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the Degree of Master in English**

**TITLE**

**Addressing Differences in Students' Learning Styles through  
Multimodality to Enhance Autonomous Learning : The case study  
of Master One students of the English Department at Mouloud  
Mammeri University**

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## *Dedication*

*This work is dedicated to :*

My dear mother who has raised me to be the person I am to today and has been with me in every step of my life .

To my father , thank you for your support and belief in me .

To my lonely brother Mohamed , even from far away , your advice and support gave me strength when I need it more .

To my sisters' Fouzia and Maya , your kindness and encouragements helped me through every step of this journey.

To my nephews Liam and Silas your smiles fill my heart with joy.

To my cousin Youven , even if we never agree on anything .

**BALEH Imane**

I dedicate this work, first and foremost, to myself for the hard work I invested in it.

To my lovely mother, who has been and continue to be my source of encouragement.

To my beloved sister Razika.

To the special names in my life : Amar, Lina, Nabil, Malak, Amine, Meriem I dedicate this work.

Without missing my binomial Imane, Thank you for the moments I spent with you while conducting this research

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## **Abstract**

Every student learns differently, and understanding these differences is important to help them become more independent in their learning. This dissertation investigates the role of multimodality in addressing students diverse learning styles to enhance autonomous learning among Master One students at Mouloud Mammeri University of Tizi-Ouzou . Relying on constructivism as a theoretical framework ; this study aims to achieve four objectives : First , to identify students preferred learning styles . Second, to check their use of multimodal learning resources in the EFL context. Next, to investigate how multimodal strategies contribute to autonomous learning and finally, to highlight the challenges students face when developing autonomy. This research adopts a Mixed-Methods approach for data collection. Quantitative data were collected via an online questionnaire completed by seventy-one (71) students. While qualitative data were gathered through semi-structured interviews conducted with fifteen (15) students. The analysis of data included Descriptive Statistical Analysis for quantitative data, and Qualitative Content Analysis for qualitative data. Findings indicate that the majority of students prefer visual resources that help them accommodate their different learning styles. However, some challenges like lack of motivation and limited access to diverse multimodal resources were also identified. The study highlights the importance of integrating multimodality to support students learning styles and encourage independent learning.

**Key words-:** Autonomous Learning, Constructivism, Learning Styles, Master One students, Multimodality.

## **List of Abbreviations and Acronyms**

**LS** : Learning Styles

**QCA** : Qualitative Content Analysis

**VARK** : Visual , Auditory , Reading, Writing and Kinesthetic modes

**Q** : Question

**%** : Percentage

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# **General Introduction**

### Statement of the Problem

Education is a complex process that requires a deep understanding of how students learn and engage with knowledge. English Foreign Language learners have unique ways of absorbing information, what is called learning styles. Using multimodal resources like text, images and audio helps them learn more effectively. This encourages autonomy, allowing learners to take control of their progress and develop skills independently. Although, learning styles are important in education, it is still unclear how multimodality can support different learning styles to improve autonomous learning among EFL learners. According to KOLB (1984), learning styles are shaped by individual experiences and cognitive preferences. Similarly, Fleming and Baume (2006) proposed the Vark model to classify students based on their preferred learning modes.

Previous research conducted in the English Department at Mouloud Mammeri university of Tizi-Ouzou has examined key themes related to our study such as : Investigating students learning styles and teachers attitudes to improve their teaching practices by Lamari,K & Nouali,L (2019). Enhancing EFL learners autonomy through lesson planning by Bentouati,K & Haroun,K.(2019). The use of multimodality in Algerian and English language private schools advertisements by Takourabt,K& Lehamel,S (2016) supervised by professor Yassine,S.

However, most studies have focused on these aspects separately with little emphasis on the role of multimodality in shaping autonomous learning among EFL learners.

Specifically, research addressing the combined impact of multimodal strategies and learning styles on Master One students' ability to learn independently remains insufficient.

Given this issue, we have chosen to explore how multimodality can address differences in students' learning styles to enhance autonomous learning among Master One students at Mouloud Mammeri university of Tizi-Ouzou. Multimodality refers to the use of

multiple modes of communication such as visual, auditory and interactive elements to facilitate understanding and engagement. Integrating multimodal strategies in higher education can bridge the gap between students learning preferences and autonomous learning expectations. Much attention has been given to how students learn, but little focus has been placed on how multimodality fosters autonomy.

### **Aims and Significance of the Study**

#### a. General aim of the study :

This study aims to explore how multimodality strategies or methods can enhance autonomous learning by addressing students diverse learning styles among Master One students in the English Department at Mouloud Mammeri University of Tizi ousou. By conducting a case study within this specific context, the research seeks to explore how addressing students diverse learning styles through multimodal resources supports their comprehension and development as autonomous EFL learners.

#### b. Objectives of the Study ;

The study seeks first to identify students preferred learning styles. Then, examine their use of multimodal learning resources and, the extent to which multimodal strategies contribute to independent learning. Finally, to highlight the challenges students face in autonomous learning.

#### c. Significance of the Study

This research might be important as it addresses the gap in understanding how multimodal strategies can be used to support autonomous learning among EFL students. By identifying students' preferred learning styles and their performance with multimodal practical insights into how learners can be better equipped to take control of their own EFL learning. The findings were beneficial for students seeking to improve their study methods , for curriculum designers aiming to ameliorate with the appropriate methods , and for researchers

interested in exploring the intersection , learning styles, and autonomy in EFL education.

### **Research Questions and Hypotheses**

This research aims to explore the impact of multimodality on accommodating diverse learning styles among EFL students to promote autonomous learning. To fulfill these objectives, the research focuses on addressing the following research questions.

- **RQ1-**What are the most frequent learning styles among Master One students in the English Department?
- **RQ2-** To what extent do multimodal strategies improve Master One students' comprehension and foster their autonomy?
- **RQ3-**What are the main challenges that students face when integrating multimodal strategies into their autonomous learning?

Based on the research questions, the study proposes the following hypotheses. First, most Master One students prefer visual and auditory learning styles, because these align with the usual methods EFL learners use. Second, multimodal strategies significantly improve students' comprehension and support their development as autonomous learners. Finally, students may face problems using multimodal strategies due to their ignorance of how to choose the right tools and resources.

### **Research Techniques and Methodology**

To address the differences in students' learning styles through multimodality and enhance autonomous learning, this study adopts a mixed-methods research approach, combining both quantitative and qualitative methods.

For quantitative method, a questionnaire is administered to master one students to collect numerical data regarding their learning styles, engagement levels, and experiences with multimodal strategies.

For qualitative method, semi-structured interviews were conducted with selected students to gain deeper insights into their learning challenges and preferences.

For data analysis, two techniques were employed: Descriptive statistical analysis for quantitative data, used to identify patterns in students learning experiences. Second, is Qualitative Content Analysis for qualitative data, used to interpret student's perceptions and challenges in autonomous learning.

### **Structure of the Dissertation**

This dissertation follows a traditional simple model structure, consisting of four main chapters along with a General Introduction and a General Conclusion.

General Introduction presents the research problem, aims and significance of the study, research questions, hypotheses, and the methodology. Then, chapter one deals with the literature review, it provides an overview of key theories and previous research on learning styles, autonomous learning and multimodality. Then, chapter two deals with the research design and methodology, it explains the research approach, data collection tools, and analytical methods used in the study. Later, chapter three deals with the results, it presents the findings of the questionnaire and interviews, highlights patterns and key observations. Next, chapter four deals with the discussion, analyzes and interprets the results in relation to the research questions, linking findings to existing literature. Finally, the general conclusion summarizes the main findings, discusses their implications, and offers recommendations for integrating multimodal strategies in teaching to enhance autonomous learning.

# **Chapter 1**

## **Review of the Literature**

## **Introduction**

The purpose of this chapter is to provide a comprehensive review of the existing literature and theoretical models relevant to the present study. The literature review is systematically structured into four main sections. The first section explores the concept of autonomous learning, emphasizing its significance in fostering learning among EFL learners. The second section explores the notion of multimodality, drawing on social semiotics and key foundations of multimodality to examine how multiple modes of communication contribute to learning processes. The third section defines the concepts of learning styles from multiple theoretical perspectives highlighting the key debates in the field. The fourth section presents the analytical framework that supports the data analysis, outlining its theoretical foundations.

### **1. Autonomous Learning**

Autonomous learning allows students to take control of their own learning journey. This section first defines autonomous learning and highlights its key characteristics. Then, it explores its role in enhancing learners' learning styles through multimodality.

#### **1.1. Definitions and Characteristics**

The idea of autonomy can be traced back to ancient Greece. The word autonomous comes from the Greek word 'autonomous' referring to somebody or something which lives by his or her own rule. Autonomy has been described in a number of ways in reference to language learning. Holec (1981) defines autonomy as "the ability to take charge of one's own learning is to maintain the sense of responsibility for all the decisions regarding all aspects of this learning." (p.3) Since 1970s, the concept of autonomous learning has been given considerable importance.

Moreover, Morrison (2011) emphasised that " understanding his learning style will help an EFL learner become more autonomous, which will increase comprehension and retention."

(p.45) It means that when an EFL learner understands their own way of learning, they can take control of their learning process independently.

The key characteristics of autonomous learning are:

"Self-direction, critical thinking and self-assessment are traits of autonomous learning." (Little, 1991, p.4)

1. Self-direction: Little (1991) cites, "self-direction occurs when students take the initiative to determine their own learning needs, establish objectives and choose the best tools and techniques." (p.4) In other words self-direction is when learners take charge in identifying their learning needs, setting goals and also select appropriate resources and strategies. Fedj and Bouhass (2018) an Algerian researchers published in the Arab World English Journal said that "learner autonomy involves taking control over learning, assuming responsibility, conducting independent action, and exercising freedom of choice ." (Fedj & Bouhass, 2018, p.446).

2. Critical thinking: "Essentially, autonomy is a capacity for detachment and critical reflection, decision making and independent action. " (Little, 1991, p.4). When students exercise critical thinking they carefully consider what they have learned, pose questions, and come to their own conclusions.

3. Self-assessment: is also essential, as it helps learners check their own progress and make more improvements. Benson (2001) states, "autonomy includes decision making and independent action, and this by evaluating their strengths and weaknesses and add their learning methods accordingly. By developing these skills, learners become more independent and responsible for their own learning process." (p.11)

## 2. Multimodality

In recent years, multimodality has become increasingly prominent in education, particularly in the context of English as Foreign Language (EFL) learning. This section explores the theoretical foundations of multimodality, highlighting how different modes such as text, visuals contribute to meaning and also the different multimodal strategies.

### 2.1. Theoretical Foundations of Multimodality

Multimodality is a concept that refers to the use of multiple modes or channels of communication to convey meaning. These modes can include text, images, sound, and gestures.

"Multimodality theory provides a tool kit for the analysis and interpretation of different semiotic modes as well as the ways these modes are put together when used in communication."(Bouzidi & Yassine, 2020, p.887). This shows that multimodality helps learners become more autonomous by analysing and interpreting, with supporting different learning styles. It gives them access to various ways of learning,like visual, auditory and kinesthetic methods. In this way,learners can choose the type of content that suit their individual learning styles when used to comprehend and interact better.

Bougherara & Khaldi (2021) explain that multimodality facilitates the use of various communicative modes, helping students engage deeply with intellectual activities. That was in a study among third year EFL students at Biskra's university.

Moreover, according to Van Leeuwen (2005) "multimodality refers to the combination of different semiotic modes for example, language and music in a communication artefact or event "( p.281) . This means that multimodality focuses on how different semiotic modes such as words, images are all used by individuals to make meaning in particular social context. Another study in the Algerian context is by Yassine (2014) where the emphasis was on EFL textbooks. "The inclusion of more images does not only transform the appearance of the teaching content

but also contributes in reshaping the relation between teaching and learning by providing more resources for meaning making ". Therefore, using a multimodal learning and teaching approach is clearly beneficial for EFL learners. Mayer's( 2007) cognitive theory of multimedia learning suggests that learning is more effective when information is presented through multiple sensory channels . As Mayer (2009) notes that "words and images help people learn more effectively than just words." (p.106)

Additionally, Benson (2011) states that "providing learners with autonomy to engage with multimodal content fosters self-directed learning which is crucial for language acquisition"(p.11). It is for learners to decide what, how and when to learn because they control their own education and multimodal learning helps by offering different ways such as digital media and interactive online tools to let students explore independently and develop critical thinking. In the EFL context, multimodality plays a crucial role in fostering autonomous learning by offering diverse and interactive ways for students that accommodate different learning preferences.

## **2.2. Multimodal Strategies in EFL Learning**

Exist various multimodal strategies that significantly enhance English as a foreign language education by promoting autonomous learning. One effective strategy is Digital Multimodal Composing (DMC) which involves creating content that combines images, text, audio like blogging, storytelling not only improve speaking and writing skills but also increase motivation by supporting autonomous learning.

As Jiang et al (2024) notes "students who participate in digital recordings and spoken reflections improve their metacognition abilities and become more conscious of how they use language." (p.8).

Moreover, many learners use language learning apps and AI chatbots that tell them right away if they've made a mistake. Caratti et al (2024) found that "Learners engaging regularly

with Ai-powered interactive platforms demonstrate increased confidence and greater influence in speaking tasks." (p.7).

### **2.3. The Role of Multimodality in Fostering Autonomous Learning**

In education, particularly in higher education, where students must take responsibility for their learning it is essential to develop autonomous learning. To foster autonomous learning, especially among EFL learners, it is important to use multimodality, which supports the learners' diverse learning styles. "Recognising and utilizing different learning modalities such as visual, auditory, and kinesthetic enables learners, especially in EFL contexts to tailor their learning strategies, by greater autonomy and effectiveness in language acquisition." (Morrison, 2011, p.47) This quotation suggests that multimodality theory supports different learning styles by offering a variety of ways to access knowledge. Moreover, multimodality plays a key role in enhancing autonomous learning of EFL learners by responding to their individual learning styles.

### **3. Theoretical Foundations of Learning Styles**

Learning styles refer to the distinct ways individuals absorb and process information. According to scholars like Kolb & Kolb (2005) these styles influence how learners interact with and retain new knowledge. "Learning styles are the ways in which individuals prefer to absorb, process, and retain new information, reflecting their unique approaches to learning" (Kolb & Kolb, 2005, p.158). In regard to this study, students' awareness of their learning styles might be significant to ameliorate their autonomy in language learning." Understanding and accommodating different learning styles is closely related to the growth of autonomy in language acquisition" (Raya & Vieira, 2021, p.25). Recent research has examined how learning styles interact with key theories, for instance constructivism. These studies suggest that the relationship between a learner's personal features and their environment is fundamental to learning experience. "An essential component of the learning process is the

interaction between the environment and the personal characteristics of the learner ". (Pass et al, 2016, p.4)

### **3.1. VARK Version 7.8 and Multiple Intelligences Theory**

Learners learn in different ways, and understanding these differences can help EFL learners become more independent. This section looks at two popular theories: Fleming's VARK version (2013) and Gardner's multiple intelligences theory (1983). VARK suggests that learners prefer to take in information through seeing, hearing, reading, writing, or doing. Gardner's theory goes further, saying that individuals have different kinds of intelligence, such as musical, logical, or social intelligence. Since EFL learners need to develop autonomy and use different ways of learning, it's important to ask: Do these theories help or do they limit learners by putting them into fixed categories.

#### **3.1.1 Fleming VARK Version 7.8 (2013)**

According to the Algerian researchers Fedj & Bouhass Benaissi (2018) " learner autonomy is a multifaceted construct that demands learners to take control over their learning process by selecting strategies suited to their individual preferences, such as those outlined in VARK model"(p.447). In other words, learner autonomy means that students take charge of their own learning. To do this they choose learning strategies that fit their personal preferences, such as the ones described in the VARK model.

Furthermore, the VARK model, designed by Neil Fleming, explains learning preferences through four modes: Visual, Aural, Read/Write, and Kinesthetic. In 2013, Fleming introduced an updated version of the questionnaire known as VARK Version 7.8. This updated version made the concepts of the model more accessible and relevant for learners in different contexts. It also placed greater emphasis on the idea of multimodality, recognising that many learners use more than one style rather than relying on a single preference. The updated version provided expanded help sheets and study strategies, especially for learners in digital and online

environments to make the model more practical.

Thus, VARK Version 7.8 (2013) is considered a significant improvement that helped learners better understand and apply their learning preferences.

a. Visual learners: Visual learners prefer information that is presented through visual aids such as diagrams, images and videos. Fleming (2006) explained that combining visual stimuli with information helps visual learners retain it better because it improves comprehension and memory. In other words, learners flourish in environments that utilise images, photographs, and videos to convey meaning. For instance different recent Algerian studies have investigated the learning styles in the Algerian contexts. Merrouch,S(2017) research examined the learning styles preferences of master level students at Larbi Ben Mhidi's University, and the findings showed a predominant preference for visual learning styles.

b. Auditory learners: Auditory learners perform best when engaging with material through listening and verbal communication. They benefit from lectures, discussions, and audio recordings. Fleming & Baume (2006) "Auditory learners prefer to receive information by listening and speaking .They often retain information better when it is presented orally than in writing." (p.5)

c. Read and Write learners: Read and write learners have a strong preference for written information. They engage best with texts such as books, articles, and notes. "Learners who prefer read and write learning style perform best when they engage with written materials such as lists, essays, and manuals, which help them process and retain information effectively." (Makewa, 2019, p.44).

d. Kinesthetic learners: They are individuals who learn best through physical movement that involves touching, building or doing. "Kinesthetic learners are those who prefer to use movement, touch and interaction with their surroundings. In particular, tactile learners such as those studying science remember what they do better because they learn by doing". (Othman & Amiruddin, 2010,p.112).

Thus, briefly speaking the learning by doing expression leans when learners learn through hands-on practice and direct experience, rather than only through theory or listening.

Moreover, body language helps pupils understand academic content, showing its importance as a supportive, non-verbal tool in learning. "One such tool that aids pupils in understanding academic language and content is body language" (Yassine & Chalal ,2024,p.263).

For EFL learners, Neil Fleming's VARK model helps them become more independent by choosing the best way to learn. Each learning style presents information differently, allowing learners to use the method that works best for them. Oxford (2003) has cited that "EFL students can adopt a more independent approach to learning by determining their preferred method of learning and using resources and strategies that suit their needs." (p.19). With other words, EFL students can become more independent by finding out how they learn best and choosing resources and strategies that fit their needs.

### **3.1.2. Gardner's Multiple Intelligences Theory (1983)**

Howard Gardner (1983) introduced an innovative idea that changed how we think about intelligence. Instead of viewing intelligence as a single, fixed trait, he proposed that it comes in various forms. "Human beings possess a number of relatively autonomous intellectual capacities .Each person learns and interacts with the world in a unique way , shaped by a distinctive profile of these intelligences." (Gardner, 1983, p.3).

Many researchers in the Algerian context highlighted the importance of implementing multiple intelligences theory in EFL education in Algeria, like Cheriet & Khattala (2022). "There are various forms of intelligence including linguistic, mathematical, spacial, kinesthetic, musical, interpersonal, intrapersonal, naturalistic and existential each of which represents a distinct method of information processing."(Gardner, 1993, p.33)

Types of intelligence:

Howard Gardner's theory of Multiple Intelligences proposes that human potential is not limited to a single general ability but is instead expressed through a variety of distinct intelligences. Linguistic intelligence refers to the effective use of language for activities such as reading, writing, and storytelling, while logical-mathematical intelligence is evident in problem-solving, reasoning, and recognising patterns. Spatial intelligence characterizes individuals who excel at visualising and manipulating objects in space, whereas bodily-kinesthetic intelligence highlights the skillful use of the body for expression or problem-solving. Those with musical intelligence display a strong sensitivity to rhythm, pitch, and melody, and individuals with interpersonal intelligence show the ability to understand and interact effectively with others. In contrast, intrapersonal intelligence is about self-awareness and understanding one's own emotions and motivations. Naturalistic intelligence involves recognising and categorising patterns in nature, including plants and animals, and finally, existential intelligence reflects the sensitivity to deep questions about human existence. Together, these intelligences illustrate the diverse ways in which people learn, express themselves, and adapt to the world around them.

Gardner's theory emphasises that everyone has a unique combination of these intelligences, which can be developed over time. Howard Gardner's theory of multiple intelligences invites us to rethink how we define intelligence and learning. It highlights the importance of recognising each student's unique strengths.

Furthermore, multiple intelligences and learning styles are linked because both show how people learn differently. Multiple Intelligences explain learners' strengths (like musical, linguistic, or bodily-kinesthetic), while learning styles describe their preferred ways of learning (visual, aural, read/write, or kinesthetic). For example, someone with musical intelligence may prefer an aural style, and a person with bodily-kinesthetic intelligence may prefer a kinesthetic style.

### 3.2. The Impact of Learning Styles on EFL learning

In English Foreign Language learning (EFL), students exhibit diverse learning styles that significantly influence their language acquisition process. Recognising these individual preferences enables them to implement more effective learning strategies in reaching specific needs, ultimately fostering improved comprehension, and retention. Research suggests that adjusting learning methods with students preferred learning styles can lead to increased motivation and enhanced academic achievements. At the University of Abdelhamid Ibn Badis, Mostaganem Amrani (2020) investigated how learning styles affect EFL students' academic achievements and she found that considering different learning styles enhances students' comprehension and grades.

## 4. Constructivism

Constructivism is a theoretical framework that suggests that learners construct their own knowledge and understanding through active engagement and participation in the learning process. As Brooks & Brooks (1993) notes, "Constructivism is a perspective on learning that holds that learners construct their own knowledge and understanding through experiences and reflections on those experiences." (p.2). In addition, this method highlights how crucial learner past experiences, knowledge and viewpoints are in influencing how they comprehend new material. Constructivists hold that through active learning experiences students build their own knowledge and comprehension. An Algerian research by Kouicem and Kelkoul (2021) has explored the constructivist theories of Piaget and Vygotsky and clarified this learning approach relation to learners. In short, in this study the basic and most important assumption of constructivism which distinguishes it from the rest of theories of learning is that knowledge is not independent of the learner, but it is constructed.

This study aims to investigate how multimodality can facilitate autonomous learning of EFL learners and constructivism provides a theoretical framework for understanding this

process.

Piaget's cognitive theory (1936), a key component of constructivism, suggests that learners construct their own knowledge and understanding. As Piaget (1954) notes, "the child does not passively copy reality but actively constructs an understanding of the world through his own activity and interactions." (p.5). In the context of this study, Piaget's cognitive theory highlights the value of students actively participating in the learning process and the ways in which multimodality can support it.

Moreover, Vygotsky's sociocultural theory, another key component of constructivism, emphasises the role of social and cultural factors in shaping learners' experiences and understanding. As Vygotsky (1978) argues, "learning is a socially mediated activity; it is through social interaction that children develop higher mental functions." (p.90). Vygotsky's sociocultural theory shows that learning happens within a social and cultural environment. This means that the way students learn is influenced by the people around them, their culture, and the tools they use. So, multimodality can help make learning easier and more effective. It allows students to interact with knowledge in different ways depending on their preferences and strengths, which supports their learning process.

In summary, constructivism is a suitable theoretical framework for this study because it focuses on learning as an active and social process. It recognises that learner's previous knowledge and experience which play a vital role in how they make sense of new information. By considering the dynamic relationship between personal and environmental influences, constructivism offers a broad perspective on how multimodality can support learners in developing autonomy in their learning.

**Conclusion**

This chapter has focused on key concepts relevant to the present research. It is structured into four main sections, each one addressing a fundamental aspect of the study: autonomous learning, multimodality, learning styles. The first section discussed the definitions and characteristics of autonomous learning, emphasising its role in EFL education and multimodality serves in fostering learner autonomy. The second section examined the theoretical foundations of multimodality and its influence on EFL learning through multimodal strategies. The third section explored essential concepts related to learning styles and their impact on EFL learning. The last section presented the analytical framework.

# **Chapter 2**

## **Research Design**

## **Introduction**

This chapter outlines the research design adopted to investigate how multimodality can address differences in students' learning styles to enhance autonomous learning among Master One students at Mouloud Mammeri University Of Tizi Ouzou. This chapter is structured of four main sections; the first one presents the research method employed, which is a mixed- method approach. The second outlines the data collection procedures incorporating the context of investigation and the participants. The third one deals with data collection tools used to collect data, namely a questionnaire and an interview. The final part explains the analysis of both the qualitative and quantitative data.

### **1. Mixed-Method Approach**

In this study, we have relied on the mixed-methods approach, which is a study technique that combines both qualitative and quantitative research methods for data collection and analysis. Bergman (2008) defines mixed-methods research as "the combination of at least one qualitative and at least one quantitative component in a single research project or program"(p.1). This approach offers a comprehensive view of how multimodality can address differences in students' learning styles to enhance autonomous learning.

### **2. Data Collection Procedures**

#### **2.1. Context of the Investigation and the Participants**

Our research has taken place at the University of Mouloud Mammeri Tizi ouzou in the department of English, focusing on Master One students. The study places particular importance on multimodality as a central concept. It aims to identify students' preferred learning styles, examine their use of multimodal learning resources, investigate the extent to which multimodal strategies contribute to independent learning, and highlight the challenges students face in autonomous learning

The participants in this study are master one students across all specializations. A sample of seventy-one (71) students took part in the study by answering to an online questionnaire designed to explore their learning styles and perceptions of multimodal learning. Additionally, fifteen (15) interviews were conducted to gain deeper insights into their experiences and the impact of multimodal approaches on their ability to learn independently, the choice of master one students as participants highlights their ability to learn independently, which is essential at their academic level. Their engagement with diverse learning modes and strategies offers valuable perspectives on how multimodality can support independent learning within higher education.

### **3. Data Collection Tools**

To collect data, two research tools are used. The first tool is an online questionnaire sent to Master One students, and the second research instrument was a semi structured interview to better understand their individual perspectives.

#### **3.1. Questionnaire**

The questionnaire is the first instrument used to collect data. It is a survey tool that contains a set of designed questions, which can be either close-ended or open-ended, given to a group of individuals to gather data. According to Roopa and Rani (2012) "a questionnaire is simply a list of mimeographed or printed questions that is completed by or for a respondent to give his opinion" (p. 273).

In the present study, an online questionnaire was designed using Google Forms, and the link was sent to the participants via messenger groups of each specialty. At the end, 71 students completed the questionnaire.

According to Taherdoost (2021) , " An online questionnaire is a cost-efficient option ; however , you should consider the possibility of missing samples to problems with internet access" (p.15).

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To collect reliable data, the participants have been insured that their answers would be kept anonymous. In the introduction, we explained the aim of the questionnaire, which is to explore how multimodality strategies can enhance autonomous learning by addressing students different learning styles. It is divided into four sections; the first section includes personal information, the first section presents students' preferable learning styles. The second one is concerned with multimodal learning and its impacts. The third section is about autonomous learning practices and the fourth one is concerned with challenges that students face when they learn independently. It included 14 fourteen close-ended questions, it gathered students profiles, where the majority of participants were between 22 and 23 years old. Female students were the dominant. A group of participants came from various specializations, mainly Didactics of Foreign Languages and Language of Communication.

### **3.2. Piloting the Questionnaire Addressed to Students**

To pretest our questionnaire a pilot work has been done. Our pilot study is in the form of a questionnaire. The pilot study was conducted on April 16<sup>th</sup>, 2025. Nine (9) participants completed the questionnaire through a messenger group of all master one specialties of the English department. This operation was done in order to ensure that the questions are answerable. Overall, the feedback from eight students was positive, except for one student who expressed the desire to select multiple responses. As a result, the questionnaire was revised on April 18<sup>th</sup>, 2025 to allow multiple –choice answers for some questions. The final version of the questionnaire has been obtained. It contains 14 closed-ended questions including seven multiple-choice items (Q1, Q7, Q9, Q11, Q12, Q13, Q14).

### 3.3. Interview

The interview is a widely used research technique for gathering qualitative data through direct verbal interaction. As Kothari (2004) explains "the interview method of collecting data involves presentation of oral-verbal stimuli and reply in terms of oral verbal responses. This method can be conducted through face-to-face interviews or, where necessary, via telephone" (p.97). In this study, interviews serve as a crucial tool to explore master one students' perspectives on multimodality and its role in fostering autonomous learning.

To ensure consistency of responses, semi-structured interviews were chosen. According to Edwards and Holland (2013), "Semi-structured interviews follow a predetermined set of questions that are presented in the same way to all participants, allowing little flexibility for the researcher" (p.3).

The interviews were conducted with master one students from various specializations within the department of English at Mouloud Mammeri University Of Tizi Ouzou. Before participating, students were informed about the study objectives and ethical issues. Each interview took ten to fifteen minutes when providing their answers focusing on participants experiences with multimodal learning techniques and their influence on autonomous learning. The interviews were face to face with no recordings, they took place on 23<sup>rd</sup>, April in the afternoon and 24<sup>th</sup>, April in the morning. All the participants declined to be recorded during the interviews, which led us to rely solely on note-taking.

### 4. Data Analysis

After collecting data, the information gathered is analysed. The quantitative data is analysed using the Descriptive Statistical Method, and the qualitative data is analysed using Qualitative Content Analysis (QCA).

### **4.1. Descriptive Statistical Method**

In this research, a descriptive statistical method has been employed for the quantitative data analysis to analyse the numerical data obtained from the online questionnaire's close-ended questions. Descriptive Statistics, as defined by Sharma (2019) "is used to describe the behavior of a sample data. It is used to present a quantitative analysis of the given set of data "(p.4). The results are presented in an organized way using tables, and diagrams. These tools make the data easier to read and allow the reader to see the main patterns. For example, tables may show the frequency of certain answers while diagrams illustrate the results in a more visual form.

### **4.2. Qualitative Content Analysis (QCA)**

The qualitative data gathered from the open-ended questions of the interview conducted with students have been analysed through the use of Qualitative Content Analysis (QCA). According to Hsieh & Shannon (2005), QCA is " a research method for the subjective interpretation of the content of the text through systematic classification process of coding and identifying themes or patterns "(p.1278). Qualitative Content Analysis is a research method used to analyse non-numerical or textual forms of data.

In this research, we applied QCA by carefully reading all the students answers, grouping similar responses together and then interpreting them. This process helped us to identify learners' opinions and challenges.

## **Conclusion**

This chapter has outlined the research design adopted in this study, the study employs a mixed- methods approach combining both quantitative and qualitative methods. In addition, data were collected from Master One students in the Department of English at Mouloud Mammeri University of Tizi Ouzou through a questionnaire and an interview. Finally, the questionnaire was analysed using Descriptive Statistical Analysis, while interviews were analysed and interpreted through Qualitative Content Analysis (QCA).

# **Chapter 3**

## **Presentation of the Findings**

## Introduction

The present chapter displays the findings of our study. It is organized into two sections; the first section aims to present the findings obtained from the questionnaire distributed to Master One students in the Department of English at Mouloud Mammeri University Of Tizi Ouzou. The second section presents the results generated from the interview conducted with 15 students from the same department.

### 1. Presentation of the Results of the Questionnaire

The first research tool used to collect information for our study is the questionnaire distributed to Master one students of all specializations. We collected 71 responses. Therefore, this chapter reports the results of the students questionnaires. It contains, five (5) sections and seventeen (17) close ended questions including 7 multiple choice items (Q1, Q7, Q8, Q11, Q12, Q13, Q14).

#### 1.1. Learning Styles and Preferences

Q1 : How do you prefer to receive new academic content ?

**Table 1: Students' preferences for receiving Academic Content.**

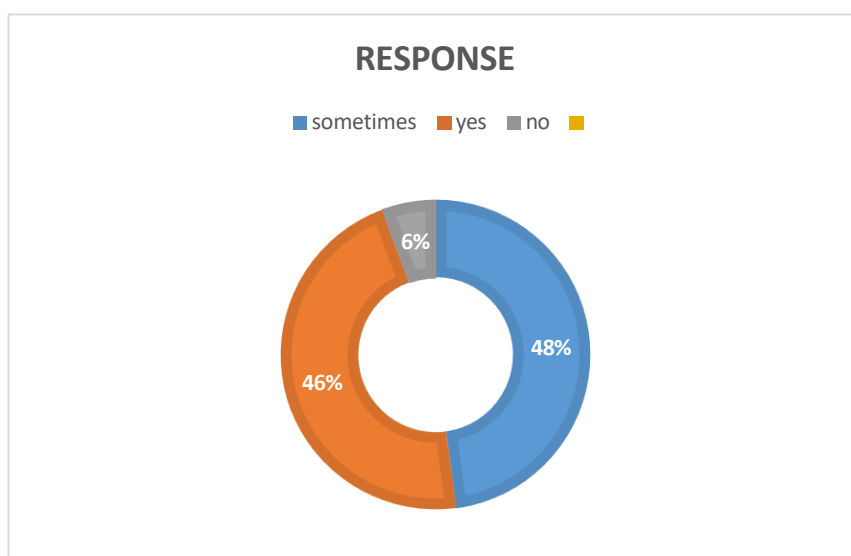
Learning delivery style	Number of Responses	Percentage (%)
Visuals ( watching videos , diagram)	43	60.6%
Auditory (lectures , podcasts)	29	40.8%
Reading texts ( books, articles, research papers)	24	33.8%
Hands-on activities (teaching practice, projects , discussions)	23	32.8%
<b>Total</b>	<b>119</b>	<b>168%</b>

The answers for question one were in multiple choices. Table 1 indicates that 43 students accounting for 60,6%, like to receive new academic content by watching visuals aids ( videos , diagrams, infographics). Additionally, 29 students representing 40,8%, prefer listening to explanations ( lectures , podcasts ). 24 students (33,8% ) took pleasure through

reading texts ( books, articles , research papers ) , and 23 participants (32,4%) prefer hands-on activities (teaching practice , projects, discussions).

Q2: Do you think your usual way of learning helps you study independently?

**Diagram 1: Students perceptions of how their learning style supports independent study.**



The results reveal that 47,9 % of students answered ( sometimes) which means their way of learning helps them learn alone from time to time .Almost, (46,5%) said (yes) .Only a few students (5,6%) said (No), it means that their way of learning does not help them.

Q3: How often do you use videos for autonomous learning?

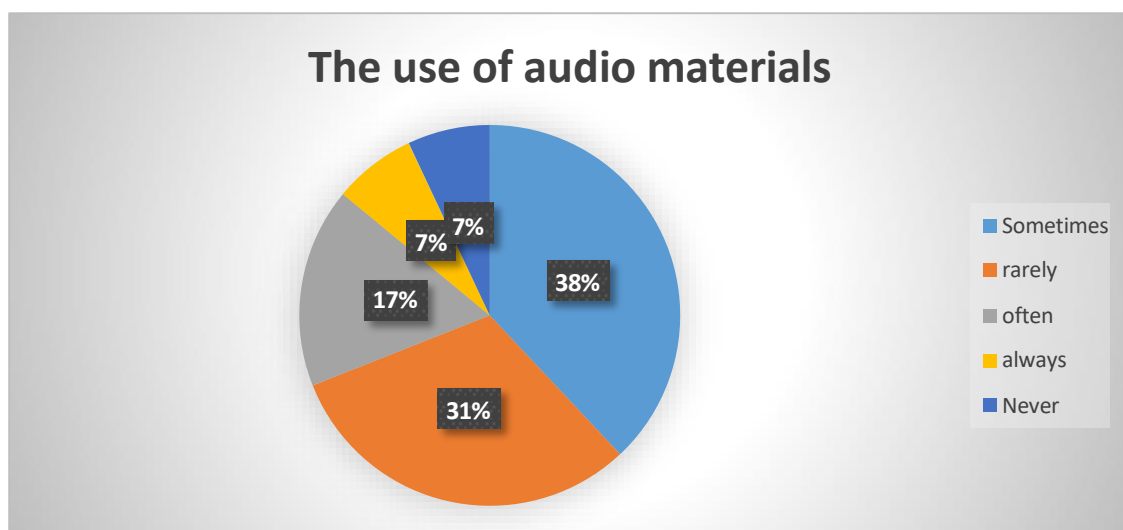
**Table 2: Frequency of Students use of Videos for Autonomous Learning.**

Frequency	Number of Responses	Percentage (%)
Sometimes	31	43.7%
Often	23	32.4%
Rarely	9	12.7%
Always	8	11.2%
<b>Total</b>	<b>71</b>	<b>100%</b>

Table 02 demonstrates that 31 students, accounting for (43,7%), sometimes use videos for autonomous learning. Additionally, 23 students, representing 32,4%, use them often. 9 students (12,7 %) rarely use them, and 8 students (11,2% ) always use them. No student said they never use videos.

Q4: How often do use you audio materials (eg ;recordings for autonomous learning) ?

**Diagram 2: Use of Audio Materials for Autonomous Learning.**



The findings demonstrate that most students (38%) sometimes use audio-materials (eg ; recordings) for autonomous learning. About (31%) use them rarely, (17% ) often and (7%) Always , and for never using them (7%).

Q5: How often do you use interactive content (quizzes, educational games) for autonomous learning?

**Diagram 3: Use of interactive Content for Autonomous Learning.**

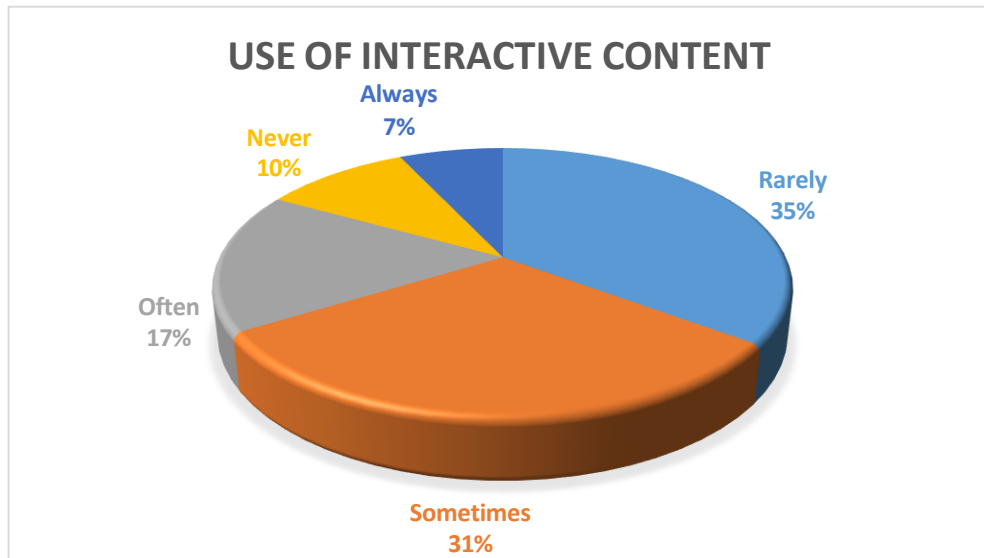
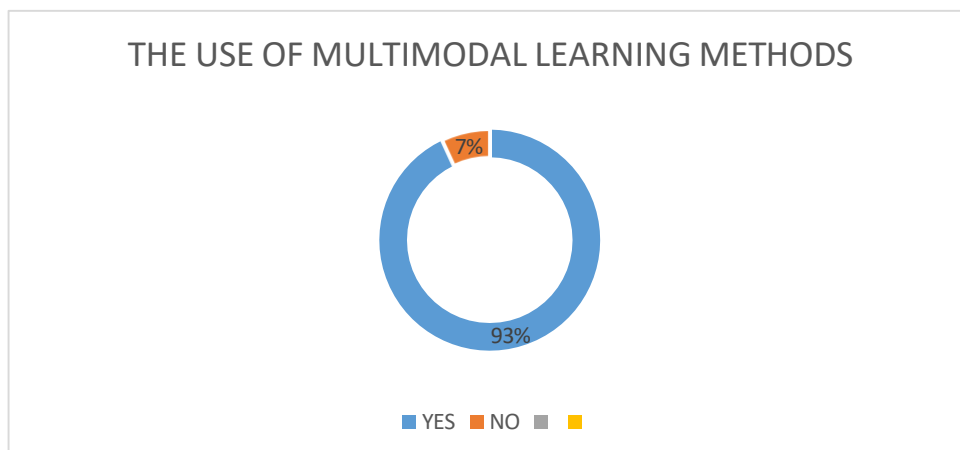


Diagram (3) three shows that (35,2%) of students state that they rarely use interactive content. In contrast, 31% claim to sometimes use the interactive content, while (16,9%) of them admit that they often use them. Then, 9,9 % of them said Never. Finally, 7% of students report “Always”.

## 1.2. Multimodal Learning and its Impact

Q6: Have you used multimodal learning methods (a mix of text, audio visuals, and interactive tools) in your studies?

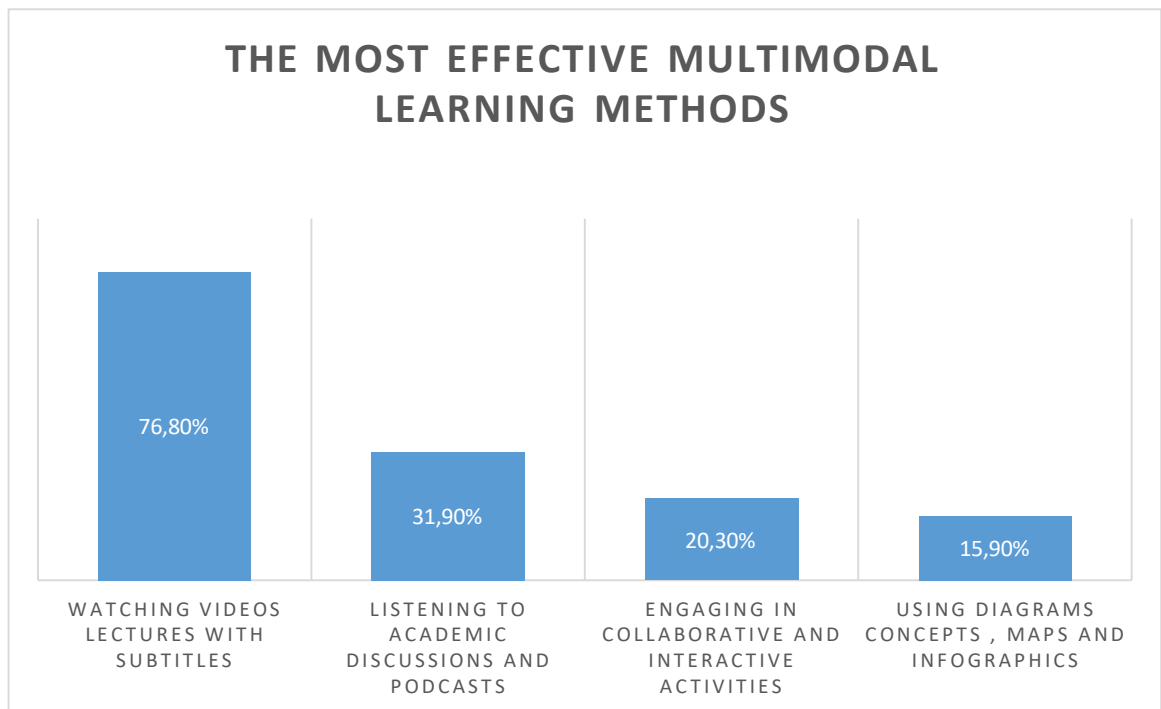
**Diagram 4: Students’ Use of Multimodal Learning Methods.**



In this part of the question, students were asked to choose between (YES) and (NO) regarding whether they use multimodal learning methods in their studies. A significant majority of students 93% selected (YES) and only (7%) selected (NO).

Q7: If yes, which multimodal learning methods do you find most effective?

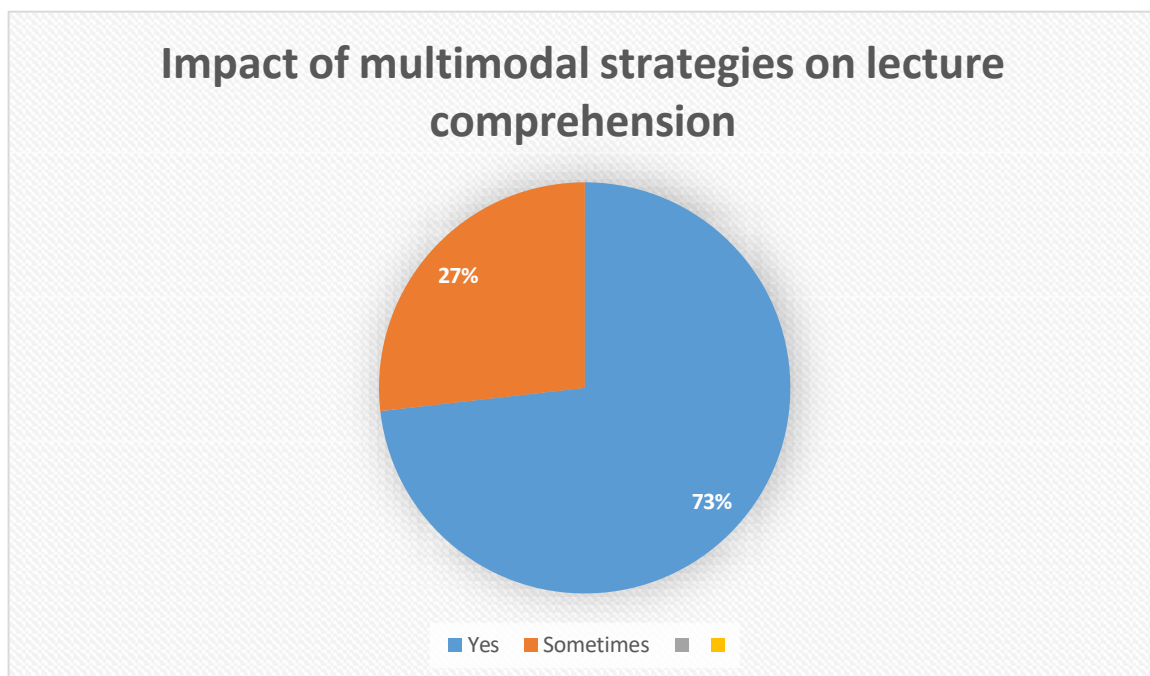
**Diagram 5 : The Most Effective Multimodal Learning Methods.**



The answers for question seven were in multiple choices. In this semi-structured question, watching video lectures with subtitles are selected 53 times accounting for (76,8%). Listening to academic discussions and podcasts have been chosen 22 times, representing (31,9%) of the selections, and engaging in collaborative and interactive activities is selected 14 times representing (20,3%) of the students. Lastly, using diagrams concepts, maps and infographics are reported 11 times accounting for 15,9% of the selections.

Q8: Do multimodal learning strategies help you understand lectures or lessons better?

**Diagram 6: Impact of Multimodal Strategies on Lecture Comprehension.**



The results reveal that the majority of students (73,2%) choose (YES) and the minority of them (26,8%) choose (Sometimes) and no one chooses (No).

Q9: What challenges do you face when using multimodal strategies ?

**Table 3 : Challenges faced by students when using Multimodal Learning Strategies.**

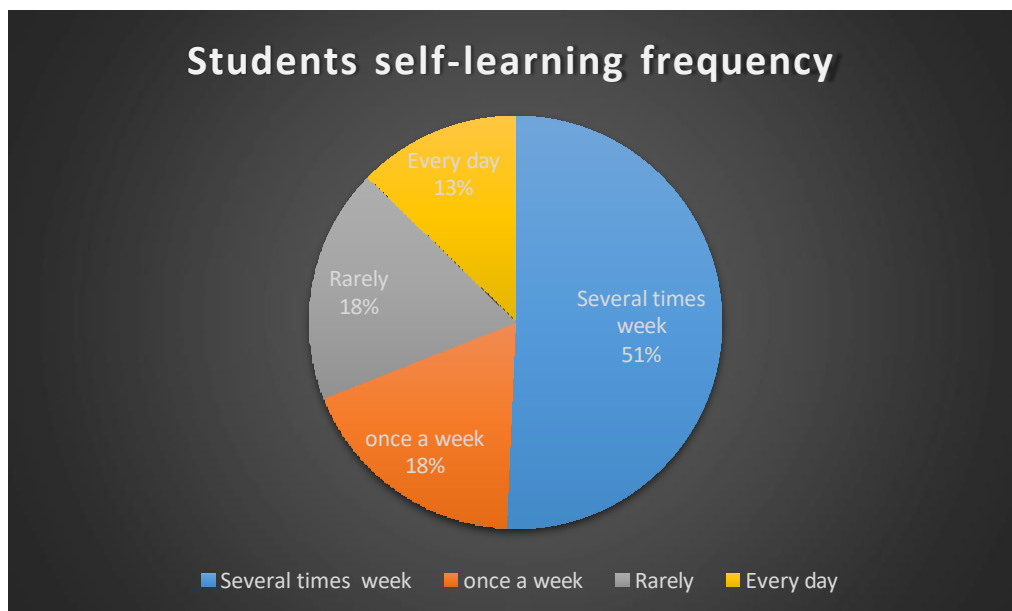
Challenge	Number of Responses	Percentage (%)
Lack of access to diverse resources	32	47.1%
Time management difficulties	29	42.6%
Uncertainty about which strategies are most effective	19	27.9%
Overload of different types of content	14	20.6%
<b>Total</b>	<b>94</b>	<b>138.2%</b>

The answers for question nine were in multiple choices. Table 03 shows that 32 students accounting (47,1%) of responses indicated lack of access to diverse resources. However, 29 students, representing 42,6%, selected time management difficulties. 19 of participants (27,9 % ) selected uncertainty about which strategies are most effective , and 14 students (20,6%) chose overload of different types of content .

### 1.3. Autonomous Learning Practices

Q10: How often do you study or learn new things on your own outside of class?

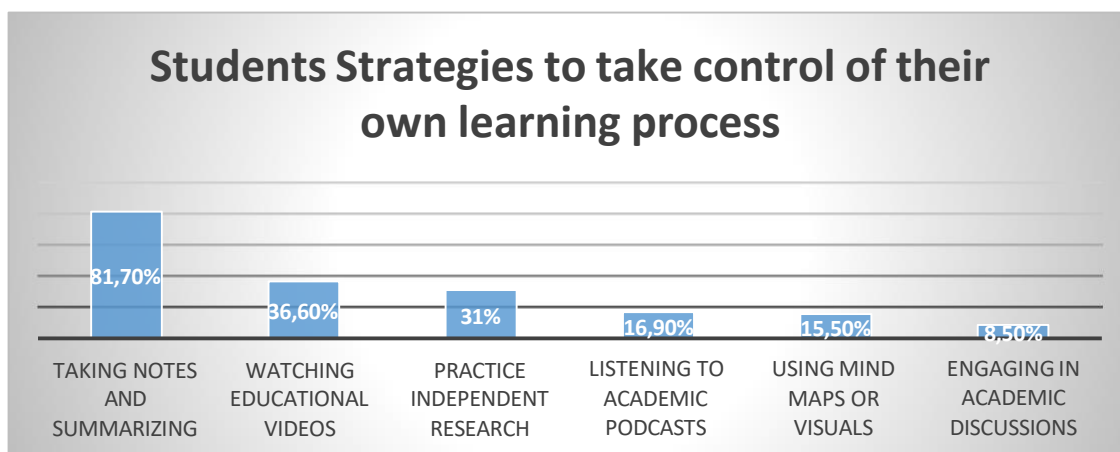
**Diagram 7: Students Self-learning Frequency.**



Students' answers indicate that the half of them (50,7%) learn new things on their own outside of class several times a week. A smaller group, (18,3%), study only once a week, while another 18,3% rarely learn new things .Only 12,7% study every day.

Q11: What strategies do you use to take control of your own learning process?

**Diagram 8: Students' Strategies to take control of their own Learning Process.**



The answers for question eleven were in multiple choices. The results reveal that the majority of students 81,7% take control of their own learning process by taking notes and summarising .This is followed by watching educational videos with 36,6% selections. About 31% of students do independent research. Listening to academic podcasts represents 16,9%.Using mind maps or visual is less common with 15,5% selections , and engaging in academic discussions with only 8,5% selections.

Q12: What motivates you to engage in personal learning or independent study?

**Table 4: Students' Motivation for Engaging in Personal or Independent Study.**

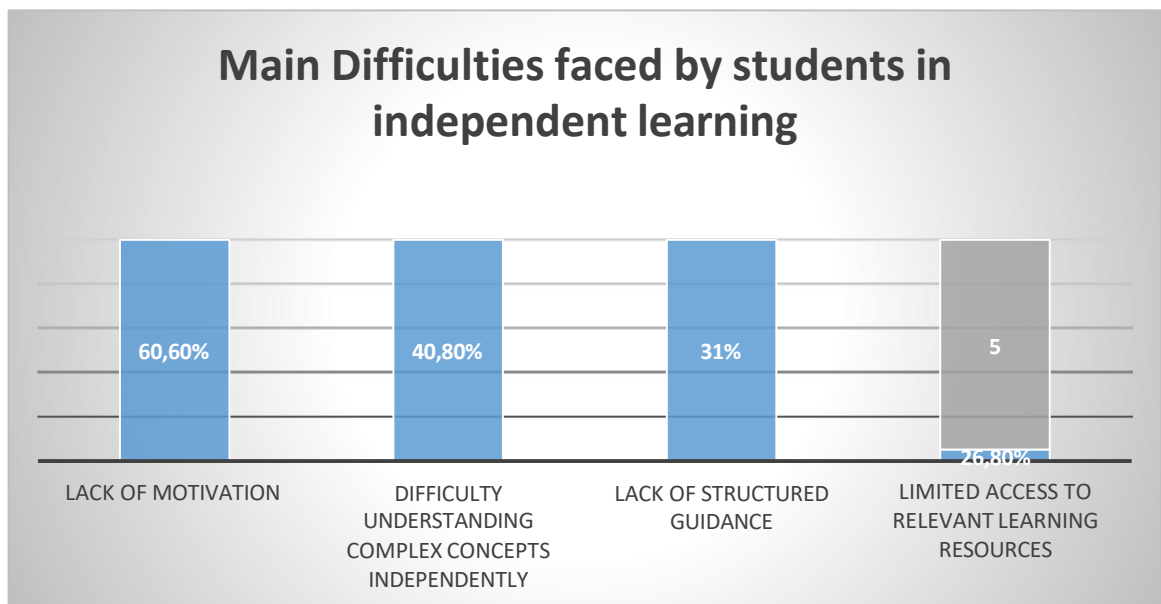
Motivation	Number of Responses	Percentage (%)
Personal interest in language teaching and learning	41	57.7%
Improving academic performance	31	43.7%
Preparing for research and future teaching	22	31%
Career aspirations in education	14	19.7%
<b>Total</b>	<b>108</b>	<b>152.1%</b>

The answers for question twelve were in multiple choices. Table 04 shows, that 41 students, accounting for 57,7% selected personal interest in language teaching and learning . Additionally, 31 students representing 43,7% selected improving academic performance .22 students (31%) chose preparing for research and future teaching and 14 students (19,7%) career aspirations in education .

#### 1.4. Challenges in Autonomous Learning

Q13: What are the main difficulties you face in learning independently?

**Diagram 9: Main Difficulties faced by Students in Independent Learning.**



The answers for question thirteen were in multiple choices. According to the results obtained from this question, we noticed that the biggest problem with learning alone is lack of motivation 60,6%. This is followed by the difficulty understanding complex concepts independently 40,8%. While 31% lack structured guidance, limited access to relevant learning resources was chosen by 26,8%.

Q14: Which of the following types of support would help you to become more effective in independent learning?

**Table 5 : The Needed Support for More Effective Independent Learning.**

Types of support	Number of Responses	Percentage (%)
More structured guidance on learning strategies	40	57.1%
Access to a wider range of multimodal learning materials	29	41.4%
More opportunities for collaborative learning	22	31.4%
<b>Total</b>	<b>91</b>	<b>129,9%</b>

The answers for question fourteen were in multiple choices. Table 05 demonstrates that 40 students accounting for 57,1% selected structured guidance on learning strategies. However, 29 students representing 41,4% selected access to a wider range of multimodal learning materials and 22 students (31,4%) selected more opportunities for collaborative learning.

To conclude, the questionnaire results reveal that most Master One students at Mouloud Mammeri University Of Tizi Ouzou prefer visual learning (60,6%) . Multimodal strategies especially videos with subtitles are commonly used , and improve comprehension for 73% of respondents .However , the main challenges that students face in their independent learning is lack of motivation (60,6%) . 57,1% need more structured guidance and 47,1%, have limited access to diverse multimodal resources .

## 2. Presentation of the Results of the Interviews

The second data collection tool used in our research is the interview which we have conducted with fifteen (15) master one students at the English Department. It was a face to face interview within the range of time, April 23<sup>rd</sup> to April 25<sup>th</sup>, 2025. The interview helps us to bring more details and deepen our investigation to answer our research questions. The following are the detailed results of the interview.

### **2.1. Understanding Learning Styles and Preferences**

**Question one: Could you describe your preferred way of learning in the context of your master's studies?**

In response to the question about their preferred learning style in the context of their master studies, all the 15 students indicated that they rely on multiple learning styles rather than just one. The results showed that nine students preferred visual learning, seven preferred auditory learning, ten preferred reading, and four preferred writing. This suggests that students adopt a multimodal approach to support their learning, depending on the concepts being studied.

**Question two: Do you feel that your learning style influences your ability to study independently?**

When asked if their learning style affects how they study on their own, most students said yes. They believe their way of learning helps them study independently. Only one student said it sometimes affects their ability to study independently.

### **2.2. Engagement in Autonomous Learning**

**Question three: How do you take control of your learning in your master studies (setting goals, choosing resources, managing your time)?**

When asked how they take control of their learning during their Master studies, most students mentioned setting goals and choosing their own learning resources, with six responses each. Five students also said they manage their time effectively. However, two students admitted that they do not take control of their learning. Overall, the findings show that the majority of students take active control of their learning in their Master studies

**Question four: What challenges do you face when studying without direct supervision?**

The answers about the challenges they face when studying without direct supervision were, six students said they struggle with a lack of guidance. Others mentioned difficulties in understanding lessons and finding reliable resources or credible answers to their questions. In addition, two students specified that laziness, lack of motivation, and distractions also affect their ability to study independently

**Question five: How do you overcome these challenges?**

When we asked about how they overcome these challenges, most students said they do more research and collect more information, mainly by searching online. One student also mentioned using books. Some students said they follow a study schedule, while two said they interact with others for help. One student added that studying in a quiet place helps them to focus.

**2.3. Multimodal Learning Strategies****Question six: Have you used different ways of learning in your studies (visuals, auditory, kinesthetic, digital, writing, reading ...) and if yes, what are they?**

The answers about if they use different ways of learning, were that all students said yes. Seven of them said they use all modes except kinesthetic. Three students prefer reading, writing, and digital tools. Four said they mostly use visual and auditory, and one prefers visual and reading. This shows that all students are multimodal learners.

**Question seven : Which multimodal resources do you find most beneficial for understanding complex concepts ( videos, podcasts, interactive apps ,...)?**

The responses of the participants about which multimodal resources help them most in understanding complex concepts, 8 students said they prefer watching visuals, especially on YouTube. 7 students chose interactive tools, and 3 students said they like using podcasts. One student mentioned reading books, and two said they interact with friends or family to understand better. Most students gave more than one answer, which shows that they benefit from using different multimodal resources together.

**Question eight: Could you provide an example of how multimodal strategies improved your comprehension?**

The answers were that, most students said they use videos, podcasts, and apps. They said these tools help them understand lessons better, prepare for exams, and learn more. Some students said they became more skilled and get more knowledgeable when preparing to their exams. One student shared that when they do not understand a book, they watch a video about it, listen to a podcast, and then read it again. In general, all students had helpful experiences with multimodal resources and said they make things easier to understand.

**2.4. Enhancing Autonomous Learning through Multimodality****Question nine: Do you think multimodal learning should be encouraged more in higher education to support EFL learners' autonomy?**

All students strongly agreed and think that multimodal learning should be encouraged more in higher education to support EFL learners autonomy.

**Question ten : What recommendations would you give to other EFL learners to enhance autonomous learning through multimodal strategies?**

When we asked for recommendations to help other EFL learners become more independent using multimodal strategies, students shared their personal advice. The majority encouraged the use of multimodal resources. Others stressed the importance of time management. A few mentioned the importance of staying motivated and searching more.

To sum up, this section of the findings of the interviews with the Master One students in the English Department show that students prefer a multimodal approach to support their autonomous learning. Moreover, multimodal strategies enhance understanding and comprehension. Despite these students face challenges in applying these strategies independently. Nevertheless, all the participants strongly agreed that multimodal learning should be encouraged in higher education and provided several recommendations for EFL learners.

**Conclusion**

This chapter presents the findings of our study in a well-organized and visually engaging manner. It has illustrated the results gathered from both the questionnaire sent to Master One students and the semi-structured interviews conducted with some of them on the topic of addressing differences in students' learning styles through multimodality to enhance Autonomous Learning among Master One students at Mouloud Mammeri University Of Tizi Ouzou. The results of the questionnaire answered by (71) students and (15) interviews in the department of English indicate that the majority of Master One students prefer visual and multimodal strategies like videos, to help them learn on their own. However they still face challenges such as lack of guidance, limited access to resources. Therefore, multimodal learning should be encouraged in higher education.

# **Chapter 4**

## **Discussion of the Findings**

## **Introduction**

This chapter discusses the results obtained from Master one students' online questionnaire and interviews. It aims to provide explanations for the obtained findings in light of our dissertation's research questions and literature review. The aim of this chapter is to identify the results that confirm or deny the suggested hypotheses raised in the general introduction. The chapter is divided into two main parts: the first part presents and analyzes the results obtained from the questionnaire, while the second part interprets the interview findings. These tools are analysed using Descriptive Statistical Analysis for the questionnaire and Qualitative Content Analysis for the interviews.

### **1. Discussion of The Results Obtained From The Questionnaire**

The questionnaire was the first data collection tool that is used in this study. It was distributed to Master One students off all specializations in the Department of English at Mouloud Mammeri University of Tizi Ouzou. The questionnaires aim to gather information about students' different learning styles, the frequency of using various modes and the role of multimodal strategies in enhancing autonomous learning.

#### **1.1. Students' Preferred Learning Styles**

The analysis of students' answers demonstrated that not all Master One students have the same preferred learning styles which offers critical insights into how the students prefer to receive new academic content. These preferences align with the VARK model, which classifies learning styles into, visual, auditory, reading/writing and kinesthetic modes.

##### **1.1.1. Students' Preferred Learning Styles for Receiving New Academic Content**

An important part of this research relates to how students prefer to learn or receive new academic content. The results obtained show that students do not rely on one mode

of learning but diverse modes of learning. These preferences match with the VARK model also reflects the constructivist perspective that learners benefit from using multiple channels as each one offers a unique way of understanding.

**a. Visual Aids**

A majority of students 60.6% claimed a preference for visual aids like watching videos and diagram as a learning method. It means that they learn more effectively when the content is presented through images, diagrams and other visual modes. As Fleming and Mills (1992) states, "Visual learners prefer to see what they are learning, they like diagrams, charts, graphs and flow charts."(p.140) .So, this combination offers an ideal style or mode to meet the needs of this group of students and also makes it more clear. However, we should not rely only on visuals, because not all students prefer to learn on this way or method.

**b. Auditory Aids**

A percentage of 40.8% of students prefer listening to explanations like lectures and podcasts. These students are auditory learners, who study or learn by hearing. It means that this group of students give more importance to spoken language in order to retain information. Fleming, & Baume (2006) "Auditory learners prefer to receive information by listening and speaking. They often retain information better when it is presented orally than in writing."(p. 5). But, listening may support comprehension for some of them. The finding shows that nearly half of the students benefit more from auditory aids. This highlights the need for students to use audio resources such as recorded lectures or podcasts to support their own learning processes.

**c. Reading and Writing Aids**

A smaller group (33.8%) reported that they prefer reading texts which reflects the reading modality in the VARK version 7.8 (2013). This group of students understand

information best when it is presented as written words, for example reading texts..." Learners who prefer read and write learning style perform best when they engage with written materials such as lists, essays, and manuals, which help them process and retain information effectively." (Makewa, 2019, P.44). In short , however reading is essential but it should be combined with other learning methods to create or make ideas more effective.

#### **d. Hands-on Activities**

Finally, 32.8% of students enjoy Hands-on activities which fit with the kinesthetic learning style and the students of this group are kinesthetic learners. For them, the most effective way to receive new academic content is by doing. One such tool that aids pupils in understanding academic language and content is body language. Therefore, including activities that involve group project and collaboration can help kinesthetic learners to learn more effectively. These results demonstrate that visual and auditory styles are the most dominant among Master One students which confirms the first hypothesis which suggested that students prefer these two modes (visual and auditory). Also, this supports the constructivist view that students construct knowledge when they interact with different modes not just one because each mode offers a unique way to understand .It means that videos can make ideas clear through images, while listening helps understanding tone.

This comparison shows that visual and auditory are the most common, reading, writing and kinesthetic modes are also important, so using only one mode is not enough. It is better to combine different styles to support or improve the students' independent learning process.

## **1.2. Exploring Multimodal Strategies for the Development of Autonomous Learning**

### **a. Students use of Multimodal Strategies in Enhancing Autonomous Learning**

From the gathered data, we noticed that most Master One students at Mouloud Mammeri University of Tizi Ouzou, (93%) use multimodal strategies that include different senses such as seeing, hearing, reading, or moving. This fits well with Gardner's theory of multiple intelligences. Gardner(1993) " There are various forms of intelligence including linguistic, mathematical, spacial, kinesthetic, musical, interpersonal, intrapersonal, naturalistic and existential each of which represents a distinct method of information processing." (P.33). Gardner explained that students have different types of intelligence. It also shows that students are aware that using many resources can make their learning more effective. This confirms hypotheses number two which predicted that multimodal strategies play a significant role in autonomous learning.

### **b. Frequency of use of various modes**

In terms of frequency, 43,7% of students sometimes use videos for autonomous learning, 32,4% often and 11,2% always. In addition, interactive content is used rarely or sometimes by 66,2% , while audio materials are used sometimes 38% or rarely 31% . This shows that students use different types of materials but not all the time or in the same way. As Piaget (1954) notes, "The child does not passively copy reality but actively constructs an understanding of the world through his own activity and interactions." (P.5). This diversity in frequency highlights that although students see the importance of multimodal resources, their use of them is not regular.

**c. Perception of Multimodal Strategies and independent Learning**

Moreover, when we asked ; Do you think your usual way of learning helps you study independently ? , nearly half of them (46,5%) said yes, and (47,9%) said that it helps them sometimes. It means that their preferred learning styles do support their independent study. This indicates that learning preferences support autonomy which aligns with Morrison (2011) who emphasised that "understanding his learning style will help an EFL learner become more autonomous, which will increase comprehension and retention." (P.45). Thus, students reliance on their preferred strategies demonstrates a link between preferences and autonomous learning.

**d. Motivation and Learning Strategies**

According to the results, 50,7% of students claim that they study on their own several times a week, However, 12,7 % said they study everyday. When, we move to the results of question number 15 from the questionnaire, the data indicated that motivation plays a crucial or important role in students autonomous learning. Over half of them (57,7%) said they do it out of personal interest in language teaching . Others are motivated by different reasons 43,7% aim to improve their academic performance, 31% are preparing for research and future teaching and 19,7% are focused on career aspirations in education. These findings reflect Vygotsky's view that students are more likely to engage in personal learning when their goals are clearly defined and meaningful. As he states, "Learning is a socially meditated activity, it is through social interaction that children develop higher mental functions." (Vygotsky, 1978, P.90). These reasons show that students are more motivated when learning, and it helps them reach personal goals.

**e. Students Preferences for Multimodal Learning Strategies**

We highlighted that a great number of students use note taking and summarizing 81,7%, educational videos (36,6%), and independent research (31%). However, less

common strategies are mind maps (15,5%) and academic discussions (8,5%). Additionally, many students 57,1% want more guidance on learning strategies, and 41,4% request better access to multimodal materials. As Howard Gardner (1983) argues that human beings possess a number of relatively autonomous intellectual capacities. Each person learns and interacts with the world in a unique way, shaped by a distinctive profile of these intelligences. According to Gardner's theory of multiple intelligences, everyone has a unique combination of these intelligences. Some students may prefer writing notes, others listen while some use mind maps. This confirms the central role of multimodality in shaping their independent learning and shows that autonomy develops best when students are encouraged to combine different modes of learning.

Thus supporting hypothesis number two, which suggests that using multimodal strategies helps students become more independent by offering flexible resources. Since most of students claimed that they use different types of materials and believe that these help them to learn independently.

To conclude, most students think that their preferred learning methods help them study on their own. Many use simple strategies like taking notes. This shows that they still use only a few types of strategies, they could benefit from using more methods.

### **1.3. The Role of Multimodal Strategies in Enhancing Comprehension and Independent Learning**

By making reference to the results obtained, it is evident that multimodal strategies enhance students comprehension. A majority of Master one students (73,2%) reported that these strategies help them better understand lectures. In contrast, 26,8% said they help them sometimes.

Additionally, the most effective methods which helped them understand lessons is

video lectures with subtitles representing 76,8%. Other methods that supported comprehension are listening to academic podcasts (31,9%), taking part in interactive or group activities (20,3%) and using visual tools like diagrams or infographics (15,9%). The data confirm that multimodal strategies may help improve their comprehension of lessons. This supports Mayer's (2001) idea that learning improves when we combine pictures and words. It also aligns with Vygotsky's (1978) theory, which states that students learn best when they link new knowledge to their own experiences.

So, to sum up multimodal strategies not only help students understand lessons better but also encourage them to take more responsibility for their own learning. As Mayer (2009) notes, "Words and images help people learn more effectively than just words." (P.106)

Therefore, the data show that students who use diverse multimodal resources improve both comprehension and autonomous learning which correspond to the hypothesis number three; students who use different types of learning resources are more motivated and more engaged in learning on their own.

#### **1.4. Challenges faced by Students When using Multimodal Strategies for Autonomous Learning**

From the questionnaires, we noticed that Master One students at Mouloud Mammeri University of Tizi Ouzou face several challenges when integrating multimodal strategies into their autonomous learning. The following analysis organizes these challenges under subheadings.

##### **a. Struggle to access Diverse Multimodal Resources**

According to the data obtained, 47,1% of students struggle to access to diverse multimodal resources, while 42,6% face difficulties with time management. In addition, 27,9% express uncertainty about which strategies are most effective, and 20,6% report being challenged by different types of content. It means that if students

can not access diverse multimodal resources , students face some issues to engage in autonomous learning such as lack of reliable internet connection.

**b. Time –Management**

The results show that 42.6% of students have a major issue which is time management, it means that many students do not organize their study schedules. So, they could not engage in self-directed learning. In order to face these challenges students should plan their time. Time management emerges as one of the most critical difficulties. Although, 42,6% of students have a major issue which is time management it means that many students do not organize their study schedules. So, they could not engage in self-directed learning. In order to face this challenges students should plan their time.

**c. Lack of Motivation**

A percentage of 60,6% claim that they lack motivation when studying alone, which affects or impact their ability to engage with multimodal strategies and autonomous learning. As Holec (1981) explains that autonomy is the capacity to take control of your own learning, but if students are not motivated, it becomes difficult to take this kind of control.

**d. Need for More Guidance**

About 31 % of students reported that they need more guidance in using multimodal learning resources effectively. As Little(1991) cites, "self-direction occurs when students take the initiative to determine their own learning needs, establish objectives and choose the best tools and technique." (p.4). So, students need more guidance to choose the appropriate tools.

**e. Difficulty in Selecting the Right Learning Materials**

About, 26.8% of students claim that it is hard to find the right learning materials. It means that many students feel uncertain if the material chosen is the best or the appropriate one. As Oxford (2003) cites, "EFL students can adopt a more independent approach to learning by determining their preferred method of learning and using resources and strategies that suit their needs." (P.19). Without support, students may waste time on less effective material. This part explains the main problems that students faced during their independent learning. All the data align with constructivism. This difficulty also aligns with constructive perspectives. Vygotsky (1978) emphasized that learning is socially mediated and that learners often need interaction and guidance before they can manage their own choices.

When comparing the challenges, it appears that students mostly struggle with finding resources and using their time well, while others find it hard to stay motivated or choose the right materials. Others feel lost and need more guidance. These problems show that many students are not ready to learn by themselves. This confirms hypothesis number three, which states that students face challenges when they use multimodal strategies due to not knowing how to choose the right tools. So, students are not yet independent and need more support and guidance to choose effective materials.

**2. Discussion of The Results Obtained From The Interview**

The interview is the second data collection tool that is used in this study. It is conducted with fifteen (15) Master One students at the English Department of Mouloud Mammeri University of Tizi Ouzou. The interview questions are mainly asked to get in-depth information about students' views on how learning styles enhance autonomous learning through multimodality. Therefore, it helps us to bring more details to answer the

research questions. The following is the interpretation of the findings of the interview.

## **2.1. The Most Frequent Learning Styles**

The results from the students' interviews regarding their learning styles reveal that all participants possess multiple learning styles rather than relying on just one. The majority reported a preference for visual and reading styles, while others mentioned listening and writing as supplementary modes of learning. These findings address the first research question, which aimed to identify the most common learning styles among EFL Master One students at the English Department of Mouloud Mammeri University.

According to Fleming and Mills (1992) "learners often exhibit multimodal preferences rather than a single dominant style" which aligns with the participants responses in this study, where the participants have chosen many answers.

### **2.1.1. Visual and Reading**

The findings revealed that the most preferred learning styles among Master One students in the English Department at Mouloud Mammeri University were reading (chosen by ten students) and visual (chosen by nine students). Among these participants, six were from the Literature specialties, and seven were from Didactics of Foreign Languages or Language and Communication. The interview data partially confirmed the first hypothesis, which suggested that most students would prefer visual and auditory learning styles due to their alignment with the common methods used in EFL contexts. However, in the results of the questionnaire, visual and auditory styles were most prominent. Whereas in the interviews conducted with students visual and reading were the most chosen. This predominance aligns with previous research showing that many EFL learners tend to favor these modes for effective language acquisition.

### **2.1.2. Listening and Writing**

Seven participants preferred auditory learning and four preferred writing. Auditory learners explained that they retain information better through listening. Writing was reported to help learners with organization of ideas like taking notes.

Despite these differences, the styles are interconnected. For example, a student might listen to a lecture (auditory), take notes (writing), watch videos (visual), and read texts (reading) to fully understand a concept or them. Therefore, this will naturally promote more effective autonomous learning. This aligns with the VARK Version 7.8 (2013) because learners benefit from using multiple modes, to process information in ways that suit them. Furthermore, when students combine these modes in a multimodal way to not only strengthen comprehension but also develop autonomy.

## **2.2. Learning Styles Influence Autonomous Learning**

All participants except one explained that their preferred learning styles help and influence their ability to study independently. Most of them responded with statements such as, “Yes, of course, it helps me gather more information” and “It does make learning easier.” One student stated, “It does help me sometimes.” These responses indicate that learning styles indeed support and influence students' independent learning. This follows the assertion by Cassidy (2004) that "awareness and utilization of preferred learning styles can enhance autonomous learning". (p. 425).

## **2.3. Students' Engagement in Autonomous Learning**

The findings concerning students' engagement in autonomous learning provide answers that show the different challenges they experience when using multimodal strategies in their independent EFL learning. These issues are particularly relevant to the fourth research question, which explores the main challenges students face when

integrating multimodal strategies into their autonomous learning.

## **2.4. Main Challenges in Integrating Multimodal Strategies**

Although multimodality in education is often considered a way to personalize learning and facilitate individual preferences, the findings showed that students do not always possess the skills needed to use these diverse learning modes effectively.

### **2.4.1. Lack of Guidance and Choosing Reliable Resources**

The findings suggest that although students are generally motivated to engage in autonomous learning, they often struggle with guidance and the choice of reliable resources. From a constructivist perspective, this shows that learners need to actively construct meaning by critically evaluating and selecting materials rather than passively accepting information. Multimodality becomes essential here, as students can cross-check knowledge through different modes, such as reading texts, watching videos, or listening to lectures, which not only fills comprehension gaps but also strengthens autonomy by encouraging them to take responsibility for validating and integrating knowledge from diverse sources.

### **2.4.2. Lack of Focus and Laziness**

The data collected showed that some students were lazy and easily distracted while studying alone. Quoted from one student who said “I don’t like studying by myself, it’s boring”. Also, another one who added “I often get tired and stop studying”. This made it difficult for them to develop autonomous learning. The three challenges are connected and affect each other. When students do not get enough guidance, they find it hard to choose the right and reliable resources. This confusion can lead to a lack of focus and laziness. As a result, it becomes harder for them to learn on their own using different learning styles.

Furthermore, these challenges relate to constructivism, because without support and guidance, students struggle to build knowledge independently. Also, when they can not select the right resources or stay focused, it limits their ability to construct understanding effectively.

Such challenges go directly with the third hypothesis of the study: students may face problems using multimodal strategies due to not knowing how to choose the right tools and resources. Based on the data collected, this hypothesis is strongly supported.

Moreover, while multimodal strategies offer rich opportunities for autonomous learning, they also introduce new challenges. Supporting learners with helping them develop the skills to select appropriate multimodal resources, might bridge the gap between autonomous learning and effective learning.

In a nutshell, multimodal strategies expand opportunities for autonomous learning, but they also risk overwhelming learners who may struggle to choose reliable resources. Guiding students to develop evaluative skills help them use multimodality effectively, thus linking autonomy with meaningful learning outcomes.

## **2.5. Multimodal Learning Strategies**

The findings from question six show that all Master One students interviewed reported using different ways of learning, which confirms that they are multimodal learners. While some learners preferred specific modes like reading, writing, or using digital tools, others mentioned combining multiple modes such as visuals, auditory, and interactive resources. Also, most students said they do not use kinesthetic methods, which explains that their learning environment does not encourage hands-on or movement-based learning.

### **2.5.1. Multimodal Resources Examples**

The responses to question seven show that multimodal resources support the

development of autonomous learning. The students explained that tools like videos (especially on YouTube), interactive apps (such as Deep Seek, ChatGPT, and Quizlet), and podcasts help them understand complex concepts. This supports the second hypothesis of the study: Multimodal strategies significantly improve students' comprehension and support their development as autonomous learners. The responses of many students indicate that they are using more than one type of resource, which shows that multimodality offers freedom and choice which are important for fostering independent learning. This aligns with Morrison (2011), who emphasises the importance of recognising different learning modalities like visual, auditory and kinesthetic to foster more effective and autonomous learning among EFL learners. By engaging with multiple modes, learners can access content in a form that matches their preferences, which ameliorates both comprehension and independence.

Moreover, these results support the second general research question of this study, since students already engage in multiple modes of learning, it shows that they actively choose and combine methods that work best for them. This is a key sign of autonomous learning and the ability to select and use strategies that fit their personal learning style and needs.

From a theoretical perspective, constructivism highlights the importance of active participation in learning, where students build knowledge based on their experiences and interactions with different tools and environments. Students are not just receiving knowledge; they are actively building understanding by choosing and combining resources that help them learn better.

### **2.5.2. Multimodal Strategies Effectiveness**

The findings from question eight show that most students gave clear examples of how multimodal strategies improved their comprehension. They mentioned that videos,

podcasts, and apps helped them understand lessons more easily, prepare for exams, and deepen their learning. One student gave a detailed example: when they struggled to understand a book, they watched a video about it, listened to a podcast, and then read it again, showing that it clearly built understanding when using multiple resources.

Furthermore, this highlights that multimodal strategies support comprehension by engaging students through different resources, making learning more accessible and meaningful. This demonstrates that learning is more effective when students use multiple tools instead of relying on a single source.

### **2.6. Enhancing Autonomous Learning through Multimodality**

The results from question nine show that all Master One students strongly agreed that multimodal learning should be encouraged more in higher education, especially to support EFL learners' autonomy. This agreement reflects the students positive experiences with using different modes of learning. The fact that all participants believe multimodal learning should be encouraged shows that they recognize its ability to meet diverse learning needs. As Mayer (2009) states, "Multimodal learning environments accommodate individual differences by providing multiple pathways for understanding." (p. 5) This supports the idea that multimodality is not just useful but essential in a university context where learners have varied styles.

### **2.7. Recommendations for Enhancing Autonomous Learning**

Question ten asked students to provide recommendations for other EFL learners who want to become more autonomous through multimodal strategies. The responses included practical advice: most students recommended using a variety of multimodal resources such as videos, apps, and podcasts. Others highlighted the importance of time management and staying motivated. These answers show that students understand that autonomous

learning is not just about access to resources but also about managing one's time effectively. These findings support the broader argument of this research : multimodal learning is a powerful way to support different learning styles and help autonomous learning.

To conclude the findings from the interviews clearly demonstrated that Master One students at Mouloud Mammeri University benefit significantly from multimodal strategies in their autonomous EFL learning. The results confirm that students prefer visual, auditory, and reading, often combining them to suit their individual needs. While multimodality improves comprehension, students still face challenges such as lack of guidance, time management issues, and difficulty selecting reliable resources. Despite these obstacles, the strong agreement among students highlights that multimodal learning is not only effective but also essential for supporting diverse learning styles and fostering autonomous learning. These results support the study's hypothesis, answer the questions of the study, and align with the constructivist view that learners build knowledge actively and independently through personal experiences and choices.

### **Conclusion**

This chapter discussed the findings of our study displayed in the previous chapter all based on constructivism and the literature review , along with data collected from the online questionnaire and the interview .The results show that Master One students are multimodal learners who benefit from using different strategies like videos, apps, and podcasts to improve comprehension and support autonomous learning. While they face challenges such as time management and motivation, they strongly believe that multimodal learning should be encouraged in higher education. These results support the study's hypothesis, answer the questions of the study, and align with the constructivist view that learners build knowledge actively and independently through personal experiences and choices.

# **General Conclusion**

The present Master's dissertation has investigated how to address students' learning styles through multimodality to enhance autonomous learning among EFL (English as a Foreign Language) learners. The research was conducted with Master One students from the English Department at Mouloud Mammeri University of Tizi Ouzou.

This study pursued four main objectives. First, to identify students' preferred learning styles. Second, examine their use of multimodal learning resources and, the extent to which multimodal strategies contribute to independent learning. Finally, to highlight the challenges students face in autonomous learning. Moreover, the study adopted a constructivist approach as its theoretical framework.

To achieve the research objectives, answer the research questions, and test the hypotheses, a mixed-methods approach for data collection and analysis was employed. This combined both quantitative and qualitative research techniques to explore how multimodality enhances autonomous learning and addresses the learning styles of Master One students in the English Department. Data were collected using two methods: an online questionnaire distributed via Messenger groups of Master One students, from which seventy-one (71) responses were gathered, and face-to-face interviews conducted with fifteen (15) students.

Regarding data analysis, the quantitative data obtained from the close-ended questions in the questionnaire were analysed using descriptive statistics, including percentages, and presented in diagrams and tables. In contrast, the qualitative data were analysed through Qualitative Content Analysis (QCA), which enabled the identification of key themes and patterns.

The findings of this study highlighted the significant role of multimodal resources and strategies in developing and facilitating autonomous learning among EFL learners, despite the challenges encountered. Results from both the questionnaire and the interviews indicated that

students prefer a multimodal approach to support their independent learning. They engage in multiple modes of learning and actively choose and combine strategies that suit their personal learning styles, which reflects their ability to take control of their learning and thus become autonomous learners.

Nonetheless, students reported several challenges in applying these strategies independently, such as insufficient guidance, and difficulties in time management. All participants agreed that multimodal learning should be encouraged in higher education and offered various recommendations for EFL learners. These outcomes partially confirm the four hypotheses proposed in the general introduction of this dissertation.

It is important to acknowledge several limitations encountered in this study. The first limitation concerns the small sample size for the interviews, primarily due to students' absence, as they had completed their lectures and were preparing for exams. Additionally, all participants declined to be recorded during the interviews, which led us to rely solely on note-taking. This made it slightly challenging to capture all details of their responses. The second limitation involves the questionnaire distribution: some students ignored the survey, which complicated the process of obtaining an adequate number of participants. Since the questionnaire was distributed online and not in person, many students responded only after receiving multiple reminders.

In conclusion, while this study provides valuable insights into the relationship between multimodality, learning styles, and autonomous learning in the EFL context, it also reveals certain gaps that merit further exploration. The limited scope of the sample and setting means the findings cannot be generalised to all EFL learners. Additionally, the current study did not investigate the role of digital tools or teachers' perspectives in supporting multimodal learning. Future research could expand these aspects, examine other educational contexts, or explore

how specific multimodal strategies can be tailored more effectively to individual learning styles. Such investigations would contribute to a deeper understanding of how to promote autonomy in language learning through multimodality.

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# Appendices

**Appendix 1**  
**Questionnaire for Students**

**Dear Master 1 Student,**

**This questionnaire is part of a research study exploring how multimodal strategies can enhance autonomous learning by addressing students' different learning styles among master one students at the English department .**

**In order to achieve this academic purpose you are kindly requested to answer the questions bellow.**

**We ensure the anonymity and confidentiality of your answers .**

**Thank you very much for your contribution!**

**Questionnaire:**

### **Section 1: Learning Styles and Preferences**

**1. How do you prefer to receive new academic content?**

**a) Reading texts (books, articles, research papers)**

**b) Listening to explanations (lectures, podcasts)**

**c) Watching visual aids (videos, diagrams, info graphics)**

**d) Hands-on activities (teaching practice, projects, discussions)**

**e) Others.....**

**2. Do you think your usual way of learning helps you study independently?**

**Yes**

**No**

**Sometimes**

**3. How often do you use videos for autonomous learning?**

**Always**

**Often**

**Sometimes**

**Rarely**

**Never**

**4. How often do you use audio materials (eg; recordings) for autonomous learning?**

**Always.**

**Often.**

**Sometimes.**

**Rarely.**

**Never.**

**5. How often do you use interactive content ( eg ; quizzes, educational games ) for autonomous learning ?**

**Always.**

**Often.**

**Sometimes.**

**Rarely.**

**Never.**

## **Section 2: Multimodal learning and its impact**

**6. Have you used multimodal learning methods (a mix of text, audio, visuals, and interactive tools) in your studies?**

**Yes**

**No**

**7. If yes, which multimodal learning methods do you find most effective ?**

**a) Watching video lectures with subtitles.**

**b) Listening to academic discussions and podcasts.**

**c) Using diagrams, concept maps, and infographics.**

**d) Engaging in collaborative and interactive activities.**

**e) Others (Specify , please ) .....**

**8. Do multimodal learning strategies help you understand lectures or lessons better?**

**Yes**

No

Sometimes

**9. What challenges do you face when using multimodal strategies?**

- a) Lack of access to diverse resources
- b) Time management difficulties
- c) Uncertainty about which strategies are most effective
- d) Overload of different types of content
- e) Others ( please , specify).....

**Section 3: Autonomous Learning Practices**

**10. How often do you study or learn new things on your own outside of class?**

Every day

Several times a week

Once a week

Rarely

**11. What strategies do you use to take control of your own learning process?**

- a) Taking notes and summarizing
- b) Watching educational videos
- c) Listening to academic podcasts
- d) Using mind maps or visual organizers
- e) Engaging in academic discussions
- f) Conducting independent research
- g) Others (please,specify).....

**12. What motivates you to engage in personal learning or independent study ?**

- a) Personal interest in language teaching and learning
- b) Improving academic performance
- c) Preparing for research and future teaching

**d) Career aspirations in education**

**e) Others ( please , specify).....**

**Section 4: Challenges in Autonomous Learning**

**13. What are the main difficulties you face in learning independently ? (Select all that apply)**

**a) Lack of motivation**

**b) Difficulty understanding complex concepts independently**

**c) Limited access to relevant learning materials**

**d) Lack of structured guidance**

**e) Others ( specify , please).....**

**14. Which of the following types of support would help become more effective in independent learning ?**

**a) More structured guidance on learning strategies**

**b) Access to a wider range of multimodal learning materials**

**c) More opportunities for collaborative learning**

**e) Others ( specify, please).....**

**Appendix 2 :**  
**Interview for Students**

## **Interview questions: Exploring Students' Experiences with Multimodal Learning**

This interview is part of a research study on how do learning styles enhance autonomous learning through multimodality .This study focus on how multimodality can address differences in students learning styles to enhance their autonomous learning in an EFL context. Please take your time to answer the following questions. All of your answers are confidential and will stay anonymous.

We thank you for your cooperation!

### **➤ . Understanding Learning Styles and Preferences**

**1. Could you describe your preferred way of learning in the context of your Master's studies?**

**2. Do you feel that your learning style influences your ability to study independently?**

### **➤ . Engagement in Autonomous Learning**

**3. How do you take control of your learning in your master studies (setting goals, choosing resources, managing your time)?**

**4. What challenges do you face when studying without direct supervision?**

**5. How do you overcome these challenges?**

### **➤ . Multimodal Learning Strategies**

**6. Have you used different ways of learning in your studies (visuals, auditory, kinesthetic, digital)?**

**7. Which multimodal resources do you find most beneficial for understanding complex concepts (videos, podcasts, interactive apps,...) ?**

**8. Could you provide an example of how multimodal strategies improved your comprehension ?**

### **➤ . Enhancing Autonomous Learning through Multimodality**

**9. Do you think multimodal learning should be encouraged more in higher education to support EFL learners autonomy?**

**10. What recommendations would you give to other EFL learners to enhance autonomous learning through multimodal strategies?**