skills tend to exhibit more autonomy, as they are able to set goals, monitor progress and reflect on their learning (Zimmerman, 2002). Metacognition, or the ability to think about and regulate one's own learning, is also fundamental to autonomy. According to Wenden (1998), "metacognitive knowledge and skills enable learners to plan, monitor, and evaluate their learning, which are essential for taking responsibility for learning decisions." Additionally, psychological theories such as constructivism and critical theory underpin the idea that learners construct knowledge actively and should be empowered to question and navigate their learning processes (Piaget, 1970).

External factors, on the other hand, include the teacher's role, the design of learning tasks, the classroom environment and the broader educational infrastructure. These components can either support or restrict learner autonomy depending on how they are structured. Benson (2011) noted that, "learners' autonomy does not develop in isolation but is influenced by pedagogical practices and institutional frameworks" (p. 10). For instance, teacher support, curriculum flexibility and access to digital tools such as chatbots can significantly enhance students' opportunities to learn independently.

A supportive learning environment, characterized by encouragement, feedback, and opportunities for learner choice fosters autonomy by validating the learner's agency. In contrast, rigid curricula and teacher-dominated instruction may stifle initiative and independence. Therefore, fostering autonomy requires a dynamic balance between internal readiness and external scaffolding. As Ushioda (2008, p.19) emphasized it, "a motivational

perspective on autonomy must recognize the interactive nature of internal and external influences on learner engagement.

2.6 Teacher Autonomy

While much attention has been given to the concept of learner autonomy, it is also essential to consider the concept of teacher autonomy. In this context, teacher autonomy refers to the active role of teachers in promoting learner autonomy by creating supportive learning environments, encouraging self-directed learning (SDL) and guiding students toward becoming independent, reflective learners. Little (1995, p. 176) defined this concept as the “Teachers’ capacity to engage in self-directed teaching”. In the same context, he added: “Genuinely successful teachers have always been autonomous in the sense of having a strong sense of personal responsibility for their teaching” (Little, 1995, p. 179). Little (1997) establishes the connection between teacher and student autonomy when he pinpointed that it is unreasonable to expect teachers to promote autonomy in their students if they have not experienced or understood what it means to be autonomous learners themselves.

In the context of promoting learner autonomy, the autonomous teacher plays a pivotal role as both a facilitator and model. By demonstrating autonomy through self-regulation, critical inquiry, and active engagement with their own learning, teachers provide learners with an example of how to take ownership of learning. Furthermore, they create a classroom culture where independence is encouraged, learners are given voice and choice and where scaffolding gradually leads to greater self-direction.

Finally, there is the concept of the autonomous teacher as an autonomous learner, with the capacity for self-directed professional development. In this definition of autonomy

teachers are aware of the reason, the time, the place and the manner they can acquire pedagogical skills and updated knowledge as part of their teaching practice.

2.7 Autonomy in the Educational Context

Príncipe (2018, p. 43) stated that: "Self-learning is a way of learning and acquiring knowledge by oneself, either by study or experience". The rise of autonomy in educational discourse can be traced back to broader shifts in psychological and pedagogical thinking, particularly during the second half of the twentieth century. Influenced by humanistic psychology and thinkers such as Carl Rogers and Abraham Maslow, education began to focus more intensively on the individual's potential for self-growth, self-actualization, and personal responsibility.

In this regard, autonomy is not merely about independence from teachers or institutions; rather, it is about the capacity to engage meaningfully and responsibly in one's own learning. It involves decision-making, goal-setting, self-regulation, and critical reflection. Autonomy in education, thus, implies a shift from a transmissive model of education to a transformative and participatory model, where students are seen as co-constructors of knowledge and learning is viewed as a collaborative and self-directed journey. Holec maintained that: "The theories that support self-learning argue that the ability of oneself to take charge of one's own learning, being a non-innate ability that must be acquired either through formal education or by natural means" (Holec, 1981, p.3)

In language education, autonomy holds special importance. Since language learning is a long-term, continuous process that extends beyond the classroom, students must be equipped with the tools, strategies, and attitudes necessary to take charge of their own linguistic development. Autonomy is therefore not only desirable but essential in ensuring sustained

engagement and progress, particularly in EFL contexts where real-world exposure to the target language may be limited.

The three basic pedagogical principles which underlines autonomy in language learning is learner involvement (engaging learners to share responsibility for the learning process), learner reflection (helping learners to think critically when they plan, monitor and evaluate their learning) and appropriate use of the target language (using the target language as the principal medium of language learning)

2.8 Promoting Learner Autonomy in EFL Learning

As learner autonomy has become an increasingly important objective in education, a wide range of approaches have emerged to support its development. Benson (2011) identified six distinct approaches to fostering learner autonomy: resource-based, technology-based, learner-based, classroom-based, curriculum-based and teacher-based approaches. While the latter four are primarily concerned with fostering autonomy within the classroom context, it is the resource-based and technology-based approaches that are most relevant to the present study. These approaches emphasize out-of-class learning, where learners engage with digital tools, self-access materials, and independent activities. In particular, chatbots, as a form of AI and a key element of the technology-based approach, represent a promising tool for supporting and enhancing autonomous English language learning among secondary school pupils. This leads to the next section, which examines the role of chatbots in promoting learner autonomy in greater details.

To better understand how autonomy can be supported practical terms, Littlewood (1997) offers a useful framework that illustrates the multiple dimensions of learner autonomy. His model identifies three key dimensions: autonomy as a learner, autonomy as a

communicator, and autonomy as a person, each supported by central elements such as motivation, confidence, knowledge and skills. These dimensions reflect the different ways in which learners can take control of their language development, both inside and outside the classroom.

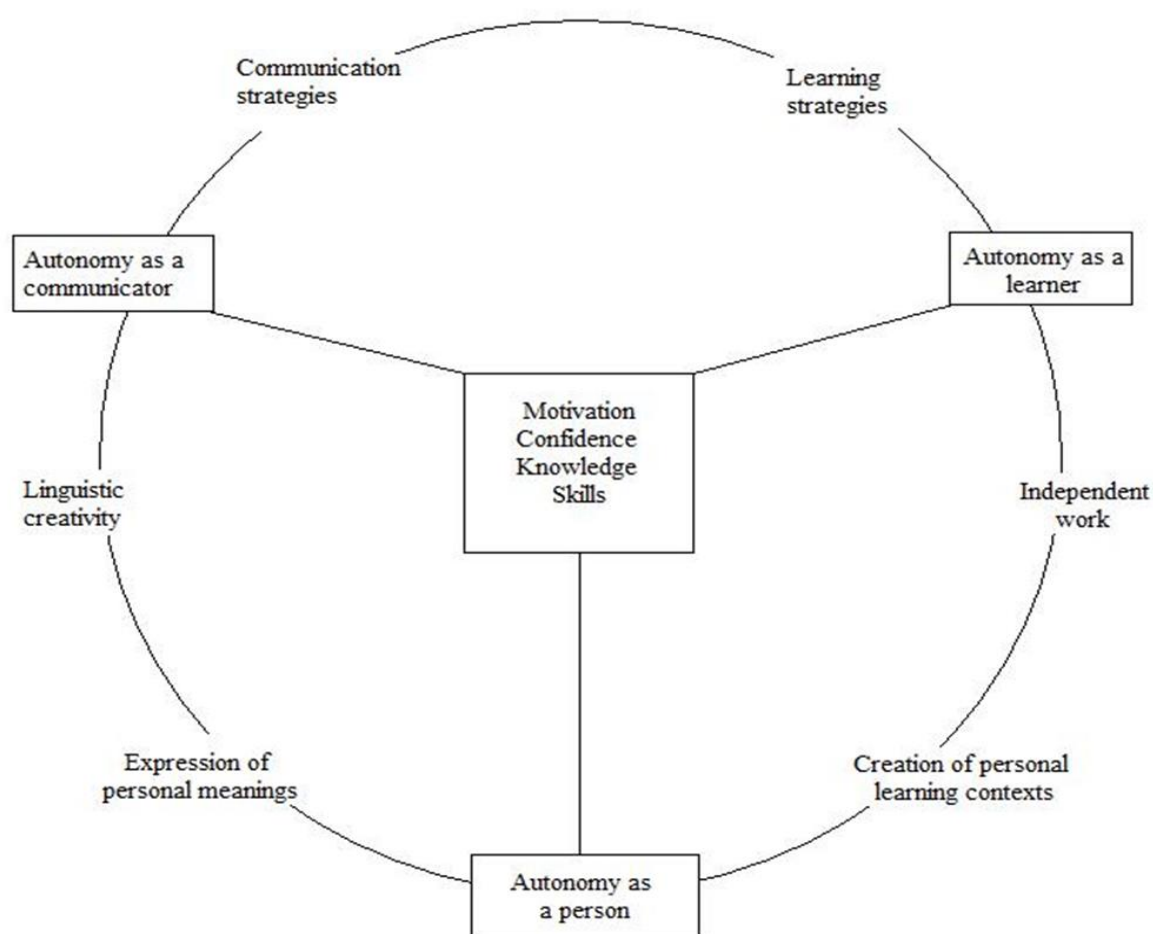


Figure 1.1 Developing autonomy through teaching (Littlewood, 1997, p.83).

This model is particularly relevant to EFL teaching today, where digital tools such as chatbots can be strategically used to promote not only linguistic practice but also learner confidence, goal-setting, and personal expression qualities central to autonomy. The integration of such tools aligns closely with technology-based and resource-based approaches,

making Littlewood's model a valuable reference point for evaluating the role of chatbots in promoting autonomous learning.

Section Three: Chatbots and Autonomous Learning

Learner autonomy has long been recognized as a fundamental component of effective language learning, particularly in the context of lifelong education and the shift toward learner-centered pedagogy. It was defined by Grander and Miller (1996) as a circumstance where the learner is solely responsible for all decisions related to their learning and for implementing those decisions out. Autonomy involves skills such as goal-setting, self-monitoring, reflection, and independent decision-making. Recently, the development of digital technology has introduced new dimensions to this concept, offering tools that can potentially enhance learner's control and engagement. Among these tools is the rise of chatbots which marked a broader shift in pedagogical approaches, where learners are encouraged to become active participants in their learning journey. By providing personalized training, on-demand feedback, and a safe environment for practice especially in language learning chatbots can encourage autonomy. Yet, the integration of these tools also brings up significant issues about their true effects on autonomy, the depth of learning they foster and the potential risk of over reliance.

Many researchers in the field of education were interested in conducting empirical studies on the role of chatbots in enhancing learners' autonomy. This section explores how chatbots contribute to various core elements of autonomous learning in order to illustrate their potential to promote self-regulated learning, SDL, motivation and engagement which are all qualities that reflect the autonomy of the learner.

According to Zimmerman (2002), self-regulated learners are proactive participants in their own learning. They exercise control over their cognitive, motivational and behavioral

processes. The focus of this concept is when the learner actively manages their learning process within a structured setting (e.g., a classroom). Chatbots contribute to this by giving learners choices about how to approach learning tasks. These tools also support self-regulated learning by providing immediate feedback, fostering student autonomy, and encouraging self-correction (Molenaar, 2022). Additionally, they can offer personalized tips or guidance on improving learning strategies, such as how to avoid distraction during study or how to enhance memorization techniques. This level of autonomy fosters a greater sense of responsibility on students' own learning. Among the various academic skills that need self-regulation to be developed is writing due to its cognitively demanding and recursive nature.

Writing self-regulation, a domain-specific application of SRL, involves planning, drafting, revising, and reflecting skills that require sustained attention and strategic effort. In this line of thought, we mention a recent mixed methods study which was conducted by Apriani et al (2024) to find out the results of the effects of chatbot-mediated writing instruction on the writing skills, writing self-efficacy, and writing process self-regulation of EFL students at IAIN Curup. It demonstrated the positive impact of AI-powered chatbot instruction on EFL students' writing proficiency, self-efficacy, and self-regulation. More precisely, the findings showed that chatbot users significantly outperformed those in a control group, with notable gains in writing skills and autonomous learning behaviors. The study supports existing literature on the educational benefits of AI. Otherwise, it suggests that chatbots can enhance student outcomes by offering immediate feedback, fostering autonomy, and supporting writing processes. However, concerns were raised about over-reliance on AI, including potential effects on creativity, critical thinking, and plagiarism risks. Limitations include a small sample size and short study duration, prompting the need for further research on long-term effects and broader applicability. Overall, the study highlights the importance of

integrating AI tools thoughtfully, ensuring they complement rather than replace human cognitive development (Apriani et al., 2024).

In 1975, Malcolm S. Knowles introduced a foundational definition of what SDL entails. He stated that: “Self-directed learning is a process in which individuals take the initiative, with or without the help of others” (p. 18). Having explored self-regulated learning as the process of managing one’s learning within structured environments, it is equally important to consider SDL a concept that shifts the focus toward greater learner autonomy. Unlike SRL, which often operates within predefined educational settings, SDL empowers individuals to take full charge of their learning journey, from what, when, and how to learn. The relation between how English can effectively be acquired and SDL has long captured the interest of researchers (Holec, 1996; Shawar & Atwell, 2007).

The growing interest in SDL has provoked many meaningful innovations in the use of AI in English language learning and teaching. Indeed, AI technologies are highly relevant to English language education because they offer various language-related functionalities, including NL, virtual reality, and speech-to-text transformation (Pap, 2021; Wang et al., 2017). When integrated effectively, chatbots can empower learners to take initiative, monitor their progress, and engage in continuous autonomous learning. They are distinguished from other language learning technologies as they stimulate human-like conversations by engaging with users through text or audio interactions. Moreover, the definition of Malcolm is, of course, applicable to the use of chatbots for enhancing conversation skills.

Another recent study was conducted by Kang and Sung (2022) that investigated the effectiveness of the use of AI chatbots versus traditional worksheets to improve English conversation skills and promote SDL, an aspect of autonomy. While both methods showed similar overall learning outcomes, the study found that AI chatbots were more engaging and

perceived as more entertaining by students due to their novelty and conversational nature. Chatbots also proved to be more effective in improving conversation skills specifically, with students in the chatbot group showing greater improvement in their pre- and post-test scores. The authenticity of chatbot interactions, which simulated real conversations and facilitated negotiation of meaning, was highlighted as a key factor in their effectiveness for language retention and engagement. This finding supports the previous claim that chatbot activities can be more fun and interesting than traditional activities (Fryer and Carpenter, 2006; Jia & Chen, 2008). Overall, the study concludes that well-designed chatbots offering varied and contextually relevant conversations can significantly enhance language learning and SDL, thus autonomy.

Besides, chatbots show considerable promise in promoting student motivation (Wu & Yu, 2024), which is a manifestation of autonomy, especially intrinsic motivation. Motivation is a fundamental driver of student learning, engagement, and achievement. It is “used to explain why people are doing what they are doing” (Brophy, 2004, pp.4-5). Motivation itself is complex and “somewhat mysterious” as we hardly “see it or touch it or precisely measure it” (Wlodkowski & Ginsberg, 2017, p. 2). Nevertheless, motivation underpins almost every aspect of students’ learning experience. It explains why and to what extent students engage with the learning material.

Prior studies examining the impact of chatbots on motivation, using motivation as a measure of student’s learning outcomes, showed that the relationship between chatbots and student motivation is somewhat ambiguous. Several studies have revealed that chatbots can improve students’ learning motivation, such as interest, intrinsic motivation, self-efficacy, enjoyment, and goal setting (Huang et al., 2022). These benefits suggest that chatbots can indirectly contribute to academic success by fostering a more engaging and motivating learning environment while reducing teachers' workload.

A study was conducted by Chaiprasurt, Amornchewin, and Kunpitak (2022) to examine the role of chatbots in enhancing student motivation and learning achievement within a blended learning environment. Their research revealed that chatbots had a notable positive effect on learners' intrinsic motivation and academic performance. The authors stated that: "The chatbot system supported learners' self-paced learning and helped them stay motivated throughout the course by providing timely responses and personalized guidance" (Chaiprasurt et al., 2022, p. 1143). The chatbot facilitated continuous interaction and encouraged learners to stay engaged with the course content. This personalized and interactive support fosters engagement that underpins autonomy.

Another interesting study that highlights the motivational benefits of chatbots in education is that of Al-Abdullatif, Al-Dokhny, and Drwish (2023), who explored the impact of the Bashayer chatbot on postgraduate students in Saudi higher education. The results of their quasi-experimental research revealed a significant improvement in students' motivation and use of learning strategies after interacting with the chatbot. The Bashayer chatbot, integrated through WhatsApp, provided learners with timely responses, weekly summaries, and access to course content, which in turn enhanced their task value and self-efficacy. As the authors note, "the use of chatbots contributed to raising students' motivation, particularly their confidence in managing their own learning" (Al-Abdullatif et al., 2023, p. 12). These findings provide strong evidence that chatbots can play a critical role in fostering the motivational dimension of learner autonomy by supporting students' intrinsic drive and encouraging active engagement in the learning process.

After discussing the related ideas of self-regulated learning, SDL, and motivation, it's helpful to look at a clear framework that brings these concepts together in a practical way. Zimmerman's (2000) model of self-regulated learning offers insight into how students can take charge of their own learning. The model is based on three key phases, forethought,

performance, and self-reflection, which are all connected and work in a cycle. These stages closely reflect the idea of learner autonomy, where students are actively involved in planning, monitoring, and evaluating their learning. In the context of EFL education, especially with secondary school learners, this model helps individuals understand how tools like chatbots can encourage more independent learning. For example, during the forethought phase, chatbots can prompt students to set goals and pick learning tasks that suit their needs. In the performance phase, chatbots provide interactive practice through conversation, giving students instant feedback in a relaxed setting. Then in the self-reflection phase, chatbots can help learners review what they've done, highlight useful vocabulary or mistakes, and ask questions that get them thinking about how they are progressing. All of this supports the development of autonomy and more thoughtful, engaged learning.

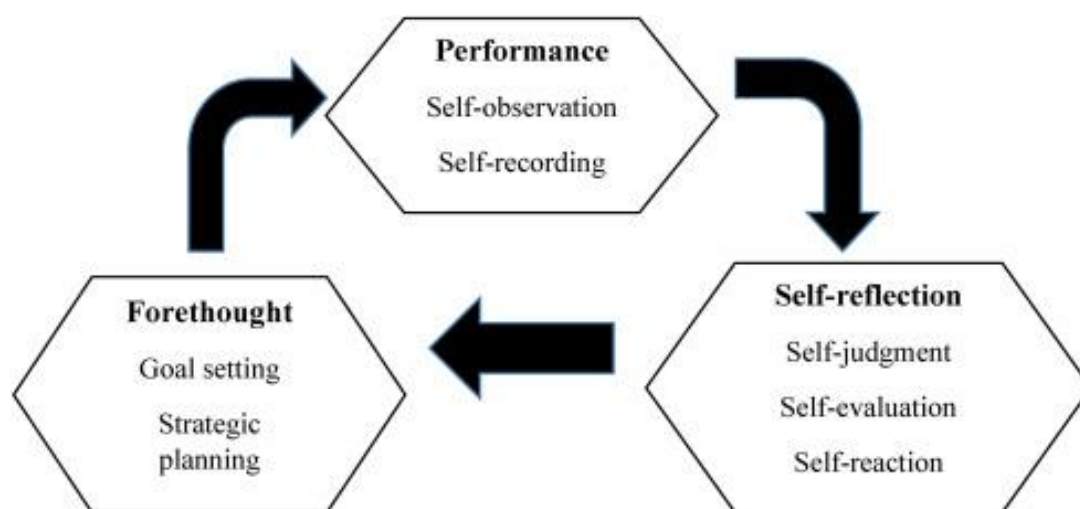


Figure 1.2 The Zimmerman's three-phase cyclical self-regulated learning model and its sub processes. (Adapted from Zimmerman,2000, p. 16)

Conclusion

To conclude, the integration of autonomous learning into EFL education reflects a broader move toward learner-centered approaches. Chatbots, as emerging digital tools, offer interactive opportunities that may support this shift. However, their use with secondary school

pupils remains relatively underexplored, especially in fostering autonomy in language learning beyond the classroom.

Chapter Two: Practical Part

Introduction

The previous chapter provided a comprehensive review of the literature related to the study topic, specifically focusing on the role of chatbots in promoting autonomous learning. This chapter shifts its attention to the empirical aspect of the dissertation. The aim of this chapter is to outline the fieldwork conducted to gather the necessary data so that to address the research questions and fulfill the study's objectives. It restates the key elements of the research, including the primary aim, the sample and the data collection instruments used. Furthermore, this chapter analyzes the data and discusses the results of the pupils' and teachers' questionnaires, providing a detailed examination of the findings.

2.1 Research Aim

The present study aims to contribute to the growing field of technology use in education by examining how chatbots influence students' autonomy throughout their EFL learning journey. It specifically seeks to explore secondary school pupils' familiarity with both AI and rule-based chatbot tools, assess the extent to which these tools support the development of learner autonomy, and investigate the perceptions of both pupils and teachers regarding their use in fostering independent learning. Additionally, the study also aims to identify whether a gap exists between how teachers and pupils perceive the role of chatbots in promoting autonomous learning.

2.2 Research Design

To carry out this study and collect the necessary data, we adopted a descriptive mixed methods research design to investigate the role of chatbots in promoting autonomous learning

of EFL. Two questionnaires were used to collect data from EFL secondary school pupils and teachers. This combination of perspectives was intended to provide a more comprehensive understanding of how chatbots influence learner autonomy in the EFL secondary classroom.

2.3 Population and Sample

The current study focused on third-year EFL secondary school pupils. The pupils' questionnaire was distributed in printed form to a sample of 50 students across two secondary schools in Mila, Algeria. To our surprise, 14 additional pupils voluntarily participated beyond the initial sample. Hence, we collected a total of 64 completed responses. This provided a wider lens through which to explore pupils' perspectives on the use of chatbots in fostering autonomous learning. In parallel, a separate questionnaire was administered to EFL secondary school teachers. Initially intended for 20 participants, this questionnaire yielded 35 responses, gathered through a combination of Google Forms and printed copies, which allowed for a more comprehensive analysis of how chatbot technologies are perceived and utilized in the EFL classroom. In fact, the dual-mode questionnaires were suitable for effective data collection necessary to meet the objectives of this research.

2.4 Data Collection Tools

To collect reliable data in order to answer the research questions, two questionnaires were distributed to two different samples. Both questionnaires contained a combination of open-ended and close-ended questions, with multiple choices to explore in-depth pupils' and teachers' perceptions of using chatbots in promoting learning autonomy. For that reason, a first questionnaire with four sections was addressed to third-year Secondary School pupils. Additionally, a second questionnaire was administered to 35 teachers from different secondary schools since it was published in Google Forms. These selected research tools

were used to offer insights into the pupils' and teachers' perceptions towards chatbots use for enhancing autonomous learning.

2.5 Pupils' Questionnaire

2.5.1 Administration of the Pupils' Questionnaire

The pupils' questionnaire was administrated from April 9th to 15th, 2025. It involved 64 third year secondary school pupils from two different high schools in Mila, Algeria. The pupils belong to both the scientific and literary streams.

2.5.2 Description of the Pupils' Questionnaire

The pupils' questionnaire is carefully designed for the purpose of effective data collection. The questionnaire has different types of questions: multiple-choice questions, open-ended questions, and closed-ended questions. It consists of eighteen questions spread across the four sections described as follows. Section one of the questionnaire comprises three questions aimed at collecting data about the respondents' general information, such as gender, stream of study and their self-perception of their current English level. Section two delves into the participants' experience with the use of chatbots in learning, focusing on how much familiar pupils are with chatbots, whether or not they use them for learning, and what reasons lie behind that. Finally, they are asked to cite the difficulties they face while using chatbots, like over-reliance on them or others. In the third section, the pupils are first asked about their utilization of diverse chatbots, specifically in learning English. Then, they are asked about the reasons why they use chatbots to learn English for giving them multiple choices about which means they use to develop their language skills using these technological tools. Finally, the last question of this section deals with the pupils' recommendations, if any, about the use of chatbots in EFL.

The final section of the questionnaire focuses on the relationship between the study's two main variables: chatbots and autonomous learning in the EFL context. It consists of a series of closed-ended, primarily yes/no questions aimed at exploring pupils' perceptions of how chatbot tools may contribute to their development as autonomous learners. This section begins by assessing the learners' autonomous behaviors, such as whether they typically do their homework independently and whether they prepare lessons at home both considered indicators of SDL. It then examines whether pupils use chatbots to support their learning management and to reinforce or practice what they have previously studied. Collectively, these questions aim to shed light on how chatbot use aligns with the learners' engagement in autonomous learning practices.

2.5.3 Analysis of the Pupils' Questionnaire

Section One: General Information

Q1. Gender

Table 2.1: *Pupils' Gender*

Option	Number	Percentage
Male	16	25%
Female	48	75%
Total	64	100%

According to table 2.1, 75% of the participants are female while only 25% are male. This indicates female students constitute the majority of the participants, which may suggest that they are more inclined to study foreign languages than their male counterparts.

Q2. Stream

Table 2.2: *Pupils' Stream*

Option	Number	Percentage
Scientific	38	59.4%
Foreign Languages	26	40.6%
Literature and Philosophy	00	00%
Management and Economics	00	00%
Total	64	100%

According to table 2.2, 59.4% of the participants belong to the scientific stream, 40.6% to Foreign Languages stream and no one belongs to the Literature and Philosophy and Management and Economics streams. This indicates that students in the scientific stream make up the majority of the sample, which may reflect a slight tendency for science-oriented students to engage in language learning activities compared to their literary counterparts.

Q3. How do you perceive your level in English?

Table 2.3: *Pupils' Level in English*

Option	Number	Percentage
Excellent	5	7.8%
Good	20	31.3%
Average	33	51.5%
Poor	6	9.4%
Total	64	100%

As table 2.3 shows, 7.8% of the participants rated their English proficiency as excellent, and 31.3% described it as good. The majority (51.5%) assessed their level as average while only 9.4% considered their proficiency to be poor. These results indicate that most of the

participants perceive their English skills as moderate, with a limited number showing high confidence in their abilities. This self-evaluation offers insight into learners' confidence and comfort with the language, which may impact their motivation and the level of support they require in the learning process.

Section Two: Chatbots in Learning

Q4. Have you ever used a chatbot?

Table 2.4: *Chatbots' Use*

Option	Number	Percentage
Yes	57	89.1%
No	8	10.9%
Total	64	100%

According to table 2.4, 89.1% of the participants reported having used a chatbot in a learning context, while only 10.9% stated that they had not. These findings indicate a high level of exposure to chatbot technology among the participants, which may reflect the increasing integration of AI tools in educational settings. Such familiarity could shape learners' attitudes, expectations, and willingness to engage with chatbots as part of their language learning experience.

Q 4.1: If no, why?

Table 2.5: *Reasons for Not Using Chatbots*

Option	Number	Percentage
No digital tool	0	0%
No internet	0	0%

No computer skills	2	3.1%
Additions	6	9.4%

This follow-up question was directed at participants who indicated they had never used a chatbot, aiming to explore the reasons behind their lack of engagement with the technology. Among the eight respondents, none selected the options "I do not have internet access" or "I do not have a digital tool," suggesting that access to technology is not a barrier. However, two participants reported lacking computer skills, which may hinder their ability to interact with such tools. Additionally, four participants stated that they are unfamiliar with what a chatbot is and another two participants expressed disinterest, indicating they simply do not care about using chatbots. These findings suggest that awareness and digital literacy, rather than access, are the primary obstacles to chatbot adoption among this small subset of learners.

Q5. Do you use chatbots for learning?

Table 2.6: *The Use of Chatbots in Learning*

Option	Number	Percentage
Yes	50	78.1%
No	14	21.9%
Total	64	100%

As shown in table 2.6, 78.1% of the participants reported using chatbots as a tool for learning, whereas 21.9% indicated that they do not. These results suggest a strong tendency among the learners to incorporate chatbots into their educational practices. This highlights the growing relevance and potential of chatbot technology in supporting students' academic development.

Q6. Have you faced any difficulties while using chatbots for learning?

Table 2.7: *Difficulties in Using Chatbots*

Option	Number	Percentage
Difficulty understanding responses	15	23.5%
Technical issues	24	37.5%
Other	1	1.5%
No difficulties	16	25%
No answer	8	12.5%
Total	64	100%

This question investigates whether the participants have encountered any difficulties while using chatbots in learning. The results indicate that 15 participants reported challenges in understanding the responses provided by chatbots, while 24 pupils experienced technical issues. Interestingly, 16 respondents stated that they have not faced any difficulties. Additionally, a few learners added that their main challenge lies in finding exactly what they are searching for when interacting with chatbots, pointing to limitations in the precision or relevance of the responses. These findings suggest that while chatbots are generally accessible, there are still notable concerns regarding clarity, technical reliability, and the accuracy of information retrieval that may affect the overall learning experience.

Q7. Do you rely on chatbots so much that you sometimes struggle to complete tasks without them?

Table 2.8: *Over-Reliance on Chatbots' Effects*

Option	Number	Percentage
Yes	10	15.6%
No	45	70.3%
No answer	9	14.1%
Total	64	100%

According to table 2.8, 15.6% of the participants stated that they rely on chatbots to the extent that it affects their ability to complete tasks independently, while 70.3% reported that they do not. These findings suggest that although a small portion of learners may be developing some level of dependency on chatbots, the majority use them as a supportive tool rather than a substitute for independent work. This reflects a balanced integration of chatbot technology within the learning process.

Section Three: Pupils' Level of Autonomy in Learning

Q8. Have you ever used a chatbot to learn English?

Table 2.9: *The Use of Chatbots in English Learning*

Option	Number	Percentage
Yes	38	59.4%
No	26	40.6%
Total	64	100%

As indicated in table 2.9, 59.4% of the participants reported using chatbots to support their EFL learning while 40.6% stated that they have not. These findings highlight an increasing interest in incorporating chatbot technology into EFL contexts although a considerable number of learners have yet to utilize this tool specifically for language learning purposes. By comparing the responses to question eight to those to question five, it is found out that while 78.1% of learners use chatbots for general learning, only 59.4% use them for the learning English. This suggests that chatbots' use is more common in broader educational contexts than in EFL specifically, highlighting the need to promote their potential in language learning.

Q9. If yes, which chatbots have you used?

Table 2.10: *Types of Chatbots Used by Pupils*

Option	Number	Percentage
ChatGPT	21	32.8%
Duolingo	15	23.5%
Replica	0	0%
Snapchat AI	11	17.2%
Others	0	0%

This follow-up question was addressed to the participants who indicated that they have used chatbots to learn English, aiming to identify which specific tools they use. The results show that ChatGPT was the most commonly used, as it was selected by 21 participants. Duolingo followed closely with 15 users, while Snapchat AI was chosen by 11 respondents. Notably, none of the participants reported using Replika or any other chatbot outside the provided options. These findings suggest a clear preference for the well-known and widely

accessible platforms, particularly those that offer interactive or gamified learning experiences, reinforcing the role of mainstream AI tools in supporting EFL learners.

Q10. If yes (in your answer to question 8), why do you use a chatbot to learn English?

Table 2.11: *Reasons for Using Chatbots in English Language Learning*

Option	Number	Percentage
Improve speaking skills	20	31.2%
Enhance listening comprehension	6	9.3%
Reading to enrich vocabulary	3	4.7%
Grammar to enhance writing	19	29.7%
Translation	17	26.5%
Prepare for exams	17	26.5%
Other	0	0%

This question explores the reasons why participants choose to use chatbots for learning English, shedding light on the specific language skills and supplementary language activities. The analysis of the answers data as shown on table 2.11 reveals that 20 participants prioritize improving their speaking skills, highlighting a strong interest in interactive, conversational practice. Close behind, 19 use chatbots to support grammar learning for writing, indicating that many pupils value chatbots as accessible tools for language accuracy and production. Additionally, 17 pupils reported using chatbots for translation and the same number for exam preparation, reflecting a practical, goal-oriented approach to language learning where chatbots are seen as useful aids for academic success and comprehension. In contrast, only six

pupils selected listening comprehension, and three of them cited vocabulary enrichment through reading, suggesting that receptive skills are less commonly targeted through chatbot interaction. Overall, the data suggests that pupils primarily engage with chatbots to enhance productive skills and meet immediate learning needs rather than to develop passive language competencies.

Q11. Do you think chatbots provide accurate and helpful responses for learning English?

Table 2.12: *Pupils' Perceptions about Chatbots' Responses*

Option	Number	Percentage
Always	27	42.2%
Sometimes	31	48.5%
Rarely	2	3.1%
Never	2	3.1%
No answer	2	3.1%
Total	64	100%

This question investigates the participants' perceptions of the accuracy and helpfulness of chatbot responses in the context of learning English. The majority of the respondents (48.5%) believe that chatbots sometimes provide accurate and helpful responses. Meanwhile, 27 participants (42.2% of them) selected always, reflecting a strong confidence in the reliability of chatbot support. On the other hand, only two participants, each chose rarely and never, suggesting minimal dissatisfaction with chatbot performance. Overall, the data indicate positive attitudes toward the quality of chatbot responses, though a significant portion of learners still recognize occasional limitations or inconsistencies.

Q12. Would you recommend using chatbots to other pupils for learning English?

Table 2.13: *Pupils' Recommendations for Using Chatbots in English Learning*

Option	Number	Percentage
Yes	53	82.8%
No	11	17.2%
Total	64	100%

This question seeks to know whether the participants would recommend using chatbots to their peers as a tool for learning English. The results reveal that a strong majority (82.8%) answered yes, indicating a high level of satisfaction and perceived value in using chatbots for language learning. In contrast, only 11 participants responded no, which suggests that they have some reservations or differing experiences. These findings reflect a generally positive endorsement of chatbot use in English learning. This highlights their perceived effectiveness and appeal among most of the learners.

Q13. If yes, what do you recommend?

Participants who responded 'yes' to recommending chatbots for learning English were asked to specify which chatbot they would suggest to others. Among the 53 who supported the idea, 19 recommended ChatGPT, while 10 participants proposed Duolingo. These preferences reflect the perceived effectiveness and popularity of these platforms, with ChatGPT being favored for its interactive and flexible responses, and Duolingo for its structured, gamified learning experience. These results highlight the diversity of learner needs and preferences when it comes to choosing digital tools for language acquisition.

Section Four: Chatbots in EFL and Learners Autonomy

Q14. Where do you do your homework?

Table 2.14: *Environment where Pupils do Their Homework*

Option	Number	Percentage
Home	55	86%
Class	9	14%
Total	64	100%

This question explores the learning environment in which the participants typically complete their homework in order to offer insight into their level of autonomy. The majority of the respondents (86%) reported doing their homework at home, while only nine participants (14%) stated that they complete it in the classroom. These results indicate a strong inclination toward independent study outside of the classroom setting. It is a context in which learners may benefit from tools like chatbots to support their autonomous learning.

Q15. Do you prepare your lessons at home?

Table 2.15: *Lessons' Preparation*

Option	Number	Percentage
Yes	42	65.6%
No	22	34.4%
Total	64	100%

This question investigates whether or not the participants take the initiative to prepare their lessons at home in order to provide further insight into their autonomous learning habits. The results show that 65.6% of the participants answered yes, indicating that they engage in lesson preparation independently. Meanwhile, 34.4% of the participants responded no, which entails that they rely solely on classroom instruction. These findings highlight a majority of learners demonstrating proactive learning behaviors, which aligns with the principles of autonomous learning and may also explain the growing interest in supportive tools like chatbots.

Q16. Do you reflect on your learning after an exam or assignment to figure out what you could do better next time?

Table 2.16: *Pupils' Reflection on Their Exam and Assignment Performance*

Option	Number	Percentage
Yes	46	71.8%
No	18	28.2%
Total	64	100%

This question explores whether participants engage in reflective practices following exams or assignments to identify areas for improvement. A substantial majority (71.8% of the participants) responded yes, i.e., they indicated that they take time to evaluate their performance and consider ways to enhance their learning. On the other hand, 18 participants (28.2%) answered no, which suggests that not all of the learners engage in self-assessment or reflection. These results point to a generally positive trend toward metacognitive awareness among the learners, which is a key component of autonomous learning and can be supported by tools such as chatbots.

Q17. Do you use chatbots to practice or reinforce what you have learned by asking for quizzes, summaries, or explanations in your own work?

Table 2.17: *The Use of Chatbots for Practicing English*

Option	Number	Percentage
Yes	35	54.7%
No	29	45.3%
Total	64	100%

This question examines whether participants utilize chatbots to reinforce their learning by requesting quizzes, summaries, or explanations related to their own academic work. The data show that 35 participants answered yes, indicating that more than half actively use chatbots to review and deepen their understanding of various materials. Meanwhile, 29 participants responded ‘no’. That is, a considerable number of learners may not yet be leveraging chatbots for reinforcement purposes. These results highlight a promising trend toward the integration of AI tools in SDL, with many pupils taking advantage of chatbots to support the comprehension and retention of knowledge.

Q18. Do you use chatbots to help you manage your learning by setting reminders, organizing tasks, or creating study schedules?

Table 2.18: *Chatbots as a Time Manager*

Option	Number	Percentage
Yes	35	54.7%
No	29	45.3%

Total	64	100%
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This question investigates whether the participants use chatbots to support the management of their learning activities, such as setting reminders, organizing tasks, or creating study schedules. The responses show that 35 participants answered yes. This means that over half of the learners use chatbots as tools for organizing and structuring their study routines. In contrast, 29 participants responded no. Put otherwise, a significant portion either manages their learning independently or has not yet explored this functionality. These findings reflect a growing awareness of the broader capabilities of chatbots beyond language support, highlighting their potential role in fostering learner autonomy and time management.

2.6 Teachers' Questionnaire

2.6.1 Description of the Teachers' Questionnaire

The Teachers' questionnaire consists of two sections containing a total of eight questions. It comprises both multiple-choice and open-ended questions that invite participants to share their personal opinions and experiences. All responses are collected solely for research purposes, and participants are assured that their answers will remain completely anonymous. This confidentiality encourages honest and thoughtful feedback to foster an environment where participants can freely express their opinions without reservation.

The first section of the questionnaire is entitled "Background Information". It contains two multiple-choice questions. They aimed at gathering certain personal data that focuses on the number of years teachers have been teaching English and the extent to which they allow/ask their pupils to use mobile phones during class time for educational purposes.

The second section of the questionnaire, “Chatbots and Autonomous Learning”, focuses on the role of chatbots in promoting pupils' autonomy. It comprises six open-ended questions designed to explore teachers' perceptions of their pupils' autonomy and the impact of technological tools, specifically chatbots, on independent learning. The third question seeks to understand the teachers' views on the level of autonomy among their pupils. The fourth question investigates whether pupils rely solely on classroom instruction or also engage with external technological resources like chatbots. The fifth and sixth questions aim to understand how chatbots can motivate pupils to learn independently and assist them in managing their time and learning progress. The seventh question gathers the teachers' recommendations of specific chatbots to their pupils and the reasons behind their choices. Finally, the eighth question addresses potential negative effects of using chatbots in EFL learning, allowing teachers to share any concerns or drawbacks they perceive.

2.6.2 Administration of the Teachers' Questionnaire

The administration of the questionnaire to secondary school English teachers took ten days to be accomplished. The questionnaires were distributed in two formats: hard copies were handed out directly to teachers at two lycées, while an online version was also available to teachers from all over Algeria. The choice to offer both formats aimed to ensure that many participants could access and complete the questionnaire conveniently, taking into account different preferences and schedules.

2.6.3 Analysis of the Teachers' Questionnaire

Section One: Background Information

Q1: How many years have you been teaching English?

Table 2.19: *Participants' Teaching Experience*

Option	Number	Percentage
Less than 1 year	4	11.4%
1-5 years	10	28.6%
6-10 years	2	5.7%
More than 10 years	19	54.3%
Total	35	100%

This question aims to identify the participants' teaching experience in the field of education. According to the data, a majority of 54.3% have been teaching English for more than ten years. Meanwhile, 28.6% reported having one to five years of experience, and 11.4% have taught English for less than one year. Only 5.7% of the participants indicated a teaching experience of six to ten years. These findings reveal a strong presence of highly experienced teachers in the sample. Hence, we can safely assume that the insights gathered are grounded in extensive classroom practice.

Q2: To what extent do you allow your pupils to use their mobile phones during class for educational purposes?

Table 2.20: *Teachers' Attitudes toward the Use of Mobile Phones for Educational Purposes during Class*

Option	Number	Percentage
Always	1	2.9%
Sometimes	8	22.9%
Rarely	18	51.4%
Never	8	22.9%
Total	35	100%

This question investigates the extent to which teachers permit their pupils to use mobile phones in class for learning-related activities. The data show that 51.4% of the participants rarely allow mobile phone use, while 22.9% indicated that they never allow it. An equal percentage (22.9%) stated that they sometimes permit it, and only 2.9% reported that they always allow mobile phones in the classroom. These results highlight a general hesitancy among teachers to integrate mobile technology into their teaching practices.

Section Two: Chatbots and Autonomous Learning

Q3: Do you think that your pupils are autonomous? Explain.

Based on the analysis of the 35 teachers' responses regarding the autonomy of their pupils in the learning process, it is evident that the vast majority believe that their learners are not autonomous. Approximately 70% of the responses clearly stated that the pupils heavily

rely on the teacher for acquiring knowledge. Frequently repeated phrases such as “they passively receive information”, “they don’t know how to search” and “they always wait for guidance” reflect a general lack of initiative and responsibility among most pupils. On the other hand, around 30% of the teachers acknowledged the presence of some pupils who do show signs of autonomy whether by taking the initiative to complete tasks independently or by using tools like AI to support their learning. One teacher noted that pupils in scientific streams tend to be more autonomous compared to those in literary streams. Possibly, this suggests that academic background may influence learners’ independence. One response also emphasized that autonomy in learning is not an innate trait but a skill that must be developed over time through practice and support.

Q4: Do you think that your pupils depend on what you give them in the classroom to learn English or they use other technological resources like chatbots?

Table 2.21: *Teachers’ Perceptions of Pupils’ Reliance on Classroom Instruction versus Technological Resources*

Option	Number	Percentage
On the teacher	20	57.1%
Other resources	15	42.9%
Total	35	100%

According to the data, 57.1% of the teachers believed that their pupils rely only on what is provided in the classroom, whereas 42.9% believe that pupils use other resources outside of class, including digital tools. These findings imply that while a slight majority of pupils remain dependent on teacher-led instruction, a significant portion is beginning to take initiative in their learning by exploring supplementary tools.

Q5. In your opinion, how can chatbots motivate pupils to learn independently?

Based on the analysis of the 35 responses regarding how chatbots can motivate pupils to learn independently, it is clear that the majority of the teachers (approximately 76%) thought that chatbots can be a powerful tool for fostering SDL. Many respondents highlighted how these tools offer personalized accessible learning opportunities. As one teacher noted, “Chatbots are accessible to them at any given time and can be tailored to their specific needs and pace”, and another emphasized that “they can help by providing multiple and easy materials at any time”. Several teachers also pointed to the motivational benefits of instant support and simplification of complex ideas. One of them stated that “Chatbots produce instant answers to learners' questions which can motivate them to learn better” and another one maintained that “By simplifying difficult concepts, students might find them more interesting to learn”. The freedom to ask questions and test hypotheses without fear of judgment was also valued when a teacher said: “Learners often feel more comfortable experimenting and making mistakes with a bot than with a teacher or classmates”, suggesting that chatbots can help build confidence and reduce anxiety.

At the same time, a smaller group of respondents (5 out of 35) offered more cautious or neutral views, pointing out that the effectiveness of chatbots depends heavily on the learner’s mindset. As one teacher explained, “This is possible only if the learner has a will to learn the language, which is the case of very few individuals scattered in different classrooms”. A minority group about 10% of the sample expressed clear concerns about dependency and reduced effort, warning that pupils may rely on chatbots instead of thinking critically. One participant remarked bluntly, “It made them brainless; every time I give a task to work on; they use those chatbots to give them the answer easily”. Another echoed this opinion, saying, “Chatbots take the place of teachers”.

Overall, while most teachers acknowledged the potential of chatbots to motivate independent learning particularly through immediacy, personalization, and reduced pressure; they also stressed the importance of wise and guided use. As one respondent summarized it, “If it is used wisely, it facilitates their work, helps them improve their levels in a short time, and that will encourage them to learn independently”.

Q6: Do you think that chatbots can help pupils manage their time and their learning progress?

Table 2.22: *Teachers’ Perceptions of Chatbots in Supporting Student’s Time Management and Learning Progress Tracking*

Option	Number	Percentage
Yes	18	51.4%
No	4	11.4%
Maybe	13	37.2%
Total	35	100%

This is another question which explored the teachers’ perspectives on whether chatbots can assist students in managing their time and tracking their learning progress. The results show that 51.4% of the participants responded positively indicating their belief in the usefulness of chatbots for these purposes. Meanwhile, 37.2% of the respondents expressed uncertainty, choosing “Maybe,” and a smaller portion (11.4%), did not believe that chatbots could be beneficial in this regard.

Q7: Have you ever recommended chatbots to your pupils?

Table 2.23: *Teachers' Recommendations of Chatbots to Their Pupils*

Option	Number	Percentage
Yes	13	37.1%
No	22	62.9%
Total	35	100%

The findings revealed that 62.9% of the respondents answered “No,” indicating that the majority had not suggested chatbot use to their students. In contrast, 37.1% of the participants reported having recommended chatbots. These results suggest that while a significant portion of the teachers recognizes the potential of chatbots, as seen in the previous question, fewer have taken active steps to advice pupils to integrate them into their learning routines.

Q7.1. If yes, which ones and why?

Participants who said yes were also asked to mention which chatbot they have recommended and why. Thirteen teachers recommended chatbots like ChatGPT, Perplexity, and Gemini for their practicality, popularity, and ability to assist with writing, homework, and resource access. One teacher explained his answer, “Perplexity because it directs them to the resources of the information, and ChatGPT because it’s the most popular one.” Another stated that, “I asked them to use ChatGPT to do homeworks and revise for their exams.” ChatGPT was also praised for its writing support and large database. A teacher said that it “helps them with the writing skill” and another stressed its “large database.” Duolingo was noted for being practical and suitable for various levels. One teacher suggested rule-based chatbots for quick responses, while three of them encouraged pupils to find tools that increase engagement.

Traditional tools like British podcasts were also mentioned, showing a broad approach to AI-supported learning.

Q 8: In your opinion, what are the potential negative effects of using chatbots in EFL learning?

Table 2.24: *Teachers' Perceptions of the Negative Effects of Chatbots in EFL Learning*

Option	Number	Percentage
Decrease critical thinking	12	34.3%
Over-reliance on technology	24	68.6%
Reduce teacher-student interaction	7	20%
Misinformation	10	28.6%

Question eight examined teachers' perceptions of the potential negative effects of using chatbots in EFL learning. The most frequently cited concern was over-reliance on technology, selected by 68.6% of respondents. This was followed by worries about a decrease in critical thinking (34.3%) and the spread of misinformation (28.6%). A smaller portion of participants (20%) pointed to a reduction in teacher-student interaction. These results highlight a general caution among educators, particularly regarding the risk of pupils becoming too dependent on technological tools at the expense of deeper cognitive and interpersonal development.

In addition to the quantitative results, the open-ended responses provided deeper insight into teachers' concerns about chatbot use in EFL learning. Many educators expressed genuine concern about a noticeable decline in student effort and critical thinking. Some spoke

candidly about how learners tend to become overly dependent on chatbots, with one teacher simply stating, “They become lazy”, and another expressing frustration that “Chatbots made pupils dumb, they don't think”. These comments reflect a broader worry that, rather than encouraging deeper learning, chatbots might lead pupils to take shortcuts and disengage from the learning process. Several teachers also pointed out that motivation can fade over time, as one remarked, “Chatbots reduce motivation over time.” They mean that the initial excitement often wears off, leaving students less committed to their studies. Another theme that emerged strongly was the lack of human connection. Teachers highlighted how essential real interaction is in language learning. One participant noted, “They also need natural, human interaction”, underlining a fear that technology could create distance rather than connection in the classroom. Concerns about access and equity also came through clearly with some arguing that not all students have the tools or resources to use chatbots effectively. As one respondent put it, “Many pupils don't have access to computers, smartphones or Internet”. Another pointed that “not all students can afford the paid versions with high quality information”. The cultural limitations of AI tools were also raised, as a teacher reminded us that “chatbots may not be programmed to understand cultural differences”, which could make them less effective for learners from diverse backgrounds.

Despite these valid concerns, not all feedback was negative. A few teachers saw potential in chatbots, provided their use is carefully guided. This is reflected in this statement by one of the participants that, “Chatbots can be helpful to teachers and useful to learners provided their use is supervised and controlled.” Overall, the responses paint a picture of cautious optimism. Teachers recognize that chatbots can support language learning, but only when thoughtfully integrated into a balanced and inclusive educational approach.

2.6.4 Discussion of the Main Findings of the Pupils' and Teachers' Questionnaires

The data analysis of the questionnaires offers valuable insights into the role of chatbots in fostering autonomous learning among EFL secondary school pupils. The demographic distribution revealed a higher participation of female pupils, which reflects common gender trends observed in many Algerian educational contexts. Similarly, the predominance of participants from the scientific stream over the literary stream aligns with current enrollment patterns in secondary education. With regard to language proficiency, most pupils self-rated their English level as average, indicating a moderate degree of confidence and competence in the target language. Notably, the data shows that while chatbot usage was more widespread in general educational contexts, its application in English language learning was less selective, focusing primarily on widely accessible tools such as ChatGPT, Duolingo, and Snapchat AI. Pupils who had not used chatbots cited reasons such as disinterest or a lack of awareness of what chatbots are, pointing to gaps in digital literacy or exposure. For those who did engage with chatbots, the main motivations included improving speaking skills, reinforcing grammar knowledge, and supporting translation and exam preparation core competencies in EFL learning.

These findings suggest that pupils perceive chatbots as versatile, functional tools capable of addressing diverse language learning needs. Additionally, the majority of the respondents reported being “always” or “sometimes” satisfied with the responses provided by these tools, and most expressed a willingness to recommend them to their peers. This overall positive attitude highlights the role of perceived usefulness and usability in promoting the adoption of chatbot technologies in educational settings which means that the majority of secondary school pupils are familiar with the use of chatbots. This result is consistent with that of a previous research by Winkler and Söllner (2018), who emphasized these factors as critical in shaping students' engagement with learning technologies.

In addition to chatbot use, most pupils reported completing homework at home, preparing lessons in advance, and reflecting on their exam and assignment performance. These behaviors reflect a clear tendency toward autonomous learning. The findings suggest that many pupils are already engaging in SDL practices, and the integration of chatbots appears to support and potentially enhance these behaviors. That is, chatbots enhance autonomy among EFL secondary school pupils to a certain extent. This aligns with recent research by Wang and Chen (2020), which found that AI-powered tools like chatbots can positively influence students' metacognitive awareness and engagement in autonomous learning, particularly in language learning contexts.

On the other hand, the analysis of the teachers' questionnaire reveals a strong presence of highly experienced teachers which indicate that the insights gathered are grounded in extensive classroom practice and observation. Generally speaking, many teachers seem hesitant to fully embrace mobile technology in their teaching, showing a cautious approach to bringing these tools into the classroom. Most teachers believe that their pupils are not yet autonomous and still rely heavily on teacher guidance, often showing little initiative in their learning. However, a growing number of educators recognize that some students particularly those in scientific streams are beginning to break this pattern by seeking out external resources, including digital tools such as chatbots. This shift suggests that while teacher-led instruction remains dominant, there are early signs of a transition toward more independent learning among certain groups of pupils.

The findings suggest that most teachers see chatbots as a useful tool for encouraging independent learning, primarily because of its personalized and accessible nature. At the same time, just over half also believe these tools can support pupils in managing their time and tracking their progress, both of which are essential for developing pupils' autonomy.

However, while many recognize the potential of chatbots, there is still some hesitation, with concerns about over-reliance and doubts about their effectiveness for all learners, especially without proper guidance. Therefore, the majority have not recommended using chatbots to their pupils, with only few who actively encouraged their use, mainly suggesting tools like ChatGPT and Duolingo for their practicality, accessibility and for offering gamified learning experiences. Finally, teachers expressed significant concerns about the potential negative effects of chatbots in EFL learning, particularly regarding over-reliance on technology, reduced critical thinking, loss of motivation, and a lack of human interaction, though some also acknowledged their usefulness when used in a guided and balanced way, highlighting a position of cautious optimism toward their integration.

These findings reflect a professional and reflective teaching community that values innovation but remains aware of its potential negatives. Teachers' caution suggests that they are not rejecting technology, rather prioritizing thoughtful, purposeful integration that preserve essential learning values such as critical thinking, motivation, and meaningful interaction. Their varied responses reveal a balancing act acknowledging the benefits of chatbots for fostering autonomy, while also recognizing the risks of misuse or over-dependence. Eventually, their cautious optimism points to the need for clear guidance and pedagogical support to ensure that chatbots enhance, rather than inhibit, the learning experience. On the one hand, most pupils consider themselves to be autonomous learners, believing they take responsibility for their learning, manage their study time, and use available resources such as chatbots. Teachers, on the other hand, tend to perceive their pupils as largely dependent on classroom instruction and teacher guidance. This contrast may be attributed to differing understandings of what constitutes true autonomy. Pupils may equate autonomy with completing tasks independently at home or using digital tools, whereas teachers may define it in terms of critical thinking, consistent self-motivation, and proactive

engagement beyond assigned work. This mismatch suggests the need for clearer communication and mutual understanding between teachers and learners regarding the expectations and characteristics of autonomous learning.

All in all, the questionnaires reveal that the EFL pupils are familiar with using chatbots to enhance learning. The pupils along with the teachers show a nuanced but complementary understanding of chatbot use in promoting autonomous EFL learning. The pupils demonstrate clear signs of autonomous learning, with many already engaging in autonomous behaviors and perceiving chatbots as helpful tools for language practice and academic support. Their generally positive experiences highlight the potential of chatbots to enhance engagement, confidence, and independence. In contrast, the teachers' who acknowledge the usefulness of chatbots particularly their accessibility and personalization, express caution due to concerns about over-reliance, diminished critical thinking, and reduced human interaction. These differing perspectives are further complicated by the limited availability of up-to-date, context-specific literature on chatbot use in EFL secondary settings. Most existing studies focus on adult or university learners, making it difficult to draw direct comparisons or develop empirically grounded strategies tailored to younger learners.

2.7 Implications, Limitations and Recommendations

2.7.1 Implications of the Study

The findings of this research hold significant implications not only for EFL learners and teachers but also for educational administrators and policymakers more broadly. Indeed, understanding the role of chatbots in promoting learner autonomy, integrating them effectively into the learning process, and raising awareness about the importance of independent learning can better prepare pupils for future academic demands. Encouraging

autonomy at the secondary level helps students take responsibility for their learning, gradually building the habits they will need in more learner-centered environments such as university. By integrating autonomy-enhancing tools such as chatbots into secondary education, both learners and teachers can begin to bridge the gap between teacher-led instruction and SDL. Preparing pupils for this transition is essential to prevent the academic disorientation or what may be termed a “university shock”. As a result, learners become more confident, motivated, and engaged, which leads to more consistent learning, improved academic performance, and a smoother transition into higher education where independence is essential.

2.7.2 Limitations of the Study

Like any research, this one has certain limitations that need to be acknowledged. Recognizing these limitations helps define its boundaries and provide a clearer understanding of what the findings represent.

- The research was conducted with a relatively small and specific sample size, which may affect the extent to which the findings can be generalized to a wider population of EFL secondary school learners. A broader and more diverse sample would allow for a more comprehensive understanding of chatbots use and learner autonomy across different educational contexts.
- Due to administrative challenges, the pupils could not be surveyed within their schools. As a result, they were approached outside of school settings, which may have impacted their focus and the authenticity of their responses.
- Many participants were unfamiliar with questionnaires and research tools, leading to some incomplete answers or misinterpretations of certain items. This affected the overall reliability and depth of some responses.
- The study was limited to third-year secondary pupils only, which means that the findings may not represent learners at other levels of education. A more inclusive sample could provide a clearer picture of how chatbot-supported autonomy develops over time.
- The limited timeframe for conducting the study prevented the use of more in-depth research methods, such as interviews or classroom observations that could have provided richer qualitative data.

2.7.3 Recommendations

2.7.3.1 Recommendations for pupils

- Pupils should explore chatbot tools and integrate them in their learning routines.
- Pupils who are unfamiliar with chatbots should seek guidance from teachers or peers to become more digitally literate and confident in using these tools.
- Pupils should be encouraged to set personal learning goals, monitor their progress, and reflect regularly on their performance to strengthen their autonomy.
- Engaging in peer collaboration and sharing experiences can further enrich the learning process and promote a more supportive and SDL environment.
- Pupils should control their use of chatbots so that not to become addicted.

2.7.3.2 Recommendations for Teachers

- Teachers are required to highlight the importance of learner autonomy as a key goal in language education, particularly at the secondary level, where pupils begin to transition toward more independent learning.
- Teachers should encourage the use of chatbot technologies, not as replacements for instruction, but as supportive tools that foster self-regulation, reflection, and personalized learning.
- In the course of their teaching, teachers should guide pupils on how to use chatbots effectively and responsibly, helping them distinguish between using the tool as a shortcut and using it as a resource for genuine skill development.
- They should gradually implement learner-centered practices in their classrooms, providing pupils with opportunities to make decisions, set learning goals, and assess their own progress, which are central skills to autonomous learning.

- Teachers should themselves remain open to technological innovation in education and continuously seek opportunities for professional development in digital literacy and AI-assisted teaching.
- They are also encouraged to stay up to date with emerging technologies used by younger generations, so they can properly advise their pupils on how to use such tools in ways that support their learning and development.

2.7.3.3 Recommendations for School Administrators

- Administrators are required to support the integration of chatbot tools into the language learning curriculum by ensuring access to the necessary infrastructure, such as internet connectivity and digital devices.
- Administrators should provide time and resources for teacher training programs focused on technology-enhanced learning and AI literacy.
- Administrators should encourage collaboration between teachers to share best practices and classroom strategies that incorporate autonomous learning methods.
- Administrators are also encouraged to evaluate and update school policies to reflect the evolving needs of modern learners in digitally mediated environments.

2.7.3.4 Recommendations for Policy Makers

- Educational authorities and curriculum designers are required to integrate the concept of learner autonomy into national language education frameworks, beginning at the secondary level.
- They should support the implementation of AI-powered tools, such as chatbots, as legitimate resources in the EFL classroom by providing guidelines and resources for their pedagogical use.

- Policy makers should include training on the development of learner autonomy and digital tool integration in pre-service and in-service teacher education programs.

2.7.3.5 Recommendations for Future Researchers

- Future studies are encouraged to work with larger and more diverse samples of learners across different regions and educational levels to allow for broader generalization of findings.
- Researchers should consider incorporating interviews, classroom observations, or extended-duration studies to explore how chatbot use affects learner autonomy over time.
- Future researchers may also compare the effectiveness of various chatbot platforms and how each supports different learning styles or language skills.

Conclusion

In general, this chapter presents the practical part of the research by outlining the adopted methodology and providing an analysis of the collected data. The findings from the questionnaire provide valuable insights into both pupils' and teachers' experiences and perspectives regarding the role of chatbots in promoting autonomous learning among EFL secondary school pupils. Precisely, the findings revealed a significant contradiction in perceptions regarding learner autonomy. This contrast suggests a gap between pupils' enthusiasm and teachers' secured optimism, pointing to a shared recognition of chatbots' value but differing levels of confidence in their implementation. It also underscores the importance of bridging understanding between learners and educators through digital literacy, pedagogical training, and collaborative dialogue to ensure that technology serves as a tool for empowerment rather than a source of concern.

General Conclusion

The present research explored the role of chatbots in promoting autonomous learning among EFL secondary school pupils. By examining the nature of chatbots, their functions, and their integration into language learning, it became evident that these tools can play a significant role in fostering learner autonomy in EFL contexts. The study also highlighted the importance of understanding autonomous learning and how it can be encouraged within educational environments through the use of technological tools like chatbots.

In order to investigate the role of chatbots in promoting autonomous learning among EFL secondary school pupils, three research questions were formulated. The first one examined whether pupils are familiar with the use of both AI and rule-based chatbots to support their autonomy. The second question explored the extent to which chatbots can enhance learner autonomy in EFL contexts. The third aimed to uncover both pupils' and teachers' perceptions regarding the use of chatbots to encourage and support autonomous learning. The fourth focused on identifying whether there is a gap between pupils' and teachers' views about the effectiveness of chatbot use in fostering learner autonomy. This study adds valuable insight to the existing literature on the intersection between educational technology and learner autonomy. The second chapter of the study focused on analyzing and interpreting the data gathered through questionnaires, while also discussing the limitations of the research and offering practical recommendations for both teachers and pupils.

In order to explore the topic of the study, two questionnaires were handed to teachers and third-year EFL pupils of secondary school with the aim of collecting their experiences and perspectives on the use of chatbots in learning. The study revealed that while many EFL pupils view themselves as autonomous learners and use chatbots for language learning, teachers remain skeptical, perceiving pupils as still dependent on guidance. Pupils reported

positive experiences with chatbots, mainly for improving language skills and preparing their lessons. However, some showed limited use due to the lack of awareness or interest. This contrast highlights the need for better support and clearer understanding of learner autonomy in EFL education.

Overall, this study highlights the supportive role of chatbots in enhancing autonomous learning among EFL pupils, especially in developing key language skills and fostering learner independence. Despite positive perceptions among pupils, the gap between teacher and pupil views suggests a need for clearer understanding and guidance. As with any research, certain limitations were encountered, and several recommendations have been proposed to inform future practice.

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Appendix 1

The Pupils' Questionnaire

Dear pupils,

The following questionnaire is submitted to you, third-year pupils, to collect information about your perceptions of using chatbots to enhance your autonomy in learning English as a foreign language. Please answer all the questions. There is no right or wrong answer, the questions are about your personal opinions and experiences.

Thank you for your time and participation.

Section One: General Information

1. Gender: Male ☐ Female ☐
2. Stream: Scientific ☐ Literature and Philosophy ☐
 Foreign Languages ☐ Management and Economics ☐
3. How do you perceive your level in English?
 a. Excellent b. Good c. Average d. Poor

Section two: Chatbots in Learning

“A Chatbot is a program that you can talk to, like ChatGPT, Google assistant, Siri, WhatsApp chatbot, Snapchat AI, Duolingo chatbot, Elsa speak etc....”

4. Have you ever used a chatbot?

Yes ☐ No ☐

4.1. If no, why:

- I do not have a digital tool (laptop, Smartphone, Tablet) ☐
- I do not have the internet ☐
- I do not have computer skills ☐

5. Do you use chatbots for learning?

Yes ☐ No ☐

6. Have you faced any difficulties while using chatbots for learning?

-Yes, difficulty understanding responses ☐

-Yes, technical issues ☐

-Yes, other ... ☐

- No, I do not have any ☐

7. Do you rely on chatbots so much that you sometimes struggle to complete tasks without them?

Yes ☐ No ☐

Section three: Chatbots in EFL Learning

8. Have you ever used a chatbot to learn English?

Yes ☐ No ☐

9. If yes, which chatbot have you used?

-Chatgpt ☐

-Duolingo ☐

-Replica ☐

-Snapchat AI ☐

-Other (specify)

10. If yes (in you answer to question 8), why do you use a chatbot to learn English?

To improve my speaking skills

To enhance my listening comprehension

Reading to enrich vocabulary

Grammar to enhance writing

Translation

Prepare for exams

Other (please specify)

11. Do you think chatbots provide accurate and helpful responses for learning English?

Always ☐ Sometimes ☐ Rarely ☐ Never ☐

12. Would you recommend using chatbots to other pupils for learning English?

Yes ☐ No ☐

13. If yes, what do you recommend?

.....

Section four: Chatbots in EFL and Learners Autonomy

14. Where do you do your homework?

Classroom ☐ Home ☐

15. Do you prepare your lessons at home?

Yes ☐ No ☐

16. Do you reflect on your learning after an exam or assignment to figure out what you could do better next time?

Yes ☐ No ☐

17. Do you use chatbots to practice or reinforce what you have learned by asking for quizzes, summaries, or explanations in your own work?

Yes ☐ No ☐

18. Do you use chatbots to help you manage your learning by setting reminders, organizing tasks, or creating study schedules?

Yes ☐ No ☐

Appendix 2

The Teachers' Questionnaire

Dear Teachers,

This questionnaire is a part of a research study on “The Role of Chatbots in Promoting Autonomous Learning among Secondary School EFL Pupils”. It aims to gather your insights on the use of chatbots in English language learning and their impact on students' autonomy. Your participation is voluntary, and all responses are confidential. Please answer honestly based on your opinion and experience.

Thank you.

Section one: Background Information

1. How many years have you been teaching English?

-Less than 1 year ☐

-1_5 years ☐

-6_10 years ☐

-More than 10 years ☐

2. To what extent do you allow your pupils to use their mobile phones during class for educational purposes?

Always ☐ Sometimes ☐ Rarely ☐ Never ☐

Section two: Chatbots and autonomous learning

3. Do you think that your pupils are autonomous? Explain.

.....

4. Do you think that your pupils depend only on what you give them in the classroom to learn English or they use other technological resources like chatbots?

- They depend only on what I give them ☐

-They use other resources ☐

5 .In your opinion, how can chatbots motivate pupils to learn independently?

.....

.....

.....

6. Do you think chatbots can help students manage their time and track their learning progress?

-Yes ☐

-No ☐

7. Have you ever recommended chatbots to your pupils?

-Yes ☐

-No ☐

If yes, which ones and why?

.....

8. In your opinion, what are the potential negative effects of using chatbots in EFL learning?

-Decrease critical thinking ☐

-Over reliance on technology ☐

-Reduce teacher-student interaction ☐

-Misinformation ☐

Any other negative effects?

.....

ملخص

في مجال تعلم اللغات الأجنبية، رغم أن استقلالية المتعلم تعد كعامل حيوي للنجاح، إلا أن البحوث حول الاستراتيجيات الرامية إلى تعزيزها في البيئات الرقمية لا تزال غير كافية، وخاصة في المدارس الثانوية. تستكشف الدراسة الحالية دور روبوتات الدردشة في تعزيز التعلم المستقل بين تلاميذ اللغة الإنجليزية كلغة أجنبية في السنة الثالثة بثانويات الجزائر. يهدف هذا البحث إلى دراسة ما إذا كان استخدام برامج المحادثة الآلية يساهم في تطوير ممارسات التعلم الذاتي لدى التلاميذ. ولتحقيق هذا الهدف، تم تحديد أربعة أسئلة بحثية: (1) هل تلاميذ المدارس الثانوية في اللغة الإنجليزية كلغة أجنبية على دراية باستخدام روبوتات الدردشة لتعزيز استقلاليتهن؟ (2) إلى أي مدى تعزز روبوتات الدردشة الاستقلالية بين تلاميذ المدارس الثانوية للغة الإنجليزية كلغة أجنبية؟ (3) ما هي تصورات التلاميذ والمعلمين حول استخدام روبوتات الدردشة لتعزيز التعلم الذاتي للتلاميذ؟ (4) هل هناك فجوة بين تصورات التلاميذ والمعلمين لاستخدام روبوتات الدردشة في تعزيز التعلم المستقل؟ من أجل الرد على هذه الأسئلة تم إجراء استبيانين مختلفين على عينة مكونة من 64 تلميذاً و35 معلماً، لجمع تصوراتهم فيما يتعلق بتأثير استخدام روبوتات الدردشة على استقلالية المتعلم. توفر النتائج رؤى حول مدى دعم تقنيات الدردشة الآلية للتعلم المستقل في سياقات اللغة الإنجليزية كلغة أجنبية وتسلط الضوء على أوجه التشابه والاختلاف بين وجهات نظر التلاميذ والمعلمين. وتختتم الدراسة بتقديم مجموعة من التوصيات لكل من التلاميذ والمعلمين، بهدف توضيح مفهوم استقلالية المتعلم و تشجيع تطبيقه العملي في التعليم.

الكلمات المفتاحية: روبوتات الدردشة، التعلم المستقل، متعلمي اللغة الإنجليزية كلغة أجنبية، تلاميذ

المدارس الثانوية، تكنولوجيا تعلم اللغة

Résumé

Dans le domaine de l'apprentissage des langues étrangères, l'autonomie de l'apprenant est depuis longtemps reconnue comme un facteur essentiel de réussite ; cependant, les stratégies visant à la renforcer dans les environnements numériques restent peu étudiées, en particulier au niveau du secondaire. La présente étude explore le rôle des chatbots dans la promotion de l'apprentissage autonome chez les élèves de troisième année du secondaire EFL de deux lycées de Mila. Il vise à examiner si l'utilisation de chatbots contribue au développement des pratiques d'apprentissage autodirigées des élèves. Pour atteindre cet objectif, quatre questions de recherche ont été posées: (1) Les élèves du secondaire EFL sont-ils familiers avec l'utilisation des chatbots pour améliorer leur autonomie? (2) Dans quelle mesure les chatbots améliorent-ils l'autonomie des élèves du secondaire EFL? (3) Quelles sont les perceptions des élèves et des enseignants sur l'utilisation des chatbots pour promouvoir l'apprentissage autonome des élèves? (4) Existe-t-il un écart entre les perceptions des élèves et des enseignants quant à l'utilisation des chatbots pour favoriser l'apprentissage autonome? Afin de répondre à ces questions, deux questionnaires distincts ont été administrés à un échantillon de 64 élèves et 35 enseignants, afin de recueillir leurs perceptions concernant l'impact de l'utilisation des chatbots sur l'autonomie des apprenants. Les résultats fournissent des indications sur la mesure dans laquelle les technologies de chatbot soutiennent l'apprentissage indépendant dans les contextes d'EFL et mettent en évidence les similitudes et les divergences entre les points de vue des élèves et des enseignants. L'étude se conclut par un ensemble de recommandations destinées aux élèves et aux enseignants, visant à clarifier le concept d'autonomie des apprenants et à encourager sa mise en pratique dans le processus éducatif.

Mots-clés : Chatbots, apprentissage autonome, apprenants EFL, élèves du secondaire, technologie d'apprentissage des langues