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Title

**Developing EFL Students' Mastery of Types of
Clauses through Experiential Learning
Case Study: Second Year Students of English at
Mohamed Kheider University of Biskra**

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Title

**Developing EFL Students' Mastery of Types of
Clauses through Experiential Learning**

Case study: Second Year Students of English at Mohamed Kheider
University of BISKRA

Submitted by

Mrs. Nadjette MOUSSAOUI

Statement of Authorship

The following statement serves as a declaration of the originality and integrity of this thesis. I affirm that I am the only author of this doctoral thesis entitled: Developing EFL Students' Mastery of Types of Clauses Through Experiential Learning , The Case of Second Year LMD Students at the Department of English of Mohamed Kheidher Universty-Biskra supervised by Prof. Saliha CHELLI.. It attests that all material included is solely based on the sources listed in the bibliography and identified as references. Additionally, it confirms that the thesis has not been previously presented to any other educational organization in pursuit of a degree. Moreover, it asserts that all sources used have been meticulously and diligently referenced and acknowledged to the best of my knowledge.

Mrs. Nadjette MOUSSAOUI

Dedication

To my dear parents who nurtured me with patience, hope, and hard work.

To my beloved husband whose support was endless

To my shining stars, my daughter Tasnim and my son Zakaria

To my sisters and brothers

To those who have always been by my side

*I hear and I forget, I see
and I remember, I do and
I understand. ~*

Confucius, 450 BC



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Abstract

Teaching quality significantly impacts students' intellectual competence, engagement, and even identity. The long-standing teacher-centered approach to teaching grammar, which prioritizes imparting knowledge to students and assessing their output, proved to be ineffective. This study examines the effect of an experiential learning-based model, a learner-centered approach, on EFL students' mastery of grammar. To this end, quasi-experimental research was conducted involving thirty-six second-year students from the University of Biskra divided into two groups. The experimental group, comprising 18 participants, received instruction based on the proposed model, while the remaining 18 students in the control group were taught using the Presentation Practice Production approach; they underwent an eight-week treatment. A baseline study was pervasive to gauge the informants' perceptions of grammar and their usage of the target structure in their writing. Two instruments, a questionnaire and a corpus analysis, were employed. The results revealed that the participants had no clear vision of the role they play when learning grammar and no preference for any instructional method for teaching grammar. Additionally, their academic writing exhibited a deficiency in the use of dependent clauses. The evaluation of the proposed model's impact on the participants' grammar proficiency and learning strategies through pre-post tests and a strategy questionnaire showed a significant improvement in grammar proficiency and effective strategy utilization. Furthermore, a positive correlation was observed between the scores and the strategies employed by the experimental group after the treatment. Feedback from focus group discussions also supported the implementation of the

proposed model for teaching grammar in an EFL context. The study's findings show the positive effect of the proposed model on grammar competence.

Key words: Experiential learning-based model, Grammar proficiency, Dependent clauses, Grammar learning strategies

Résumé

La qualité de l'enseignement détermine les conséquences sur la compétence intellectuelle, l'engagement, et même l'identité des élèves. L'approche centrée sur le professeur pour enseigner la grammaire, qui donne la priorité à la transmission des connaissances aux élèves et à l'évaluation de leur production, s'est révélée inefficace. Cette étude vise à examiner l'effet d'un modèle basé sur l'apprentissage expérientiel, une approche centrée sur l'apprenant, sur la maîtrise de la grammaire par les étudiants en EFL. Pour cela, une recherche quasi expérimentale a été menée auprès de trente-six étudiants de deuxième année de l'Université de Biskra répartis en deux groupes. Le groupe expérimental, composé de 18 participants, a reçu une formation basée sur le modèle proposé, tandis que les 18 autres élèves du groupe témoin ont été formés en utilisant l'approche Presentation Pratique Production; Ils ont subi un traitement de huit semaines. Une étude de base a été omniprésente pour évaluer les perceptions des informateurs de la grammaire et leur utilisation de la structure cible dans leur écriture. Deux instruments, un questionnaire et une analyse de corpus, ont été utilisés. Les résultats ont révélé que les participants n'avaient pas de vision claire du rôle qu'ils jouent dans l'apprentissage de la grammaire et aucune préférence pour une méthode d'enseignement de la grammaire. De plus, leur écriture académique présentait une lacune dans l'utilisation des structures concernées. Évaluation de l'impact du modèle proposé sur la maîtrise de la grammaire et les stratégies d'apprentissage des participants par Les tests et un questionnaire de stratégie ont montré une amélioration significative de la maîtrise de la grammaire et de l'utilisation efficace de la stratégie. De plus, une corrélation positive a été observée entre les scores et les stratégies employées par le

groupe expérimental après le traitement. Les commentaires des discussions des groupes de discussion ont également soutenu la mise en œuvre du modèle proposé pour l'enseignement de la grammaire de la langue étrangère.

الملخص

تحدد نوعية التدريس النتائج على الكفاءة الفكرية للطلاب، مشاركتهم وحتى هويتهم. لقد أثبت المنهج الذي يركز على المعلم في تدريس القواعد، والذي يعطي الأولوية لنقل المعرفة إلى الطلاب وتقييم إنتاجهم، أنه غير فعال. لذا تسعى هذه الدراسة إلى فحص تأثير نموذج مقترح قائم على التعلم التجريبي، وهو منهج يركز على المتعلم، على إتقان طلاب اللغة الانجليزية كلغة أجنبية. لهذه الغاية، تم إجراء أبحاث شبه تجريبية شملت ستة وثلاثين طالبًا في السنة الثانية من جامعة بسكرة مقسمين إلى مجموعتين. وتلقت المجموعة التجريبية، المؤلفة من 18 مشاركًا، تعليمات تستند إلى النموذج المقترح، في حين تم تدريس باقي الطلاب 18 في المجموعة الضابطة باستخدام منهج التقليدي؛ وقد خضعوا للعلاج لمدة ثمانية أسابيع. كانت دراسة أولية لقياس تصورات المختبرين للقواعد واستخدامهم لقواعد المستهدفة في كتاباتهم امرًا لا بد منه. واستُخدم مادتان هما الاستبيان وتحليل المجموعة. كشفت النتائج أن المشاركين ليس لديهم رؤية واضحة للدور الذي يلعبونه عند تعلم القواعد ولا يفضلون أي طريقة تعليمية لتعليم القواعد. بالإضافة إلى ذلك، أظهرت كتاباتهم الأكاديمية نقصًا في استخدام القواعد المستهدفة. أظهر تقييم تأثير النموذج المقترح على إتقان قواعد اللغة واستراتيجيات التعلم للمشاركين من خلال الاختبارات واستبيان الاستراتيجية تحسنًا كبيرًا في إتقان القواعد والاستخدام الفعال للاستراتيجيات التعليمية. علاوة على ذلك، لوحظ وجود علاقة إيجابية بين الدرجات والاستراتيجيات التي استخدمتها المجموعة التجريبية بعد العلاج. كما دعمت نتائج مناقشات مجموعات التركيز تنفيذ النموذج المقترح لتعليم القواعد للغة الأجنبية.

List of Acronyms, initialism, abbreviation

DA: Deductive Approach

EFL: English as a Foreign Language

EL: Experiential Learning

ELC: Experiential Learning Cycle

ELT: Experiential Learning Theory

GJTs: Grammaticality Judgment Tests

GLS: Grammar Learning Strategies

GTM: Grammar Translation Method

IA: Inductive Approach

IPS: Information Processing System

L1: First Language

L2: Second Language

LTM: Long-term Memory

PPP: Presentation-Practice-Production

SD: standard of deviation

SLA: Second Language Acquisition

TBLT: Task-Based Language Teaching

WM: Working Memory

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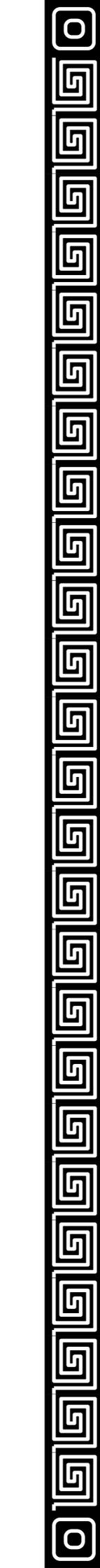
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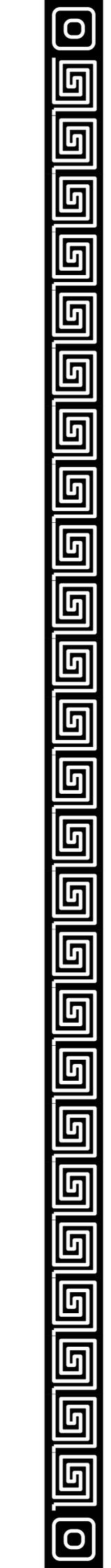
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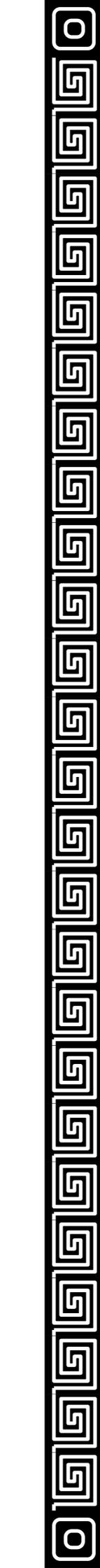
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General Introduction



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General Introduction

1. Background of the Study

Acquiring proficiency in any language involves developing four key skills: listening, reading, speaking, and writing. However, the foundation for mastering these skills lies in understanding the essential aspects of vocabulary and grammar. While vocabulary enriches language skills, grammar serves as a crucial element in enhancing productive skills, such as speaking and writing, as well as listening and reading as receptive skills. It is important to note that grammar should not be viewed as the ultimate goal but rather as a tool to advance learners' competence in language skills.

Understanding and applying proper grammar is fundamental to effective communication in any language. It serves as the framework that supports the coherence and clarity of both spoken and written communication. The lack of grammatical standing can result in communication that is perceived as disjointed, unrefined, or unclear. Therefore, a strong grasp of grammar forms the cornerstone of one's ability to articulate thoughts and ideas effectively. If the students develop their understanding of the intricacies of grammar, they become better able to evaluate and refine their language use. Consequently, by combining this understanding of grammar with a diverse and precise vocabulary, students are better equipped to employ the language in a manner that is both accurate and impactful.

The teachability of grammar has undergone a substantial change, and since fashions in language teaching methodology come and go and what was judged as an enduring truth later appears ephemera, the teaching approach shifted from teacher-centeredness to learner-centredness (Thornoby, 2009). In traditional teacher-directed approaches, using structured lessons, learners are to be passive receivers of information without any kind of trial to be involved in the process. They can thus remain unaware and ignorant of what they have learnt.

Hence, teachers need to update their knowledge of cognitive psychology, re-orient their teacher-centered classrooms to student-centered classrooms, and give students legitimate autonomy. Students need to be engaged in practical projects, actively manipulate material, process information, and generate their responses rather than give the correct answers.

Learning is viewed as the dynamic process of constructing new knowledge and gaining insight by reinterpreting one's experiences. In a learner-centered approach, students are empowered to actively contribute to their language acquisition by exhibiting initiative and becoming deeply involved in the learning process. This active engagement allows students to take ownership of their learning, thereby fostering the improvement of their autonomy as learners and proficient language users.

Experiential learning encompasses grasping abstract concepts that can be applied adaptably in various situations. According to the experiential learning approach, new experiences drive the development of new concepts. Kolb (1984, p. 38) asserts that "Knowledge is created through the transformation of experiences" during the learning process. Luckmann (1996) argues that direct experience is the main venue for learning, which is defined as the process of building skills, knowledge, and values. Likewise, Dewey (1938, cited in Kolb, 1984, p. 27) theorized that "the quality of the experience that one has depends on everything." Authentic learning arises from students' experiences, together with their assessment and contemplation. Reflecting on these experiences leads to the formation of new thoughts and ideas, laying the foundation for building new concepts based on past experiences.

The approach of experiential learning has been extensively used in diverse learning settings, ranging from team-building workshops in the business world to mathematics and science courses that prioritize project-based and task-based learning as central to the curriculum. In the field of language learning, the research studies have tackled the effect of

experiential learning from different aspects, mainly focusing on experiential learning techniques and activities in which EFL learners are engaged in concrete experiences, such as the effect of games and storytelling on enhancing learners' skills.

Numerous academic inquiries have delved into exploring experiential learning and its influence on language acquisition. However, a lack of empirical research on the practical application of this theory and the utilization of learning strategies in the context of EFL (English as a Foreign Language) grammar instruction, especially within the Algerian educational framework. This research endeavors to bridge this gap in the scholarly literature by delving into the ramifications of employing an Experiential Learning model on the grammatical proficiency of second-year EFL students studying at the University Mohamed KHEIDER in Biskra.

2. Statement of the Problem

The foremost goal of teaching grammar is to help students master new rules that enhance their productive skills; however, most of the students either do not use these rules or misuse them. Even though Algerian students get exposed to the English language from an early age in school, specifically the focus on grammar, which they start learning from the first year in middle school up to the second year in the university, they still face many problems when applying the rules they studied.

The majority of teachers adhere to conventional teaching approaches when it comes to grammar instruction. These methods entail teachers conveying rules to students, who are then expected to memorize and apply the information during exams. Consequently, there is little emphasis on employing cognitive teaching methods to teach grammar in a way that fosters students' critical thinking, understanding, and application. Consequently, students lack the ability to process and manipulate information and synthesize and evaluate ideas. Henceforth, Students' proficiency in higher levels of intellectual work, such as reasoning and problem-

solving, is low because traditional forms of classroom work, like lecture-test-evaluation, dominate. As a result, they tend to remember knowledge only temporarily, often just until it is partly due to the prevalence of deductive learning in schools.

Teachers' use of such methods is due to the fact that they grew up learning grammar in traditional classes where they would bring into their own grammar classes the same preconceptions that have been forged through their own learning experiences (Damavandi & Mina, 2013). Another reason is that teachers are convinced that students cannot learn by themselves. Since they are afraid that presenting a new rule to students without explaining its use, relying on students' experiences and using cognitive abilities, students will not be able to understand it properly, in other words, teachers see students as merely disembodied memories that have to pack by many rules.

The individual learning styles of students , nature and requirements of the courses being taught as well as the the students' skills and competencies are disregarded. Additionally, more focus is placed on learning outcomes and generating information rather than on providing hands-on experience, which is crucial for enabling students to apply theory into practice and develop knowledge closely linked to students' behavior and emotions.

Despite the fact that they study grammar for four consecutive semesters, their grammar and writing skills continue to display significant weaknesses. It seems as though they lack the necessary background in grammar rules that would enable them to write properly, resulting in very poor writing (Chelli, 2012). Most of the students are reluctant to study grammar and feel bored while studying it, which might be because they are not involved in the teaching-learning process; in other terms, they do not experience the information and test their knowledge. Rather, they are merely passive recipients who learn by heart the information or the rules. In order to engage students in a more motivational and effective learning environment, teachers should provide them with a collaborative and supportive learning

context as well as promote a sense of autonomy, choice, and challenge, which is not the case in the target university, especially with the grammar module.

From a personal experience as a teacher of grammar for the second year, learners find difficulties in understanding and mastering the types of clauses as a new concept for them as they tend to merely receive the information from the teacher who explicitly identifies the type of the clause as well as the different use and functions. This method seems not to be effective in helping students clearly understand the concept, which is reflected in the low scores students get on the examination. Besides, they do not use these clauses in their written production, which again confirms that students do not master these rules.

The lack of alignment between the teaching methods of educators and the Algerian EFL students' proficiency in comprehending and applying grammar necessitates exploring a different approach. That overcomes these problems and helps learners improve their learning proficiency. This alternative is embodied in a method pedagogy supported by the literature, which encompasses *particularity* that states the difference and uniqueness of each context. Henceforth, adopting the same method each year in teaching students is ineffective because they have different needs that must be considered. *Practicality*, teachers should be acquainted with different methods that best suit their students and feel free to bring modifications to such approaches based on their students' learning needs and *possibility* where the primary goal of educators is to give students the tools they need to succeed and support them as they learn.

This study might be a bridge through which students' learning proficiency can be enhanced because Learning is the process of creating knowledge through the transformation of experiences. Many educators argue that genuine learning and a correct understanding of a concept cannot occur without experiential learning (Kolb, 2015). Experiential learning is undoubtedly a powerful means of instruction that accelerates learning by utilizing critical

thinking, decision-making, and problem-solving to deliver training. This method increases engagement by involving participants directly in the learning process, leading to a high level of ownership of the outcomes. Therefore, for this study, Kolb's Experiential Learning Theory (ELT) model and learning strategies were selected to revitalize grammar classroom pedagogical practices and introduce innovative teaching methods to motivate EFL learners for active learning. Additionally, this approach will enable teachers to create an educational environment centered on cooperative learning, problem-solving, and learner-centered education.

3. Aims of the Study

The current study intends to investigate the learning-teaching process and how we can, as researchers, strive to find ways that would enhance learners' grammar mastery. To achieve this goal, we design an instructional model based on experiential learning and observe its effects on developing the knowledge of the grammar item types of clauses among second-year students of the English Department at the University of Biskra.

- To diagnose EFL learners' perceptions on grammar instruction: the objective is to identify the participants attitudes toward grammar as a component of the target language and its importance in the learning process. We seek also to understand the informants' beliefs about what instructional approach is appropriate for them. Henceforth, correcting some misconceptions they might hold about grammar.
- To elicit EFL learners' difficulties while learning grammar: the study seeks to unveil the obstacles that hinder learners from appropriate learning of the target language subsystem. These difficulties might be of internal or external factors which, in turn, help us in orienting the proposed model to cover such issues.

-
- To evaluate the impact of experiential learning approach on grammar achievement and strategy utilization. The research aims to analyze the differences in test scores between the experimental and control groups both before and after the intervention, as well as the types of strategies employed by the experimental group before and after the intervention, using both descriptive and inferential statistics.
 - To gauge EFL learners' perceptions on the proposed model to teaching grammar: by conducting focus group, the study aims to elicit how the participants accept the proposed model and how they perceive it in terms of usefulness and practicality.

4. Research Questions

The above discussion leads us to ask the following research questions:

1. What are the students' views regarding the role of grammar in learning English?
2. To what extent would the proposed model enhance EFL students' achievement tests in grammar proficiency?
3. What effect would experiential learning have on students' grammar learning strategies (GLS)?
4. Does the use of grammar learning strategies affect EFL learners' grammatical competence?
5. What are EFL students' attitudes toward the proposed model in grammar classes?

5. Hypotheses

The study is designed to verify the following hypotheses

- 1) Students who receive instruction based on experiential learning would better develop their mastery of types of clauses compared to those who receive instruction according to the conventional approach.
- 2) Students who receive instruction following experiential learning would better develop their use of grammar learning strategies compared to those who receive instruction according to the conventional approach.
- 3) There is a significant relationship between EFL students' use of grammar learning strategies and their grammatical competence.

6. Significance of the Study

The present study is an attempt to search for a post method that entails particularity, practicality, and possibility. The use of experiential learning, which is a process of raising learners' awareness, is to make learners active participants.

The study would pave the way to help both teachers and learners choosing appropriate methods for them, where the use of experiential learning would help learners become more responsible for their own learning and lead them towards 'autonomy'. Since most of EFL learners do have misconceptions, teachers need to explore students' beliefs and instructional expectations, and develop shared preferences to guarantee successful learning and teaching. Furthermore, educators may need to reassess and adapt their instructional methods for teaching grammar based on various factors. These factors include the specific language element being taught, the individual learning attributes of students, and the learning environment itself. By considering these elements, teachers can create a more engaging and conducive atmosphere for effective language learning.

It would also help teachers to change their perception towards learners. It is essential for teachers to shift their mindset about learners, recognizing them as active participants capable of independent learning. Instead of focusing solely on what students should learn, teachers should also emphasize teaching students how to learn and expand their understanding of grammar learning strategies. By incorporating experiential learning approaches into current EFL teaching practices, educators can assist learners in developing positive self-identities as successful language learners. This approach can alleviate the challenges often associated with learning a new language, making the process less daunting for students.

This research study's significance also lies in its possible impact on the educational research field, particularly given the limited number of comparable studies that concentrate on EFL students within the Algerian context.

Methodology

Research is a systematic investigation undertaken to develop and enlighten our understanding of certain phenomenon. In conducting these researches, the researchers choose different avenues that represent their beliefs in searching the reality, which is projected in their choice of the methodology.

The researcher takes a pragmatic approach in this study, viewing methodologies as a set of techniques rather than adhering to the purist's belief that qualitative and quantitative methods cannot be used together. The researcher aims to understand students' issues and attitudes toward grammar (situational analysis) and also wants to study the impact of the treatment and how students perceive it (main study). The researcher used a triangulated method which aims at shedding light on different aspect of the same phenomenon from different perspectives to explain more fully the nature of grammar mastery. Hence, the

method that is applied is the mixed method combining the qualitative and quasi-experimental design.

a. The Population

The study was carried out with 36 students who composed the experimental group and the control group. These students were selected from second year students from the Department of foreign languages, English division at the University of Biskra. The researcher deliberately selected second-year students as the target population for the study due to the study's specific emphasis on various types of dependent clauses. The rationale behind this choice is rooted in the fact that in their second year of pursuing a Bachelor's degree, English as a Foreign Language (EFL) students undergo instruction on the diverse categories of dependent clauses and their respective roles and functions within the English language. As a result, second-year students were deemed as an ideal and accessible cohort for the study.

b. Data Gathering Tools

To answer the research questions, this study relies on a set of complementary methods: a pre-test structured questionnaire and corpus analysis, which are allotted to the pre-experimental phase, while pre-post tests, pre- post strategy questionnaires, and a post focus group were used in the post experimental phase.

The researcher's aim is to describe the situation as it exists at the time of the study and to explore the causes of the participants' deficiencies in understanding and using the dependent clauses and then analyze them before the experiment. The questionnaire provides information about students' attitudes towards grammar and the methods used in teaching it, as well as the problems they encounter when learning grammar. The first part of the questionnaire was based on binary choice (yes/no question), and the second part of the questionnaire was based on a 5-point Likert scale, while the third one is the rank scale. The

collected numerical data is examined using both descriptive and inferential statistics with the assistance of the SPSS software. Using corpus analysis was meant to elicit the different types of dependent clauses used by the participants who have already been exposed to its structures and diagnose any deficiencies in utilizing them.

Grammaticality judgment test was designed to measure the students' performances in the mastery of the types of clauses before and after the treatment. Two main objectives were sought: to diagnose students' knowledge about the different types of dependent clauses and to elucidate their conscious linguistic competence and to observe the students' awareness of these structures. Any difference between pre and post-tests scores (positively) would be interpreted as a measure of improvement in grammar mastery. The data derived from the tests were analyzed using SPSS. Moreover, a strategy questionnaire was administered to the experimental group before and after the treatment to gauge any difference in the use of grammar learning strategies, mainly metacognitive, cognitive, and socio-affective strategies. The main aim of the focus group is to ascertain the development or change in the students' processing habits, to supplement the finding of the post-test results, and to provide information about students' perceptions and attitudes towards the experiment and its effectiveness in developing their grammar competency.

Chapter three provides more details about the various aspects of data collection sampling, procedures, objectives, piloting, administration, and analysis.

c. **The Experimental Design**

The study reported here was conducted with the aim to evaluate the effect of the proposed instructional model on enhancing students' grammar mastery specifically types of clauses, motivation, and engagement which represent the dependent variables. The researcher uses experiential learning, representing the independent variable.

- **Conventional Method (control group)**

This method has been and is still being adopted by many teachers throughout many universities. This group received as much input as the experimental group. The lesson plans for this group focus on presenting the rules to the students and then explaining them, to be given later a time to do the exercises and apply what they have received.

- **Experiential learning: (experimental group)**

The program consists of eight sessions, 60 minutes per session, for eight weeks. The researcher who is the instructor adopted the Experiential Learning Approach in teaching a given type of clause. It entails four main stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation.

The first step, concrete experimentation: where the learner is involved in an exploration, actually doing or performing an activity. In this sense, students embark on a set of sentences that contain the type of clause sought to be taught; they are asked to figure out the type of clause and justify their answers. The second phase: reflective observation, the learners shared reactions and observation publicly and process the experience by discussing and analyzing. The students try to analyze each sentence, where the teacher writes down all the prepositions that students have, and then elicit justifications and explanations for such answer. By engaging students to reflect on an experience, the teacher encourages participants to think critically, experience strategies and techniques, explore key question rather than answers, and examine their own evolving theories.

The third phase: abstract conceptualization which helps learners deepen and broaden their understanding of the concept by cementing their experience through generalizations. After analyzing and synthesizing, students draw conclusions about when and how they use each type of clause. In this phase, the students acquire the needed information through mental and

emotional experiences where they discover and understand the rules by themselves which give them a feel of satisfaction and motivation since they were engaged in what they learnt rather than be only passive recipients of what the teacher present. The last phase: active experimentation which represents the application of what has been learnt in new experiences, in our case the different exercises that are given to students in order to apply the rules that they have discovered by themselves, which give them more opportunities in giving right answers because they were involved in the learning process.

7. Structure of the thesis

This thesis comprises five chapters. The first two chapters represent the theoretical section of the work; whereas, the last three chapters correspond to the practical section.

The purpose of the general introduction is to define the scope of the research study. It presents an overview of the study's background, identifies the research problem, and outlines the study's aims. Additionally, it introduces the research questions and related hypotheses, along with a brief description of the research methodology. The chapter also emphasizes the significance of the study and concludes with an outline of the thesis structure.

The first chapter delves into a detailed and thorough overview of grammar competency. Its focus is on elucidating the vital role of grammar in the process of acquiring a language, understanding the cognitive mechanisms involved in processing grammatical rules, and delving into the diverse pedagogical approaches strategies for teaching grammar. Furthermore, we undertake an in-depth exploration of the information processing system as a cognitive model aimed at enhancing the acquisition of grammar. This model places strong emphasis on learning and memory as multi-staged, non-continuous processes, and will form an integral part of the practical application section.

In Chapter two, a comprehensive exploration of experiential learning is presented, covering its theoretical underpinnings and its impact on effective learning. It delves into the experiential learning cycle and its application in teaching the target language. Additionally, it offers a detailed account of the experiential learning-based model, which appears to integrate various elements, such as experiential learning and neurocognitive information processing systems. This integration is designed to stimulate learners to utilize diverse effective learning strategies while learning grammar elements.

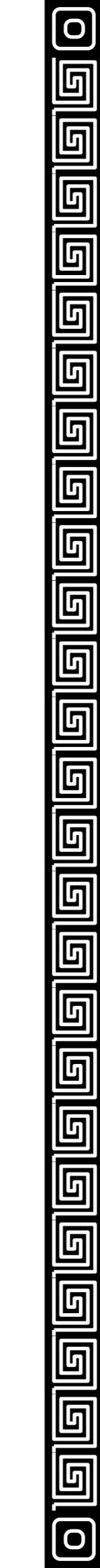
Chapter three serves to elucidate the methodology employed in the current study. It offers a rationale for the chosen research design, the population and sampling techniques, instruments and procedures for both the baseline study and main study are outlined meticulously, and the data analysis techniques are discussed in detail. Furthermore, a detailed description of the treatment was presented, and the methods used for the control and experimental groups were compared, aiming to enhance the overall credibility and transparency of the study.

The statistical analysis of the attitudinal questionnaire, which attempts to gain a comprehensive understanding of how students perceive the teaching methods they prefer, to capture their opinions on the roles of teachers in teaching grammar and the challenges they may face and corpus analysis which seeks to elicit the different dependent clauses used by the participants was provided in chapter four.

Chapter five tackles the interpretation of the results obtained from the assessment methods, namely pre-post tests and strategy questionnaire in terms of answers to the set hypotheses. Thematic analysis of the qualitative data was also offered to shed light on the participants' perceptions of the applicability of the proposed model. It provides an in-depth discussion and synthesis of the research results. The findings are carefully examined and

linked to previous research to provide a comprehensive understanding as well as to answer the research questions and test the hypotheses.

General conclusion offers practical guidelines which aimed at improving learners' grammar mastery in the future. Additionally, the research limitations is thoroughly examined and discussed to provide a clear perspective on the scope and constraints of the study.



Chapter One: An Overview of Grammar Instruction

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Introduction

Humans are created with special powers that enable them to make words the vehicle of thoughts. This language is regulated and structured by the science of grammar, which is the skeleton that ensures the construction of an infinite number of sentences. Despite being common in human activities, language is not well comprehended; henceforth, grammar, being part of it, is still mysterious. The notion of grammar is broad and encompasses several meanings and allusions, allowing for a diversity of interpretations. In this sense, this chapter is devoted to some conceptual and theoretical issues related to grammar. It defines grammar as it brings its importance to the acquisition of a foreign language out and how it is central to all learning. In addition, it emphasizes the evolution of teaching methodologies in addressing grammar, providing a comprehensive historical perspective on its decline and subsequent resurgence. We end up shedding light on a cognitive model of grammar learning.

1.1. Definition of Grammar

The field of language teaching lacks an accurate understanding of what grammar is, as many language specialists have been unsuccessful in providing one. and giving it a comprehensible definition seems hard to achieve, which might be due to the ongoing changes in the models that try to describe grammar over time. The concept of grammar is quite complex, involving various interpretations. Purpura (2004, pp 50-51) indicates that "Linguistic perspectives on grammar have evolved over time... and this has significantly expanded the range of components that could be classified as grammar. In short, definitions of grammar and grammatical knowledge have evolved over time and in different contexts, and it is expected that this will continue in the future." Additionally, Mayhill et al. (2013, p. 103) posit that "A significant challenge for any grammar researcher is the multitude of meanings and associations that the word implies" (As cited in Rahuma, 2016).

The concept of grammar is defined in numerous ways within literature, despite facing challenges. Grammar, as described by Larsen-Freeman (2001), encompasses both the internal subconscious system of language users and the explicit attempts by linguists to codify this system. This can either refer broadly to the abstract system underlying all languages or more specifically to the system underpinning a specific language. According to Harmer (2001), the grammar of a language involves describing the construction of words and their form changing as well as their organization in sentences within that language. Therefore, grammar entails the study of syntax, which encompasses the rules governing word order in a sentence, and morphology, which entails the rules governing word formation.

According to Chomsky (1965, p. 24), grammar goes beyond the scope of syntax and morphology; it rather encompasses all the components of language; the concept of grammar can be seen as a language theory. It is considered to be accurately descriptive in its portrayal of the inherent ability of an idealized native speaker. He credits the term grammar to a group of elements: phonetics, phonology, morphology, syntax, and semantics or meaning. Other views offer different statements about the relationship between meaning and grammar. Grammar is the fundamental characteristics and mechanisms that form the basis for the utilisation of languages. The speakers' linguistic proficiency is based on this fundamental capacity to both speak and comprehend the language.

In other words, without a correct structure, words alone cannot convey the meaning.

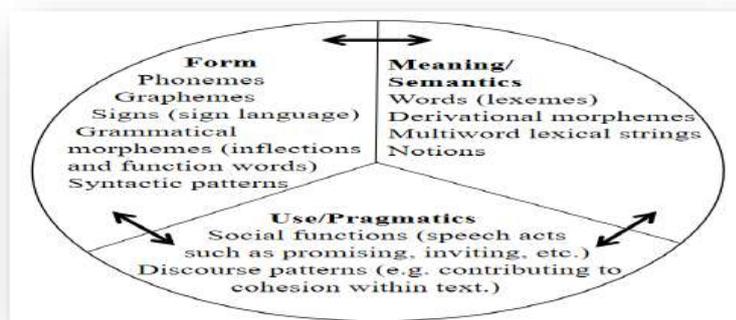
Thornbury (1998, p.13) states that grammar involves describing rules for creating sentences and includes an explanation of the meaning conveyed by these structures, adding meaning that is not easily deduced from the immediate context. Therefore, Grammar includes more than just a set of regulations and standards for linking sounds or symbols to understanding. It is by following such a structure that individuals within a language group can

efficiently communicate, and it is solely by becoming adept at this structure that a learner of a different language can effectively utilize it. A more contemporary interpretation is provided by Gartland and Smolkin (2015, p. 01), who assert that grammar can be defined as a collection of regulations that elucidate the functioning of a system. In the context of language, grammar commonly pertains to syntax (the organisation of words and phrases to construct coherent sentences), morphology (the examination of word formation in a language), as well as semantics (the significance of words and the lexical selections employed by an individual).

Two important perspectives on the concept of grammar are evident from the definitions above. One perspective focuses on the structural aspects, examining grammar in terms of syntax and morphology. This view is concerned with how words are constructed and arranged in a sentence. The second perspective encompasses a more comprehensive understanding of grammar that goes beyond just morphology and syntax. It encompasses a broader interpretation of grammar, with an emphasis on both grammar and communication. Henceforth, the concept of grammar can refer to the rules that govern how language is utilized for communication. These rules dictate how words can be structured and combined when interacting with others.

Larsen Freeman (2005) has extended the knowledge of grammar not only to the use of rules but also to meaning and use, where forms deal with how a particular grammar construction is formed morphologically or syntactical. Meanwhile, meaning means knowing what a particular construction means, which represents semantics. Signified pragmatics pertains to the decisions made by language users during communication. From now on, grammar is no longer fixed but instead a flexible skill. These three interdependent dimensions of grammar are represented in the following figure

Figure 1: *Prototypical Units of the Three Dimensions (Larsen-Freeman, 2005)*



1.2. Grammar and Language Learning

It is proven beyond the shadow of a doubt that grammar is the cornerstone or linchpin of the language, and without it, communication breaks down. Therefore, why does it continue to be a source of controversy in foreign language circles?

Firstly, the history of language instruction is essentially a record of arguments and counterarguments about the teaching of grammar (Thornbury, 2009). Numerous models are available to explain how grammar is utilized in language, making it difficult to determine which is most suitable for a specific teaching situation. Furthermore, even if there is agreement to shift the focus of grammar instruction, there is still a contentious debate and a wealth of research on the most effective approach and method for teaching grammar, i.e., for adapting it to the educational context. Additionally, an even more controversial issue is whether such instruction should be explicit or implicit.

Another issue that might affect the teachability of grammar is the learners' readiness to learn grammar. The question of whether learners need to be developmentally prepared in order to learn and hence be taught grammatical structures is a subject of debate (Pienemann 1984, 1998). While there might be a need for it, it is also possible that

grammatical instruction given before learners are ready for it is beneficial (by, for example, prompting subsequent noticing). According to Corder (1988), learners have an internal syllabus that dictates when they are prepared to learn a new grammatical structure, regardless of how much practice they may have had. This learnability issue has been the subject of discussion for many years and may help to explain why not all students are successful in learning what they are taught. This suggests, therefore, that a way should be found of teaching grammar that is compatible with how learners learn it.

This section is devoted to answering these issues; the interventionist theories and the non-interventionist theories for teaching grammar would be enlightened where a shift from neglecting the role of grammar in language learning to having a pivotal role. Besides, the importance of teaching grammar will be discussed along with the different approaches and methods used to teach it.

1.2.1. The Teacheability of Grammar

Even though it is widely acknowledged that becoming proficient in a foreign language involves mastering its grammatical structure, there is a lack of consensus on the approach to achieving this objective. One end of the spectrum is occupied by the view that grammar instruction is unnecessary. Theories adopted this view are labelled non-interventionists. On the other end of the spectrum stand the pro-interventionists, who are for the teaching of grammar.

In fact, teachers during the nineteenth century embraced the then-fledgling science of linguistics and psychology with the aim of solving the learners' inability to master a foreign language. Hence, extracting pedagogical principles from the scientific research on both language by linguists and the learner by psychologists are to be used as methods to improve the learners' proficiency (Danesi, 2003, p. 1). Incorporating grammar in language learning

was not supported by many theorists; they believe the time spent on teaching grammar is *time wasted* since “the existence of inimitable sequences of acquisition and developmental patterns render all pedagogic interventions pointless (Pawlak, 2012, p. IX). Hence, they think that a replication of naturalistic acquisition in the classroom would be sufficient for awakening the mechanisms of L1 acquisition to be used in second/foreign language acquisition; they assume that the procedures of learning a second language are similar to those involved in acquiring one's native language.

Such belief is labeled "the identity theory" developed by Nemark 1966, where L1 acquisition and L2 learning are identical, which, in turn, emphasizes the role of pure exposure to the target language. Krashen's Monitor theory (1985) also prints its finger in language learning; a mere exposure to comprehensible input that "is slightly beyond the level of the current state of the learners' interlanguage" (Pawlak, 2013, p.96) would pave the way internalizing the grammatical rule subsequently and not by practicing the grammatical rules. Input that activates the operation of the inherent ability is essential and adequate for the acquisition. Cook (1988, as cited in Pawlak, 2012, p. 35) concluded that second language learners need to rely on an abstract mental representation because the language they generate cannot be fully drawn from the input they receive.

Advocates who oppose teaching grammar argue that the instruction of grammar is limited by the acquisition of certain linguistic features in a specific and expected sequence (Benati & Basile, 2016, p. 8). Consequently, it was believed that engaging in communicative activities would not only help learners communicate effectively, but also provide them with a thorough understanding of the language system, and "the best way to learn a language is through experiencing it as a medium of communication not an object of study" (Freeman, 2009, p.

524); there is no room for grammar instruction as learners automatically proceed once they get exposed to comprehensible input.

The weakness of the Identity hypothesis is the fundamental differences between the types of acquisition since the factors that L1 acquisition undergoes are not the same as that L2 acquisition undergoes, and it cannot be achieved only by exposing to the data (Larsen-Freeman, 2003). Moreover, the Monitor hypothesis witnessed a decline in which the founding father himself (Krashen, 2003) acknowledges that learners may indeed derive advantages from error correction and explicit instruction (cited in Pawlak, 2012, p.40). Thereafter, it leads to the verification of the total rejection of formal instruction that represents the advocates for teaching grammar: the interventionist stance.

Pienemam (2007 cited in Pawlak, 2012, p. 47) suggests that understanding how a language processor is organized and operates could help in anticipating the improvement of L2 production and comprehension. This perspective led to the development of the processability theory, which suggests that processing procedures are hierarchical and are learned one by one (Ellis, 2008, p. 8). Learners build their grammatical inventory following a specific hierarchy that is ordered in implications, where mastering one procedure leads to the next. Therefore, the linguistic forms being taught should be introduced in a way that reflects the natural order of acquisition.

The acquisition of a second language (SLA) is mainly affected by the aspects that learners concentrate on and perceive in the input of the target language, along with their comprehension of the significance of the observed information (Schmidt, 2001, p. 4f). In other words, recognising the existence of linguistic structure in the input triggers the process of linking new pieces with those that already exist, which eventually calls for formal instruction of grammar.

In the late twentieth century, cognitive psychology's development emphasized the progression of learning from deliberate processing to automatic language processing, as well as the transfer of new information from short-term to long-term memory. This advancement gave rise to different theories in language acquisition, such as the Delayed Effect hypothesis and connectionist methods. The Delayed Effect hypothesis posits that the initial influence of instruction might not be immediately apparent in the way the student performs. Instead, it imparts the learner with a conscious comprehension of a specific aspect that can be utilised at a later time when the learner is ready to grasp it (Pawlak, 2012, p. 57). Meanwhile, connectionist methods propose that language acquisition results from the brain's ability to establish connections between units.

These prospects advocate for the need for grammatical intervention because L1 knowledge blocks the perception of some cues in the target language. As claimed by Ellis (2002, p. 174), "Language acquisition can be sped up by formal instruction. Hence, with a general acceptance that formal instruction can have a positive effect (Roger, 2021, p. 11), many research strands have emerged.

1.2.2. Importance of Learning/Teaching Grammar

According to Mystkowska-Wiertelak and Pawlak (2012), grammar can be defined as a collection of rules that, when applied correctly, guarantee that the language produced adheres to the standards of the standard variety; that is, learning the grammar of the target language is necessary for learners to achieve a high level of communicative proficiency. Since grammar is a means to an end and a vehicle by which words settle appropriately, poor command of it will constrain the learners' language development (Thornbury, 2009; Ellis, 2006; Azar, 2007).

Richards and Renandya point out two good reasons for teaching grammar (2002, p. 152, cited in Mart 2013, p. 125):

a) *Comprehensibility*: Having the knowledge to construct and utilize specific structures enables the effective communication of common meanings. Without these structures, forming coherent sentences becomes challenging. It's crucial to identify and effectively teach these structures.

b) *Acceptability*: In certain social environments, significant deviation from the norms of native speakers can impede integration and provoke prejudice - individuals who speak incorrectly may not be taken seriously and could be perceived as uneducated or unintelligent. As a result, students may desire or require a higher level of grammatical accuracy beyond mere comprehensibility.

Grammar cannot be attained solely by exposure to a foreign language. Simultaneously, while a few individuals possess the ability to independently acquire the grammatical structure of a language, the majority of learners are unable to do so effectively, even when provided with the opportunity to reside in an environment where the target tongue is spoken. They would not be able to learn grammar as efficiently outside of a classroom setting as they would within it. So it would instead be learned, which in turn, according to Ellis (1996) and Larsen-Freeman (2003), can improve learners' skill and precision and make it easier for them to understand and use the grammatical structure of the language.

In this context, Ellis (2006, p. 84) defines teaching grammar as “any teaching method that directs students' focus to a particular grammatical structure, aiding their comprehension, production, and internalization of the form. Hence, the preeminent goal of teaching grammar is not padding students with lots of grammar but rather helping them to develop their L2 repertoire in a faster way and establish communication since grammar is essential for

effective communication as it enables us to convey meaning by organising individual words or sounds, visuals, and body expressions. Without grammar, communication would be impossible (Ortega 2011, Azar, 2007)

Such knowledge of grammatical forms and functions of the parts that make up larger units would equip the learners to recognize and construct well-formed sentences. Thereafter, The teaching of grammar instructs learners on the proper usage of language, not only by explaining the rules but also by offering corrective feedback on their performance. Grammar is a fundamental and essential aspect of a language. Therefore, it is considered the foundation of language proficiency, encompassing the abilities of comprehension, oral communication, textual interpretation, and written expression. The understanding of language structure is the key to our ability to communicate effectively. As we become more familiar with its mechanics, we gain better insight into how we and others use language, allowing us to assess its meaning and impact more accurately. This knowledge enables us to promote accuracy, identify potential misunderstandings, and take full advantage of the expressive potential of the English language. Additionally, it is beneficial for all individuals, as teaching fundamentally involves grappling with the essence of communication.

In listening and speaking, understanding and using spoken language (for example, expressions) heavily relies on grammar, as mastering a language's grammar is essential for being able to produce grammatically correct sentences in that language (Corder, 1988; Widodo, 2006). In reading, grammar assists students in comprehending the relationships between sentences within a paragraph, a passage, and a piece of writing. Regarding writing, grammar empowers students to express their ideas in logical sentences, enabling them to communicate effectively through written language. As Lily says, "Grammatica est rectè scribendi atque loquendi ars;" that is, "Grammar is the art of writing and speaking correctly."

GOULD Brown, p. 40). Lastly, in terms of vocabulary, grammar serves as a guide for learners on how to properly combine words into coherent sentences, allowing them to form meaningful and effective statements or expressions.

Thornbury (1999) summarized the necessity of teaching grammar in the following arguments.

1. The sentence machine argument: grammar is considered as the description of the regularities of a language, and a knowledge of such rules promotes learners to produce an illimited number of sentences. Henceforth, grammar is meant to be a machine-making of sentences. In this case, grammar would be a trigger to produce an enormous number of sentences, and the only obstacle would be the vocabulary repertoire of the learner. Pawlak (2021, p. 3) adds that this subsystem is a dynamic process, a powerful tool that offers us a range of choices and alternatives.
2. The fine-tuning machine: Teaching grammar would resolve any ambiguities that EFL learners might fall into, for grammar's aim is to allow for greater subtlety of meaning. Hence, grammar learning would play a positive and influential role in the production of written language, as it needs to be more explicit than spoken language.
3. The fossilization argument: Thornbury claims that the learner who does not receive instruction seems to be at risk of having permanent incorrect linguistic features that he uses when producing the target language because he reaches a language plateau beyond which it is hard to process. Once more, grammar learning is pervasive in enhancing linguistic competence.
4. The advance organizer argument: Learners being instructed in grammar can notice elements when learning that are out of sight of non-instructed learners. For that, it plays the role of an advanced organizer for later acquisition of the target language.

5. Learner-expectation argument: Ellis (2002, p. 20) agrees with Thornbury that adult learners consider grammar as a central component of language and are likely to make efforts to understand the grammatical features they notice
6. Paying attention to form argument: Thornbury recently added another argument for the case of grammar; learning will be enhanced if the learners' attention is directed to getting the forms right, which can be achieved via grammar instruction.

The purpose of Grammar is to help us not only in conveying our ideas, but also in understanding the ideas and interpreting the words of others; essentially, grammar is the skill of using a language through rules when reading, writing, and speaking. Therefore, instruction in grammar is essential for acquiring a new language.

1.2.3. Methods of Teaching Grammar: Decline then Revival

In education, we are familiar with trends, turns and shifts, and the place of grammar instruction in second and foreign pedagogy is no exception (Decoyele & Meyer, 2021; Pawlak, 2021). Different teaching methods proposed over time have assigned grammar teaching different roles.

The traditional grammar instruction, such as the Grammar Translation method (GTM) used to teach foreign languages, focuses mainly on analyzing and translating written forms as well as memorizing grammar rules and vocabulary. According to Thornbury 1999, Benati & Basile 2016, this method is based on the perception that to become fluent in a foreign language, learners must be equipped with the necessary grammatical structure. Therefore, grammar plays a crucial role in language teaching. The approach is seen as mechanical, where lessons start with an explicit statement of the rule, followed by exercises that involve translation to and from the learner's native language. This method is implemented in a completely decontextualized manner, thus completely ignoring real-life situations.

Learners' failure to communicate fluently in the target language using GTM urges educators to look for an alternative method. With the emergence of structuralism, which analyzed the language into three subsystems, phonology, morphology, and semantics, combined with the behaviorist psychology principles of stimulus-response, the audio-lingual method of foreign language flourished where the learning of rules played no part. It is "a language-centered method where, according to Kumavadivelu (2006), when learners focus on form, they can eventually master the target language. This allows them to draw from their formal repertoire whenever they need to communicate in the target language outside the classroom.

Put differently, this method was based on drills and repetitions for accurate production of the target language, where instructional sequences of forms were presented in a linear manner, from the easiest to the more complex forms. In such a way, practice does little to foster communicative competence. (Hinkel & Fotos, 2002, p. 2, Thornbury, 1999, p. 21, Benati & Basile, 2016, p. 15). Once more, the method used was inconvenient and insufficient for learners as it was for educators. The criticism of habitual formation by Chomsky (1950) is that humans are born with an internal capacity, the language acquisition device, that promotes language acquisition. Hence, exposure to external stimuli would trigger the LAD to acquire the language. In response to such an approach, researchers started to espouse the belief that learners can better master the target language.

Exposed to lots of comprehensible input, being the main ingredient for acquisition, would be converted to output is the approach that calls for the "zero option grammar" (Pawlak, 2021, p. 2) where the view of formal instruction and error correction should be totally abandoned, which was the starting point for the decline of grammar instruction in the teaching-learning process (Thornbury, 1999, p. 21). Benati (2020) explains that this approach suggests that

students need to encounter understandable language input and that instructional materials should prioritize themes and topics over grammar or vocabulary units.

Despite their enthusiasm and ambitions, natural approaches and total physical response, they claim that "language acquisition follows a predetermined path, and that given the right condition, this natural route can be reactivated for second language acquisition" (Thornbury, 2011, p. 187), failed to make EFL learners fluent in communication and used the target language as natives.

The change in language learning theories has undoubtedly affected second language instruction; the paramount change was from an explicit focus on the language itself to its use in context (Benati & Lee, 2008). Grammar was considered irrelevant in the successful learning process by communicative language teaching. Therefore, the focus was on language use rather than language usage. Syllabuses included communicative functions and semantic notions instead of grammatical structures (Thornbury, 2011, p. 18). Students are expected to learn language incidentally while their focus and attention is on meaning.

Communication and comprehension do not necessarily trigger the processing of input; learners have limited capacity for processing, so it would be difficult, if not impossible, to be aware of linguistic forms at the same time as they are trying to encode the meaning of someone's speech (Benati & Lee, 2008, p. 24). According to Van Pattern (2003), output practice does not necessarily develop the implicit system of the learner for acquiring the language. Based on many years of experience with meaning-focused approaches, Lightbown (2008) has deduced that "good content teaching is not necessarily good language teaching" (p. 32); a closer look at syllabuses based on such approaches, in Thornbury words (1999, p. 23), "had a strong basis to grammar" Hence, over the past decade there has been a re-focus on grammar teaching (Nassaji & Fotos, 2004).

Thornbury (2009) has suggested that the resurgence of grammar is linked to the emergence of two important theoretical concepts, specifically "focus on form" and "consciousness raising" (p. 24). This amalgamation advocates for the integration of grammar and communication in the teaching of second languages (Nassaji & Fotos, 2011, p. 1). According to Thornbury (1999), "focus on form" doesn't involve employing repetitive exercises or following a pre-established grammar curriculum. Instead, it urges learners to be attentive to both the formal and functional aspects of the language, which are derived from their real-world usage. Consequently, focus on form combines formal instruction with the practical use of language (Pawlak, 2006; Olga, 2015).

In Task-Based Language Teaching (TBLT), learners are not taught declarative knowledge of target features before a task is completed. TBLT is a teaching approach that prioritizes learning by using the L2 in real situations. The main emphasis is on the practical use of language for communication, with a secondary focus on form.

Researchers suggest that without some attention to form, learners run the risk of "fossilization and classroom bidden" (Skehan 1996 cited in Henkil and Fotos, 2001, p. i) and lower levels of accuracy than would be the case of formal instruction the learner means satisfactory for communication but full of errors, fluency at the expense of accuracy (Roger, 2021, p.09). Consciousness-raising seeks to cultivate students' understanding of the principles that govern particular language structures before they participate in meaningful communication (Benati & Basile, 2016, p. 23). Such understanding, as Thornbury (1999) points out, sets off a sequence of cognitive activities that will ultimately result in precise and fitting language usage.

Grammar learning should not be an end but rather a means to an end, which is communication, whatever the method being used; the premise role grammar plays is "it is a

way of tying the meaning up." Hence, a need for flexibility in grammar teaching is recommended where no single method took pride place: in fact, Thornbury (2011), along with other researchers Spada and Lightbown (2008), arose the notion of 'beyond method'; a post-method condition in which post method teachers should adopt their own approaches based on many factors: the learner's native language, the prominence and frequency of the input, the complexity and communicative significance of linguistic forms and meanings, as well as the preferences of both teachers and learners as well as be guided by the current theoretical and experiential knowledge base. In other words, Richards (2015, p. 59) states that the teaching practices of educators are shaped by a combination of knowledge gained from training, practical teaching experience, and their personal teaching philosophy and principles. These factors interact to influence how teachers approach and conduct their teaching.

This alternative is embodied in post-method pedagogy as supported by the literature, which encompasses *particularity* that states the difference and uniqueness of each context. Henceforth, adopting the same method each year in teaching students is ineffective because students have different needs that must be considered. In *practicality*, teachers should be acquainted with different methods that best suit their students and feel free to bring modification to such approach basing on their students' learning needs. *Possibility* is the teachers' primary objective which is to empower students and help them in their learning process.

Such a cumulative view, and after a thorough analysis, urges us to look for an alternative, "a new model for teaching grammar," that might be a trigger towards enhancing students' mastery of foreign language grammar. Grammatical mastery is operationalized to the ability to produce and comprehend English-dependent clauses with reference to explicit knowledge; for implicit knowledge, further studies are recommended. Such a proposed model is based on

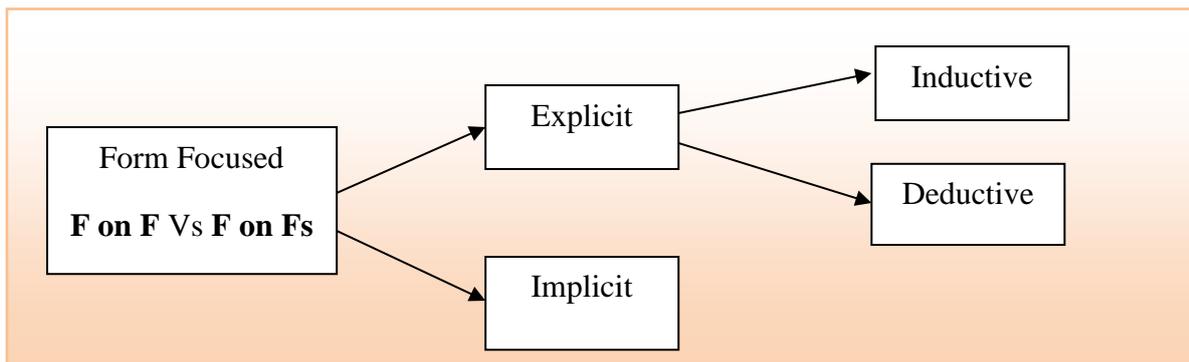
cognitive theory, specifically the information processing system combined with the experiential learning theory using both inductive and deductive approaches.

1.2.4. Grammar and Teaching Approaches: Inductive Versus Deductive

It goes without saying that grammar has drawn much interest from researchers and theorists in the field of language instruction. In several instances, linguists have downplayed or rejected the importance of grammar, only for it to be later elevated to a high regard. Teaching grammar has played a central role in what way is best to be taught. 'Focus on form,' being a new trend in grammar instruction, according to Spada (1997), is any pedagogical effort that is used to draw the students' attention to grammatical structures rather implicitly or explicitly. Both deductive and inductive approaches were driven by a sight of learning that originated in cognitive psychology (Schmidt, 1994, p. 20).

To facilitate the development of explicit knowledge, the deductive approach (DA) which is a rule-driven learning provides learners with information about the rules underlying the input, while the inductive approach (IA), which is discovery learning, avoids a direct presentation of grammatical rules (Pawlak, 2006, p. 2204, Thornbury, 1999, p. 28, Olga, 2015, p. 13). Graus and Coppen (2015, p. 6) summarised and classified the approaches to instructed second language acquisition in the following figure:

Figure 2: A taxonomy of second language instructional approaches (Graus & Coppen,2015)



The Deductive Approach

It is the traditional approach to grammar teaching in which the session begins by introducing patterns and rules related to language. Therefore, Deductive Approach (DA) is the systematic procedure that involves moving from a broad perspective to a narrower one, transitioning from explicitly constructed principles to their practical implementation in language usage. In other words, the lesson starts with an explicit presentation of metalinguistic information to the learner, supported by examples to emphasize the grammar structure presented by the teacher, followed by learners' practice applying the rule (Thornbury, 1999; Widodo, 2006). The order of this type of instruction is relatively fixed and can be labeled under the Presentation, Practice, and Production method.

Deductive Approach saves time by presenting many rules in a simple and quick manner, allowing for more time for additional practice. Students appreciate this teaching method as it demonstrates respect for their intelligence and maturity, engaging their cognitive processes during language acquisition and analytical strategies. Additionally, DI provides learners with a sense of security, as the risk of internalizing incorrect rules is minimized when the teacher provides explanations. Ultimately, DI is a teacher-centered approach.

Among the plethora of instructional methods adopting the deductive approach, presentation, The PPP has been the most common method in English Language Teaching (ELT) since the 1960s (Harmer, 2007) and is still widely used today . Many teachers in numerous universities have adopted and continue to adopt this approach. Presentation-practice-production (PPP) is a technique for teaching grammar in a second language. As the name indicates, PPP consists of three stages, progressing from strong teacher guidance to increased student independence. In the initial phase, the teacher completely directs the lesson, taking on the responsibility for

introducing, demonstrating, illustrating, and thoroughly explaining the new lesson material (Richards & Schmidt, 2013).

Despite its effectiveness, the mentioned approach has its flaws. Being exposed directly to metalinguistic knowledge, the learners, especially young ones, find it frustrating since they might not have sufficient metalanguage. The teacher assumes a dominant role in this technique, where they predominantly engage in speaking while the pupils passively receive information which impedes them from interacting with each other and engaging in communicative tasks. It may also, in certain instances, fosters an excessive dependence on the teacher and restricts the autonomy of learners. (Olga, 2015, p. 15)

This method promotes the idea that learning a language involves only knowing the rules. As a result, learners gain a lot of factual knowledge but not much practical knowledge. Explicit instruction can only result in conscious, verbalized knowledge about language structure, not the kind of automatic skill needed for fluent, spontaneous language use. This hinders the application of knowledge in real-life situations, which is known as the "inert knowledge problem".

The Inductive Approach

The process involves moving from specific instances to broader generalizations. In Pawlak's explanation, learners start by encountering specific examples of language use. They should pay attention to a particular grammar pattern in the data, identify recurring patterns, and then come up with their own generalization that explains the observed regularities (2006, p.270). Therefore, learners are not given explicit grammar rules; instead, they develop their own mental strategies for handling the tasks and eventually infer the rules provided by the teacher (Widodo, 2006; Olga, 2015).

Olga (2015) argues that inductive teaching has been highly praised and considered much more effective than direct instruction. The mental exertion required of learners guarantees a high level of cognitive engagement, resulting in the formulation of rules on their own and making the learning process more memorable. In this way, learners are no longer passive recipients but active ones and are creating the lesson and interacting and engaging in communicative tasks that result in autonomy. The inductive approach makes learners notice how a feature of grammar works, then procedurize the rule to be eventually automatized, henceforth, to cultivate in the learners' minds that they can learn by themselves without relying on the teacher.

The inductive approach was challenged for several reasons. To prepare the lesson, teachers need more time to select appropriate materials where they need to be at the level of learners and to their interest, which is a very demanding task since dividing communication into discrete lessons is not easy due to its protean nature (Larsen Freeman, 2011, p. 158). Even with such a cautious choice of materials, in the process of learning a language, learners might develop incomplete or inaccurate rules without testing their ideas, which can result in significant challenges, as highlighted by Olga (2015). It is essential to take into account students' views on the practicality and effectiveness of grammar instruction, as these views influence their thinking and behavior (M. Borg, 2001, as cited in Graus & Coppen, 2015).

The beliefs of learners are acknowledged as a notable individual diversity factor in second language acquisition and have a crucial impact on motivation, choice of learning methods, and learning in general (Dornyei, 2005, as cited in Loewen et al., 2009). By examining the beliefs of learners, we may gain an understanding of their behaviors during the process of learning a foreign language (Rahuma, 2016). The beliefs of EFL learners hold more influence than knowledge, shaping how individuals approach and interpret tasks and challenges.

According to Kern (1995 cited in Schultz, 1996, p. 344), to understand language learning in institutional settings, it is essential to consider learners' and teachers' beliefs, and that investigating students' attitudes can assist in "anticipating potential disagreements that could lead to student dissatisfaction, stress, reduced motivation, and, in certain instances, discontinuation of studying a foreign language. Put differently, learners' beliefs can be a double-edged sword; on the one hand, if EFL learners' expectations are met, FL learning will succeed; learners' positive attitudes to one way of instruction to learning, in the present study grammar, may validate their dedication to it and hence contribute to its effectiveness. On the other hand, unrealistic beliefs and misconceptions about language learning can impede the learning process. (Ansarin et al., 2014, Loewen et al., 2009)

Research on EFL learners' beliefs allows us to understand even little the way students perceive grammar in terms of responsibility, difficulty, and the way it should be taught. Despite its importance in FL research, little research has dealt with learners' beliefs compared to those done on teachers' beliefs and perceptions toward grammar learning and teaching. Schulz (1996) investigated and compared 92 teachers' and 824 learners' attitudes towards the role of explicit grammar study and error correction. The results indicated that students held more positive opinions about the structured learning of grammar compared to teachers. The majority of teachers thought that emphasizing communication tasks was more crucial when learning a foreign language, whereas students concurred that by practicing grammar, they could enhance their communication skills.

To sum up, there is no single approach that is best to be used. It all depends on students' level of proficiency, maturity, and learning differences in classrooms. Hence, the teacher should take into consideration all the varieties with an amalgamation of the two approaches may be a solution towards having a better improvement as proposed by Brown (1994, p. 351):

"there may be some occasional moments, of course, when a deductive approach or a blend between the two is indeed more appropriate." Applying such a combination is the case in the current research since it is assumed to be the most effective approach. Termed differently, the learners try themselves to hypothesize about how the target feature of the language is structured. Later, the teacher corrects and gives the exact rule. So that, both approaches, deductive and inductive, are used for the sake of preventing the internalization of the wrong assumptions.

It could be said that the pendulum has once more shifted in favor of explicit grammar teaching. It is now best to integrate grammar into a more meaningful focus. It is acknowledged that form, meaning, and use are intimately connected and that grammar is one of the tools that students need to communicate effectively, along with a sufficient vocabulary and an understanding of cultural and discourse norms.

1.3. Cognitive Model for Grammar Learning

In the mid-20th century, there was an increasing fascination with language as a cognitive ability, particularly in comprehending the acquisition of language and grammar, and in effectively instructing them in second language settings. The motivation for this interest stems from the need to elucidate the influence of cognitive processes on the acquisition of grammar, as posited by cognitive theory. Teachers started to give more importance to instructional approaches that focused on cognitive processes such as cognition, critical thinking, language acquisition, conceptual development, and information handling. Cognitive theory has gained substantial acceptance among current learning theories (Ertmer & Newby, 2013).

According to Fauconnier and Turner (2003, cited in Lantolf, 2011), whereas the twentieth century was known for its emphasis on form, the twenty-first century may prioritize meaning over form in the field of social sciences. The connection between cognition and language is

highly important for the process of language acquisition and instruction. The study of language as a cognitive ability gained attention in the mid-20th century. Its purpose was to understand how language and grammar are learnt and taught, with a specific focus on the strategic processes involved in learning grammar, as suggested by cognitive theory. Educators implemented pedagogical approaches that predominantly emphasized cognitive processes, such as reasoning, critical thinking, linguistic skills, the development of abstract ideas, and the handling of information. As a result, cognitive theory has become widely recognized and influential among the several learning theories that now exist.

1.3.1. Cognitive Theory and Language Learning

Cognitive psychology, which centers on human learning and performance, sees the process of learning a foreign language as the gradual accumulation of knowledge that becomes deeply rooted and can be effortlessly accessed when speaking and understanding (O'Malley & Chamot, 1990; Lynch, 2009). The objective is to comprehend the process by which incoming information is processed in memory, with a particular focus on the acquisition of new information. This approach transforms the perception of learning into an engaged and adaptable process, where individuals employ diverse strategic processing techniques. Acquiring a second language is a complex cognitive process akin to acquiring other talents such as culinary expertise, chess mastery, cycling proficiency, mathematical thinking, or historical comprehension. Consequently, acquiring a thorough understanding of a language necessitates substantial practice, together with the utilisation of focus and memory, in order to accumulate adequate knowledge and deliberately engage in its usage, finally resulting in automatic proficiency.

Cognitive theories emphasize internal processes over the final outcome, in contrast to behaviorist theories which prioritize language production and results. The core concept of

cognitive theories focusses on the cognitive processing of information, encompassing its generation, acquisition, arrangement, encoding, rehearsal, storage in memory, and retrieval or failure to retrieve from memory. (Schunk, 2012, p. 22). Developing automaticity through practice requires cognitive effort from the learner rather than a mechanical approach (Lightbown & Spinda, 2006). This entails conscious, purposeful, and focused repetition of key language structures. Within this framework, learners are viewed as active and logical participants who uncover underlying L2 rules (Ortega, 2011, p. 172). They formulate hypotheses about the language, test them, and employ a range of cognitive and social strategies to manage their learning.

The recurring of information will occur within the Working Memory (WM). It will be consciously guided by some type of attention mechanism (Randall, 2007), which is necessary for more complex analysis than simply repeating set phrases. The cognitive theories that examine information processing are based on the theory that human mental functions could be likened to those of computers for storing, integrating, and retrieving information; the brain is a processor that chooses, processes, arranges, and utilizes data (Lynch, 2009).

Language is considered a cognitive complex skill (Vandergrift,2007), where human beings are limited processors and have to work within the constraints of their physical capacity to deal with the incoming information through the use of various techniques that handle information, select it, establish connections between new information and their existing knowledge, selectively remember what they perceive as important and necessary, apply the acquired knowledge in suitable situations, and evaluate their learning outcomes.

(Lynch, 2009; Lightbown & Spinda, 2006).

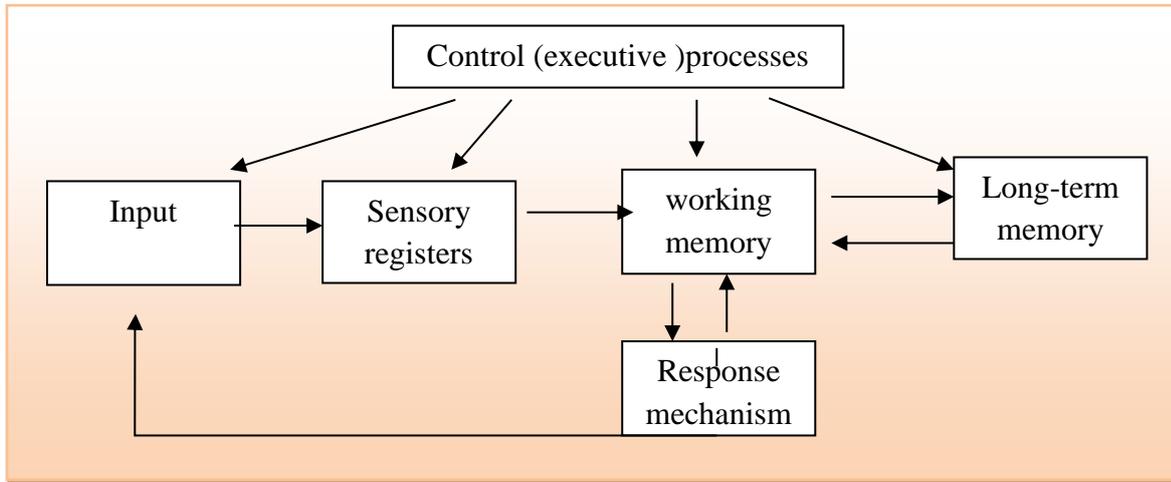
O'Malley & Chamot (1990, p.217) sum up the general benefits of applying the cognitive theory to the field of SLA. Learning is a complex and dynamic process that involves active engagement and strategic processing using a variety of information. Language, being a

complex cognitive skill, exhibits similarities with other complex skills in terms of how information is stored and acquired. The process of language learning encompasses multiple stages, starting from initial awareness and active manipulation of information, and culminating in the achievement of automaticity in language use. Learning strategies are aligned with cognitive processes derived from theory and have the capacity to significantly influence positive learning outcomes. Henceforth, cognitive theory considers learning languages an active process that needs the activation of different learning strategies which goes from conscious attention to automatic language use.

1.3.2. Information Processing System (IPS)

The current study is grounded on the Stage model of information processing. The key elements of this model are the view of learning and memory as discontinuous and multi-staged processes, in which the Corpus callosum, a part of the brain, is responsible for both (Bahadır Erişti, 2016, p. 134). It identifies three types of memory storage: sensory memory, short-term memory, and long-term memory. Information processing occurs in stages that come between receiving a stimulus and generating a response (Schunk, 2012, p. 165). According to Anderson (1995), cognitive psychology primarily employs the information-processing approach. This approach aims to break down cognition into a series of stages through which an abstract entity, known as information, is processed. In essence, it explains the transmission of stimulus input across the cognitive processing system.

Figure 3: *Information processing system of learning and memory (Schunk, 2012, p.166)*



As shown in Figure 1, an information processing model primarily comprises sensory registers, which receive information from the external world, short-term memory, the region where information is analyzed and long-term memory, a permanent storage location for information

1.3.2.1. The Sensory Registers

The information provided by the environment is only held for a short period, and the majority of it is forgotten unless there is a sufficient level of attention and perception (Randall, 2007). Some sensory input is transferred to Working Memory for additional processing, while other input is erased and replaced with new information (Schunk, 2012, p. 178). This perceived input is structured into meaningful units through the use of top-down processing, which pertains to how our knowledge and beliefs affect perception (Matlin, 2009). The Thalamus, a part of the brain (Bahadır Erişti, 2016, p. 134), is responsible for collecting information from the sense organs and distributing it to the relevant brain areas.

1.3.2.2. Short-term Memory/Working Memory (WM)

The two terms come from two different aspects of memory. The first one refers to the temporary nature of the storage that lasts for a brief period of time. The second term pertains

to the function of the memory store (Hamada, 2007; Randall, 2007). It is the memory of immediate awareness (Schunk, 2012). The filtered sounds are sent to working memory, where new and old information are combined and processed within a minimal capacity and duration. Thus, the WM is the active part of the brain; it is a system that enables the temporary storage and processing of small amounts of incoming information in the execution of cognitive tasks (Pawlak & Biedroń, 2021, p. 1) where learners utilize their styles and strategies to enhance their knowledge and comprehend the spoken language (Gagné et al., 1993; Field, 2009). Schunk (2012) gives an example: as students read a text, WM holds the last words or sentences they read for a few seconds. Students may employ rehearsal, which involves repeating a certain point multiple times, or they may utilise the process of relating the material to previously covered topics in long-term memory (LTM).

Considering the intricate functions and limited time and capacity of working memory, two primary control procedures are employed to organize and retain the data: chunking and automatization. Chunking is the process of organising information into groups or patterns, while automatization refers to the ability to handle a chunk of knowledge without consciously recalling it since it has become familiar (Merriam & Cafferilla. 2007).

1.3.2.3. Control Processes

Control processes in the executive system oversee the management of information in working memory, as well as the transfer of knowledge into and out of working memory (Baddeley, 2001). They govern the movement of information from one memory area to another. According to the Information Processing Model (Gagné et al., 1993), control processes aid in manipulating information in working memory. These control processes include activities such as rehearsal, encoding, visualization, self-monitoring of comprehension, and employing retrieval strategies and metacognitive activities, which may be seen as conscious techniques (Isher, 2010; Schunk, 2012).

1.3.2.4. Long-term Memory (LTM)

Information in long-term memory (LTM) is kept in inactive, iconic forms and organized within a mental framework. According to Schunk (2012), information in LTM is represented in associative structures (p. 184). These associations are cognitive and can be transferred for future use (O'Malley & Chamot, 1990). Referring to Abbott (2002), LTM is described as a more permanent store where information can remain dormant and unused until it is consciously retrieved (as cited in Lutz, 2003, p. 5). LTM involves storing and recollecting information over extended periods, spanning from hours to years (Merriam-Webster, 2017).

Researchers have examined the distinctions between declarative and procedural memories as two types of LTM (Gupta & Cohen, 2002). Declarative knowledge, as defined by Anderson (1995), refers to factual knowledge that can be articulated (p. 18), encompassing all the information we possess. Procedural knowledge, on the other hand, refers to knowledge that has been put into practice, indicating our understanding of how to perform tasks.

1.3.2.5. Declarative Knowledge

The representation in memory is structured to retain meaning and consists of discrete units of static information, such as visuals, vocabulary, and propositions, which are conceptual ideas that uphold the semantic essence of the experience. Put simply, it refers to the total amount of information that can be easily accessed and expressed in conscious thought and communication. It is acquired quickly and stored in a form of networks that consist of interconnected ideas and concepts. Two important features characterize this representation in memory: it is highly organized hierarchically and can be modified easily through spreading activation if a new segment of experience has been added, expanded up, or even challenged some of the information already existing there, which will lead to the ramification of the existing network (O'Malley & Chamot, 1990; Anderson, 1995; Gagné et al., 1993).

1.3.2.6. Procedural Knowledge

Our understanding of “how to do” is stored in memory in a manner that maintains the regulations influencing our actions and behaviors. This type of knowledge involves both physical and cognitive abilities and strategies. Each individual unit in its memory is known as a production and is the result of conditions and actions. The conditions are represented in the "IF" part of the statement, while the actions are represented in the "THEN" part of the statement (Gagné et al., 1993, p. 92). Procedural knowledge requires significant time, effort, and extensive practice to become automatic. Therefore, learners should be trained properly to enhance their learning, as once acquired, procedural knowledge is highly resistant to change. (O'Malley & Chamot, 1990).

Even though the two groups are distinct, they interact and are connected because procedural knowledge utilizes declarative knowledge as a foundation for carrying out specific tasks. Therefore, declarative knowledge represents the information in our minds, while procedural knowledge serves as the means of utilizing it. Both work together to accomplish the same objective (Anderson, 1995; O'Malley & Chamot, 1990). Deliberate knowledge, acquired through instruction and stored as declarative knowledge, can transform into implicit or unconscious knowledge. This perspective, drawing on information processing theories in cognitive psychology, argues that linguistic proficiency is predominantly acquired by intentional and explicit knowledge, which is subsequently automated through repeated practice (Nassaji, 2017, p. 207)

There are typically three phases to the memory process (Anderson, 2005; Ormrod, 1999; Schacter, 1996). The procedure by which data is first introduced into the system is known as the encoding or acquisition phase. When this information is filed for later use, it is known as the storage or retention phase. Retrieval, the last phase, explains how we take materials out of storage when needed. Recall, which requires calling up information that needs to be

remembered, and recognition, which entails selecting from a range of potential responses, are two of the most popular retrieval techniques.

1.3.3. Activating the Appropriate Schema

The receiver uses “systematic knowledge” (linguistic) and “non-linguistic schematic knowledge” (Lynch & Anderson, 1988, p.13), involving the activation and modification of concepts in his mind. According to the authors, the schema is “a mental structure, consisting of relevant individual knowledge, memory, and experiences,” where “A lack of such information impedes comprehension” (p. 14). By the same token, cognitive theory defines schema by means of abstract textual structure that the listener uses to make sense of the given text. Green (1987 cited in Hamada, 2007, p. 37) considers that

The basic idea of schema theory is that human memory consists of high-level mental representations known as schemas, each of which encapsulates knowledge about everything connected with a class of objects or events.

Put differently, schemas are to have two main principles: First, they represent knowledge. Second, they simultaneously guide the interpretation of newly occurring experiences, which are eventually absorbed into general knowledge schemas. These schemas are hierarchically organized in a form of networks (Slavin, 2003, p.180); that is, schemas are a set of simultaneously activated “connection”; i.e., related nodes. Each schema may have a heuristic nature, where there are schemas within schemas. Once a new schematic structure is formed, it can be embedded within each other; thereby, they become inter-connected. It is also estimated that the more a person grows in his/her experiences, the more elaborate and specific these structures will be.

The memory structures assess the meaning of the input to determine how closely it aligns with the knowledge already held by the listener, which is stored in schemas. These schemas

act as "psychological anchors" and influence the comprehension process by creating biases. If compelling evidence is not presented to prompt the listener to reconsider their initial understanding, it is assumed that the speaker's intended meaning aligns with the existing schema (Rost, 2005, p. 513). This means that our comprehension can be classified based on how schemas are formed, a concept referred to as "the matching issue" by Klein (1986) (cited in Skehan, 1998), which are of three types:

- 1- Encoding of new information into the existing schematic structure. If the new coming information is matched with the pre-existing activating schemas, then the listener has succeeded in comprehending the aural text. Hence, the learning happens through "instantiation of existing knowledge" (Isher, 2010, p.55).
- 2- Modification and refinement of the schema: If the information and the schema are not compatible, "the schema can be slowly modified to conform better to the sort of situation to which it applies" (Norman, 1981, cited in Ishler, 2010, p. 55).
- 3- The creation of a new schema is necessary because of the totally new information, which will be connected to other schemas (Rost, 2002, p.62).

Indeed, schemas play a vital role in teaching and transferring knowledge (Matlin, 2009). Once students grasp a schema, educators can tap into this knowledge when teaching any material that relates to the specific schema (Schunk, 2012, p. 196). Transfer takes place through the process of spreading activation in memory, in which new information becomes connected to existing information. These connections can be associated with different contexts, skills, or events.

Schunk (2012, p. 226) summarizes the view of Learning from the Information Processing System sight as follows: Memory formation, or encoding, happens when data is stored in long-term memory (LTM). Data first enters the information processing system through a sensory register once it receives attention. It is then processed by being compared with

information in LTM and enters short-term memory (working memory). This data can remain activated, be moved to LTM, or be forgotten. Factors that aid in encoding include the significance of the information, adding detail to it, organizing it, and creating connections with existing mental structures.

1.3.4. The Cognition Criterion: Stages of Grammar Acquisition

Based on Cognitive theory, the current section provides an in-depth exploration of the various stages involved in acquiring the grammar of a target language which are input, awareness, conceptualization, procedurelization, and performance. It also outlines the most effective strategies to be used at each stage to facilitate the language acquisition process.

A- Input: according to Farley (2005, p. 109), input refers to "the unprocessed language data, spoken or written, that learners are exposed to." Additionally, Van Pattern introduces an important aspect of the input as "to which they pay attention for its message." In other words, the input is viewed not only as information provided by the surrounding context but also from the learner's perspective, where various linguistic and cognitive abilities are utilized by learners in response to language input. It is the process through which learners form the initial connection between a grammatical structure and its meaning that needs to be focused on..

B- Awareness: The stage at which a learner becomes conscious of a grammatical element and expends mental effort to comprehend it is known as awareness. It involves the learner's capacity to choose and process information while disregarding other stimuli, guided by the cognitive strategy of attention. Selective attention is within the individual's control, and effective learning relies on the individual's ability to exercise this control. This phase highlights the engagement of mental processes in turning sensory signals into meaningful experiences, emphasizing the significance of perception.

C- Conceptualization: This phase is characterized by the "evidence hypothesis-rule process." Students develop methods of organizing information, requiring some attention during this stage. Simply attending to information is insufficient; it must be analyzed, and familiar patterns must be identified to serve as a basis for further processing. To achieve this, the learner uses repetition to keep the information in short-term memory for a longer period, allowing for later coding. Coding, in this context, refers to the transfer of information by connecting existing knowledge in long-term memory to the new information, where the learner must understand the overall message, the semantic chunk in which meaning comes before form, and the primary semantic principle, then attempting to construct a hypothesis about the nature of the grammatical concept or pattern that was analyzed during the awareness stage.

Moreover, the spread of activation would be brought to the forefront where learners make use of their own schematic constructs along with contextual information to incorporate the new rule into their personal "grammaticon". Such a stage encodes information to the LTM via chunking, which categorizes information into one memory slot. According to connectionists, it is more about creating new connections to existing concepts since the brain is about connecting nodes. LTM is "the sustained storage of information, which may be represented as isolated elements or more likely as interconnected networks" (O'Malley & Chamot, 1990, p. 17), hence the new grammatical item being internalised by the learners finds a way to be connected to existing nodes.

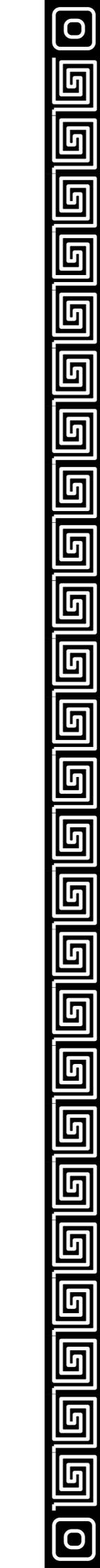
D- Proceduralization: It is the stage where competence and performance are linked; it is the phase where declarative knowledge about grammatical rules is turned into procedural knowledge. Put differently, two significant shifts occur as proficiency improves. Firstly, errors in the initial declarative representation of the stored information are progressively

identified and removed. Secondly, the connections among the different elements or components are reinforced. The role of attention is diminished, and the proceduralization of knowledge leads to more efficient use of the storage capacity of memory. It becomes among episodic, semantic, and procedural parts of LTM, which, in turn, frees the WM to deal with other language processing tasks.

E- Performance: It involves the generation of sentences, which goes through several stages before reaching the final result. One of these stages is the syntactic encoding, which relies on the Broca's area in the brain. This process comprises two distinct levels: the functional level, which involves two types of processes - retrieving the argument structure properties linked to verb lemmas and mapping participant roles to grammatical relations, and the positional level, which imposes a specific order on the utterance. During this phase, the learned grammatical structure can be applied and placed in the appropriate positions. (Kemmerer, 2015, p. 417)

Conclusion

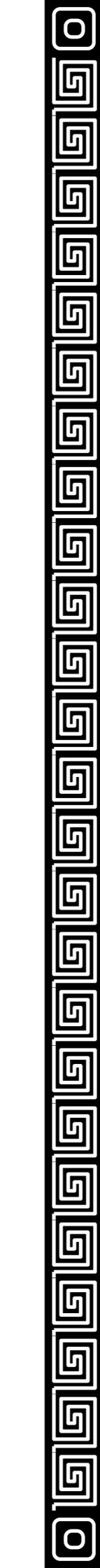
In this chapter, we have verbalized the status of grammar in the different teaching methodologies, noting its fluctuating significance in the teaching and learning process where it has witnessed ups and downs. It continues by sketching out the available approaches for teaching grammar. We have also drawn attention to the complexity of grammar learning and related it to a cognitive model that prioritizes the role of learning strategies for healthy acquisition of the TL grammar structures. The coming chapter is assigned to an experiential learning-based model aimed at improving overall language skills, with a specific focus on grammar.



*Tell me and I forget, Teach
me and I remember, Involve
me and I will learn. ~*

Benjamin Franklin, 1750

Chapter Two: An Experiential Learning- based Model to Teaching Grammar



Chapter Two: An Experiential Learning-based Model to Teaching Grammar

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Introduction

The concept of learning from experience holds significant philosophical and theoretical importance in the field of adult education. Despite its longstanding history and practical relevance, experiential learning has gained substantial influence in higher education over the past 25 years. Experiential learning has been instrumental in transforming teaching and learning methods in the twenty first century and is widely recognized as a valuable framework for educational innovations focused on learning. In addition to acquiring a broad understanding of the world, learners are now expected to develop and maintain versatile intellectual and practical skills such as problem-solving and communication, emphasizing the need to move beyond mere memorization.

The current chapter is structured into two main parts. The initial section delves into experiential learning in general and Kolb's model in specific. It specifically composes of three sub-sections. The first sub-section provides a comprehensive definition of experiential learning, highlighting its core principles and features. The second sub-section delves into the effectiveness of experiential learning, presenting research findings and real-world examples. Lastly, the third sub-section offers a detailed description of Kolb's experiential learning model, outlining its stages and practical applications. The subsequent part of the chapter introduces an experiential learning-based model for teaching grammar. This section explicitly outlines the different steps to be taken, breaking down the teaching process into manageable stages. Additionally, it provides detailed strategies to be implemented at each stage, offering practical guidance for educators and instructors.

2.1. Experiential Learning Definition

Having a clear idea about the concept under investigation is necessary. In fact, defining experiential learning presents numerous challenges due to its slipperiness. Malinen (2000, p.

15) asserts that the theorists and practitioners have various interpretations and priorities, making it challenging to construct a single, clear definition of these foundations. The difference between experiential learning and learning as diverse notions is hard since both are means of human cognition; hence, learning and experience would appear to be closely related and inseparable (Fenwick, 2000), confirmed by Albert Einstein saying, "the only source of knowledge is experience."

Mollaei and Rahnama (2012, p. 269) discuss the different terminology that describes the process of gaining knowledge through practice; John Dewey (1915) investigated the concept of "learning by doing," while the phrase "experience-based learning" was employed Wolfe and Byrne (1975). The expression "trial and error" learning is utilized to elucidate discovery learning methods. Other versions of Experiential learning is also known as experiential teaching; experience-based learning, or experiential activities.

Kolb's concept of experiential learning involves the generation of knowledge from the experience transformation. The result of a combination of grasping and transforming experiences provides Knowledge. Likewise, according to Jarvis (1999, p.65), experiential learning commences with experience and converts it into knowledge, skills, attitudes, values, beliefs, and senses. Beard and Wilson (2018, p. 03) describe experiential learning as a process of making sense that revolves around experiences, which serve as the foundation of learning. These experiences engage the inner world of learners with their learning environment, creating memorable, rich, and effective learning experiences. Put differently, experiential learning is meaningful-discovery learning that engages the learner as a whole person, including physical, intellectual, and emotional involvement and the external environment that provides a place, social, and cultural contexts; the experiences are then translated and internalized into concepts to be later used with new experiences.

Experience being a central element in the process of experiential learning is not an end in itself, as it is not necessarily educative but rather a means to achieve the goals and aims designed for the learning process, for it needs to be turned into learning by thought. Bemett and Salonen (2007, p. 46 cited in Bird, 2015, p. 4) have noted: "learning from experience requires more than the vicinity of events and re-construe them in transformative way." To scrutinize, experiences need to be consciously processed via reflecting, evaluating, and reconstructing to draw meaning from it using prior experience; such strategic process incorporates the cognitive, emotional, and physical aspects of learners.

EL's main strength lies in its ability to offer a foundational philosophy that links many learning theories into a more cohesive whole. It represents a synthesis of the ideas of prominent 20th-century scholars who emphasized the role of experience in human learning and development. These scholars, referred to as the "foundational scholars of experiential learning," include John Dewey (1938), Kurt Lewin (1954), and Jean Piaget (1954) (Beard and Wilson, 2013; Kolb, 2015; Alice and Kolb, 2023). According to Kolb (2015, p. xvii), he aimed to bring together the common themes of their work into a structured framework that can address learning and educational challenges of the 21st century.

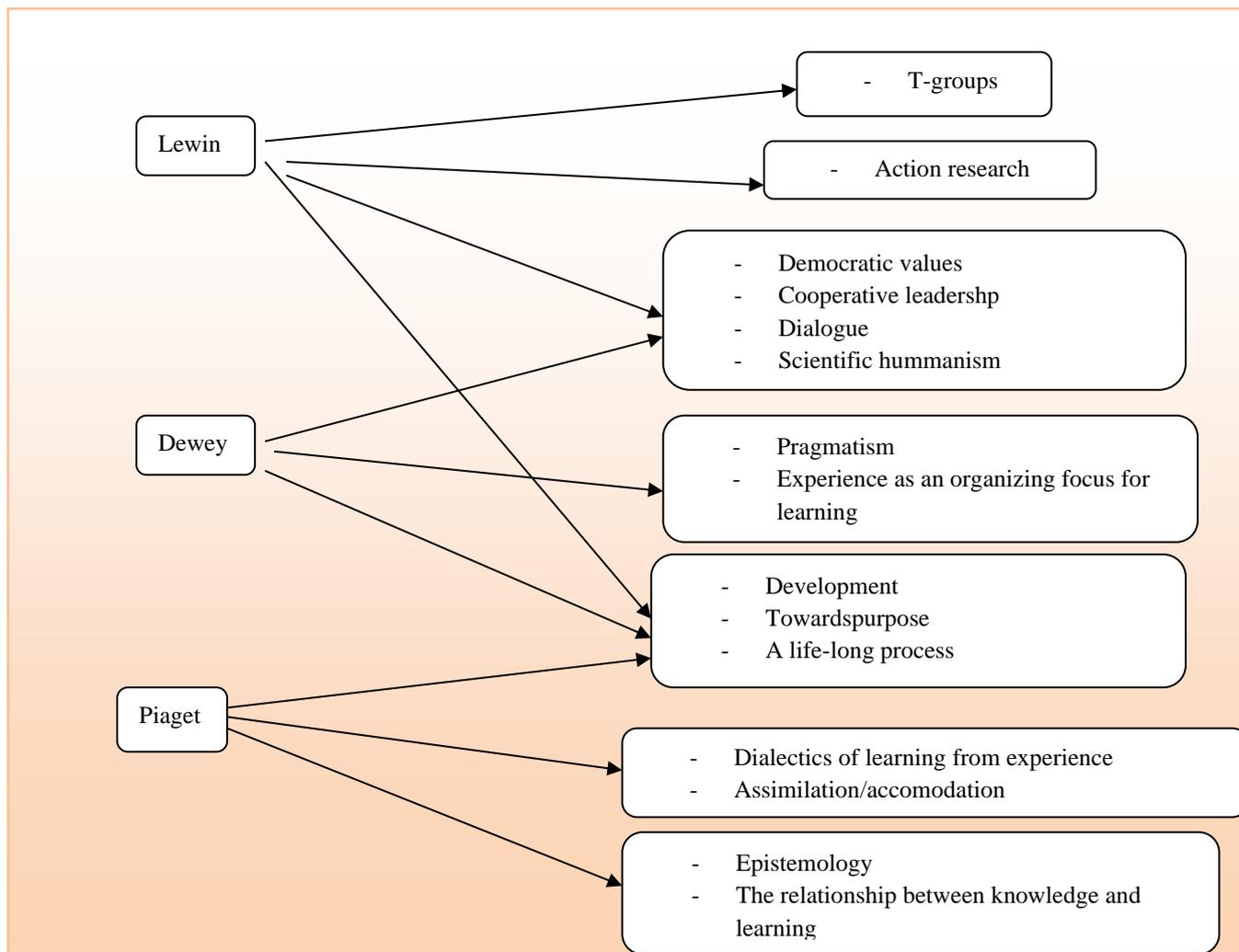
Dewey, pertaining to the philosophical perspective of pragmatism, voiced concerns about the design of teaching methods, emphasizing the importance of valuing the learner's experience and promoting discovery through "scientific inquiry." He believed that a solid philosophy of experience should be complemented by feedback in education (Beard, 2013). This perspective is in line with scientific discovery methods that require interpreting the stages of experience to prompt reflection and learning, thus extracting its significance to serve as a guide for future experiences. The initiation of this process is often triggered by a challenge that disrupts the customary experience (Kolb, 2015, p. xxi).

Piaget's primary emphasis was on cognitive growth processes. He elucidated the manner in which intelligence is moulded by one's experiences. According to Piaget, intelligence is not an inherent internal capacity or trait of the individual, but rather emerges as a consequence and outcome of the interaction between the person and their environment

(Kolb, 2015, p. 12). Henceforth, to develop one's intelligence, one needs to take action and get involved in many experiences where abstract reasoning arises, and then the growing of knowing that person changes qualitatively.

Lewin's contributions, viewed through the lens of Gestalt psychology from a phenomenological perspective, have significantly impacted the field of social psychology. His famous statement, "a good theory is as practical as anything," reflects his dedication to merging scientific investigation with addressing social issues. "Learning is most effectively nurtured in an environment characterized by dialectic tension and conflict between immediate experience and analytical detachment." In other words, learning takes place through comparing existing knowledge with current experiences and reflecting on them. Lewin's depiction of the learning process is akin to Dewey's, encompassing observation, knowledge, and judgment (Beard and Wilson, 2006; Kolb, 2015). The following figure summarizes the main tenets of the experiential learning theory.

Figure 4: *Three traditions of Experiential Learning extracted from Kolb (2015, p. 18)*



The theory is constructed upon six assertions that are collectively endorsed by these experts. Learning is most effectively understood as an ongoing and uninterrupted process, rather than a sequence of final results. In order to improve learning in higher education, the primary emphasis should be on actively involving students in a process that promotes their learning. This process involves offering feedback on their learning endeavours, as highlighted by Dewey, who stressed that education is an ongoing reconstruction of experience and that the method and objective of education are intertwined. Moreover, all acquisition of knowledge is really a process of acquiring knowledge again. One highly efficient method for promoting learning is to prompt students to express their thoughts and ideas regarding a subject, allowing

for their examination, testing, and integration with new and improved ideas. Learning entails the process of resolving conflicts that arise from opposing methods of adapting to the reality. Conflict, disputes, and disagreement are essential catalysts for the learning process, since they compel individuals to navigate between introspection and implementation.

Moreover, Learning is a comprehensive process of adjusting to the world, involving not only cognitive abilities but also the cohesive functioning of the entire individual's thinking, emotions, perception, and behaviour. Moreover, the acquisition of knowledge arises from the collaborative interplay between individuals and their surroundings. According to Piaget, learning takes place when new experiences are incorporated into existing conceptions through assimilation and when old concepts are adjusted to accommodate new experiences through accommodation. Ultimately, learning is perceived as the act of generating knowledge. This is consistent with the constructivist theory, which highlights the idea that social knowledge is formed and reformed through personal experience of the learner. This is in contrast to the old "transmission" paradigm, where already existing established concepts are merely passed on to the learner.

2.2. Effectiveness of Experiential Learning

Humans are goal-oriented agents by nature (Bransford et al., 2000, cited in Zetting et al., 2015). They actively seek information by involving students in the learning process. Hence, engaging the students in the teaching/learning process guarantees that all of them learn better. In the same vein, recent studies indicate that students create new understanding and knowledge by building upon their existing beliefs and knowledge.

Orienting experiential learning in an educational context brings the teacher-learner dilemma to the fore. It is by no means "a mere memorizing of abstract theoretical knowledge" (Beard and Wilson, 2013, p. 24); henceforth, EL persuades students to actively engage in rich

learning events for learning through doing, reflecting on those actions, using their prior experiences to eventually construct meaning (Anderson et al., 2000). Termed differently, it was a reaction to the didactic approach that prioritizes teacher control and contains a path of transmitting knowledge. It involves the learner in a transformative process to incorporate learning for comprehensive personnel growth. David Kolb (1984) emphasizes that personal experience adds vitality, depth, and individual meaning to abstract ideas. This focus on the nature of learners' experiences and their utilization of them ensures effective interactions with others and emphasizes learning by doing. This approach excludes certain activities usually linked with learning, such as lectures, readings, and passive observation.

The theory of experiential learning is a highly efficient method of teaching that promotes active intellectual and emotional engagement of students in their learning process.

By understanding how individuals learn and master their own learning, students can develop a deep and lasting understanding of the subject matter (Kolb, 2015, p. 53). Alkan (2016, p. 22) suggests that experiential learning in the field of chemistry not only enhances students' awareness of their professional identities but also emphasizes the significance of their own inquiries and explorations. This holistic approach challenges learners in all domains rather than isolating cognitive, effective, and psychomotor skill acquisition (Sonja, 2003; Kolb, 2015; Beard, 2023).

Teaching methods rooted in experiential philosophy offer valuable opportunities for students who may have felt excluded from traditional teaching approaches, as they empower those who are reserved and boost learners' sense of control and accountability for their own learning. These methods also play a transformative role in altering students' beliefs about the true nature of learning. Rather than passively observing, reading, listening, or contemplating, learners are actively engaged with the subject matter under study. This approach is supported by research by Wallerstein (1983) and Kohonen (2001). To this end, Rogers (1969) describes

this basic philosophy: Personal involvement plays a critical role in the learning process as it necessitates individuals to actively engage their emotions and thoughts. It is essential for the learning to be self-initiated, even if external sources provide motivation or encouragement. The sense of discovery and understanding should be derived internally. Additionally, the effects of the learning should extend far beyond the educational setting, influencing the learner's behavior, attitudes, and potentially even their personality.

In fact, the realm of EL has been expanded and invaded many fields, such as education, psychology, medicine, and law (Kolb, 2015). Language education is no exception, where many researchers try to implement the EL theory in general and Kolb's learning cycle in particular. Recent methods of teaching foreign languages emphasize the significance of students actively engaging in their language learning. Involving learners in genuine language and communication situations, as well as exposing them to diverse cultures and individual learning chances, offers substantial promise for successful language acquisition (Mollaei and Rahnama, 2012).

The current ESL instructors can utilize its capacity to assist students in managing more than just the language. By applying experiential learning techniques for existing ESL teaching environments, educators can aid students in developing positive self-identities as proficient language learners, potentially alleviating the challenging process of learning a new language. The implementation of experiential learning, which is a learner-centered approach, helps learners to think critically and get involved in the entire learning process as opposed to teacher-centred approaches, which do not foster the student's ability to think as their role is submissive. (Moore et al., 2010, Mollaei and Rahnama, 2012)

Sonja (2003, p. 54) and Eyler (2009) assert that experiential learning has tremendous effects on learners as it focuses on the individual as a central pole in learning with the aim to

autonomy through Deeper understanding of subject matter than it is possible through lecturing alone. Encouraging learners to develop their target language skills by working together on a specific task is emphasized, rather than just focusing on isolated language elements. Additionally, learners are encouraged to hone their capacity for critical thinking and to apply their knowledge in complex or ambiguous situations..

Furthermore, the use of experiential methodology offers numerous potential advantages for SLA, such as enhancing motivation, commitment, and cultural awareness. It also promotes the involvement of personnel, intuition, and self-directed learning. Experiential education plays a role in fostering intellectual development by requiring students to monitor their own comprehension and acknowledge and grapple with differing viewpoints. It fully involves students and encourages them to take on the challenges they encounter. This approach can be applied to cognitive learning, which involves understanding information and concepts, as well as behavioral and affective learning, such as examining beliefs (Silberman, 2007).

In an experimental study, Anisa (2011) examines the efficacy of EL on the improvement of vocabulary mastery following Kolb's model, the findings reveal a positive enhancement in students' vocabulary mastery in terms of understanding meaning, the improvement of pronunciation, spelling and using words. Moreover, EL provides a healthy atmosphere, for it increases students' confidence, motivation, and involvement in English class. From another angle, Roggn and Sundaringh (2016) investigated the effectiveness of EL in language learning strategies in the EFL context. It was noticed that there was an extremely noteworthy improvement in the general use of these strategies from medium to high among the participants. Such findings would pave the path towards embedding the ELC in the content modules to create opportunities for students to enrich their learning strategies.

This method of instruction using Experiential Learning (EL) involves a dynamic process that necessitates setting clear objectives, engaging in reflective thinking, formulating strategies, testing ideas through experimentation, deep contemplation, careful observation, and critical evaluation. Through active involvement in these activities, students construct their own understanding in a way that fully integrates the emotional, cognitive, and physical aspects of learning. The ability to reflect on experiences and analyze initial responses plays a pivotal role in bridging the connection between experiences and learning (Sonja, 2003).

Experiential Learning provides students with opportunities to engage in firsthand experiences and deliberate reflection to deepen their understanding, develop skills, clarify foundational principles, and enhance their capacity to make meaningful contributions to their communities. Brown (2000, p. 238) confirms that both left – and right–brain processing is engaged when using experiential learning activities, language is contextualized, and skills are integrated. Henceforth, experiential learning makes active learners, who make their own knowledge, rather than awaiting the guidance of the teacher. Indeed, this approach encourages students to go beyond rote memorization and instead assess and apply knowledge, contemplating the best ways to utilize learning in real-life situations.

2.3. Experiential Learning Cycle

Once the effectiveness of the EL theory was approved, it is high time to depict its main model that was created by Kolb. The learning spiral is what the experiential learning cycle actually represents. By reflecting on a concrete experience, enriching it, giving it meaning through thought, and transforming it through action, a new, richer, broader, and deeper experience is created. (Kolb, 2015)

ELT considers the transformation of experience the real path towards the process of creating knowledge. Henceforth, combining grasping and transforming experiences provide Knowledge (Kolb, 1984: 41). In the ELT model, grasping experience is presented in two modes Concrete Experience and Abstract Conceptualization, while transforming experience can be Reflective Observation and Active Experimentation. Experiential learning is determined through the involvement of the four learning modes to constructing knowledge, which is adaptive to contextual demands. The process can be conceptualised as an idealised learning cycle, in which the learner engages in experiencing, reflecting, thinking, and acting in a repetitive manner that is attuned to the learning context and the content being studied. Observations and reflections are built upon direct or specific experiences. The reflections are combined and compressed into theoretical notions, which can then be used to infer new implications for action. These outcomes can subsequently be actively tested and employed as principles for creating novel experiences.

Experiential learning consists of a four-stage cycle; experience gives food for reflective thinking, which in turn leads to abstract conceptualizations and hypotheses to be tried out through active experimentation (Kolb and Kolb, 2005,p. 3). Hence, the amalgamation and the fluent movement from one step to another ensure the creation of a healthy atmosphere where all types of learners get involved in the teaching/learning process.

(1) **Concrete experience:** The foundation of concrete experience plays a vital role in the learning process of English Language Teaching (ELT) by fostering a deep approach to learning. It encourages learners to engage with challenges and unexpected elements, sparking their natural curiosity and leading to a deeper comprehension of the material. This approach prioritizes individual experiences, connections, and emotions. Educational activities that reinforce this aspect include small group conversations, simulations, and dramatic techniques,

as well as the incorporation of multimedia such as videos, films, illustrations, and narratives. Engaging in these activities requires a readiness and openness to embrace new experiences, thus further enriching the learning process.

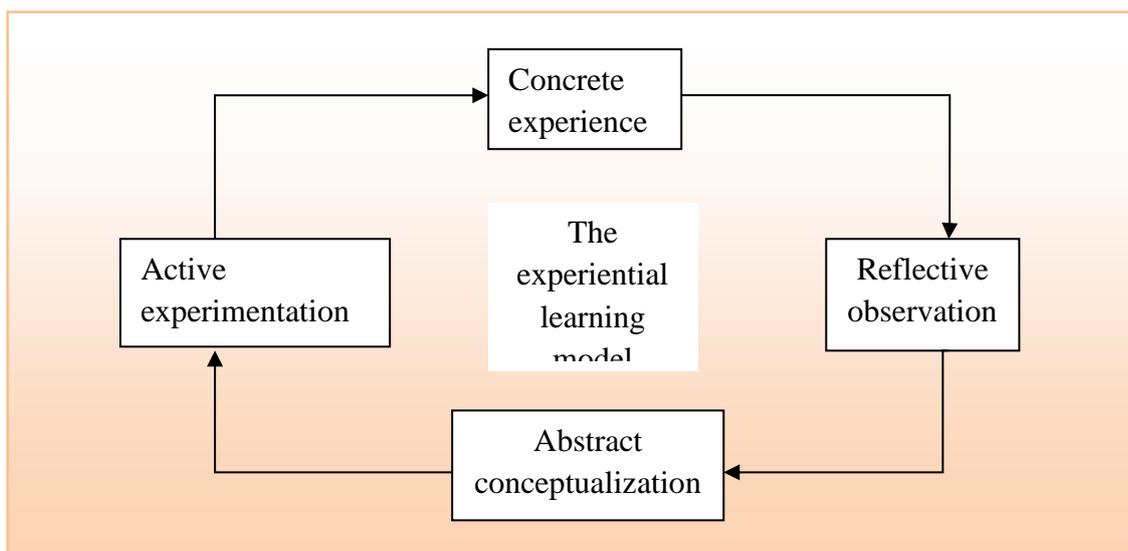
(2) **Reflective observation:** Engaging in self-reflection is an essential component of the learning process. It enables individuals to examine their experiences, discern patterns in their behaviour, and acquire insights that might foster personal growth and development. Reflective learning, as defined by Boyd and Fales (1983), is the process of internally analysing and investigating an issue that has been prompted by an experience, leading to a change in one's conceptual viewpoint. This process is crucial in generating and elucidating significance in relation to one's own identity. Thorough scrutiny has a crucial part in comprehending intricate concepts and circumstances. By taking into account many viewpoints and relying on their thoughts, emotions, and discernment, observers can acquire more profound understandings of how events unfold. Instructional strategies that promote observation and reflection encompass the use of personal journals, reflective essays, observation reports, thought-provoking questions, and conversations. These strategies enhance and fortify students' learning by promoting critical engagement with their experiences and integrating their observations into a broader framework of comprehension.

(3) **Abstract conceptualization:** In this process, a systematic approach is used to carefully organize and outline various phenomena. The main emphasis is on clearly defining and categorizing theoretical ideas and principles in order to create precise conceptual groupings. The instructional methods involved in this process include developing theories, delivering lectures, and crafting models and analogies.

(4) **Active experimentation:** it emphasizes the active application of knowledge, focusing on real-world work situations. This involves implementing new ideas and concepts in practical settings. Learners are motivated to take initiative and drive change in a variety of scenarios,

even if it involves taking calculated risks to accomplish their goals. Instructional methods encompass a range of activities such as fieldwork, diverse projects, laboratory work, games, dramatizations, and simulations, providing hands-on and immersive learning experiences. (Kolb 1984; Kohonen, 2001, Merriam and Cafferella, 1999)

Figure 5: Kolb's Model of Experiential Learning. (kolb, p. 51, 2015)



According to Kolb (2015, pp. 50-51), experiential learning theory offers a dynamic view of learning that is centred around a repetitive learning cycle. This process entails a continuous interaction between the learner's internal cognition and the external surroundings. This interchange is shaped by the resolution and the interplay between action and contemplation, as well as the interaction between experience and abstraction. It generates a self-repeating circle or spiral, in contrast to the linear, conventional paradigm of information transmission commonly employed in most educational contexts. According to the traditional approach, the instructor imparts information to the learner, which is then stored in declarative memory for future retrieval (Alice and Kolb, 2023).

2.3.1. Kolb's Model and the Dialectic Poles

The primary concept in ELT is that acquiring knowledge involves understanding experiences and transforming those representations, which represent the two opposing dimensions of prehension and transformation. According to Kolb (2015), both dimensions contribute equally to the learning process.

1. The prehension dimension investigates how the person grasps experience. The dimension comprises the two polar extremes of the modes of knowing, from tacit knowledge and unconscious intuitive experience to conscious understanding of the experience. Unconscious sensations are organized and structured by abstract conceptualization. As a result, reality is understood and made sense of in varied degrees through both unconscious and conscious learning. Kolb has made a distinction between two different and opposed processes of grasping experience in the world.

The first he called apprehension or “concrete sensory experience” (Alice and Kolb, 2023, p. 11), where grasping experience is based on tangible, felt qualities of immediate experiences. Hence, Perceiving the world directly and immediately is made possible through a sophisticated system of sensory perception. This system encompasses the five major senses of sight, hearing, touch, taste, and smell, as well as numerous lesser-known senses such as spatial orientation, balance, kinesthetic awareness, pain, and internal bodily functions, including emotions and feelings (Alice and Kolb, 2023, p. 11). On the other spectrum, Understanding abstract concepts is activated through recalling ideas and concepts and also interpreting and representing them symbolically, showing comprehension of the world.

Despite the opposing processes of this dimension, they seem to be complementary since the result of one will lead to flourishing the other either for the current experience or for the previous or future ones because of EL cycle nature that is

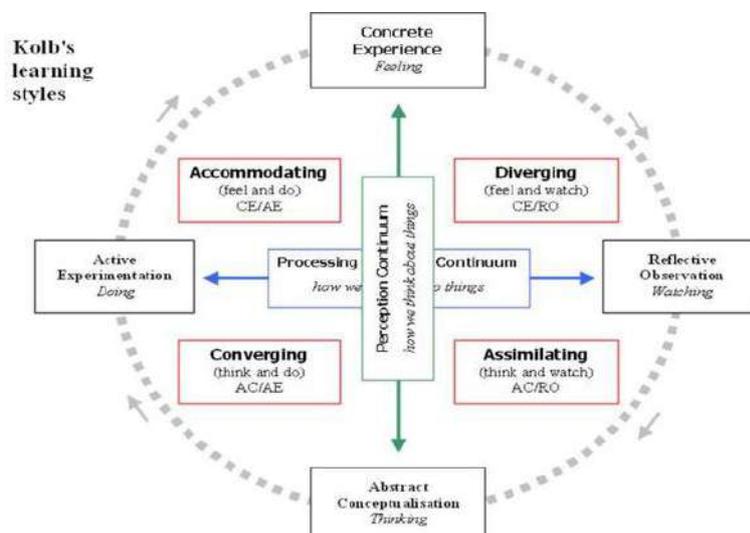
recursive where the outcome of one experience is the starting of a new cycle. Kolb (2015, p. 160) asserts that they both form a continuous fabric where The understanding of personal knowledge is influenced by the connections between grasping and understanding.

2. The transformation dimension involves the process of reflecting on observations and actively experimenting to transform one's experience. Kolb has further detected another dimension out of the learning cycle, which is the transformation dimension, which in turn is split into two major poles that might function opposite to each other. On one hand, the reflective observation that undergoes an internal reflection, which resembles the intention process, is an internalized action reserved for logical and mathematical knowledge. On the other hand, active experimentation is about behavioral actions that transform objects and states and is about external handling of the external world, in Kolb's words "extension". Through interactions with the biological capacities of the learner and the environment's elements, learning becomes a means of facilitating human development.

2.3.2. Kolb's Model and Learning Styles

Kolb has developed an inventory that is based on EL Cycle in which each of the opposing modes has a certain learning style that is appropriate with it.

Figure 6: Kolb's learning styles (Kolb, p. 2015)



1. The divergent learning style: it emphasizes concrete experiences and reflective observation; it is achieved by reliance on apprehension transformed by intention. They are seen as activists who involve themselves in an experience with an open-mind manner, they are characterized by good intuitive-decision makers with an imaginative and feeling oriented spirit. The diverger excels in educational settings that need idea development. They typically like collaborative work, value many perspectives, and appreciate personalised feedback. (Kolb, 2015; Beard and Wilson, 2013)
2. Assimilation: this learning style is dominated by conceptualization and reflective observation as learning abilities that focus on using logic and concepts and building general theories. People belonging to this orientation prefer to analyze information and generate an encompassing theory by incorporating unrelated observations. They are distinguished for their inductive reasoning and systematic planning. In formal learning settings, they have a preference for evaluating presentations, exploring analytical frameworks, and ensuring they have enough time for reflection.

3. The convergent learning style is oriented to the abstract conceptualization and active experimentation angle. The most used strategies are problem solving, deductive reasoning and decision making. They are considered pragmatists who prefer to apply theories and techniques to explore their applicability in formal learning institutions. They favor to experiment with new ideas, simulations, laboratory assignments, and practical applications.
4. Accommodation: people of such a learning style are eager to be involved in new experiences that relate to concrete experience and active experimentation. They typically approach problem-solving using an intuitive and iterative trial-and-error method. They have a collaborative attitude team that prioritises working with peers to complete assignments and establish goals. (Kolb and Kolb, 2005; Kolb, 2015; Beard and Wilson, 2013; Bright, 2014)

In his model, Kolb mentions that the learner might use any of these components depending on his learning style. As it is known learning styles are permanent features that characterize the way people learn; some prefer to think about and analyze rather than using sensation as a guide. Similarly, When it comes to transforming or handling experiences, some individuals observe others participating in the experience and contemplate what occurs, while others prefer to dive right in and take action. According to Kolb (2002), neither one alone is an efficient method of gaining knowledge (p. 56), suggesting that the cycle can never be completely fulfilled. Termed differently, these interties must be integrated in order for learning to occur which questions the nature of mechanisms used in the cycle.

In fact, Kolb (2023, p. 15) re-orientes the learning styles to be habitual preferences for the interdependent aspects of action and reflection, as well as experiencing and thinking, are produced through a habit of learning. This habit is developed when certain learning modes are consistently favoured over others to mould one's experiences. This habit is developed when

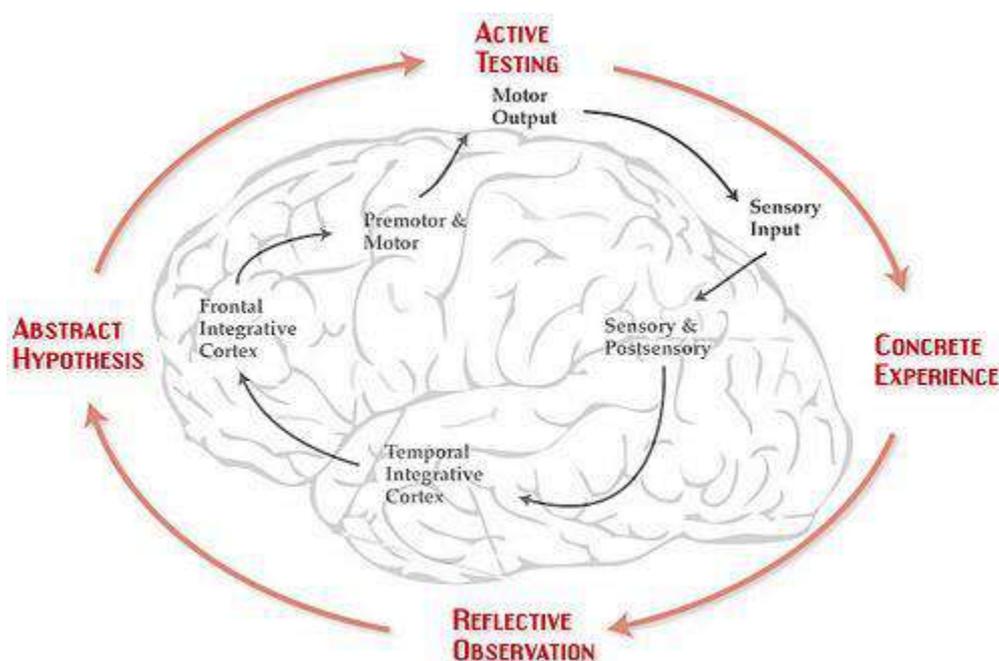
certain learning modes are consistently favoured over others to mould one's experiences.

Hence, the context obliges the learner to opt for which pole, this may lead us to tackle the learning strategies issue that seems to be the appropriate characteristics for fulfilling the learning cycle; therefore, reaching a learning flexibility that builds strengths in non-preferred styles and parts of the cycle, and develop a more holistic approach to life. We propose that by using a model based on experiential learning theory, Learners can gain a deeper comprehension of the process of learning, their own role as learners, and the effective application of learning techniques depending on the task and setting.

2.3.3. Kolb's Model and the Neurocognitive Science

The goal of cognitive neuroscience is to outline the way the human mind processes information and to uncover how this computational structure is reflected in the brain's physical structure.

Figure 7: *The Experiential Learning Cycle and Regions of the Cerebral Cortex (Zull, 2002).*



Zull's (2002) fundamental concept was that knowledge is housed within networks of neurons in the neo-cortex that are formed through experiential learning. Experiential learning leads to the adaptation, development, and pruning of neurons, synapses, and neuronal networks. Consequently, learning brings about physical changes in the brain, and teaching is the skill of reshaping the brain. Zull identifies a connection between English Language Teaching (ELT) and studies in neuroscience, proposing that the process of experiential learning is linked to brain functionality. Put into words, the figure illustrates that concrete experiences are processed by the sensory cortex, the integrative cortex at the back is involved in reflective observation, the frontal integrative cortex is responsible for creating new abstract concepts, and the motor brain is engaged in active testing. The above diagram shows that the interaction between those four domains is not linear but rather a cycle with multiple processes and sub-processes occurring and overlapping simultaneously within each area.

The sensory area: The sensory area of the neocortex is in charge of receiving and gathering all the stimuli that originate from both our own bodies and the surroundings. Sensation is the first step in any experience, which is the perception of outside stimuli and the ability to sense, comprehend, identify, and classify them. Consequently, every sense in the body serves as a receptor for the information contained in stimuli that will subsequently be processed in other regions of the neocortex that are related to each specific sense. In order to learn, people need to interact with the world around them actively. Concrete experiences are considered as trigger towards the activation of the neurons in the brain; more senses to be involved in the learning process specifically the gathering data causes the activation of more neurons and neural connections to ascertain the absorb and assimilation of the information. Essentially, the brain depends on its biological mechanisms to collect facts through a comprehensive sensory-based experience.

The back-integrative area: it integrates sensory information to create images and meaning which cannot be afforded unless experiences are integrated with memories. Termed differently, the connection and association between existing knowledge and the new knowledge received from the sensory cortex. Such process mirrors the mode of reflective observation in the learning cycle. The reflecting phase of the learning process, in a similar vein, is what activates, facilitates, and creates memory formation because of how connectedly it functions. To put it simply, reflection is how the brain links the information it has already processed with the new information.

The front-integrative area: To move deeper, the two types of memories, STM and LTM, are responsible for having the full image of the abstract conceptualization. The working memory is used by the frontal integrative cortex to decide upon the appropriate cognitive strategies to achieving the goals: to choose, plan, problem solve, and make decisions. During this stage, we are able to recognise the facts as a construct that we can comprehend intellectually, leading to the formation of judgements and conclusions. It is there where new ideas can be assimilated, integrated or rejected upon which new actions are to be invented and chosen. Because of the way in which it acts, the reflecting phase of the learning process is what initiates, promotes, and forms memory formation. In summary, reflection is the process by which the brain integrates newly acquired information with previously processed information.

The motor area: Once the integrative and associative processes are completed, actions reconnect the processing inside the brain with the world and close the learning cycle, which represent the active experimentation mode in Kolb's cycle. Hence, after receiving, associating, and planning what to do with the received information, they test their hypotheses in the real world. We can finally show a cognitive and bodily understanding of that sensory experience through actions. (Rodriguez, 2020, Alice and Kolb, 2023, Zull, 2011, Kolb, 2015)

In summary, Experiential Learning theory has deeply rooted in the field of education, and it has showed its significance in language learning. Among the various models of experiential learning, Kolb's' learning cycle proves to be the most commonly used. It is an amalgamation of different learning theories and it is a holistic model that covers different types of learners. As such, the proposed model described in the next section is based on Kolb's learning cycle.

2.4. A Proposed Modal for Teaching Grammar

The impetus for learning is improving one's status to a position that comprises wisdom and knowledge which can only be reached via bridging the performance gap through learning. Formal learning that is based on traditional education is based on "banking concepts" (Freire, 1970), where teachers impart ideas to students, who accept them without criticism, memorize them mechanically, and then repeat them (Kolb, 2015, p. 8). This approach is described as passive for students and goes against recent methodologies that highlight the importance of students making their own contributions to their learning. Therefore, actively experiencing something is significantly more beneficial than simply having it explained.

Chomsky (2002) posits that the acquisition of language grammar involves abstracting a collection of grammatical rules from linguistic input, rather than by imitation. Young learners who heavily rely on procedural memory may find such thoughts challenging. However, as they grow older, there is an increasing dependence on the declarative system for processing vocabulary, morphology, and syntax. The declarative system refers to knowledge about describing language and understanding how it functions (Mitchell et al, 2019, p.170). The primary task is to make tertiary students aware of their subconscious knowledge of English grammar, enabling them to consciously understand and analyse the grammaticality and structure of English sentences (Ke 2008, p. 2).

In this section we will examine an experiential learning model through language learning lens; exploring the mechanism of experiential learning and its practical application especially

when teaching grammar through a proposed model which is likely to be a culmination of a variety of strands that include EL and neurocognitive information processing system in a way that triggers the learners' use of different effective strategies while learning grammar elements.

1.4.1. Rational for Choosing Kolb's Model

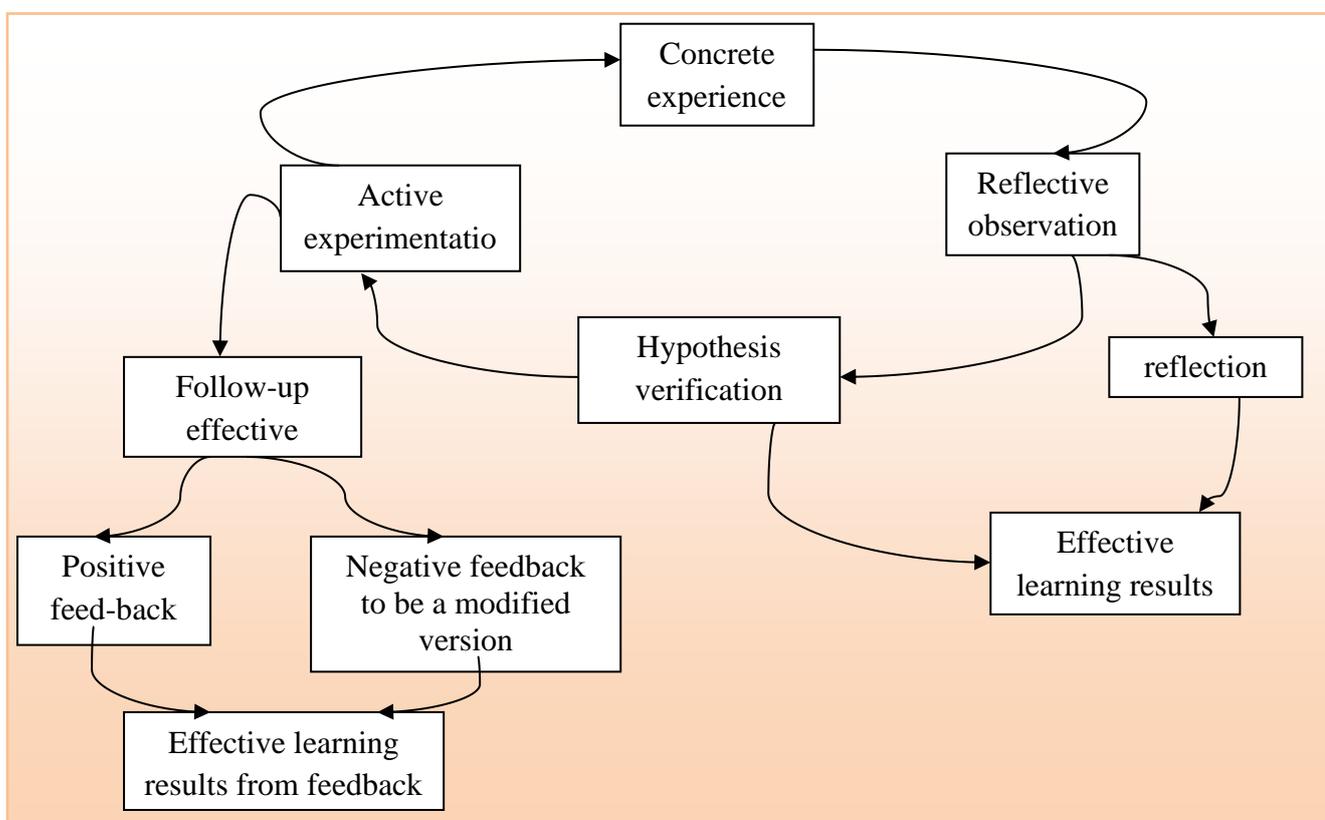
The primary objective of teaching is to develop independent learners who can take charge of their learning and can personalize their experiences to maximize their learning and become proficient users of the target language" (Boggu & Sundarsingh, 2016). This goal aligns with the principles of EL theory, which prioritize students' active engagement and application of skills (Mc Donnel, 2017, p. xxvii). Akhtar and Nasreen (2019) found that EL-based education can enable students to uncover their hidden talents, leading to a significantly positive impact on their learning.

Kolb's experiential learning model has been used by numerous academics and researchers, who have confirmed its superiority over alternative models. After a thorough examination of Dewey and Kolb's writings, Smith (1988) concluded that Kolb's (1984) model was among the best available for experiential learning. Kolb's four-stage cycle, according to Blacker (2001), was also highly practical and helpful for applying experience in education. Other scholars like Young (2006) and Merton and Wylie (2002) also certified the importance and significance of Kolb's work, which has been proved in the experiential study. These studies clearly demonstrate the significance of Kolb's and later Kolb and Kolb's works for experiential learning practitioners and students. These works serve as role models and guidelines for understanding the significance of the EL process. (Akhtar, 2021, p.254)

According to Pawlack (2017), simply understanding the three dimensions of grammar - form, meaning, and use - is not enough. This is because they are declarative and can only be accessed when learners have time. Therefore, it is important to also improve procedural knowledge, which is used in real-time communication and requires ongoing processing or at least sufficient automation of the declarative knowledge.

To accommodate Kolb's model with the different areas about learning a target language, the coming figure illustrates that within each stage of the cycle there are several discrete ways of learning and reinforcing learning. The combination of all the four forms produces the highest level of learning.

Figure 8: *An extended version of Kolb's model (inspired from Moon, 2004)*



1.4.2. The Amalgamation of EL and IPS

The proposed model is the fruit of combining experiential learning and cognitive theory that triggers the learner to use effective strategies while learning grammatical components. Espoused to Kolbs' model and based on the extended version of his model as well as the foundational features presented by Beard (2023)(appendix 4), the proposed model for teaching grammar has integrated many stages to enabling students to construct their knowledge, verify their hypotheses, and implement them later.

1.4.2.1. Preparation

Before embarking on the concrete experience as being the first step in which learners involve in the classroom, the facilitator, as the teacher should be assigned to, has to

- Prepare the materials to be encountered by the students.
- Prepare the students themselves to be an active part of the learning process.

A. *Material Selection*: the materials the students get exposed to are to be mediated following Moon (2017) characteristics of good mediation of learning

- Having a clear understanding of the learning's purpose and the type of comprehension the teacher expects the learner to attain. Consequently, creating the learning process's objectives and the lecture's design.
- The mediation process forecasts the type of pertinent past experience that individuals are expected to apply to a new scenario and directs them to incorporate it into the present learning environment.
- The expected way in which students understand the learning process so that the mediation process can help them choose the right approach to learning⁵⁸)

In other words, the way the lesson is designed must incorporate and consider the variety of students' preferences and styles. The materials to be scrutinized and studied by the learners

are to be mediated to meet the objectives of the lecture and be comprehensible to the learners, for their attention will be devoted to the structure under study.

Here the notion of “The comprehensible input” comes to the fore, where the students are fronted to language that is slightly beyond their current skill level. Because receiving input that is significantly above their current level of proficiency will only lead to frustration. This gap presents a challenge for learners who are striving to comprehend complex concepts that surpass their prior experience. In the Algerian educational system, from middle school up to the final year in the secondary school, the programs are fixed and unified in all schools of the country. Therefore, the teacher is able to anticipate the major components that are covered and assuming they are internalized by the students. On these bases, the teacher is ready to opt for the appropriate material and the objectives to be achieved.

B. *Students' Preparedness*: having such experience here the learners are inseparable part of the teaching/learning process might be difficult for the learners as they have never been involved in such experiences. Getting ready to start is an inevitable stage to thrive the learning cycle.

Kolb (2015) cautions that the students must be aware of the process which are taking place and which are enabling learning to occur ; and they are willing to be involved actively in the experience for the effective realization of the process. A modeling stage is needed; in fact Educators have the ability to provide guidance, advice, and encouragement for students' self-reflection to help them fully benefit from the experience. It is often necessary for an expert in the field to demonstrate and explain their developed expertise to students who may not otherwise acquire a deeper understanding without observing and discussing with an expert (Steele, 2023, p. 6). Hence, the teacher is involved in the four stages through simulation that would clarify the doubts the students have about the correct way the processes undergone.

The difficulty the teacher might face is the students' resistance to change and adopt the new method since they have continuously had lessons, especially with grammar module, with traditional approach which is based on teacher centeredness with learner being merely passive receivers who intend to memorize structures in a routine manner. Hence, addressing the misconceptions students have about learning to be modified and reviewed through providing metacognitive knowledge as a grounded base supplying students with the necessary information about the core meaning of learning and that deeper learning is important for engaging learners through discovering and mastering existing knowledge and then creating new knowledge" (Fullan, 2014, p. 2 cited in Coyele and Meyer, 2021, p. 44).

Henceforth, the teacher orients the students to their active role and involvement as well as the pivotal role their previous knowledge play in the learning process. This phase would be interpreted as a preparatory stage since it makes the learners aware of certain conceptions. Once the learners are ready and the materials are set, the application of the Kolb's cycle will go as follows:

1.4.2.2. Concrete Experience

The involvement phase: The proposed model is intended to direct students' goal seeking attention to solve problems. Experiential learning can be used for learning that is cognitive, understanding information, behavioral, developing skills and effectively examining beliefs (Silberman, 2007). Morris (2019) has highlighted the issue what constitutes concrete experience; after analyzing more than 40 studies using experiential learning, he concludes that five themes to be involved in the concrete experiences: In this immersive learning approach, learners take on an active role by deeply engaging with knowledge in specific contexts and time frames. They actively seek out and embrace new experiences that demand them to take risks, and their learning is driven by hands-on exploration of real-world issues. Critical

reflection serves as a cornerstone, guiding learners in analyzing, evaluating, and deriving profound meaning from the learning process.

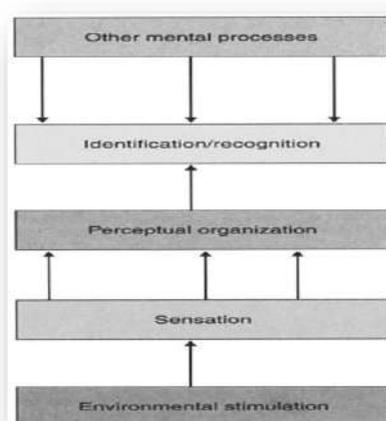
Concrete experience, as it implies learning by doing, does not mean moving your body or necessarily having a physical activity; it may entail also working and think with your mind supported by Flick (1993, p. 1) claims that hand on science " it usually emphasizes students logical-mathematical, linguistic and spatial intelligence"; Bell (1995, p. 9) acknowledges that the act of reading, thinking, and writing has provided him with a tangible starting point for such contemplation, similar to any other physical experience he might have.. Moreover, Kolb and Kolb (2017) criticize the limited definitions many scholars assigned to the notion “concrete experience” where most of them put emphasis on direct sense experience and in-context action as the primary source of learning, often downplaying the role of thinking, analyzing, and academic knowledge, which is the issue highlighted in the current study and the proposed model.

The notion of salience floats on the surface once the students encounter the subject material. It concerns the cognitive load of students, which refers to how the brain manages information before the working memory is overloaded (Baddy, 2003). This can cause students to overlook important points in the lesson as the brain focuses on only one aspect at a time. Saliency in the proposed model is dealt with using priming, goal setting, and framing. The preparation phase ensures that students' attention is directed towards the specific objectives using an explicit psychological goal to frame the learning event. During this stage, the learner begins by writing a definition of the main concept, aiming to ensure that the learner's focal attention while processing is focused on the relevant grammatical items and not elsewhere in the sentence.

Such process will activate the students' background knowledge "schema" about the subject. In fact, such a phase is not new as many teachers have long been using it and aware of the value of schema and, of course, a well structured starting point can lead to greater learner awareness of and involvement in their own learning process.

Next, the students are exposed to the sentences where they try to analyze them focusing on the target structures which are delineated by attention which is "the prioritization of processing information that is relevant to current task goals" (Nobre, 2018, p. 244). Goal based attention control signals are considered the hallmarks of attention ; asking students to provide a definition about the grammatical items would pave the way towards a focus on it and ignore the rest which plays "a major role during the perceptual act in determining what is encoded into working memory" (Nobre, 2018, p. 286). Another key element for learning to take place is *noticing*; "this noticing is an awareness of its existence obtained and enhanced by paying attention to it" (Lier, 1996, cited in kohonen, 2002). Therefore, it reflects the choices the students make about the materials at hand to which they would like to attend, as a function of their goal.

Figure 9. *The processes of the transformation of incoming information (Zimbardo & Gerrig, 2002, p. 140)*



Based on the diagram, the process of perception is divided into three main stages: sensation, perceptual organization, and identification/recognition of objects. The first stage provides the brain with the neural codes that are converted out of the physical energy; these sensory features are to be synthesized into the percept of an object; the next stage, the perceptual organization, entails the integration and combination of the percepts under their labels, which leads to the identification and recognition phase. All these processes happen at the level of the sensory registers in the mind that get the needed information from the environment because of the focus of attention on them where the use of certain cognitive strategies reinforces effectively the process of analyzing the materials at hand. As mentioned before, selective attention is the pivotal strategy to be used whereby the students select the salient information to be received and transferred to the working memory. Such cognitive strategy is guided by the metacognitive strategy planning which sets the goal for learning a particular grammatical structure. (Zimbardo and Gerrig, 2002, Guenther, 2002)

Being a type of focused grammar instruction, the proposed model's primary goal is "heighten learners' awareness of grammatical features and systems and most importantly to promote learners' noticing of regularities which can lead to acquisition and automatization" (Ellis, p. 14). After being involved in all these primary processes, the students will start to notice the different parts of the target structure and to analyse which leads to the next stage reflective observation.

1.4.2.3. Reflective Observation

After analyzing the sentences, the students reflect on their observations where they write down their predictions about the target structure. Reflection is a crucial step in the learning cycle that involves a thorough and intentional process of analysing and evaluating an experience to gain a fresh knowledge of events (Hunt, 2005, p. 234 cited in Beard and

Wilson, 2006, p. 61). Termed differently, it is an active and conscious processing of thought that includes metacognition as well as analysis and synthesis to achieve a broader context of understanding. “Engaging students in challenging situations where face a gap in performance stimulate true reflection that requires existing knowledge to an analysis of the relationship between current experience and future actions, thereby building or expanding knowledge” (Mc Alpine and Weston, 2002, p. 699 cited in Moon, 2005, p. 81). Henceforth, the term reflection is a coin of two faces: schema and deep learning.

Learners should link their current experiences to their past learning. This approach is considered a form of discovery learning, which is believed to be a natural part of being human. According to Ausbel (as cited in Nadir et al, 2016, p.36), if one had to summarize all educational psychology into a single principle, it would be that the most important factor influencing learning is what the learner already knows.

The existing knowledge the learner has is the base to new learning, activating existing schemas and bringing it into the working memory. They act as “filters” to the received ideas. Whether already established anchoring ideas are specifically relevant to the learning material so that they are to be used both to integrate as well as to discriminate. In the current study, this stage is the culmination of reflection processes that are akin to link any background information on clauses in general and on dependent clauses in specific to the analysis of the sentences at hand where they question their assumptions and weigh evidence before drawing conclusion.

Involving students in the reflection stage leads to a deeper approach to learning. When students aim to comprehend the learning material and strive to connect it to prior knowledge and understanding, they are able to efficiently store and retrieve it. This approach leads to higher-level assessment tasks and enhances content recall more effectively (Moon, 2015, p.

61). This is in contrast to the traditional approach to teaching grammar, which promotes a surface-level approach to learning. In this approach, the focus is on memorizing language structures in a rote manner without reflection.

The process of learning involves establishing the correct connections so that specific patterns of activation occur when needed (McClelland, et al. 2002, p. 80). This characteristic of these models is crucial as it suggests that an information processing system could potentially learn to understand the relationships between different activations it encounters during processing by adjusting its connections.

Termed differently, the reflection phase along with the first step, where the learners provide definitions of the target structure would trigger the activation of the correct nodes in the brain that work on bring all the needed information into the working memory to be linked to the new knowledge for creating and strengthening more connections.

The proposed model opts for two modes of reflections; the single loop learning and the double loop learning. The first is an individual reflective practice, wherein the students try to analyze and criticize their own previous experiences that entail correct, missing or wrong concepts about related ideas to the target structure. Such a step is pervasive to develop one's self identity and confidence when learning. Yet, they might hold negative experience that could suppress the new learning; this is where the second phase of reflection acts on.

The double loop learning is a feedback practice that is compulsory where the students get involved in reflective discussions. In fact, one of the main criticisms to Kolbs' model is the reflection phase (Miettinen, 2000) that focused only on reflecting on the individual level while there is a necessity for the individual to interact with other humans in order to enhance reasoning and conclusion drawn. Such gap was fulfilled in the proposed model through the

students' discussion concerning their assumptions before drawing the final rule about the target element; it is labeled "reality check" on weaker concepts and hypothesis.

Reflection discussions are very crucial and beneficial in terms of making students conscious of the similarities and differences in their practices; they diagnose mistakes, discrepancies, and illogic in their assumptions; therefore, students' constructive criticism about each others' practices will guarantee correcting their errors and consolidating correct conceptions.

In such a way, the students can bring procedural knowledge into conscious to extract the sentence components when establishing the rules, which is associated with explicit learning that takes place "when the learner has online awareness, formulating and testing conscious hypothesis in the course of learning" (Michel et al, 2019, p.177). Together, they ease the mission for the learner to parse the input into parts of speech especially for complex rules like clauses

1.4.2.4. Abstract Generalization

As known, the advantages of deduced knowledge include its accuracy and generalizability. On the other hand, induced knowledge may create better storage because it triggers the intentional awareness of the learner as well as it creates different kinds of connections to the existing representation. As such, the proposed model opts for the induced knowledge strategy in the third phase that is about proceduralization; a stage where a new kind of knowledge is established and absorbed into general knowledge schemas.

This new metalinguistic knowledge can be categorized by how schemas are constructed, to what Klein (1986) termed "the matching issue" (cited in Khehan, 1998), which is of three types:

1- Encoding of new information into the existing schematic structure. If the new coming information is matched with the pre-existing activating schemas, then the listener has succeeded in comprehending the aural text. Hence, the learning happens through “instantiation of existing knowledge” (Isher, 2010, p.55).

2- Modification and refinement of the schema: if the information and the schema are not compatible, “the schema can be slowly modified to conform better to the sort of situation to which it applies” (Norman, 1981, cited in Ishler, 2010, p. 55).

3- The creation of new schema because of the totally new information, which will be connected to other schema (Rost, 2002, p.62).

The learner, hence, is open to changing her cognitive framework and can assess the origin of her knowledge and the learning process. These two aspects of learning can be viewed as transformative learning, which involves "changing what we know," and informational learning, which entails "expanding existing cognitive abilities into new areas" (Kagen, 2000, p. 48 cited in Merriam et al, 2007, p. 130).

For the aim of avoiding fossilization, a result of declarative knowledge that is non-native like undergoing automatization, all the students with the help of the teacher provide the rules of the target language element after reflecting on it. The students come back to the definitions they provide in the first phase about the target structure earlier to revise it either by adding, correcting, or changing it completely.

1.4.2.5. Active Experimentation

It represents the last stage in the experiential cycle. Practice is needed to apply the declarative knowledge, for it will be proceduralized and to be fully automatic later that results in an “automitized explicit knowledge”. In this phase the students practice their knowledge by answering activities related to the subject matter. To reinforce the use of the target structure in their output, it is pervasive to create exercises that are meaning based focus. In the present

study, the students are asked to answer two types of questions; the first is about identifying the different types of dependent clauses while the second type is about written productions where they are to write paragraphs using the target structures being learnt. In fact, the final step is considered as crucial as the other stages since it leads the learner to reflect on his answers which can be either correct so that the declarative knowledge will be reinforced or wrong ; consequently, the learner will correct his understanding and revise the rule being grasped.

Kolb (2015, p. 335) asserts that the initial three phases of the learning cycle, which involve transitioning from experience to action, take place within the mind. In contrast, the final quarter, from the point after we take action to the subsequent experiences, occurs in real life. This mirrors the processes of the proposed model, where in the final stage, students endeavor to apply the principle to new sentences by incorporating it into their writing or speaking performances.

1.4.3. Grammar Learning Strategies

One of the major objectives the proposed model seeks to achieve is the appropriate use of grammar learning strategies, which can be learned implicitly. A workable definition to LLS for the purpose of the present research can be: “LLS are a sequence of steps, taken deliberately by the learner differently according to specific purposes: learn, recall, or comprehend the target language”. Using the word sequence of steps does not intend to mean that there is a fixed line of steps needed to be followed; rather, varying depending on the goal seeking to achieve (Atia, 2002). These steps can be used and developed by the learners themselves as they can be teachable and transferable to other learning situations. These strategies need to be orchestrated together; i.e, a learner uses a cluster of strategies in combination to successfully fulfill the task.

The study of LLS, in its earliest days, was based on no theoretical grounds but with O'Malley & Chamot's (1990) application of cognitive theory to SLA as a theoretical foundation for understanding and applying LLS, its implication and research become quite clear, where cognitive theory views learning as a dynamic process in which learners select information, encode it into long-term memory and retrieve it when needed.

One of its models, the information processing, which is the base of the current study, sheds light on how learning strategies work. The theory proposes that learning involves processing new information by arranging it, expanding on it, and linking it with existing knowledge. This is precisely the aim of cognitive techniques such as summarizing, making inferences, and predicting (Chamot et al., 1999). Another essential element in intellectual property is metacognition. Metacognition involves knowing about one's own thinking processes and learning strategies, as well as knowing how to monitor and guide learning and thinking. Therefore, learning strategies are intricate procedures that individuals use for tasks, and as a result, they can be thought of as procedural knowledge.

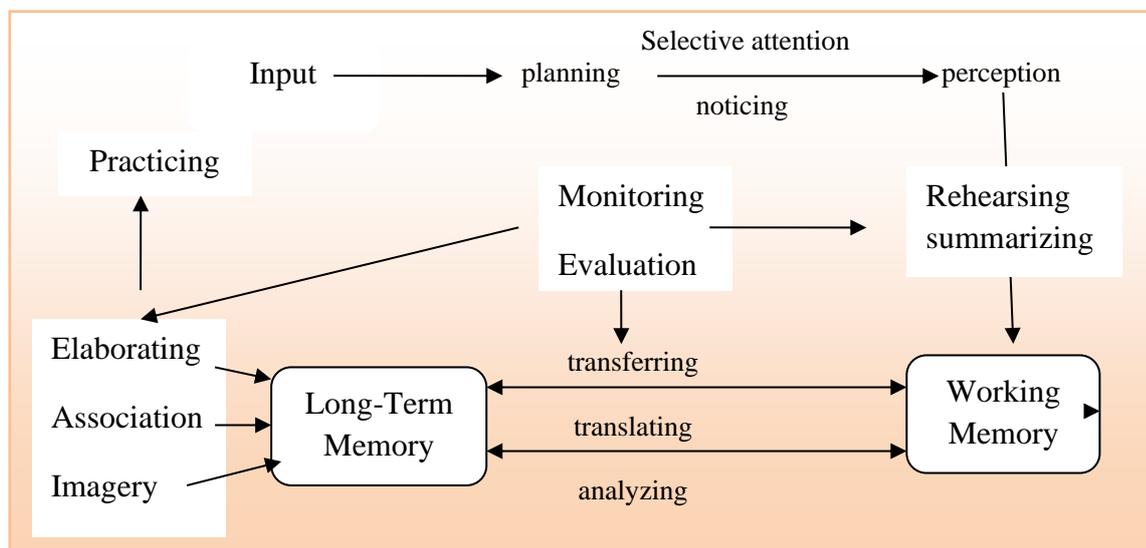
Table 1: The strategies used during the learning process

Strategies used Stages	Metacognitive strategies	Cognitive Strategies	Socio-affective strategies	
Concrete experience	Advance preparation	Selective attention	Positive attitudes	
	Directed attention	Inferencing		
Reflection observation	Self-monitoring	Reasoning	Cooperation	
	Regulating	Transfer	asking for clarification	
	Evaluation		Induction	encouraging others
			Elaboration	
		Note-taking		
Hypothesis verification	Self-evaluation	Key word	Self-confident	
		Imagery	Communication	
		Contextualization		

Practice	Evaluation	Repetition	Communication
		Practicing	Positive attitudes
		Corrections	

Learning strategies are an integral part of Working Memory in the IP system; they can also be clustered together to perform higher level activities. The model afforded is an attempt to identify the grammar strategies used in WM and their use, where each strategy has a role to play depending on the task at hand.

Figure 10: A diagram of the cognitive strategic grammar learning.



Metacognitive and cognitive strategies function together with one aim: understanding the grammatical elements, where the first acts as a filter to the latter. *Planning* is the first strategy to be used. Depending on what demands the task, it appears as an alert to what kind of information *attention* needs to look for. Attention helps the WM attend to information from the incoming auditory or written stream; this phase represents the perception phase, which happens during the concrete experimentation stage. This attend information is kept in the WM through *rehearsing*, *repetition*, and *summarizing* until it is processed in the phonological loop. Other critical cognitive strategies that have a hand in recognizing and decoding the meaning

in the parsing stage, which exists in the Episodic Buffer, an area where information from the Visuospatial Sketchpad and the Phonological Loop are combined with information from LTM, are *transferring*, the use of previous linguistic or conceptual information which is obtained to simplify a new language task, *analyzing* and *translating*.

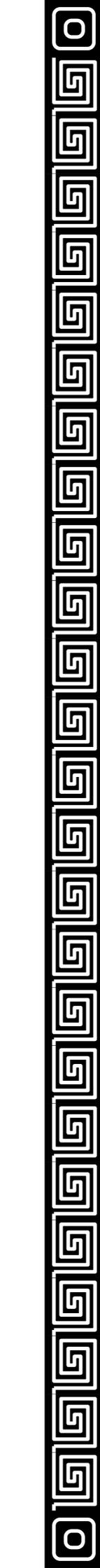
All these strategies and the gained information are checked by the metacognitive strategy *monitoring* that works as an elevator where it goes up and down, in that the information that seems to finish its processing may be retreated depending on the incoming information or the one that has been already processed. Such orchestration of strategies exists in the reflective observation process, which is, in turn, amalgamated with some of the socio-affective strategies that show curiosity about grammar learning, like showing positive attitudes, cooperation, and asking for clarification.

After getting the “resulting meaningful units” (Vandergrift, 2011, p. 458), it is combined with the existing ones using *imagery*, the visual concept of new information in memory by familiarizing, *association* and *elaboration*, which is the connection of new information to another draft in a memory, from the Visuospatial Sketchpad, which temporarily stores this information until it is processed in working memory, where learners use their world knowledge which depends heavily on their cultural knowledge. The final stage is called utilization. *Practicing* is used to help increase the speed of the retrieval process, and communication, being a socio-affective strategy, is used to oversee and reinforce the transferring of information.

Conclusion

Experiential learning theory was developed from three well-known theories: cognitive theory, pragmatism, and Gestalt psychology. Kolb’s learning cycle consists of four steps: concrete experience, reflective observation, conceptualization, and experimentation, with

concrete experience playing a critical role in the learning cycle. Applying this model to language learning in general and grammar in specific yielded a plethora of teaching strategies where concrete experience involves physical activities through which the language is used, such as using situational dialogues, drawings or modeling which represent TBLT. However, this study proposes a shift in focus towards experiencing the language itself, henceforth; it focuses on the cognitive aspect of the theory and its application to teaching and learning grammar. The study is grounded on the functions of the brain, the neurocognitive information processing system, and the different grammar learning strategies employed during the learning process. This chapter outlines the theoretical aspect of the proposed model, with upcoming chapters delving into its practical significance.



Chapter Three: Research Methodology

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Introduction

This chapter presents and rationalizes the methodology employed. It is structured into several sections. The chapter commences by examining the research paradigm used in this study, which is then focused to address the research design. This encompasses a comprehensive explanation of both the experiment and the mixed methods. It also thoroughly explores the research data collection tools and offers an elaborate description of the data processing and analysis methods for each tool. Furthermore, it contains a clear depiction of the participants and a strong rationale for the sampling technique.

3.1. Research Paradigm

Research is a systematic investigation used to develop and enlighten our cognition of certain phenomena. To conduct these researches, the researchers choose different avenues that represent their beliefs in searching the reality, which is projected in their choice of the methodology, which, in turn, refers to the approach that strengthens the inquiries. The choice of the methods depends heavily on the goals and circumstances of the study. These methodologies can be categorized into two broad paradigms: positivism, which stands for the belief that human behavior is rule-governed and need be investigated under the natural science umbrella (Angouri, 2012), and the naturalistic/interpretive paradigm, which endeavors to understand the subjective world of human experience. Positivism stands for quantitative methods and interpretive stands for qualitative methods.

Positivism is the traditional scientific method that acknowledges a stable reality. It includes testing hypotheses and gathering objective data to reach systematic, generalizable findings that can be replicated by other researchers. Objectivity is a cornerstone of positivism as it seeks to confirm or disprove hypotheses by collecting quantitative data suitable for statistical analysis (Fraenkel et al., 2012). Qualitative research assumes that the social world

can only be understood from the perspective of individuals, and the situations studied are dynamic and evolving rather than fixed and static, i.e., uncontrolled (Cohen et al, 2007). This type of research focuses on "behavior within meaning" (Frankel et al., 2012, p. 427), Attempting to comprehend and explain the world based on the individuals involved., considering their mental state.

Hence, in light of what has been said and the nature of the current study, the researcher adopted a pragmatist's stance where she employed the mixed method combining the qualitative and quasi-experimental design.

3.2. Research Design

3.2.1. Mixed Method

Using more than one method of data collection in the study of human behavior can be described as triangulation. Comparing quantitative and qualitative paradigms suggests that the weaknesses of one paradigm are the strengths of the other. Qualitative research seeks more detailed explanations of specific cases, while quantitative research aims to provide a broad overview by comparing different student groups and making generalizations. Both paradigms are part of the mixed method that resembles two sides of the same coin. The mixed method is gaining popularity as researchers increasingly argue for the amalgamation of quantitative and qualitative methods of analysis as complementary. Fraenkel et al. (2012) suggest that researchers can use the data and patterns resulted from the quantitative analysis as a base to assist with the detailed qualitative elucidation of the discourse. The multi-method approach in social research has advantages, as argued by Cohen et al. (2007), particularly in building researchers' confidence about the generated data. Additionally, using triangular techniques can help overcome the issue of 'method-boundedness' as it involves both normative and interpretive techniques.

In the present study, the researcher used a triangulated method that aims to shed light on different aspects of grammar instruction from different perspectives.

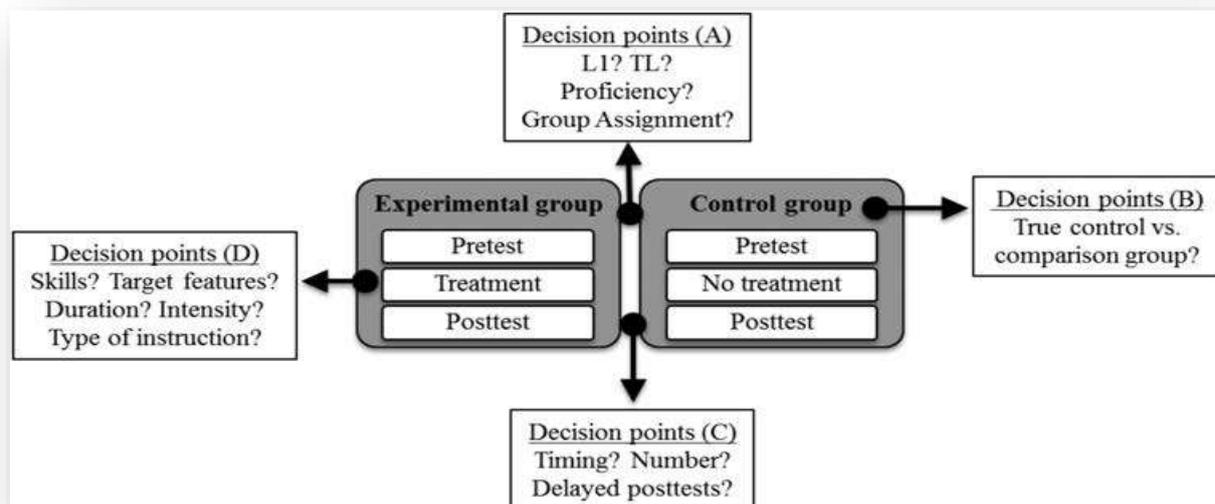
3.2.2. Experiment

The experiment, according to Blaxter, 2006, p. 75, is a situation where the independent variable is deliberately altered by the researcher under controlled, well-defined, and known conditions or by natural circumstances. Essentially, the experiment consists of two groups. The first one is the experimental group that undertook investigation's intervention, and a control group that is not. These groups must be comparable and examined methodically under conditions that are the same (except for the exposure of the experimental group) to reduce differences between them

In educational settings, most empirical studies are quasi-experimental instead of experimental because true experiments are not feasible (Gopalan et al., 2020, p. 220). Quasi-experimental research designs utilize non-experimental variations where participants cannot be randomly selected from a population or assigned to experimental and control groups.

In the present study, the researcher was interested in gaining insights into the effect of implementing the proposed model, which attempts to enhance students' grammatical proficiency; hence, a quasi-experimental approach was adopted. Based on Plonsky (2016, p 506), before embarking into the treatment, four major decision points must be taken into consideration

Figure 11: Basic design scheme and major decisions in ISLA research (Plonsky, 2016, p. 506)



Decision Point A: it involves selecting the participants; in the current study, the respondents to the treatment were all native speakers of Arabic who enrolled in their second year at the University of Mohamed Kheider of Biskra, Algeria. The choice of the participants also includes the proficiency level as another background variable; in fact, there are various techniques to measure the proficiency of the participants among them years spent in education i.e., “seat time” (Plonsky & Loewen, 2013) and because it is a classroom-based research it was not feasible to randomly allocate participants. One of the chief measurements concerning the homogeneity of the groups is the Cronbach test.

Decision Point B: To whom is the experimental group compared? Is it a true control or a comparison group? In our case, the control group is the one who receives instruction based on the traditional way of teaching grammar Presentation Practice Production. However, having a true control group in this experiment is far out of reaching since all the groups have a syllabus

to finish and that grammar module was meant to be assessed by the end of the semester. Hence, we would consider the comparison group as a control one.

Decision Point C: it is about the appropriate timing for the post-test and what it measures; in the current study, the post-tests were administered after finishing the treatment that intends to measure the outcome of participants

Decision Point D: Regarding the instructional intervention, there are another important set of factors to think about when designing and conducting quasi-experimental SLA research.

(1) The complexity of the target elements being taught: in the current study, the focus was on the dependent clauses (nominative, adjective, and adverbial)

(2) The length of instructional treatments: the treatment lasts 12 weeks.

(3) The type of instruction: a proposed model based on the experiential learning theory

(4) Who is the treatment instructor: the researcher or the participants' regular classroom teacher: it was provided by the researcher herself who was the regular classroom teacher.

3.3. Population and Sampling

Population: Based on the nature and the methodological considerations of the present study, second-year students were chosen for the following reasons:

- The students are accustomed to the norms of the university
- students are familiar with their classmates
- They do have a considerable subconscious knowledge of grammar structures
- The last year in which they study the grammar module, according to the Algerian ministry of higher education and scientific research norms
- The target structure, the types of dependent clauses, to be treated in the experiment is part of the syllabus of the grammar module

- They tried out different methods/strategies of learning because of the Covid-19 pandemic, specifically the flipped method.

The sample: Baseline study: at first glance, the researcher aimed to opt for the whole population since the number of second-year students was 250; however, due to the pandemic covid-19 where most of the students were absent, and the change in the time schedule; they studied for two weeks and got rest for two others, the number had been reduced to 95 students.

The main study: Sampling techniques can be classified under two main categories: "random" and "non-random". The current study opted for convenience sampling; it is a group of individuals who conveniently are available for study (Fraenkel et al., 2012, p.99). Out of the whole number of students, eight groups were administratively designed based on alphabetical order. Two groups were available to be part of the quasi-experiment. Each group consists of 30 students; nevertheless, the number of participants has been diminished to 18 in each group due to those who:

- Missed the pre-tests
- Missed the treatment
- Missed the post-tests

The recruited students shared some common characteristics, such as the native language, Arabic; they have been exposed to English for eight years, starting from middle school and secondary school to university.

Numerous researchers argue that having similar proficiency levels among participants is a crucial requirement for selecting subjects in any research study. This ensures the accuracy of the findings by making sure that any differences observed are a result of the treatment and not due to variations in the participants' abilities or oversight during the selection process. To test

the homogeneity of the target groups (experimental and control), the researcher opts for Levene's test equality of variances. The data from the pre-test was imported into the Statistical Package for Social Sciences (SPSS) version 26, and it was found that Levene's test equality of variances for the variable among the two groups was 0.228. Therefore, the overall equality of error variances co-efficient is more than 0.05, which means that the two groups are homogeneous. Table 2 displays the Equality of Error Variances between the two groups.

Table 2: Levene's Test of Equality of Error Variances

		Levene Statistic	df1	df2	Sig.
pre-test scores	Based on Mean	1,163	1	34	,288
	Based on Median	,941	1	34	,339
	Based on Median and with adjusted df	,941	1	32,340	,339
	Based on trimmed mean	1,127	1	34	,296

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: pre test scores

b. Design: Intercept + groups

3.4. Instruments and Procedures for the Pre-Experimental Phase

Since our research problem is discovering the EFL learners' beliefs about grammar instruction as well as the problems they encounter, we conceive that the appropriate research method to be adopted is the descriptive one. Several research issues in education are well-suited for the utilization of descriptive methods. According to Gay (1976), the descriptive method is defined as the collection of data to test hypotheses or answer questions about the current status of the subject under study (cited in Adanza, 1995, p.39). Travers (1978) further clarifies Gay's definition by stating that the aim of the descriptive method is to portray the nature of a situation as it exists at the time of the study and to investigate the causes of specific phenomena. These reasons led us to choose this research method. In order to answer the following research questions:

1. What are the students' viewpoints on the role of grammar in learning English?
2. What statements do FLL learners provide about grammar instruction?
 - 2.1. Do they prefer direct, explicit grammar instruction?
 - 2.2. Do they prefer implicit grammar instruction?
3. What are the difficulties that EFL students encounter while studying grammar?
4. Do they use the dependent clauses, being the target structure in the current study, appropriately when writing?

Two data collection methods were used: *pre-experiment Questionnaire and corpus analysis*

3.4.1. Pre-experiment Questionnaire

Questionnaires, according to Brown (2001, cited in Mackey and Gass 2022, p. 126), are “any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting them among existing answers” (p. 6). They are the most commonly used tool for collecting information in FL research, in the sense that they are more amenable to modification and easy to answer. Moreover, they are considered more reliable since they are anonymous, which encourages greater honesty (Cohen, 2000, p. 269). Questionnaires have been widely utilized in investigating the students' beliefs concerning types of grammar instruction; they describe the different approaches to grammar instruction, so they enable researchers to examine the attitudes of the learners about these approaches.

3.4.1.1. Aim and Structure of the Questionnaire

The questionnaire aims to get an overall perspective of the students' perceptions of their preferred teaching approaches, as well as their views about what roles teachers play in grammar instruction and the problems they might encounter. To reach these aims, the

questionnaire was based on two criteria: the review of related literature about effective approaches to grammar instruction and the problems EFL learners might encounter and earlier research held for the same purpose. (Schulz, 1996, Loewen et al., 2009, Rahuma, 2016, and Mansouri et al, 2019)

Since this questionnaire is handled to students with the same background (year of study, years studying English, and almost the same age), there was no need for the background information (personal) part. Henceforth, the questionnaire is divided into three main foci:

- **Part one** consists of 5 items that start from 01 to 05; it seeks to answer the following question: what are the perceptions of students towards the roles both teachers and students play in grammar learning? Ensuring progress, deciding the lessons, choosing the activities, ensuring the students' mastery of grammatical rules, and verifying their weaknesses are the responsibilities the participants assigned to either teachers or students. Then, comparing them to the different approaches that have been provided in the literature through careful research about what effective approaches learners can benefit from
- **Part two** is devoted to answering the question that seeks to unfold the students' preferences concerning the types of grammar instructions. The questions were classified under six constructs: efficacy of grammar, the importance of grammar, preference towards explicit isolated grammar instruction, preference towards implicit integrated grammar instruction, negative thoughts toward grammar teaching, and error correction. These factors were utilized to explore differences in attitude among learners studying English as their target language. These sentences were randomly ordered, and some statements were repeated. Repetition and random organization were used to raise the internal reliability of the questionnaire. The statements for this part start from 06 to 22.

- **Part three** is more about the problems identified in the literature, which is represented in 07 items, which were labeled under two levels (internal factors and external factors) and how as foreign learners see these problems from the most difficult to the least which will be a base for the teaching process where we concentrate on the most difficult issues facing the learners.

The first part of the questionnaire was based on binary choice (yes/no question), and the second part of the questionnaire was based on a 5-point Likert scale. According to Bell (1993, p. 139), they are considered the most straightforward scale. The third one is the rank scale. According to Cohen et al. (2007, p. 327), rating scales allow for a flexible response while also enabling the determination of frequencies, correlations, and other types of quantitative analysis. They give researchers the freedom to integrate measurement with opinion, as well as quantity and quality.

3.4.1.2. Piloting and Validation of the Questionnaire

The term *pilot studies* refers to mini versions of a full scale (also called feasibility studies) as well as the specific pre-testing of a particular research instrument such as a questionnaire. The purposes behind using this research design have been:

- ❖ To check whether all words used are understood by the students;
- ❖ To make sure that the questions set are answerable and the tools to be used actually work;
- ❖ To know if there is a question or item which would be interpreted in a wrong way and
- ❖ To ensure if there is an item (s) which may be irrelevant to our research objectives.
- ❖ To test the feasibility of and to refine and modify the research tools.

The pilot work was done in May 2021 with a group of 30 students in the first year, and the time taken was following their session of linguistics in the presence of their teacher. Our pilot study has been represented in the form of a questionnaire. The researcher asked the

respondents to seek clarifications when they felt the need to. Out of 30 students, 14 misunderstood the word “linguistic” as they related it to the module of linguistics, so it was replaced by “grammatical.” Redundancy was another emerging problem in the pilot version for the students who claimed that there is a repetition in many statements as they have the same meaning; however, it was done on purpose for the reliability of the questionnaire.

The pilot questionnaire data was imported into the SPSS version 26, where Cronbach’s Alpha for the overall questionnaire result was 0.739. as a result, the overall reliability coefficient is more than 0.70, which means that there is a good internal consistency of scale. The following table 4.16 displays the Cronbach's Alpha of the pilot study.

Table 3: Cronbach’s Alpha for the pilot study

Reliability Statistics

Cronbach's Alpha	N of Items
0,739	29

3.4.1.3. Data Collection Procedures of the Questionnaire

The researcher herself distributed the questionnaire (see appendixA) to the target sample and explained the nature of the study and the importance of their answers. Table 4 demonstrates the number of the questionnaires handed out as well as the number of the questionnaires returned

Table 4. Case Processing Summary

		N	%
Cases	Valid	95	100,0
	Excluded	0	,0
	Total	95	100,0

a. Listwise deletion based on all variables in the procedure.

As it is illustrated, the questionnaires were all answered. This was mainly due to the fact that the questionnaires were distributed to the students during oral expression sessions during which we took advantage of the situation to explain the questions and collect the questionnaires once they had been answered.

3.4.1.4. Data Analysis Procedures of the Questionnaire

Such procedure plays a vital role in any research; it is where research questions are to be answered and where hypotheses are either accepted or rejected. In fact, the nature of the data collection tools dictates the type of analytical procedures. In quantitative data analysis, numerical data can be treated through descriptive statistics that are meant to summarize and categorize the data in the form of frequencies, measures of central tendency that entail the mean, the mode, and the median, and measures of variability, which include the range, the variance, and the standard of deviation, they can be displayed in tables or graphs. The numerical data can also be analyzed by means of inferential statistics, which stands for making generalizations about the process the researcher is studying. (Cohen et al., 2018, Loewen and Plonsky, 2016). Numerical analysis can be performed using software that applies statistical formulae and carry out computations, for example, Minitab, Excel, SAS, Statistica, R, and the Statistical Package for Social Sciences (SPSS). This letter of version 26 is the one used in the current study.

For this questionnaire, to analyze the data, we utilized SPSS and Excel. The results were subjected to descriptive analysis to determine the frequency and percentages of the collected data, which were presented in tables and graphs. Additionally, the descriptive tests calculated the mean score, standard deviation, and standard error mean for each response. Any mean score above three indicates agreement with the provided statement, while a score below three signifies disagreement.

Corpus Analysis

Corpus analysis involves a strict and systematic series of procedures for the thorough analysis, scrutiny, and validation of the contents of written data. The focus is on language and linguistic characteristics, the interpretation within the context, and is systematic and can be verified (for example, through the use of codes and categories), as the rules for analysis are clear, transparent, and public. Additionally, as the data exists in a permanent form (texts), it is possible to verify through reanalysis and replication.

Cohen et al. (2007, pp. 476-483) provide several steps to follow when conducting content analysis method:

1. Define the aims to be addressed by content analysis, where clear questions lead to choosing what a researcher seeks from the text.
2. Choosing the type of the text that best fits the research questions and objectives.
3. Defining the unit of analysis: it can be at many levels, for example, words, phrases, or paragraphs. This phase contains the coding unit, which defines the smallest unit to be analyzed that might differ from one context to another
4. After analyzing the texts and defining the codes that are related to the data, categorizing these codes is recommended to show the link between units of analysis.
5. Conduct data analysis: quantitatively or qualitatively

3.4.2.1. Aim and Structure of the Corpus Analysis

Using corpus analysis was meant to elicit the different dependent clauses used by the participants who have already been exposed to its structures and diagnose any deficiencies in utilizing them.

3.4.1.5. Data Collection Procedures of the Corpus

It was decided to collect paragraphs written by second year students. The collected data was extracted from the exam that was held in June 2021 for the following reasons:

- The time allotted to complete the students' production was enough.
- The students' motivation to write was high since it was a part of the exam; no one would hesitate to answer.
- The level and the quality of the students' productions are assumed to be proficient since it was held during the examination.
- The students use their own background knowledge and linguistic competence.
- No other means to be used like dictionaries and other resources that might affect the use and the quality of the dependent clauses during their production.
- And more importantly, they have been exposed to the different types of dependent clauses during the second semester with the grammar module.

After finishing the exam, and the correction of the papers by the teacher, the researcher took his consent to print some of the students' written productions which were randomly chosen as data for the present study with the aim at measuring the use of different types of the dependent clauses.(see appendix B)

3.4.1.6. Data Analysis Procedures of the Corpus

Fluency, accuracy, and complexity have been used to analyze second-language (L2) learning productions, either oral or written language use. Among the units of analysis commonly applied to L2 and foreign language data is the T- unit which refers to one independent clause and any dependent clauses attached to it, although there has been variation in the inclusion or exclusion of fragments and in the counting of elements across sentence boundaries (e.g., Foster et al., 2000, pp. 360–363 cited in Mylläri, 2020, p. 15). Based on Lu's (2010) L2 syntactic complexity analyzer that determines the syntactic complexity of a written production and the nature and the aims of the study, we focus on one measure out of the 14 measures to be analyzed thoroughly, which is *subordination and embedding*, it entails the use of the dependent clauses per T- unit. The dependent clause is a structure with a subject and

finite verb, including nominal, adjective, and adverbial clauses (Cooper, 1976; Kmeen1979 cited in Lu, 2013, p. 254)

As was previously advocated by Cohen et al. (2007), codes must be created out of the theoretical foundations that are deductive coding, as well as out of the corpus, which represents inductive coding. The codes being used in the current study were developed based on the data itself. After analyzing the corpus thoroughly, it was conceived to create certain codes to be classified under three categories. The codes and the categories are labeled in the following table

Table5: subordination and embedding measure investigated.

Measure	Code	Formula
I. Nominal clause		
1. The use of Nominal clause	UNC	# of clauses
2. The position of the Nominal clause	PNC	# of: +correct position -incorrect position
3. The use of the relative pronouns in the Nominal clause	URPNC	# of: +correct use -incorrect use
4. Subject verb agreement in Nominal clause	SVANV	# of: +correct agreement -incorrect agreement
II. Relative clause		
1. The use of Relative clause	URC	# of clauses
2. The position of the Relative clause	PRC	# of: +correct position -incorrect position
3. The use of the relative pronouns in the Relative clause	URPRC	# of: +correct use -incorrect use
4. Subject verb agreement in Relative clause	SVARC	# of: +correct agreement -incorrect agreement
5. The use of punctuation in Relative clause	UPRC	# of: +correct use -incorrect use
III. Adverbial clause		
1. The use of Adverbial clause	UAC	# of: +correct use
2. The use of the subordinating conjunction in the Adverbial clause	USCAC	-incorrect use # of: +correct use
3. The use of punctuation in Adverbial clause	UPAC	-incorrect use

3.5. The Treatment

The study described in this section was implemented with the aim at comparing the effect of two different instructional methods on learners' performances, and their strategies use. The participants in this investigation have been acknowledged that the researcher was seeking ways to enhance their grammar proficiency in English and their contribution is of great value. The researcher used PPP approach and the proposed modal, the first was designed for the control group, whereas, the second was for the experimental group.

3.5.1. Presentation-Practice-Production (control group)

This approach has been the most common method in English Language Teaching (ELT) since the 1960s (Harmer, 2007) and is still widely used today (Maxon, 2014). Many teachers in numerous universities have adopted and continue to adopt this approach. This group received as much input in the number used as the experimental group. Presentation-practice-production (PPP) is a technique for teaching grammar in a second language. As the name indicates, PPP consists of three stages, progressing from strong teacher guidance to increased student independence. In the initial phase, the teacher completely directs the lesson, taking on the responsibility for introducing, demonstrating, illustrating, and thoroughly explaining the new lesson material (Richards & Schmidt, 2013). In the current study, the teacher focused on presenting the different types of clauses by writing the sentences on the table and then providing the rules for the students about the different functions of each dependent clause. Before embarking into the second phase, students' questions were welcomed when they did not understand any of the structures or had ambiguities. In the practice phase, the teacher gives the students exercises to apply the rules to which they are exposed. In fact, because of the covid19, the sessions have been reduced to 60 minutes per

session, which obliged the teacher to exclude the last phase during the lesson period; instead, she gave them home assignments to write different sentences that contain the types of dependent clauses being targeted.

The role of the teacher: In PPP, being a teacher-centered approach, the teacher is in a complete control of the teaching process; she is the one to present the grammar rules with examples to clarify the ambiguities and answer the students' questions.

3.5.2. The Proposed Modal: The Experimental Group

The proposed modal is grounded on positive enhancement; Sharwood Smith (1993) had discussed both positive and negative enhancement (Vanpattern, p.84) .for the learning to happen, the input must supply the growing system with instances of accurate form-meaning associations that stem from processing the input. which reflect the positive enhancement. The idea that is proposed in the proposed model here is that the students will encounter a comprehensible input that trigger their factual knowledge and active the appropriate schema to process the input. Consciousness rising and activating the appropriate schema are of crucial importance. The most crucial element that affects learning is the learner's existing knowledge; once you have determined this, you can tailor the teaching accordingly (Ausubel, 1968, p. 36). In other words, the first step in teaching the clauses is to ken the participants' knowledge about the different types of clauses then teaching the needed ones that they ignore.

The active involvement of the students by engaging and noticing the target elements is what characterizes Discovery learning. According to Ausubel, to have a good way of teaching, you need to consider the following:

1. Identify the previous knowledge acquired by the learner and establish the necessary connections between what is being taught and what the learner already comprehends (Ausubel, 1968).

2. Identify the meanings and principles that the learner has previously derived from their background, attitudes, capabilities, and experiences, and devise methods to facilitate the learner in creating new meanings and principles that will be beneficial for them (Wittrock, 1986).
3. Identify the sub-skills possessed by a learner and strategize their learning journey to commence from these sub-skills (Gagné and White, 1978).

This model contains many features that make it applicable for the current study:

- ✓ It is based on cognitive theory mainly Information Processing (IP) and Kolb's model of experiential learning which the current study implements as its theoretical framework.
- ✓ The proposed model incorporates experiential learning into academic activities and content-based endeavors, aligning with the philosophy of language learning and teaching
- ✓ It is a trial-error based model, because from his first suggestion of this approach in 1984, Kolb has continually developed and refined this approach.
- ✓ The proposed model is recursive, allowing teachers and students the flexibility to revisit previous instructional phases that are beneficial for language learners at varying levels.
- ✓ It emphasizes the role played by the students' background knowledge and the development of metacognitive awareness.

3.5.2.1. The Pilot Study

In the field of research methodology, a successful research experiment requires thorough preparation and an initial study, which is a small-scale experiment conducted to assess the tools and materials intended for use in the main study. This preliminary study aims to collect

information before the main experiment in order to enhance its overall quality and effectiveness. At the onset of the experiment, the proposed modal was first piloted. The main aim was to observe its applicability in terms of: suiting all the participants' different styles, the timing as well as ensuring the students' involvements. To do so, it was piloted during the second semester of the academic year 2020/2021 with second-year students. These students are expected to be similar to the primary study participants in their age, language skills, proficiency, and duration of English language study, as they are in their second year and in the same department.

We assume that implementing the four steps of the experiential learning is of an important value to the students since it activates their minds and make them involved in the learning/teaching process. To do so, we tried out to implement different means. Indeed, the pilot's thoughtfulness led us to implement several significant modifications to the lesson layout for the experimental group.

The first trial: The teacher writes many sentences on the table that contain noun clauses, this step takes time, then the students try to depict the clauses and the reasons behind such choices. The student's assumptions must be written on the table again to be discussed, and then we deduce the structures. In fact applying such a technique was not effective since writing on the board was a time consuming, while more time is needed in the reflection phase. Moreover, we observed that many students did not participate because of either being shame or acquiescent as they were not sure or ambivalent, and that some others were affected by their classmates' answers, so they were unwilling to share their own ideas. It was also difficult to manage time since most students kept silent until the researcher started the discussion.

The second Trial: the teaching technique has been changed; instead of writing on the board, the students were afforded by papers that were elaborated to serve the aim of the lesson. It

contains sentences that hold the target structure. The students were asked to write down all their assumptions, then have a debate on the hypotheses they provide.

Through the observation made by the teacher, the method was thought to depend on using a traditional blackboard and chalk, which posed certain drawbacks. Certain aspects of the treatment sessions ended up taking a lot of time. Consequently, it became essential to hurry through the critical part of the treatment, which is reflection. The students' remarks about both ways of transmitting the lecture revealed that most of them feel satisfied with the second way as they did have enough time to think and reflect as well as they claim that they can express their own ideas, while with the first way, writing on the board, the students express their dissatisfaction especially with time and their shyness.

3.5.2.2. The Procedure

The treatment syllabus was divided into three lectures to be done during two months and half; it included one week of focused study followed by a week of rest, allowing them to attend two sessions each week. Thereafter, 10 sessions (two sessions for training the participants and eight sessions to implementing the proposed model) to be studied during the academic year 2021/2022. In Biskra University, following the instructions of the ministry of higher education, there were changing in the time of study because of the covid-19 pandemic, where the learners studied for one weeks and rest for an other. During the week of study, the time allotted to the grammar module was two sessions per week, 60 minutes per session.

After having confirmed that none of the other sessions as linguistic, oral expression, and written expression modules will teach the subject to be tackled, and postponing the *lecture of types of phrases* in the grammar module because of some common features with the lecture of the types of the dependent clauses which is the target structure to be addressed in the

treatment, we indulged into the treatment process where we teach the dependent clauses, their types and functions.

A. The training sessions: they were mainly dedicated to familiarizing the participants with the way the lecture is designed. An introduction to the main components of a sentence was held for activating the background knowledge of the students as a warming activity. The teacher started with an operationalized definition of a ‘sentence’ and its main constituents; the participants share some ideas, then a pyramid was drawn as a conclusion that contains all the elements of a sentence to facilitate students’ understanding. The second session was devoted to explaining the form of the paper which has been designed by the researcher to fulfill the objective of the study.

Figure 12. *A sample of the lesson’s paper displayed to the participants*

Adjective clause is..... (1)		Adjective clause is.....(5)	
Statement (2)		Explanation (3)	Setting the rule (4)
Charles Dickens was the novelist who wrote David Copprfield.			
Louis Agassiz was the first scientist that argued there had been an Ice Age in the past			

As displayed in figure 12:

- (1)→ Stands for writing the participants the definition of adjective clause before embarking into the analysis process
- (2)→ The students need to underline the target clause
- (3)→ They justify their choices

(4)→To write down the rules deduced after reflecting on their assumptions

(5)→ A modified version of what the adjective clause is

B. The First Session, as well as the next sessions (appendix E), entails the implementation of the proposed model stages to teaching the dependent clauses. To ensure that the participants will not use any other means trying to analyse the sentences and looking for the target structures but their previous knowledge, the teacher gathered the students' papers once the session ends, to be distributed in the coming ones. The 8 sessions were divided as follows: two sessions dedicated to noun clauses, three session afforded to adjective clauses, two sessions supplied to adeverbial clause, and the last session provided for practice. The layout of the lessons goes as follows

1. To start with, the students were given papers to provide definitions of the noun clause based on their background knowledge. The students did really hesitate and found it difficult to rely only on themselves without the teacher's guides. Nevertheless, the teacher tried out to support them and invited them to use their previous knowledge about the subject. The main aim behind such phase that is considered as a pre-stage is to activate the students' schema about the target structure to be verified later at the end of the lecture.
2. The participants were asked to analyze the sentences and underline the noun clause in each sentence. To facilitate the task for them, each sentence contains only one target dependent clause, so that directing their attention and noticing towards the needed structure. Such a step is accompanied with an explanation process where they use their subconscious metalinguistic competence. The number of the sentences in the lecture depends on the objectives sought to achieve. In order not to waste time, the teacher divided the analysis phase into chunks; each chunk contains a number of statements

with a definite objective. For example, in the lecture on noun clauses, there were five chunks.

3. After writing their assumptions in the explanation column, the students started to negotiate and verify their hypotheses against their peers. This process guarantees learner-learner interaction where they try to convince their counterparts with their thoughts using the explicit knowledge they acquired along the years of study, as well as hearing the other views concerning the target structure. When each member makes the highest-quality contribution to the successful completion of the task, it builds up students' sense of teamwork.
4. Mid this discussion, the teacher wrote on the board the common ideas to be checked out. The rules that were extracted from the students' assumptions were to be written in the *setting the rule* column. Based on the proposed model, the form of the rule has to be labeled by the learners. Consequently, those who had the same hypothesis would rewrite it, and those who had different idea were able to modify their metalinguistic knowledge and need to write the new rule.
5. After completing all the chunks, the participants returned to the first table to write their new definitions about the target clause. Such a phase ensures that they understand the rules in their way. besides, it is proven in literature that unless strong enough evidence is presented to motivate the learner to “move the anchor”, he will assume that the meaning is inconsistent with the schema he has (Rost,2005, p. 513); so that, the understanding can be categorized by how schemas are constructed, to what Klein (1986) has termed “the matching issue” (cited in Skehan, 1998), which are of three types:
 - a. If the new coming information is matched with the pre-existing activating schemas, then the learner has succeeded in grasping the rule. Hence, the

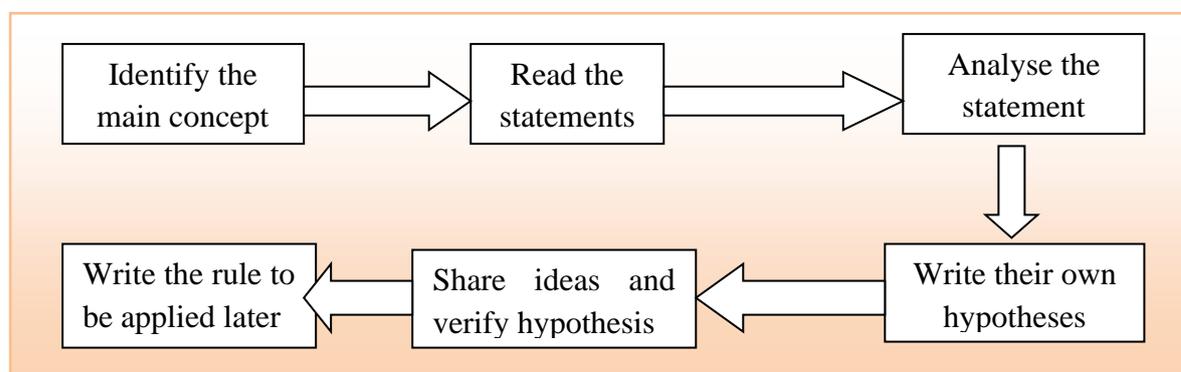
learning happens through “instantiation of existing knowledge” (Isher, 2010, p.55).

- b. Modification and refinement of the schema: if the information and the schema are not compatible, “the schema can be slowly modified to conform better to the sort of situation to which it applies” (Norman, 1981, cited in Ishler, 2010, p. 55).
- c. The creation of new schema because of the totally new information, which will be connected to other schema (Rost, 2002, p.62).

As a result, the learning outcome can be visibly witnessed through the use of grammar learning strategies and activating the appropriate schema.

Active experimentation: the students tried to answer the activities based on their understanding of the rules. the production task where they had to write their own sentences was done as a home assignment since they, too two weeks of rest. Samples of some participants of the experimental group are presented in appendix F. All of the mentioned procedures for the experimental group are summarized in the following figure

Figure 13: *Steps in an experiential learning based model.*



C. Material selection: as mentioned in chapter two section 2.4.2.1., the choice of the material is of crucial importance; either it facilitates the mission for the students so that they

concentrate on driving out the structures of the dependent clauses, or it deviates them as they got lost, searching for the meaning of words. Consequently, the researcher had selected to use sentences rather than paragraphs for the following reasons:

- Sentences are easier to understand
- They are amenable to modify
- They contain one single idea in each
- The focus is more on form and structures.

The sentences were extracted from books of grammar that deal with different types of clauses.

D. The role of the teacher: in the learner-centered approaches, the teacher is a facilitator more than an instructor; she merely matches the pace of learners. In the proposed model, the educator serves as a facilitator of reflection and encourages learners to discuss and reflect on concrete experiences in a trusting, open environment. The teacher tries to ease the mission for the students as she ensures the smooth movement from one step to another. She also motivates her students while they are trying to deduce the rules and encourages them.

1.6.Data Collection Tools for the Pre-experiment Phase

In order to test the research hypotheses, we have used three means of data collection, (I) a grammatical judgment test to measure the proficiency level of the students concerning the different types of dependent clauses before and after the treatment, (II) a students' questionnaire to knock into learners' strategic knowledge and general strategy use when learning grammar, and (III) a focus group to reflect their views concerning the effectiveness of the treatment in a comfortable way after the treatment.

1.6.1. Grammaticality Judgment Tests

GJTs (Grammaticality judgment assessments have been commonly employed in the SLA field to evaluate learners' language skills in their second language. They have gained popularity for various practical and theoretical purposes (Mackey and Gass, 2022, Ellis, 1991).. Many researchers, particularly in experimental studies, have gathered data by requesting learners to make metalinguistic judgments to explore the acquisition of specific grammatical features (Gutiérrez, 2013). The current study utilizes the grammaticality judgment test, in which learners are required to determine if a given sentence is acceptable in their second language, identify any errors, correct errors, or provide a grammatical description of the error.

GJTs have many advantages when applying them in SLA research

- Specific linguistic structures that are challenging to elicit through other methods can be targeted.
- Conscious processes are involved in GJTs, where participants concentrate on linguistic items.
- They encourage the use of explicit linguistic knowledge.
- they may also be used to ask to provide corrections of any incorrect sentences
- The data collected from GJT is more convenient to gather compared to oral production data, which must be gathered from each learner individually.
- While written production tasks are preferable to GJ Tests, the latter provide access to certain data that are rare or deliberately avoided by learners.
- GJ Tests allow researchers to examine the learners' internalized abstract knowledge. (Loewen, 2016,P.78, Han, 2000, Ellis, 1991)

Part two: the respondents were asked to correct the mistakes in the sentences. The use of dependent clauses required the implementation of certain structures, like the appropriate use of punctuation, relative pronouns, and the like. Hence, the main motif behind this question is to observe the students' awareness of these structures. It consists of 05 statements.

Part three entails six statements. Each statement contains a certain number of disordered words, and the students were asked to order them to have meaningful and grammatical sentences. Concentrating on the internal process of constructing sentences that are based on grammar and meaning is the rationale for this question.

1.6.1.2. Piloting the tests

Before administrating the tests, they were piloted over six students who voluntarily agreed to participate to check their validity and reliability using the scores of the students. The students were also asked to check the language items. We calculated the time needed for the completion of the test by observing who finished first and last.

The data from the pilot test was brought into the Statistical Package for Social Sciences (SPSS) version 26. It was discovered that the Cronbach's Alpha for the complete test was 0.768. As a result, the general reliability coefficient exceeds 0.70, indicating strong internal consistency within the scale.

Table 6. Reliability Statistics for the pilot test

Cronbach's Alpha	N of Items
,768	3

To test the validity of the test, the created test was administered to two experienced grammar teachers, who were tasked with sharing their thoughts on the quantity of questions, the number of items in each question, the arrangement of questions, the marking scheme for

each question, the total mark for the test, the appropriateness of the test duration, and whether the questions effectively evaluate grammar. Consequently, the researcher made necessary adjustments based on the feedback provided by the panel of evaluators.

Data Collection Procedures of the tests

The pre-test session was held on 19/01 before embarking on the treatment in their regular session of the grammar module. After finishing the treatment, the post-test test was held on 14/03 following the same procedure as the pre-test.

1.6.1.3. Data Analysis Procedures of the tests

The quantitative data from the grammar pre-test and post-test was analyzed descriptively, which included the calculation of the mean and standard deviation of the subjects' scores. Additionally, the frequency distribution of the subjects' scores was examined to identify the minimum and maximum scores. The effect size is a descriptive statistic that expresses the magnitude or strength of a relationship. It was also employed since, according to Cohen et al. (2018), statistical significance only purports to tell researchers whether a particular result has or has not occurred by chance. The current study deals with different tests; Cohen's *d* is the appropriate test to be conducted.

Inferential statistics: In analyzing the data collected, we used a t-test to compare the results of two groups. The probability of the degree of variance of results between groups was used to determine whether or not the difference was significant or not, which is the significance level at which the null hypothesis is rejected. For the current study, the significance level is $p < .005$. The test statistic and the p-value were calculated through SPSS software.

Strategy Questionnaire

The questionnaire aims at answering Mendelsohn's (1995) question, "everyone has strategies they use; what we must find out is what these strategies are" (p. 135).

1.6.1.4. Structure and Aim of the Strategy Questionnaire

The questionnaire that was developed and administered for the main study consists of 37 strategies; each statement is related to the use of the grammar learning strategies, which are divided into three types: metacognitive, cognitive, and socio-affective strategies. It is a 5-Likert scale where the students are asked to respond to each statement by placing a tick (✓) under the level, which can show how often you use the strategy described (5 most used, 4, 3, 2, 1).

As we aimed to correlate the scores, the informants were asked to write their names on the questionnaire papers to compare the use of the strategies with the scores they gained in the GJT. The questionnaire was inspired by Pawlak's (2018) Grammar Learning Strategy Inventory (GLSI). Since the study focuses on the effect of experiential learning as a teaching technique, three categories of cognitive strategies were used which are GLSs used to develop explicit knowledge of grammar, GLSs used to deal with corrective feedback on errors in the production of grammar, and GLSs used to develop implicit knowledge of grammar in addition to the metacognitive and socio-affective strategies.

The strategy questionnaire (appendix C) was administered to the experimental group before and after the treatment to answer the following questions:

- Does the proposed model drive the experimental group to use effective learning strategies?
- Is there any difference in the strategies used by the experimental when learning grammar before and after the treatment?

Table 7: A Sample of Main Study Questionnaire

Statements					
1. When I learn a new grammar rule, I try to link it to other rules that I already know					
2. I categorize the new grammar rule I learn under a group of similar things (e.g. verbs, tenses, adjectives etc).					

A) Metacognitive Strategies

The strategies included in the questionnaire are presented in table 20, indicating most of the metacognitive strategies used by FLL learners with their code statement numbers in the questionnaire

MSA = Metacognitive Selective Attention

ME = Metacognitive Evaluation

MM = Metacognitive Monitoring

MP = Metacognitive Planning

Table 8. Number, statements, and codes of metacognitive strategies.

SN	Statement	Code
27	I prepare for the grammar rule that will be covered before coming to class	MP
20	I identify the grammar rules that I face difficulty with and exert an effort to understand them better	MM
28	I try to find out why I make grammar mistakes.	ME
30	I notice grammatical structures while I'm reading for pleasure.	MSA
24	I pay attention to grammar structures when reading and listening	MSA

B) Cognitive strategies:

Table 21 presents the statement number, the strategy type

CAE = Cognitive Association/Elaboration

CAR = Cognitive Analyzing/Reasoning

CIG = Cognitive Inferencing/Guessing

CInd = Cognitive Induction

CR = Cognitive Rehearsal/Repetition

CSN = Cognitive Summarizing/Note-taking

CTX = Cognitive transferring/Translation

CCtx = Cognitive Contextualization

CP= Cognitive Practicing

CG= cognitive Grouping

CCr= cognitive correction

CRs = cognitive resourcing

Table 9: Number, statements, and codes of cognitive strategies.

SN	Statements	Code
1	When I learn a new grammar rule, I try to link it to other rules that I already know.	CAE
2	I categorize the new grammar rule I learn under a group of similar things (e.g. verbs, tenses, adjectives etc).	CG
3	When I learn a new grammar rule, I compare it with its correspondent rule in Arabic	CTX
4	I understand the new grammar rule through linking it to the context/situation in which it is used.	CCtx
5	I analyse the parts of the newly learnt grammar rule.	CAR
6	I try to deduce the use of the new grammar rule that I come across.	CIG
7	When my teacher corrects my grammatical mistake, I practice repeating the correct form.	CR
8	I combine the new rule I learn with the previous ones to produce longer and more complex sentences.	CAE
9	I take notes when my teacher explains a new grammar rule. (e.g. I write down the meaning and the usage of the rule).	CSN
10	I use my own language (e.g. simplification, Arabic) to write the use of the new grammar rule.	CAR
11	when learning grammar, I try to use grammatical knowledge relevant to the target structure.	CTX
12	when learning new grammar structure, I compare it with old ones	CAE
13	I practice writing sentences using the new grammar rule to help me remember its structure.	CPrc
14	I memorize a new grammar rule by repeating it several times to myself.	CR
16	I create my own hypotheses about how structures work and check these hypotheses.	CInd
17	I practice doing grammar exercises outside the classroom.	CPrc
18	I consult grammar books for better understanding of the new grammar rule.	CRs
19	I remember the grammar rule by thinking of the context/situation where it is used.	CCtx
21	I use the new grammar rule in my speaking.	CPrc
22	I practice using the new grammar rule by writing e-mails, letters or compositions.	CRs
25	I imagine the situation in which I can use the newly learnt grammar rule.	CCtx

26	I notice the new grammar rule when they exist in a listening or a reading text	CI
29	I correct the grammatical mistakes that my teacher has marked in my written assignments.	CC
35	I try to discover grammar rules by analyzing examples.	CInd

C) Socio-affective strategies

SAC= Socio-affective Cooperation

SAAC = Socio-affective Asking for Clarification

SAA = Socio-affective Attitudes

Table 10: Number, statements, and codes of socioaffective strategies.

SN	Statements	Code
23	I replace the grammar rule that I am not sure of with another one that I already know when writing or speaking	SAA
15	I try to help others when they have problems with understanding or using grammar.	SAC
31	I ask my teacher to repeat the explanation of the new grammar rule when I do not understand it.	SAAC
32	I ask my friends for help when I do not understand my teacher's explanation of a grammar rule.	SAAC
36	When my teacher corrects my grammar, I ask him/her questions about my grammatical mistakes.	SAAC
37	I prefer working on grammar tasks alone rather than working with classmates	SAC
33	I encourage myself to practice grammar when I know I have problems with a Structure	SAA
34	I understand grammar better when studying with a friend or a relative.	SAC

1.6.1.5. Data Collection Procedures of the Strategy Questionnaire

The present data collection instrument was administered to the experimental group twice. The first administration was done before the treatment to explore the strategies they used, while the second one was displayed after the treatment for the sake of comparing the answers of the members of the group before and after the treatment.

1.6.1.6. Data Analysis Procedures of the Strategy Questionnaire

The data which was collected from the questionnaire was coded by using SPSS version 26. For answering the research questions pertaining to the current method, the researcher implemented the following tests

- Descriptive statistics determine the mean score, standard deviation, and standard error mean of each response; they were measured to determine whether the scores are normally distributed.
- Wilcoxon Signed Ranks Test, an inferential statistic, is a non-parametric statistical procedure for comparing two sets of scores from the same participants when the data are not normally distributed. It is used to verify the hypothesis.
- Spearman's test was chosen instead of its counterpart Pearson correlation because of the non-normality distributed data of strategy questionnaire results.

1.6.2. Focus Group

Focus group, a subset of interview-based methods, is designed to explore participants' identities, experiences, beliefs, and orientations toward various phenomena (Talmy, 2010, p. 128 as cited in Makey and Gass, 2022). Focus groups involve group interviews where participants interact with each other under the guidance of a facilitator whose aim is to keep the discussion focused on specific topics. Allowing participants to engage with their own social and cultural world can enrich their participation. Among the usefulness of focus groups are:

- Generating a substantial volume of data rapidly
- These can be utilized to extract data from students who are not at ease with other methods
- It is also possible to carry it out in the learner's native language, thereby addressing concerns about the learner's skill level and its impact on the data's quality and quantity.
- Gathering feedback from previous studies (Cohen et al., 2007; Makey and Gass, 2022).

5.6.3.1. Aim and Structure of the Focus Group

The primary purpose of utilizing a Focus Group following the instruction was, according to Cohen et al. (2007, p. 349), to gather detailed understandings of the participants' views regarding their training encounter. (appendix G) in terms of :

- Students involvement
- Students motivation
- Their beliefs towards their own learning
- The strategies used while learning grammar

At the beginning of the interview, the participants were asked about their reactions towards the use of the proposed model and comparing it to the traditional method they are used to expose when studying grammar. The main goal of the coming questions was to elicit their perceptions about the different phases of the proposed modal, the strategies used, and the difficulties they encountered. At the end, the students were asked to express their readiness to repeat the experience again. This study was to change their own beliefs about learning and that they are responsible for it.

5.6.3.2. Data Collection Procedures of the Focus Group

After finishing the treatment, the recruitment resulted in 8 students from the experimental group volunteering to be involved, choosing any language they feel comfortable with, it was also mentioned that the interview was conducted to know more about their opinions toward the training they went through. At the beginning the students felt shy and sometimes unwilling to share their opinions, afterwards, they started to exchange ideas and supporting each other; as the researcher told them to feel relaxed. The researcher acted as a facilitator and tried to probe some questions, especially in the form of why and how to extract more details from them. The interview lasts 30 minutes.

5.6.3.3. Data Analysis Procedures of the Focus Group

The researchers transcribed the audio-recording of the focus group. It was, then, edited by avoiding repetitions. The next step was adopting the thematic analysis, TA involves finding repeated meanings across a data set, which is crucial to the interpretation of phenomena (Vaismoradi et al., 2013 cited in Xu and Zammit, 2020), through the process of coding. Codes within research can be derived from the data itself, a method known as inductive coding, or from specific theoretical or epistemological perspectives, known as deductive coding (DeCuir-Gunby et al., 2011 Xu and Zammit, 2020). An effort was made to identify data patterns by categorizing closely linked items. Ultimately, it was determined to cluster the responses at a higher conceptual level, utilizing broader themes derived from the data.

To sum up, table (11) designates the instruments used for the baseline study and the main study. Two instruments were used in the first phase of the research: attitudinal questionnaire that aims to unfold the participants' perception toward grammar, and corpus analysis that seeks to analyze the types of dependent clauses the informants used. On the other hand, the main part opted for three tools ; the pre-post tests that determines any difference in the scores, strategy questionnaire which compares the strategies used by the participants before and after the treatment, and focus group that elicit the informants perceptions about the model used to teaching grammar. The table also demonstrates the analysis tools and the date of administration.

Table 11: The instruments, the analysis tools, the date of administration, and the data collected.

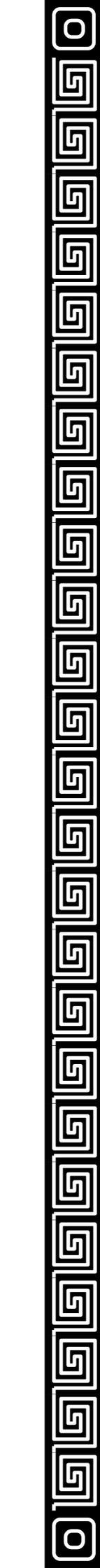
Type of the study	Data collection tools	Time	Analysis tools	Information collected
	➤ Questionnaire	16-18/05/2021	Descriptive	*The participants' beliefs about

Baseline study	➤ Corpus analysis	June 2021	statistics Coding	grammar instruction *The use of the dependent clauses in their written productions.
Main study	➤ Pre-test	19/01/2022	SPSS	*Measure the participants' mastery of the dependent clauses
	➤ Pre-questionnaire	20/01/2022 23/01/2022--- 13/03/2022	Descriptive statistics	
	➤ Treatment	17/03/2022 18/03/2022	SPSS Descriptive statistics	*To diagnose any difference in the mastery of the target structure after the treatment
	➤ Post-test	20/03/2022	Thematic analysis	*The grammar learning strategies used by the participants
	➤ Post questionnaire			*Reactions and attitudes of the participants about the treatment.
	➤ Group focus			

Conclusion

The current chapter provides a clear and comprehensive explanation of the research strategy and methodologies. The mixed method's adaptability, which entails the use of both qualitative and quantitative methodologies, emphasises its application. The investigation went through three phases. The initial stage, similar to the pre-experimental phase, involves administering an attitude questionnaire and doing corpus analysis. In the second phase, we implemented the treatment, instructing the experimental group using the experiential learning model and teaching the control group using the PPP method. The last phase is characterised by the administration of the strategy questionnaire, the test, and the focus group. The

statistical analysis used consists of both descriptive and inferential statistics computed using SPSS, as well as theme analysis for examining qualitative data.



**Chapter Four: Data Analysis and
Interpretation of the Pre-experiment
Phase**

Chapter Four: Data Analysis and Interpretation of the Pre-experiment Phase

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Introduction

The choice of methodologies in research is considered to be dependent on the nature of the research being conducted. One of the main principles in conducting intervention studies is unfolding the beliefs and conceptions exploited by the learners in the teaching learning process, in the current study grammar instruction. This prior stage is represented in the current chapter where it endeavors to uncover the views actually held by the sample and the problems they face while studying grammar. The data collected in this chapter is considered as the base for the main study, where an understanding of the perception of the relevant gap within educational context would greatly improve the way the suggested model influence the teaching/learning process. For this reason, two diverse techniques have been employed: a questionnaire and content analysis. The data gathered by these two distinct tools is assessed and evaluated and the results are represented via different means. The findings of the baseline study are offered and discussed in the upcoming sections. Section (4.1) is devoted to the questionnaire analysis, while the focus of section (4.2) is on the result of the corpus analysis

4.1. The Analysis of the Questionnaire

A questionnaire was used to collect data on students' thoughts and attitudes about the teaching and learning of English grammar. The questionnaire included closed-ended questions that asked respondents to express their level of agreement or disagreement with specific statements. We administered a total of ninety-five questionnaires to second-year students at the Department of English Language and Literature.

The findings were analyzed and grouped under four headings related to the research questions: (1) the responsibilities assigned to teachers and students when learning grammar, (2) the importance and efficacy of grammar, (3) preferences towards grammar instruction, (4) and the problems the students face while learning grammar.

Cronbach's coefficient alpha: 0.87 was the value achieved by the Cronbach's Coefficient Alpha reliability test for the students' questionnaire for questions 01-05 and 0.98 for questions 06-29 which are higher than 0.70 as indicated in the Table below. The results specify that The scale data shows excellent consistency.

Reliability Statistics		Reliability Statistics	
Cronbach's Alpha	N of Items	Cronbach's Alpha	N of Items
,875	5	,984	24

4.1.1. The Responsibilities Assigned to Teachers and Students When Learning Grammar

This section aims to explore and understand the perspectives and beliefs held by learners regarding the role of teachers in the process of learning grammar.

Table 12: Ensuring Progress of Grammar Lessons

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	The teacher	64	67,4	67,4	67,4
	the student	31	32,6	32,6	100,0
	Total	95	100,0	100,0	

Table 12 indicates the frequencies and percentages of the participants' views about who ensures progress during grammar lessons. 64% of the respondents claim that the teacher is responsible for guarantying the smooth flow of the lesson while 31% of them see that the students have to play a role in the progress of the grammar lessons. Such findings might postulate that the students are reluctant to study and they perceive themselves as merely passive receivers who play no role during the lecture.

Table 13: The Choice of Grammar Lectures

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	The student	2	2,1	2,1	2,1
	the teacher	93	97,9	97,9	100,0
	Total	95	100,0	100,0	

Findings in table (13) demonstrate that the majority of the participants consider the teacher responsible to choose the rules to be learnt in grammar courses. By tradition, the educational system in Algeria and in the target university specifically, the teacher designs the program to be taught to students during the academic year. Hence, the respondents did not show any kind of resistance but two of them who thought that the learner must have a hand in designing the program and what to learn.

Table 14: The Choice of Activities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	The teacher	66	69,5	69,5	69,5
	the student	29	30,5	30,5	100,0
	Total	95	100,0	100,0	

Most of the participants throw the ball in the teacher's court where they (70%) afforded him the duty to choose the different types of activities; whereas, 30% of the respondents claim that they can rely on themselves to choose the activities to do. Termed differently, the informants are not interested in improving their grammatical competence for they do not look for extra exercises to practice the target structure.

Table 15: Evaluation of Students' Mastery of Grammar Rules

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	The teacher	55	57,9	57,9	57,9
	the student	40	42,1	42,1	100,0
	Total	95	100,0	100,0	

As indicated in table (15) 58% of the participants assigned the teacher the role where he has to make certain that all learners understand and master the grammar rules. On the other hand, 42 % of the respondents agree that the learners are responsible for ensuring the mastery of grammar rules. Such findings correspond to the results of the first statement where the respondents opt for teacher-centeredness approach of the teaching learning process.

Table 16: Students' Weakness with Grammar Items

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	The teacher	45	47,4	47,4	47,4
	the student	50	52,6	52,6	100,0
	Total	95	100,0	100,0	

Concerning the statement 'who is responsible for identifying the learners' weakness', the views have been split between 47% of the participants who choose the teacher and 52% of them who opt for the student. Such results might infer that the learners have no clear vision about what role they play in the learning process since even their weaknesses have to be observed and developed by their teacher.

Such wrong beliefs about the role the participants assigned to either the teacher or the students, where the teacher has to bear the burden of the whole teaching/learning process, might negatively influence the learner in terms of motivation, engagement, and autonomous learning.

4.1.2. The Importance and Efficacy of Grammar

A. The Efficacy of Grammar

This construct has been designed to gather insights from students regarding their opinions on the importance of understanding grammar in the process of learning a new language and gain a deeper understanding of how grammar impacts language acquisition.

Table 17: EFL Learners' Views about the Efficacy of Grammar in Language Learning

Descriptive Statistics											
	N		Sum		Mean		Std. Deviation				
	Statistic		Statistic		Statistic		Std. Error		Statistic		
You need conscious knowledge of grammar to improve your language	95		352,00		3,7053		,06837		,66642		
Focused-structure exercises play a role in language learning process	95		378,00		3,9789		,10790		1,05163		
Explicit discussion of grammar rules is beneficial to learning	95		356,00		3,7474		,10684		1,04136		
Valid N (listwise)	95										
The Efficacy of Grammar	Strongly agree		Agree		Neutral		Disagree		Strongly disagree		
	F	%	F	%	F	%	F	%	F	%	
You need conscious knowledge of grammar to improve your language	34	35.8	38	40	15	15.8	4	4.2	5	5.2	
Focused-structure exercises play a role in the process	34	35.8	35	36.8	17	17.9	6	6.3	3	3.1	
Explicit discussion of grammar rules is beneficial to learning	23	24.2	33	34.7	27	28.4	7	7.3	5	5.2	

Table (17) shows the frequencies and percentages of the students' answers on the efficacy of grammar in language learning in general. The results designate that most of the participants

(75%) valued the conscious knowledge of grammar as being an effective factor in developing their proficiency level. Almost the same percentage (70%) has been observed in the role focused structure exercise plays in language learning. Such results denote that the participants approve of the necessity for isolated instruction to develop their overall proficiency. The last item, '*explicit discussion of grammar rules is beneficial to learning*', gained the least percentage compared to the previous statements (59%), which may reflect the negative attitudes they have towards the importance of meta-linguistic knowledge they internalize from having such discussions.

Despite the overall approval of the pivotal role grammar plays in learning English, a considerable portion of students expressed their neutrality with 15% in the first statement, 17% in the second statement, and 28% in the third statement. Such neutral opinions might reflect the uncertainty and the doubts the students might have about the impact of grammar on language learning which can be due to the difficulty of grammar structures.

B. The Importance of Grammar

The primary objective of this construct is to collect in-depth insights from students regarding their perspectives on how the study of grammar influences the development of proficiency in the four fundamental language skills.

Table 18: EFL learners' views about the importance of grammar in the four basic skills

Descriptive Statistics					
	N	Sum	Mean	Std. Deviation	
	Statistic	Statistic	Statistic	Std. Error	Statistic
Grammar is very important when speaking	95	396,00	4,1684	,10222	,99630
Grammar is very important when reading	95	358,00	3,7684	,12200	1,18907

Grammar is very important when writing	95	422,00	4,4421	,09431	,91925
Grammar is very important when listening	95	363,00	3,8211	,12156	1,18482
Valid N (listwise)	95				

The Importance of Grammar	Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
	F	%	F	%	F	%	F	%	F	%
Grammar is very important when speaking	46	48.4	28	29.5	13	13.7	3	3.1	5	5.2
Grammar is very important when reading	33	34.7	27	28.4	20	21	10	10.5	5	5.2
Grammar is very important when writing	59	62.0	27	28.4	4	4.2	2	2.1	3	3.1
Grammar is very important when listening	18	18.9	20	21	22	23.1	32	33.7	3	3.1

The results in the above table (18) reveal that 48% of the students strongly agreed that grammar is important when speaking, while 34% strongly agreed that it is very important when reading. 59% and 27% of the participants strongly agreed and agreed with the statement '*grammar is important when writing*'; whereas, only 28% of the respondents approved of the importance of grammar when listening while 36% disagreed with it.

The findings show that the participants gave the highest percentage to writing and speaking, being the productive skills, and less percentage to reading and listening, being the receptive skills. Such beliefs may be drawn from the nature of the skill the students think grammar is crucial in; in other words, when writing, they focus on grammar and spelling mistakes, and this is what they receive from their teachers' feedback. When speaking, they also try not to make grammatical mistakes. Listening, being the least skill to benefit from grammar, according to the students, might come from the belief that they focus on the

meaning of words while listening which was indicated by 23% of students who had a neutral opinion and 33% who disagree with the statement.

4.1.3. Preferences towards Grammar Instruction

A. Direct Instruction of Grammar

The purpose of this section is to assess the inclinations of the students with regard to the exclusive emphasis on the structure of language in the process of learning grammar, the isolated focus on form in learning grammar

Table 19: EFL Learners' Preferences towards Explicit Grammar Instruction

		Descriptive Statistics									
		N		Sum		Mean		Std. Deviation			
		Statistic		Statistic		Statistic		Std. Error		Statistic	
Teaching linguistic forms can help you produce correct grammar		95		335,00		3,5263		,11673		1,13777	
You can improve your grammatical accuracy through regular structure exercises		95		403,00		4,2421		,09666		,94211	
Valid N (listwise)		95									
Direct Instruction of Grammar		Strongly agree		Agree		Neutral		Disagree		Strongly disagreed	
		F %		F %		F %		F %		F %	
Teaching linguistic forms can help you produce correct grammar		19 20		35 36.8		24 24.2		11 11.6		6 6.3	
You can improve your grammatical accuracy through regular structure exercises		52 54.7		30 31.6		7 7.3		3 3.1		3 3.1	
the grammar teacher provides me with the grammatical rules and I apply them to the given exercises		40 42.1		38 40		2 2.1		7 7.3		8 8.4	

Table (19) shows the frequency of students' responses concerning their preferences toward explicit isolated grammar instruction. Based on the results, 54% of the students strongly agreed or agreed with the statement '*Teaching linguistic forms can help you produce correct grammar*', 52% of the participants strongly agreed that the repeated regular structure exercises can help them internalize the rules of grammar, and the majority of them (82%) agree that the basic role of the teacher is to provide the learners with the grammatical rules explicitly. From the above results, the preference towards explicit grammar is widely accepted and deemed as a simple and direct way to attain the targeted grammatical structures.

B. Implicit Instruction of Grammar

The purpose of this construct is to measure the students' attitudes and inclinations regarding the integrated focus on form in learning grammar

Table 20: EFL learners' preferences towards implicit grammar instruction

	Descriptive Statistics				
	N	Sum	Mean	Std. Deviation	
	Statistic	Statistic	Statistic	Std. Error	Statistic
You study grammar by exposure to the environment of using the language naturally	95	367,00	3,8632	,09055	,88258
The grammatical drills have to be an a complete communicative context	95	318,00	3,3474	,08824	,86009
Grammar is best taught through communicative activities	95	382,00	4,0211	,08194	,79866
Valid N (listwise)	95				
	Strongly	Agree	Neutral	Disagree	Strongly

Implicit Instruction of Grammar	agree				disagree					
	F	%	F	%	F	%	F	%	F	%
You study grammar by exposure to the environment of using the language naturally	10	10.5	20	21	5	5.2	30	31.5	30	31.5
The grammatical drills have to be in a complete communicative context	4	4.2	41	43.1	8	8.4	38	40	4	4.2
Grammar is best taught through communicative activities	21	22.1	38	40	26	27.3	9	9.5	1	1.05

The results from table 20 show that the students (62%) deny that they can learn grammar only by exposure to the target language naturally without any grammar reference either planned; where the language features in focus may have been anticipated and planned for within a communicative activity, or incidental; where they may occur implicitly in the course of ongoing interaction. They believe that learning grammar is a must. Concerning the statement '*the grammatical drills have to be in a complete communicative context*' the views have been split between 47% of students who agree with the statement and 44% of those who disagree with the statement.

Such results are incongruent with the ones of the third statement, '*Grammar is best taught through communicative activities*', where 62% of the respondents agree to have an implicit integrated grammar instruction, yet an important percentage 27% could not make up their minds. Such discrepancy in the responses of the students may be due to the fact that they have never been exposed to grammar components implicitly; hence, some students are likely

to try such a new way of instruction, and some students feel safe and comfortable with the method being exposed to.

C. Negative Attitudes towards Grammar Instruction

This construct aims to diagnose EFL learners' attitudes towards grammar instruction in terms of excluding grammar from the curriculum and whether it impedes them from developing speaking abilities, which are presented in items number 11 and 12 respectively.

Table 21: EFL learners' attitudes towards grammar instruction

No	Negative Attitudes Towards Grammar Instruction	Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
		F	%	F	%	F	%	F	%	F	%
11	Excluding grammar from the language program is beneficial for you	15	15.7	20	21	15	15.7	20	21	25	26.3
12	Learning grammar impedes your speaking competency	22	23.1	45	47.3	14	14.7	10	10.5	4	4.2

The results displayed in table (21) reveal that the students showed mixed reactions. 46% of the respondents disagreed with the statement, so they do have positive attitudes towards grammar instruction, while 36% of the students did not prefer to study grammar, and 14% had a neutral position. Such preference towards grammar instruction may be due to the students' strong beliefs in the efficacy of grammar in language learning (table 01). 67% of the participants had negative attitudes towards the relationship between the mastery of grammar and speaking competency. Although they valued the role grammar plays in speaking, they considered grammar as an impediment to developing their speaking abilities.

Such views can be because of the type of instruction they receive when studying grammar that is isolated from any communicative task and does not help them internalize the rules to be used later in real-life communication.

D. Error Correction

Table 22: EFL learners' attitudes towards error correction

No	Error Correction	Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
		F	%	F	%	F	%	F	%	F	%
16	While speaking, teachers should correct grammatical mistakes	32	33.7	33	34.7	20	21	5	5.2	5	5.2
21	I dislike when I am corrected in class	10	10.5	13	13.6	17	17.9	30	31.6	25	26.3

The above table (22) investigates students' beliefs towards error correction. As displayed in the table, 65% confirmed their agreement with the statement '*While speaking, teachers should correct grammatical mistakes*', and 57% of the participants disagreed with the statement '*I dislike when I am corrected in class*' these findings show positive attitudes towards negative feedback even when speaking, which may explain their negative feeling towards the relation between grammar and speaking because of the mistakes they may fall in while speaking. The preference towards explicit error correction correlates with isolated grammar instruction as well as with integrated grammar instruction.

4.1.4. Obstacles Faced by Learners in Learning Grammar

This construct aims at defining the conceivable reasons why EFL learners studying grammar seemed to have negative attitudes towards grammar and the difficulties they encounter, the

items are divided into two factors; internal factors represented in statements 27, 28, and 29, and external factors represented in 23, 24, 25, and 26 statements respectively.

Table 23: the participants' obstacles while learning English grammar

No	Obstacles Learners Face When Learning Grammar	Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
		F	%	F	%	F	%	F	%	F	%
23	The way grammar is taught	70	73.7	25	26.3	00	00	00	00	00	00
24	Lack of practice	59	62.0	27	28.4	4	4.2	2	2.1	3	3.1
25	The material used while teaching grammar	18	18.9	20	21	22	23.1	32	33.7	3	3.1
26	Time allotted to the grammar module	15	15.7	20	21	15	15.7	20	21	25	26.3
27	The interference of French and Arabic (L ₁ transfer)	10	10.5	13	13.6	17	17.9	30	31.6	25	26.3
28	The correct and appropriate use of grammatical aspects in the context	59	62.0	27	28.4	4	4.2	2	2.1	3	3.1
29	I am not motivated to study grammar	50	52.6	26	27.3	4	4.2	10	10.5	5	5.2

As indicated in table 23, all of the students (100%) agreed that the method used by their teachers is not suitable for them because they feel that they are not involved in the learning/teaching process, which is noticed in their agreement (76%) with the statement '*I am not motivated to study grammar*'. It is quite disappointing; learning is motivation-driven if students do not have the desire to learn, little progress can be achieved. Concerning the time allotted to the grammar module and the materials used for teaching it, the respondents show mixed reactions;

36% of them agree with these obstacles and 40% disagree with the statements since they are already demotivated. The results also revealed that the majority of the students (89%) agree that they have serious difficulty in using the grammatical rule appropriately. However, they (57%) disagree with L₁ interference as a source of the difficulty.

4.1.5. Discussion

The learners' beliefs and preferences, based on research on their cognition, play a critical role in the success and failure of FL learning (Mansouri et al., 2019). The study enlightened in this section endeavored to examine EFL learners' attitudes about grammar instruction, and eventually propose a modal that suits students' needs. The learners had positive views on grammar and considered it an indisputable skill to be learned as it is 'the backbone of the language'. Students' responses (75%) to the questions pertaining to the efficacy and importance of grammar express a firm belief that the understanding of grammar is beneficial in the process of learning a foreign language., such results are in congruence with the findings of Schultz's 1996, and Loewen et al.'s 2009 studies.

Studying grammar was found to be beneficial by many students for enhancing both their overall language proficiency and specific language competencies. Where, interestingly, they stressed the importance of grammar when dealing with productive skills. Concerning the way grammar is best taught, results in the data analysis revealed that grammar should be taught, and being merely exposed to it by natural exposure to language is not accepted at all. As mentioned by Spada and Lightbown (2008), meaning-based exposure to the language might have a positive effect on comprehension skills, oral fluency, self-confidence, and communicative abilities, but on the level of pronunciation, morphological, syntactic, and pragmatic features students would struggle. The research indicates that the majority of students are in favor of receiving grammar instruction.

The preference towards isolated grammar instruction is owing to the value students put on structural accuracy over communicating learning. The idea was substantiated by a meta-analysis conducted by Norris and Ortega (2000, quoted in Spada, 2011, 228), which demonstrated that explicit education is more efficacious than implicit training, and that the impact of instruction is long-lasting. Acquisition theorists suggest that language is initially acquired as metalinguistic knowledge, which can eventually become so deeply ingrained and automatic through repeated meaningful practice that the user may no longer be aware of the metalinguistic information or even remember having learnt it. (DeKeyser, 2003 as referenced in Spada and Lightbown 2008, 183).

The reason for preference towards repeated exercises is that these students have been exposed to explicit deductive instruction all their lives while studying grammar. Despite the movement toward communicative language teaching and the implementation of a competency-based approach since 2002 in the Algerian educational system for middle and secondary schools, it has not been fully achieved especially for teaching grammar that is still taught using the explicit deductive approach even at the university level. Taking into consideration the influence of prior language learning experience on learners' beliefs (Graus and Coppen, 2015), it is conceivable that the way in which students were taught themselves plays a role in these beliefs. Hence they are influenced both by the explicit isolated grammar instruction and the discrete point testing methods.

Students have difficulties when speaking which is because of a lack of confidence as well as performance anxiety. The lack of proficiency is because they cannot apply their explicit knowledge of grammar in communication. This is related to their learning method, which exclusively involves using deductive teaching. In this learning environment, students who learn grammar rules and structures do not have the chance to apply these structures in a communicative setting. These underlying reasons led to the preference towards implicit

integrated grammar instruction which might be a remedial approach to the negative consequences the explicit instruction had on EFL students' communicative competencies.

Speculation for students' lack of significant preference towards any type of grammar instruction and the neutral position many students expressed is that they have disinterest toward grammar teaching; hence they show their neutrality towards different methods of learning grammar. Besides, it is deemed to the complexity and the difficulty the students have with grammar; they prefer explicit instruction with complex grammatical structures, while the choice of implicit approach seemed to be the most appropriate for simple structures (Ansarin, et al., 2014). Hence, being eclectic in the choice of either approach is necessary, an amalgamation of the two approaches is also recommended. Barrot (2014) confirmed that the combination of both standalone and integrated grammar instruction can greatly enhance speaking and writing performance.

According to Spada and Lightbown's 2008 findings, standalone and integrated Form-Focused Instruction (FFI) should not be viewed as rivals; instead, they are seen as "complementary elements of a comprehensive language learning environment" (p.188). Therefore, the effectiveness of standalone and integrated grammar instruction may vary depending on factors such as the linguistic domain, learners' first language, and learners' preferences. The foremost goal of teaching grammar is to help students master new rules that will enhance their productive skills; however, most of the students either do not use these rules or misuse them. Despite the fact that Algerian students get exposed to the English language from an early age in school and specifically the focus on grammar which they start learning from the first year in middle school up to the second year in the university, they still face many problems when applying the rules they studied.

According to the participants, the majority of educators adhere to conventional grammar teaching methods, where teachers convey rules to students who are then anticipated to memorize and use the information during exams. Consequently, there is minimal emphasis on employing cognitive teaching approaches to instruct grammar in order to enhance students' critical thinking, understanding, and application. This leads to students struggling to comprehend and use information effectively, as well as to critically analyze and assess concepts. Most of the students are reluctant to study grammar and feel bored while studying it which might be because they are not involved in the teaching/learning process, in other terms, they do not experience the information, and test their knowledge, and rather they are merely passive recipients who learn by heart the information or the rules.

4.2. The Analysis of the Qualitative Data: Corpus analysis

Among the characteristics that measure the syntactic complexity in any written production is the amount of dependent clauses, mainly nominal, adjective, and adverbial clauses, used. The current section aims at investigating the appropriate use of the dependent clauses, bearing in mind that these participants have been already exposed to the target element being investigated during the same year of the second semester of collecting the corpus.

The data obtained for the analysis were paragraphs written by students who have chosen the topics based on the options provided in the exam:

Nicely asked, jump in the below listed topics and choose the one that best triggers your thoughts to write a short well structured paragraph.

1. Is bullying online worse than face to face? how it is different?
2. Explain the problems, both personal and societal, that result from obesity.

3. Can, or/and should, we be able to post comments online even when they are rude, hurtful or likely to cause distress?
4. Should universities adopt online learning via moodle platform as a new and an alternative strategy?

Table 24: The number of the topics

Topic	Bullying	Obesity	Online comments	Online learning
N of paragraphs	1	2	3	7

Table 24 shows the number of paragraphs in each topic, all of the topics are argumentative, where most of the students (7) opt for online learning. The data were analysed quantitatively and qualitatively. In the quantitative stage, frequency counts of dependent clause use were calculated. In the qualitative analysis, we see how a given dependent clause was used to build meaning, where representative written productions were analyzed for the identification of dependent clause use. The students' paragraphs are shown in appendix V

4.2.1. Quantitative Data Analysis of the Corpus

The frequencies and the means of the dependent clause use are indicated in tables 13 and 14. Table 13 p 97 consists of the use of dependent clauses in general while Table 14 p 99 entails the use of each dependent clause in details respectively. The tables show the name, the frequency of use, as well as the mean of each dependent clause used by the students.

Table 25: Overall frequency and mean of dependent clauses per T-unit.

N of student	01	02	03	04	05	06	07	08	09	10	11	12	13	total
N of clauses/ T-unit	2	8	6	3	6	5	16	10	4	5	11	5	6	92
Mean	0,1	0,72	0,33	0,25	0,66	0,5	0,64	0,55	0,28	0,45	1	0,35	0,46	0,48

The results displayed in tables 25 and 26 indicate that the students have low competency concerning the use of dependent clause where 0.48 dependent clauses were used per t-units. To scrutinize thoroughly, it was found that the most used dependent clause is the adjective one (0.18) compared to adverbial (0.153) and noun clause (0.15).

Table 26: A detailed frequency and mean of each dependent clause per T-unit.

number of students	Number of noun clause per T-unit	Mean	Number of adjective clause per T-unit	Mean	Number of adverb clause per T-unit	Mean
1	0	0	1	0,08	1	0,08
2	3	0,27	3	0,27	2	0,18
3	1	0,001	2	0,11	3	0,16
4	1	0,08	1	0,08	1	0,08
5	2	0,22	2	0,22	2	0,22
6	2	0,2	0	0	3	0,3
7	3	0,12	10	0,4	3	0,12
8	3	0,16	4	0,22	3	0,16
9	1	0,07	3	0,21	0	0
10	0	0	4	0,36	1	0,09
11	7	0,63	3	0,27	1	0,09
12	2	0,14	0	0	3	0,21
13	1	0,07	1	0,07	4	0,3
Total mean	26	0,15084615	34	0,17615385	27	0,15307692
Total SD		0,16787686		0,12997041		0,088918

The findings indicate that some of the students use the three dependent clauses namely: adjective, adverbial, and noun clauses. Student 7 has used the adjective clause 10 times which represents the highest frequency of use. For example, in her paragraph, she writes “the mind *which controls the human feeling*”, “an over thinking condition *which cause psychological illness*”, and “someone *who I know*”. The highest frequency use in the noun clause was marked by student 11’s paragraph since it was used 7 times like “I do not think *that we should post rude comments*”, ‘the second reason is *that people would commit suicide*’. “*When you*

study alone, you are exposed to unlimited number of information”, “*if universities ever want to change to a better way of learning, MOODLE platform is the better option*” are examples of adverbial clauses used by student 13. On the other hand, some students were very stingy in the use of the dependent clauses like students 1 and 11 who have not utilized the noun clause in their productions. The adjective clause was neglected by two students, while the adverbial one has not been used by student 9.

4.2.2. Qualitative Data Analysis of the Corpus

To analyze the corpus qualitatively, the researcher sought to look into not merely counting the dependent clauses used (a quantitative study), rather eliciting the types of dependent clauses, the appropriate use of these dependent clauses as well as the mistakes done by the students when writing them.

-Adjective Clauses: it is the most used type of clauses by the students; the use of such dependent clause in any written production entails the appropriate use of the relative pronouns, the appropriate punctuation, and the correct subject-verb agreement.

The appropriate use of relative pronouns: among the clauses used by the students, 11 instances out of 34 uses witnessed misuse of the relative pronouns. “the person who has an overweight *he* does not wear everything”, “a new strategy that we should apply *it* in universities” , and “Whose *their* parents have a low income” are examples of the use of the relative pronouns altogether with the words they substitute, which is considered wrong in English grammar; the pronouns *he*, *it* and *their* must be removed. They are unnecessary because *who*, *that*, and *whose* function as the subjects of the verbs *wear*, *apply*, and *have* respectively. Another detected problem was the non-use of the relative pronouns such as “there are many studies talk about the problem” there is a missing relative pronoun: **which/that** after the word ‘studies’. “We are in danger period which is covid19 is spread in many countries” is another illustration of the

same problem where the relative pronoun **that** must have a room between the words ‘covid19’ and ‘is’. The final issue observed in the students’ productions concerning the use of relative pronouns is the wrong use of them as the example held by student 9 “there are modules **who** need concentration”; ‘who’ is not the appropriate relative pronoun because it is used only for people (Azar and Hagen, 2009, p. 273); therefore, it must be replaced by ‘which’ or ‘that’.

Subject verb agreement mismatches were also found in the students’ written productions. “Other solutions which *is*...”; the relative pronoun ‘which’ substitute for the word ‘solutions’ which is plural that requires the plural form of the auxiliary ‘to be’. Another illustration is “the person who *have* obesity”.

The correct punctuation issue was not detected in the students’ written productions because their use of adjective clause was limited to one type which is the essential or restrictive clauses that “do NOT USE COMMAS IF the adjective clause is necessary to identify the noun it modifies” contrary to the non-restrictive clauses “USE COMMAS IF the adjective clause simply gives additional information and is not necessary to identify the noun it modifies”. (Azar and Hagen, 2009, p. 288)

-Noun Clauses: despite the varied functions of noun clauses played in a sentence that are provided in the literature and being exposed to by their teachers, the students have only used one function of the noun clauses in their written paragraphs which is of *direct object*. “Many students declared *that online learning via moodle leads them to procrastination*”. the only issue observed in the use of noun clauses is subject-verb agreement that student 6 failed to achieve “I believe this idea wrong” the noun clause ‘this idea wrong’ misses the auxiliary ‘to be’ tensed in the present; this mistake could be due to the student’s negligence that it is a clause that must contain a verb.

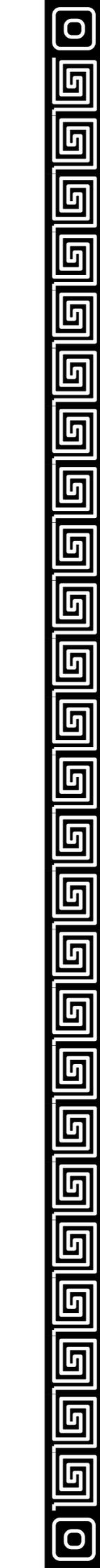
-Adverb Clauses: they can be said to modify the rest of the main clause – that is, they add extra information in terms of time, condition, concession, cause or reason, result and so on (Leech, 2006, p. 9). The analysis of the corpus revealed that most students did not employ the appropriate punctuation while writing the adverbial clauses. An illustration is provided in the following examples: “*if you study from home you do not need to spend your money*”, “*when you meet someone you don’t know you can be in such a messy condition*”, and “the effect should be present of course, *because we find many studies*” which violate the rule put by Azar and Hagen (2009, p. 365) “when an adverb clause precedes a main clause, a comma is used to separate the clauses and when the adverb clause follows, usually no comma is used”. The appropriate use of the subordinating conjunctions is another issue in the students’ paragraphs like “all doctors advise doing gym *it can give you a positive thinking*”; this sentence misses the use of ‘because’ that shows a cause-and-effect relationship. “Although university tries to change**but**, I believe this reaction is not enough” contains the coordinating conjunction ‘but’ that has the same function as ‘although’.

In a nutshell, the ultimate goal of teaching the dependent clauses is to enable learners to use them appropriately when writing and speaking since they thrive in company of independent clauses and add complex information to the sentence. The analysis of the corpus indicates that the students made many errors in the use of the target structure despite the fact that they have been exposed to it. Adjective clauses, being the most used type, have been used only with restrictive adjective clauses which witnessed the use of many errors that entails the misuse of relative pronouns and subject verb agreement. Moreover, the use of noun clause was limited to the direct object function, while it was observed that the use of adverbial clause includes many flaws like the inappropriate punctuation and the use of incorrect subordinating conjunctions.

Conclusion

Investigating EFL learners' beliefs on grammar instruction is important for ensuring success in language learning. Mid the myriad factors leading to language learning success are learners' beliefs and preferences which are the guides that enlighten the path toward thriving learning of the target language. On the one hand, meeting learners' preferences and expectations as well as correcting some wrong beliefs would have positive effects on the learning outcome; on the other hand, wrong beliefs and misconceptions may negatively affect the learning process. This exploratory study tries to shed light on EFL learners' preferences toward grammar instruction. Most of the students recognize the importance of learning grammar and its role in enhancing writing and speaking skills and to less extent reading and listening skills. However, they declare their frustration from learning grammar as it impedes their speaking competency. Some students prefer explicit grammar instruction while others prioritize communication over grammar. Hence, having such divergent views urges teachers to explore students' beliefs and instructional expectations, and develop shared preferences to guarantee successful learning and teaching. Moreover, teachers might reconsider the approaches applied when teaching grammar, where the use of different approaches depends on the language feature to be learned, the characteristics of the learner, and the learning conditions. In order to engage students in a more effective learning environment, teachers should provide them with a collaborative and supportive learning context as well as promote a sense of autonomy, choice, and challenge, which is not the case in the target university, especially with the grammar module. Hence, the researcher endeavours to design a proposed model that is based on the tenets of Kolb's experiential learning cycle, the misconceptions students have towards their own learning as they rely on their teachers in the mastery of the grammatical elements, as well as the difficulties students have when learning. Based on the experiential learning theory, the proposed model, which contains four phases including concrete experience, reflective observation, abstract conceptualization, and active

experimentation, provides learners with opportunities to get involved in the teaching /learning process via deploying and developing effective meta-cognitive and cognitive strategies; hence, it calls eventually for autonomous learners.



Chapter five: Data Analysis and
Interpretation of the Post-experimental
Phase

Chapter five: Data Analysis and Interpretation of the Post-experimental Phase

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Introduction

The present chapter seeks to evaluate the suggested hypotheses intended to fulfill the objectives of this research via analyzing quantitatively and qualitatively the results of the three means of data collection, grammar test, students' questionnaire, and focus group for measuring students' grammar performance of both groups, experimental group following the Proposed Model and control group following PPT method, before and after the treatment. It is divided into five sections. Section one describes the quantitative analysis of the test and the questionnaire before and after the treatment. Section two describes the qualitative analysis of the focus group, while section four is devoted to hypotheses' testing. The last section focuses on the discussion of the hypotheses and the articulation of a comprehensive discussion of the quantitative and qualitative findings.

5.1. The Analysis of the Quantitative Data

This quasi-experimental study aims to determine the impact of the proposed model on the learners' grammar performance measured by the significant difference in mean scores of the pre-test and the post-test of experimental and control groups as well as on their grammar learning strategies using descriptive statistics, on one hand. Inferential statistics are used to test the stated hypotheses using SPSS v. 26, on the other hand.

5.1.1. Comparative Evaluation of the Results of the grammar performance test

The quantitative data from the grammar pre-test and post-test was analyzed descriptively by calculating the means and standard deviations of the subjects' scores. Furthermore, the frequency distribution of the subjects' scores was examined to identify the minimum and maximum scores.

The researcher used a bottom-up method of analysis, moving from the particular to the general. To measure and compare the overall performance on the pre-test and post-test, she started by analyzing the data related to the first activity, moved on to the data analysis of the

second question, and then to the data related to the last activity. The analysis ended up by an overall-mean scores comparison between the control and the experimental groups.

5.1.1.1. The Control Group: Before and After the Treatment

This section is devoted to the comparison of the descriptive statistics of the control group's scores before and after the treatment, which is divided into three main foci: first activity, second activity, third activity.

- **Control group achievements in activity one:**

From the data shown in table 27, the mean of the control group before the treatment was 0.94 that is considered low compared to the average of this activity which is 2 as the score is counted out of 4. What is more interesting is that the scores clustered around the mean which is reflected in the SD value (1.05) that is near to the mean value. Comparatively, the mean score of the control group of the same activity after the treatment has witnessed a decrease by 0.04 value as it scored 0.9.

Table 27: Descriptive statistics of the control group scores in pre and post activity one

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-test activity 1	,9444	18	1,05564	,24882
	Post-test acitvity 1	,9000	18	1,10997	,26162

Table 27 identifies four score categories that ranges from 00 as a minimum score that , in effect, gain the highest percentage with 44% of the scores in both pre and post tests, to 3 as a maximum score which in turn gain the least percentage where two participants had it in the pre-test, while 3 of them gained it in the post-test. It is also noticed that none of the respondents in neither the pre-test nor the post-test got the full mark.

Table 28: Frequency distribution of the control groups' scores in activity one

Scores		Pre-test activity one		Post-test activity one	
		Frequency	Valid Percent	Frequency	Valid Percent
Valid	0	8	44,4	8	44,4
	1	5	27,8	6	33,3
	2	3	16,7	1	5,6
	3	2	11,1	3	16,7
Total		18	100	18	100
Missing	System	18		18	
Total		36		36	

The main aim behind the first activity is to observe the students' awareness about the structures surrounding the construction of the dependent clauses. The findings elucidate the ineffectiveness of the type of instruction they were having concerning the attentiveness to the grammatical details of the target structure, where a comparison of the mean of the first activity before and after the treatment shows no significant difference.

- **Control group achievements in activity two**

The second question of the test designates towards applying internal cognitive processes of constructing sentences that is based on grammar and meaning and to diagnose the students' preferences in elaborating the disordered words.

Table 29: Descriptive statistics of the control group in pre and post activity two

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-test activity 2	5,1111	18	1,60473	,37824
	Post-test acitivity 2	5,1667	18	1,58114	,37268

The scores of the pre-test and the post-test of the second activity are labeled in table 29. On the one hand, the mean value of the pre-test is 5.11 which is high compared to the average. Such findings highlight the manner the participants processed sentences and how they analyze them. It indicates that the respondents do have some correlation between meaning and

grammar where they tried to infer meaning of the joined words to form sentences. On the other hand, the post-test rate scored almost as the same as the pre-test value with 5.16. Yet a closer examination of the participants' answers determined that the majority missed the appropriate use of the punctuation especially "the comma", which might reveal the non-awareness of the subjects in terms of mechanics that refer to the rules of the written language which entail punctuation.

Table 30: Frequency distribution of the control groups' scores in activity two

Scores		Pre-test activity two		Post-test activity two	
		Frequency	Valid Percent	Frequency	Valid Percent
Valid	3	4	22,2	4	22,2
	4	4	22,2	3	16,7
	5	1	5,6	2	11,1
	6	4	22,2	4	22,2
	7	5	27,8	5	27,8
	Total	18	100	18	100
Missing	System	18		18	
Total		36		36	

As it is provided in table 30, the scores extended between 3 which gains 22% of the respondents, to 7 that was obtained by 5 students in the pre-test. Astonishingly, the same frequencies and percentages had been perceived in the post-test scores; 22% of the participants received 3 while 27% of them achieved 7. The only difference was remarked in the score 4 and 5 with 4 and 1 participants gained them in the pre- test respectively, and 3 and 2 participants obtained these scores in the post-test.

To juxtapose the results of the second activity before and after the treatment, it is apparent that the scores are almost the same where we notice that the highest score in this activity, which is 7, was achieved by 5 students before and after the instruction. Henceforth, there is no tangible impact of the experiment on the participants' implicit knowledge about

the use of the dependent clauses as a grammatical component to be amalgamated with meaning as well as on their awareness of the mechanics in written language.

- **Control Group Achievements in Activity Three**

Table 31 shows the mean, standard of deviation, and standard error mean of the mean value of the control group of the third question before and after the treatment. It seeks to investigate the learners' knowledge about the types of the dependent clauses relying on their grammatical metalinguistic judgment. The mean score for this activity before the treatment is 1.33 which is considered very low compared to the average that is 5. For the SD which is 1.3, the same as the mean value, indicates that the majority of the scores clustered around the mean. For the post-test, the participants show a slight improvement where the mean is 1.7 with 0.09 value difference; however, the majority of the students are still away from reaching the average.

Table 31: Descriptive statistics of the control group in pre and post activity three

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pretest activity 3	1,3333	18	1,32842	,31311
	posttest acitvity 3	1,7222	18	2,10896	,49709

The distribution of the scores is displayed in table 31 wherein the majority of the scores in the pre-test are 00 and 02 with 33%, while we noticed that only one student got 05 which represent the maximum score. Eight respondents that resembles the majority (44%) obtained the score zero in the post-test; whereas, two students improved their level and gained 6, being the maximum score in this activity.

Table 32: Frequency distribution of the control groups' scores in activity three

Scores		Pre-test activity three		Post-test activity three	
		Frequency	Valid Percent	Frequency	Valid Percent
Valid	0	6	33,3	8	44,4
	1	4	22,2	3	16,7
	2	6	33,3	1	5,6
	3	1	5,6	2	11,1
	4	0	0	2	11,1
	5	1	5,6	0	0
	6	0	0	2	11,1
	Total	18	100	18	100
Missing	System	18		18	
Total		36		36	

In a nutshell, despite the slight difference in the mean in favor of post treatment, still the majority face difficulties in identifying the different type of dependent clauses; this could be attributed to the type of instruction being exposed to the learners.

- **Analysis of the Control Groups' Total Pre and Post-test Achievements**

Table 33: Descriptive statistics of the control group in pre and post tests scores

		Mean	N	Std. Deviation	Std. Error Mean
Control group	pre-test	7,3889	18	2,56994	,60574
	post-test	7,8333	18	3,39983	,80135

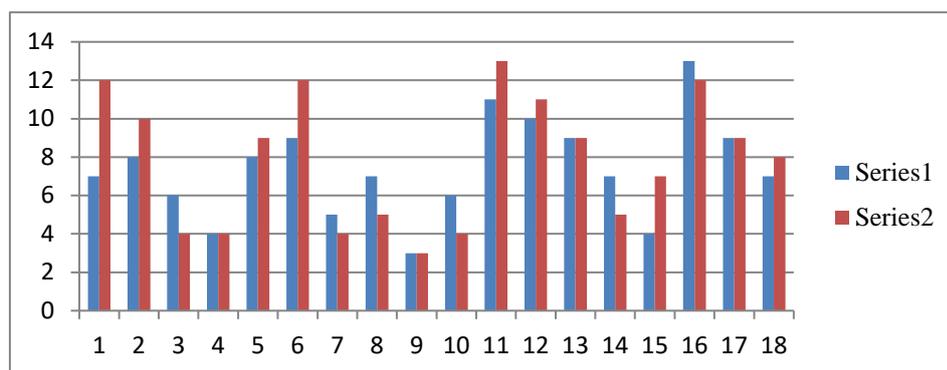
This section is devoted to the analysis of the descriptive statistics of the control group's test scores before and after the treatment. The findings in table 33 identifies that the mean value of the pre-test is 7.38 with SD 2.56. In fact, this mean value reflects a low performance compared to the average score of the test. Since the SD value is greater than its normal rate of the data set, it indicates greater variability in data points and higher dispersion from the mean. The rate of the post-test of the same group scored 7.83 which yield a slight improvement compared to the mean of the pre-test with 0.4 value difference. SD is 3.39, which is higher than the normal rate, is due to the variance of the data scores. Such results are confirmed in

the scores displayed in table 34, wherein the same range of 10 score categories are displayed before and after the treatment.

Table 34: Frequency distribution of the control groups' test scores

		pre-test control group		post-test control group		
		Frequency	Valid Percent	Frequency	Valid Percent	
Valid	3	1	5,6	1	5,6	
	4	2	11,1	4	22,2	
	5	1	5,6	2	11,1	
	6	2	11,1	0	0	
	7	4	22,2	1	5,6	
	8	2	11,1	1	5,6	
	9	3	16,7	3	16,7	
	10	1	5,6	1	5,6	
	11	1	5,6	1	5,6	
	12	0	0	3	16,7	
	13	1	5,6	1	5,6	
		Total	18	100	18	100
	Missing	System	18		18	
Total		36		36		

Fifteen participants out of 18 scored under the average where the score category 7 gained the highest percentage with a rate of 22%, while the maximum score is 13 is obtained by one student in the pre-test (see table 34), from one hand. The scores in the post-test reveal that the minimum score 3 is achieved by one student, while the maximum score 13 obtained by one student also. 72% of the group sample gained below the average; whereas, only 28% of them got above the average.

Figure 14: *The Difference between the Pre-and Post-test Scores of the Control Group*

Based on the data presented in the histogram, it is evident that there is a lack of significant improvement in the students' performance both before and after the treatment. Despite being taught about the various types of dependent clauses using the PPP method, the majority of students scored below the average. This indicates that the instructional approach may not have had the intended impact on their understanding and performance.

5.1.1.2. The Experimental Group: Before and After the Treatment

Following the same steps, the experimental group's results of the pre-test and of the post-test are analyzed using the descriptive statistics. This allows for a comparative analysis of the two sets of data, ultimately providing valuable insights into the effectiveness of the intervention or experimental conditions.

- **Experimental group achievements in activity one:**

Table 35 shows the statistical findings about the first activity that is devoted to error analysis. The mean score of the pre-test is 1.28 with 1.22 SD. This rate is low compared to the average. Since SD value equals the mean the students' scores are very close in value to the mean, which are distributed in a range of four score categories starting from 00 to be the highest frequency with 7 students, to the maximum score 03 that gained 22%.

Table 35: Descriptive statistics of the experimental group in pre and post activity one

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-test activity 1	1,2778	18	1,22741	,28930
	Post-test activity 1	1,6667	18	1,60880	,37920

For the post- test, the results reveal that the mean is 1.67 with 1.6 SD which stand for a slight improvement compared to the pre-test result with 0.4 value difference. The students' scores had been elevated, as shown in table 36, where more than half of the student got the average, and 27% of them obtained the full mark

Table 36: Frequency distribution of the experimental groups' scores in activity one

scores	Pre-test activity one		post-test activity one		
	Frequency	Valid Percent	Frequency	Valid Percent	
Valid	0	7	38,9	5	27,8
	1	3	16,7	6	33,3
	2	4	22,2	2	11,1
	3	4	22,2	0	0
	4	0	0	5	27,8
Total	18	100	18	100	
Missing	System	18		18	
Total		36		36	

- **Experimental group achievements in activity two**

Tables 37 and 38 present the average values (mean) and the measure of the amount of variation or dispersion (standard deviation), along with the frequency and the corresponding percentages for the data respectively.

Table 37: Descriptive statistics of the experimental group in pre and post activity two scores

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-test activity 2	5,3889	18	1,75361	,41333
	Post-test activity 2	5,5000	18	2,06512	,48675

The data in Table 37 shows that the experimental group sample (n=18) in the pre-test obtained a mean score of 5.38 for sentence construction, indicating a score well above the average, which is 4. The value is 1.75 for the standard deviation, which can explain the variability of performances among students. The outcomes demonstrate that the participants excelled in this aspect; 33% of them got the highest score in this activity which is 7, and only one student had the minimum score which is 01, while the rest of the score vary between 03 to 06 (table 38)

Table 38: Frequency distribution of the experimental groups' scores in activity two

Scores		Pre-test activity two		Post-test activity two	
		Frequency	Valid Percent	Frequency	Valid Percent
Valid	1	1	5,6	1	5,6
	3	2	11,1	2	11,1
	4	2	11,1	1	5,6
	5	2	11,1	2	11,1
	6	5	27,8	3	16,7
	7	6	33,3	9	50
	Total	18	100	18	100
Missing	System	18		18	

Comparing these results to the ones obtained in the post-test, a positive enhancement is observed in both the overall mean (5.5) and the frequency distribution of the scores, where 50% of the respondents obtained the full mark. In this part, an intriguing finding is that 83% of the participants achieved scores that were at or above the average score of 2.5. This suggests that their performance was excellent.

- **Experimental group achievements in activity three**

The final element to be examined as part of the descriptive analysis of the grammar pre and post-test components is explicit declarative knowledge. Testing the impact of the suggested model on the grammatical skills of the experimental groups is the aim. This activity

is out of 10 marks. Tables 39 and 40 portray a summary of this component's descriptive results.

Table 39: Descriptive statistics of the experimental group in pre and post activity three scores

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-test activity 3	,7778	18	,87820	,20699
	Post-test activity 3	5,1666	18	0,99513	,62346

On the first end of the spectrum, the results before the treatment from Table 39 indicate that the mean score is 0.77 with a standard deviation of 0.87. In comparison to the grade used to evaluate this component, this mean value is very low. The scores are almost centered around their mean as the value of standard deviation is regulated between its normal rate. This indicates that SD value represents data where the results are very close in value to the mean. Such findings indicate that the subjects had little explicit knowledge on dependent clauses, which is obvious in the allocation of scores in table 40; they were limited to three score categories. The minimum score category which is zero gained the highest percentage with a rate of 50 %, four student got the score 1, while the maximum score was recorded by five students.

Table 40: Frequency distribution of the experimental groups' scores in activity three

Acitvit 3 pre test exp g	Pre-test activity three		Post-test activity three	
	Frequency	Valid Percent	Frequency	Valid Percent
Valid	0	9	50	0
	1	4	22,2	1
	2	5	27,8	1
	3	0	0	3
	4	0	0	2
	5	0	0	3
	6	0	0	3
	7	0	0	3
	9	0	0	1
	10	0	0	1
	Total	18	100	18
Missing	System	18		18
Total		36		36

From the other end of the spectrum, the post-test findings witnessed good performances of the participants with a mean rate of 5.16 and a standard deviation of 0.99. The standard deviation is still within the acceptable range of the mean. The scores are approximately close to their mean. The distribution of scores in this component indicates that 11 students from the experimental group achieved scores higher than the average, accounting for 61% of the group. (Table 39). Nine score categories are observed ranging from 1 to 10. One student got the minimum score (5%) and one student got the maximum (5%). The scores with the highest rate are 5, 6, and 7 (16%). The findings show that the participants' content-related performance was higher than the average.

- **Analysis of the Experimental Groups' Total Pre and Post-test Achievements**

Tables 41 and 42 display a detailed presentation of the results obtained from the pre-test and post-test assessments of the experimental group. These tables provide a comprehensive

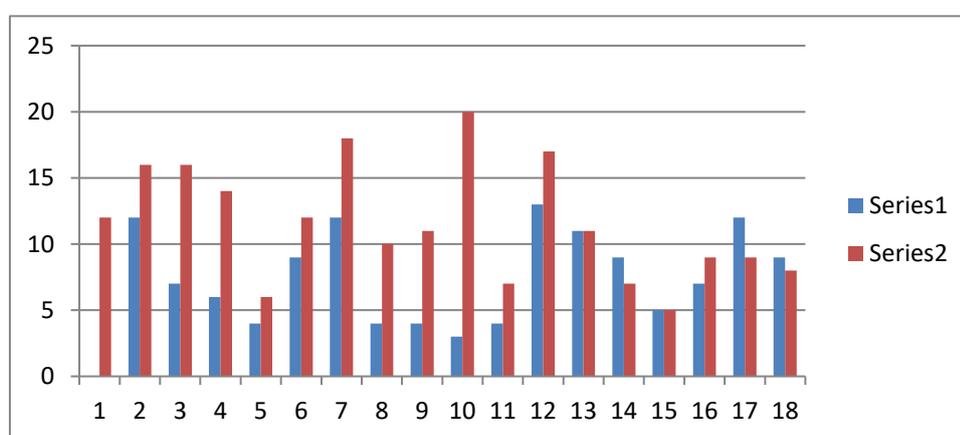
overview of the achievements and performance of the participants before and after the experimental intervention.

Table 41: Descriptive statistics of the experimental group in pre and post tests

	Mean	N	Std. Deviation	Std. Error Mean
experimental <u>pre-test experimental group</u>	7,44	18	3,312	,781
group <u>post-test experiment group</u>	11,8833	18	3,80789	,91753

Positive impacts are detected statistically in table 41 where we notice an ascending level in English grammar performance among the respondents in the aftermath of the grammar teaching treatment. Before the treatment, the mean value was 7.44, which is considered low compared to the average. Additionally, the individuals' scores' variance from the mean is shown by the standard deviation, which is 3.32. By contrast, the raw mean of the post-test becomes 11.88 with a standard deviation of 3.80. This entails approximately 3 grades above the average. In terms of the standard deviation, this value is regarded as being outside the range of its normal value. The results show that there is significant diversity in the distribution of values. It can be noted, nonetheless, that the subjects did well on the post-test.

Figure 15. *The Difference between the Pre-and Post-test Scores of the Experimental Group*



In graph 15, there is a noticeable and statistically significant improvement in the overall level of students' grammar performance. The majority of students demonstrated enhancements, with a marked 4.4 value difference, indicating a positive change attributed to the teaching approach employed during the training.

Table 42: Frequency distribution of the experimental groups' test scores

Scores	pre-test experimental group		post-test experimental group		
	Frequency	Valid Percent	Frequency	Valid Percent	
	1	1	5,6	0	0
Valid	3	2	11,1	0	0
	4	1	5,6	0	0
	5	1	5,6	0	0
	6	1	5,6	1	5,6
	7	2	11,1	1	5,6
	8	4	22,2	1	5,6
	9	1	5,6	2	11,1
	10	1	5,6	3	11,1
	11	1	5,6	2	11,1
	12	3	16,7	2	11,1
	14	0	0	2	11,1
	16	0	0	1	5,6
	17	0	0	1	5,6
	18	0	0	1	5,6
	20	0	0	1	5,6
Total		18	100	18	100
Missing	System			18	
Total		36		36	

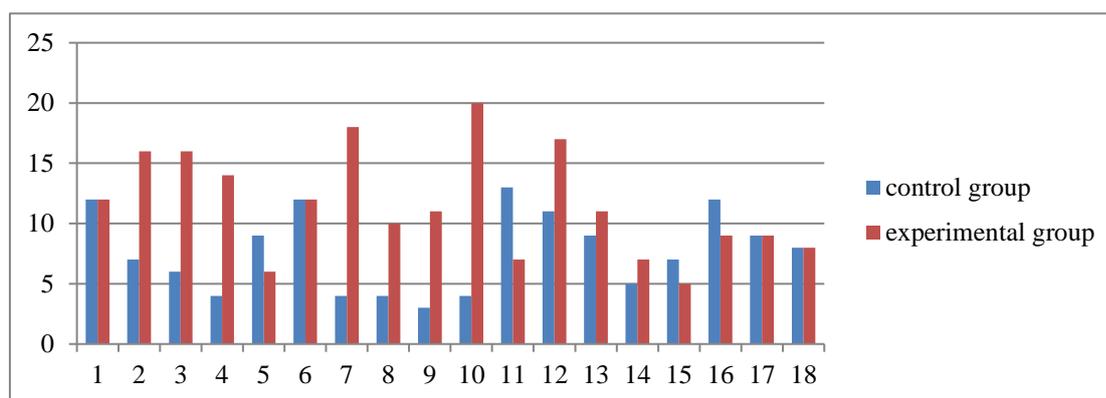
The students in the experimental group scored between 7 and 20 in the post-test. The minimum score of 7 occurred once, representing a 5% rate, and the maximum score of 20 also occurred at a 5% rate. 11 score categories can be identified. There were seven score categories that had identical frequencies: 9, 11, 12, and 14. Each score appeared twice, representing 12%

of the total. Only five students scored below the average, accounting for 27% of the total. In other words, 73% of the students scored above the average.

5.1.1.3. Experimental Group and Control Group: Evaluation

The raw means of the experimental group and the control group following the treatment are shown in figure 16.

Figure 16: The difference between the control and the experimental group post-test scores



The comparison of the performance of both groups after the intervention reveals a significant difference and a remarkable improvement at the level of the experimental group that exceeds the scores of the control group with almost all the students with the best score achieved (20). In fact, this change indicates that the approach adapted with the experimental group was beneficial and effective in enhancing their grammatical performance level, and the PPP approach that the control group was following did not bring any achievement in their performance.

Figure 17: *The Raw Mean of both Groups before and after the Treatment*

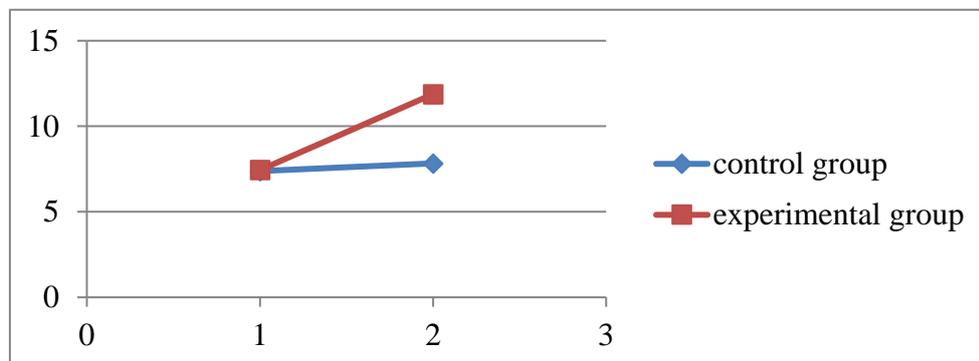


Figure 17 presents the raw means of the pre-test and post-test of the experimental group and control group. The graph shows a clear distinction in the level of performance between the two groups. While they started nearly with the same level, the experimental group ended with a remarkable improvement. The control group; however, ends almost where they began. This significant difference may suggest that the experimental group with the experiential learning could enhance the students' grammar performance.

5.1.2. Analysis of the Strategy Questionnaire

This section is devoted to the analysis and interpretation of the results obtained from both descriptive statistics and inferential statistics driven from IBM SPSS version 26.

This questionnaire was administered to the experimental group only to diagnose any difference in strategy use among the participants before and after the treatment. It consists of 37 items asking respondents to indicate their agreement with a particular statement. They are divided into three main categories based on the type of strategies which are as follows: meta-cognitive, cognitive, and socio-affective strategies.

Before embarking into the statistical analysis of the questionnaire, reliability must be checked.

Reliability		
Scale	N of Items	Cronbach's Alpha
Likert scale	37	,990
Total	37	>.700

The Cronbach's alpha reliability test for the students questionnaire achieved $.990 > \alpha = .70$ as identified in the table. Termed differently, the questionnaire assumed to have a good consistency in the scale data.

Descriptive tests, the first type of statistical tests, calculate the average score, standard deviation, and standard error mean of each response. If the mean score is above three, it shows that the participants agree with the statement, but if the score is below three, it indicates that the participants disagree with the statements.

5.1.2.1. Experimental Group Use of Grammar Learning Strategies before the Treatment

This section is devoted to present the results of the strategy used by the experimental group before the treatment. It entails the metacognitive, cognitive, and the socio-affective strategies.

- **Metacognitive strategies**

This construct contains five statements that learners use to manage the learning process overall. They involve knowing about learning and controlling learning through planning, monitoring, and evaluation. Table 43 provides a descriptive analysis of the participants' answers

Table 43: Descriptive Statistics of metacognitive strategies before the treatment

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
MM	18	2,3333	,19803	,84017
MSA	18	2,0000	,19803	,84017
MP	18	2,6667	,24254	1,02899
ME	18	2,1111	,26678	1,13183

MSA	18	1,8889	,25423	1,07861
Valid N (listwise)	18	2.196	,214.	,984

The overall mean of this construct is 2.19, which denotes that most of the participants did not agree with these strategies. Monitoring and evaluation seem to have the same mean as they range between 2.33 and 2.11 with standard of deviation equals .84, which indicates that the participants' answers clustered to the mean. The statement "*I prepare for the grammar rule that will be covered before coming to class*" obtained the highest mean 2.66, yet it is below the average. The lowest rate (1.88) was received by the statement "*I pay attention to grammar structures when reading and listening*". The findings reveal that the students are not interested in grammar for they focus on grasping the general meaning of the text while reading, they did not also prepare the lessons which might be attributed to the method of grammar instruction.

- **Cognitive strategies**

Twenty four statements of this construct are categorised under twelve cognitive strategies which involve the manipulation or transformation of the material to be learned, Findings in table (44) show that most students agree that repetition is the most used strategy (4.88), for it could help them retain the grammatical rules, which is explicitly stated in the following utterance: "*I memorize a new grammar rule by repeating it several times to myself*". Such a view reflects the belief that grammar is about memorizing not understanding and analysing. To achieve this goal, they take note and write the teacher's explanation which also got a high mean with a rate of 4.38 as well as using the cognitive strategy practicing; "*I practice repeating the correct form*"; which receives a mean score of 3.5. Such practice is mechanical because when they were asked about practicing grammar through writing new sentences or compositions, they express their disagreement since their means are 2.33 and 2.11 respectively.

Table 44: Descriptive Statistics of cognitive strategies before the treatment

	N	Mean	Std. Deviation
	Statistic	Statistic	Std. Error
CAE	18	3,28	,211
CAE	18	2,8333	,31571
CAE	18	2,1667	,33578
CIG	18	2,7778	,17255
CI	18	3,0000	,28006
CTX	18	2,3889	,36280
CTX	18	2,2222	,27482
CCtx	18	2,1667	,27116
CCtx	18	3,2778	,33142
CCtx	18	3,0000	,29149
CInd	18	1,3889	,20031
CInd	18	2,0556	,23532
CAR	18	3,2778	,21090
CAR	18	2,0000	,26813
CG	18	2,6667	,28006
CRs	18	2,1111	,22707
CRs	18	2,4444	,27083
CSN	18	4,3333	,24254
CR	18	4,8889	1,02864
CR	18	4,3889	,21601
CC	18	3,5000	,28296
CPrc	18	2,8333	,37268
CPrc	18	2,3333	,29149
CPrc	18	3,5000	,37268
Valid N (listwise)	18	2,86815	0,30610042
			1,29866417

Among the least used strategies are the top-down ones like inferencing (2.77), elaboration (2.16), and transfer (2.22), together they lead to process the strategy induction which, based on the informants responses, recorded the lowest mean with a rate of 1.38 with SD of .84 that denote the cluster of the respondents around the mean; contrastively, we notice that imagery and contextualization, being a top-down strategies, gained agreement among the

participants with a mean rate of 3.27. Moreover, grouping and reasoning obtained low means 2.66 and 2.00 respectively.

In general, the participants had mixed beliefs about the use of the cognitive strategies with an overall mean score of 2.86, while they agree on the use of repetition, practicing, and contextualization, from one hand, they disagree on the use of indication, reasoning, and inferencing, on the other hand. Such beliefs might be affected by the way their teachers provide the lectures

- **Socio-affective strategies**

The last type of strategies consists of three sub-categories that are distributed over eight statements. The findings in table 45 indicate that high proportion of the students is in favor of using socio-affective strategies with an overall mean of 3.82. Asking for clarification gained the highest mean score (4.11), which entails teacher's help, "*I ask my teacher to repeat the explanation of the new grammar rule when I do not understand it*", and friends' help, "*I ask my friends for help when I do not understand my teacher's explanation of a grammar rule*".

Corporation strategy which is identified in statements number 15, 34, and 37 recorded different means. While "I try to help others when they have problems with understanding or using grammar" and "I prefer working on grammar tasks alone rather than working with classmates" scored 3.0 which indicate students' agreement, "I understand grammar better when studying with a friend or a relative" obtained the lowest mean with a rate of 2.83. The last category 'attitude towards grammar' witnessed a discrepancy in the respondents' answers; from one hand, they agree with the statement "I encourage myself to practice grammar when I know I have problems with a structure" which shows a positive attitudes towards the difficult grammar element. On the other hand, they demonstrate negative attitudes towards these difficult grammar components for the statement "I replace the grammar rule that I am not sure

of with another one that I already know when writing or speaking” gained a mean of 3.61 value.

Table 46: Descriptive Statistics of socio-affective strategies before the treatment.

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
SAC	18	3,0556	,34747	1,47418
SAA	18	3,6111	,21601	,91644
SAAC	18	4,0556	,29674	1,25895
SAAC	18	4,1111	,31195	1,32349
SAA	18	3,0556	,34747	1,47418
SAC	18	3,0000	,38772	1,64496
SAAC	18	3,6111	,29304	1,24328
SAC	18	2,8333	,37268	1,58114
Valid N (listwise)	18	3.82	.32	1.36

5.1.2.2. Experiential Group Use of Grammar Learning Strategies after the Treatment

In this section, we will analyze and discuss the outcomes of the GLS employed by the experimental group after the implementation of the treatment. This encompasses an examination of the metacognitive strategies, cognitive strategies, and socio-affective strategies that were deployed.

- **Metacognitive Strategies**

After the intervention, the overall mean of the metacognitive strategies witnessed an increase (3.68). in fact, the means of all statements increased. Firstly, most of them agree that they use planning, for it gets the highest mean (4.22); whereas, it was among the least used strategies before the treatment. Moreover, based on table 47 findings, monitoring “*I identify the grammar rules that I face difficulty with and exert an effort to understand them better*”

achieved a high score, likewise the metacognitive strategy selective attention (3.27) where most of respondents agree that they pay attention to grammatical rules while they are reading for pleasure

Table 47: Descriptive Statistics of metacognitive strategies after the treatment.

	N	Mean	Std. Deviation
	Statistic	Statistic	Std. Error
MM	18	3,7778	,24991
MSA	18	3,8333	,25883
MP	18	4,2222	,19055
ME	18	3,3333	,32338
MSA	18	3,2778	,33142
Valid N (listwise)	18	3,68888	0,270818

Hence, a new prospective is being detected by the participants as they try to manage and manipulate the grammar learning process using these meacognitive strategies.

- **Cognitive Strategies**

The descriptive statistics shown in table 48 indicate that the overall mean of the cognitive strategies after the intervention is of 3.83 with SD of 0.99, which denotes an agreement among the participants on the use of these strategies.

The participants in the study overwhelmingly favored the use of the induction strategy, which received a high score of 4.55. Such strategy is the culmination of many other strategies such as grouping, analysing and reasoning, which were also reported to be highly effective, scoring 3.97 and 4.55 respectively. These findings suggest that participants rely on a process of learning grammar structures that involves multiple integrated strategies. In the same vein, the top-down strategies marked a step forward in the students' use of strategies like elaboration that obtained a score of 4.33, inferencing with a mean rate of 4.16, and transfer that gained a score of 4.38.

As can be noticed from the table that the majority of the respondents disagreed or strongly disagreed with the statement “*When I learn a new grammar rule I compare it with its correspondent rule in Arabic*” with a mean score of 2.27, they also disagree with the statement “*I consult grammar books for better understanding of the new grammar rule*”. This means that the learners have a grasp of what works for them and what doesn't when they're learning English.

Table 48: Descriptive Statistics of cognitive strategies after the treatment

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
CAE	18	3,61	,270	1,145
CAE	18	3,7222	,27778	1,17851
CAE	18	4,3333	,18078	,76696
CIG	18	4,1667	,20211	,85749
CI	18	3,7222	,31108	1,31978
CTX	18	2,2778	,34114	1,44733
CTX	18	4,3889	,11824	,50163
CCtx	18	4,1111	,25423	1,07861
CCtx	18	3,5556	,29397	1,24722
CCtx	18	3,6111	,21601	,91644
CInd	18	4,5556	,12052	,51131
CInd	18	4,2778	,19479	,82644
CAR	18	4,2222	,20699	,87820
CAR	18	4,5556	,12052	,51131
CG	18	3,9444	,23532	,99836
CRs	18	2,0000	,28006	1,18818
CRs	18	3,5000	,30518	1,29479
CSN	18	4,4444	,16612	,70479
CR	18	3,7778	,26266	1,11437
CR	18	3,8889	,29024	1,23140
CC	18	4,3889	,11824	,50163
CPrc	18	4,0000	,24254	1,02899
CPrc	18	3,3333	,31311	1,32842
CPrc	18	3,5556	,29397	1,24722
Valid N (listwise)	18	3,830975	0,23398333	0,9926825

Socio-affective Strategies

Based on the findings, it can be observed that a vast majority of the students express agreement with the concepts outlined in the construct. The data reflects an average mean of 3.625, suggesting a strong consensus among the students regarding the stated statements.

Table 49: Descriptive Statistics of socio-affective strategies after the treatment

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
SAC	18	3,6667	,29149	1,23669
SAA	18	2,7778	,32895	1,39560
SAAC	18	4,0000	,31311	1,32842

SAAC	18	4,6111	,14323	,60768
SAA	18	3,6111	,32478	1,37793
SAC	18	3,7778	,28647	1,21537
SAAC	18	2,7222	,33142	1,40610
SAC	18	3,8333	,37268	1,58114
Valid N (listwise)	18	3,625	0,29901625	1,26861625

In the results, it is evident that the respondents strongly agreed with two specific statements. The first statement, "I ask my teacher to repeat the explanation of the new grammar rule when I do not understand it," received a mean score of 4.00, indicating a high level of agreement. The second statement, "I ask my friends for help when I do not understand my teacher's explanation of a grammar rule," received an even higher mean score of 4.61, demonstrating an even stronger agreement from the respondents. Additionally, the respondents displayed positive attitudes towards using complex grammatical structures, as evidenced by their responses to specific statements. However, it is worth noting that when asked about the statement "I replaced the grammar rule that I was not sure of with another one that I already knew when writing or speaking," the respondents gave it the lowest score of 2.77.

5.2. Hypotheses Testing

This section focuses on examining and making sense of the findings acquired from two data collection tools: the test and the strategy questionnaire. Its objective is to test the research hypotheses put forward in this study, which primarily involve assessing the statistical significance between the average scores of the samples and the variances between the experimental group and the control group in terms of grammar proficiency and strategy utilization.

5.2.1. Hypothesis Testing of the Grammar Tests Scores

In this section, we will thoroughly analyze and interpret the results obtained from the tests. We will use inferential statistics to test the research hypothesis raised in the current study, aiming to reveal and illustrate differences between the experimental group and the control group in grammatical proficiency. When determining the appropriate inferential statistics to be conducted in any research, it is essential to consider specific assumptions. One type of parametric statistics that will be utilized is the independent sample t-test. This test is chosen to verify statistical significance, which is defined as "a probability ratio that indicates the likelihood of finding a specified relationship among variables in a data set" (Lowen and Plonsky, 2016, p.182). The independent sample t-test will provide statistical values that can be used to either reject or maintain the null hypothesis.

5.2.1.1. The Test of the Normality

For the present study, the independent t-test is conducted, for all its assumptions are met

1. A continuous dependent variable: the current study is a quasi-experimental study that investigates the effect of using experiential learning on enhancing students grammatical competence where there are two independent group, experimental and control, which represent the independent variables, and the test scores before and after the treatment.
2. The nature of distribution: The independent t test relies on the normal distribution assumption, which can be assessed through visual examinations like histograms and boxplots, as well as through statistical tests such as the Kolmogorov-Smirnov and Shapiro-Wilk tests. The test for normality indicates whether most scores on a variable cluster around the mean and whether the number of scores on each side of the mean diminishes equally in a predictable mathematical manner.

Table 50 shows the Kolmogorov-Smirnov test p-value and the Shapiro-Wilk test p-value. The null hypothesis for the Kolmogorov-Smirnov Shapiro-Wilk test is that the sample comes

from normal distribution, if the observed sig is low than the critical value ($\alpha = 0.05$) the null hypothesis is rejected so samples are from populations that do not have a normal distribution; whereas, if the $\text{sig} > 0.05$ is larger than α , the data set is normally distributed.

Table 50: Results of the Normality test

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Pre-test	,110	36	,200*	,976	36	,605
Post-test	,117	36	,200*	,951	36	,116

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

For the pre-test results, $W(36) = .97$, $p = .605$ which is larger than α . Henceforth, the null hypothesis is maintained, indicating that data are normally distributed. Similarly, the post-test results were found to be normally distributed as shown by the Shapiro-wilk test, $W(36) = 0.9$, $p = .116$. The Kolmogorov-Smirnov test yielded a p-value of 0.200. This is a substantially higher value than 0.05 $p = .200 > .05$ which accepts the null hypothesis under the assumption of a normal distribution of data. Termed differently, the second assumption was met.

3. Homogeneity of variance: Levene's Test can be used to evaluate whether the variances of two samples are roughly the same. It tests a null hypothesis that there is no difference between the group variances. If the p-value is higher than 0.05, this indicates that Levene's test is not significant, and we assume that the variances are equal. On the other hand, if the p-value of Levene's test is less than 0.05, it suggests that the variances are not homogeneous.

Table 51: Levene's Test for Equality of Variances

	F	Sig.
--	---	------

Pre-test scores	Equal variances assumed	1,163	,288
Post-test scores	Equal variances assumed	1,938	,173

As displayed in table 51, the null hypothesis is maintained since $\text{sig} = 0.28 > 0.05$ for the pre-test as well as for the post-test since $p = 0.17$ which is greater than $\alpha = 0.05$. The finding of Levene's test indicates that the variance's homogeneity assumption is satisfied.

The Independent T-Test Results

When analyzing the data we collected for our study, we performed a t-test to compare the results of the two groups. We used the probability of the degree of variance of results between groups to determine the significance of the difference. This significance level, at which the null hypothesis is rejected, is set at $p < .005$ for this study. To calculate the test statistic and the p-value, we will be using SPSS software.

- **Control and Experimental Group Pre-test**

H0: There is no statistically significant difference between the experimental group and control group in the results of the grammar pre-test.

- Or (H0: $\mu_1 = \mu_2$)

- H1: There is a statistically significant difference between the experimental group and control group in the results of the grammar pre-test.

- Or (H1: $\mu_1 \neq \mu_2$)

Table 52 summarises the output results of the Independent Samples t-test.

Table 52: Independent Samples Test of pre-tests

	t-test for Equality of Means					
	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper
Pre-test	,056	34	,955	,05556	,98804	-1,95238 2,06349

scores	,056	32,026	,956	,05556	,98804	-1,95695	2,06806
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Table 52 reveals a level of significance of p-value=0.955 (Sig. 2-tailed). This p-value, which is greater than alpha 0.05 ($p\ 0.955 > \alpha\ 0.05$), leads to retain the null hypothesis.

As a result of the analysis, it was determined that there was no significant difference in the pretest results between the experimental group and the control group. In other words, prior to the experimental procedure, both groups demonstrated equivalent levels of knowledge regarding dependent clauses.

- **Control and Experimental Group Post-test**

The main objective of this research was to assess how experiential learning influences the grammar proficiency of Algerian EFL students. To this end, the following hypothesis has been devised: experiential learning would enhance EFL students' grammar competence. Since the levels of the experimental group and control group before the treatment were assumed to be equal, the analysis of the post test would bring any justification about the differences in the results.

H0: There is no statistically significant difference between the experimental group and control group in the results of the grammar post-test.

- Or (H0: $\mu_1 = \mu_2$)

- H1: There is a statistically significant difference between the experimental group and control group in the results of the grammar post-test.

- Or (H1: $\mu_1 \neq \mu_2$)

Table 53. Independent Samples Test of post-tests

t-test for Equality of Means

		T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
post	test	3,454	34	,001	4,16667	1,20645	1,71487	6,61847
scores		3,454	33,177	,002	4,16667	1,20645	1,71262	6,62071

An independent t-test was conducted (table 53) to compare the grammar performance for experimental group and control group. There were significant differences ($t(34) = 3,454$, $p = ,001$) in the scores with mean score for experimental group ($M = 11.88$, $SD = 3.89$) was higher than the control group ($M = 7.83$, $SD = 3.39$). The magnitude of the differences in the means (mean difference = 4.05, 95% CI: 1.71 to 6.61) was significant.

Here, we observed a difference that is 3.45 times as large as the average difference expected by chance. Comparison of the result using the table of the standard scores of the t-value in appendix H where the degree of freedom is $df = 34$ of a t-value of $p.005$ is 2.75, is due to chance.

The observed ratio of $t = 3.45$ is greater than 2.75 which means that the difference between experimental group and control group is greater than the value required to reject the null hypothesis at the .005 level of significance. The estimated probability of the null hypothesis being true is less than .05% ($p < .005$). Thus we would reject the null hypothesis. In other words, the experimental group outperformed the control group in grammar performance. The knowledge level of the experimental group about the concepts learned was better than the control group. Based on this result, it can be deduced that using experiential learning while teaching grammar is more effective than PPP method.

5.2.1.2. Practical Significance

In their 2018 study, Cohen et al emphasized the importance of assessing statistical significance alongside effect size. While statistical significance determines whether a result is likely to have occurred by chance, effect size provides insight into the strength or magnitude of a relationship. One common method for measuring effect size is Cohen's *d*, particularly when conducting difference tests. In our specific study, where we have equal sample sizes of 18 in each group and similar standard deviations (SD of 3.80 for the experimental group and 3.39 for the control group), Cohen's *d* is the appropriate test to use. After calculating Cohen's *d*, we can compare it to effect size guidelines to interpret the results accurately.

Table 54: Cohen's Effect Size Guidelines

Values	0–0.20	0.21–0.50	0.51–1.00	>1.00
Effect size	weak effect	modest effect	moderate effect	strong effect

For the current study, Cohen's *d* was calculating using IBM SPSS 26 through saving standardized values as variables, then getting the mean difference of the Z score via running an independent sample t-test. The results are presented in table 55.

Table 55: Independent Samples Test of the Z score

	T	Df	t-test for Equality of Means			95% Confidence Interval of the Difference	
			Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Zscore(post1) post test scores	3,454	34	,001	1,004 97401	,29098798	,41361529	1,5963327 3
	3,454	33,177	,002	1,004 97401	,29098798	,41307420	1,5968738 2

Comparing the results to the guidelines reveals that the mean difference is $1.00=1$ that symbolizes a large effect size which, in turn, denotes a very strong effect size. In a nutshell, the proposed model effectively helped the experimental group enhance their grammatical performance.

5.2.2. Hypothesis Testing of the Strategy Questionnaire

Descriptive statistics shows an existing improvement through the means of both the pre-questionnaire and the post-questionnaire, on one hand. On the other hand, inferential statistics were deployed which would result in a more accurate data. To this end, we conducted an inferential statistics test of normality to opt for the suitable test to verify the hypothesis.

5.2.2.1. The Test of the Normality

Table 56 displays the Kolmogorov-Smirnov and the shapiro-wilk test findings. These tests show a statistically significant violation of the normality since the sig or p-value is less than 0.05 with most statements. Hence, the null hypothesis, which assumes that there is no difference in the sample distribution, is rejected. Thereafter, the assumptions underpinning a parametric test have not been met, and then it is often wiser to revert to an equivalent non-parametric test.

Table 56: Tests of Normality of strategy questionnaire results

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
CAE	,289	18	,000	,866	18	,015
CG	,213	18	,031	,916	18	,108
CTX	,266	18	,001	,802	18	,002
CCtx	,335	18	,000	,806	18	,002
CIG	,245	18	,006	,802	18	,002
CAR	,289	18	,000	,866	18	,015
CR	,359	18	,000	,713	18	,000

CAE	,178	18	,139	,904	18	,068
CSN	,353	18	,000	,687	18	,000
CAR	,255	18	,003	,795	18	,001
CTX	,187	18	,097	,871	18	,019
CAE	,294	18	,000	,789	18	,001
CR	,434	18	,000	,417	18	,000
CPrc	,210	18	,034	,849	18	,008
SAC	,152	18	,200*	,888	18	,035
CInd	,454	18	,000	,540	18	,000
CPrc	,193	18	,075	,883	18	,029
CRs	,211	18	,034	,855	18	,010
CCtx	,167	18	,197	,893	18	,043
MM	,231	18	,012	,875	18	,022
CPrc	,235	18	,010	,815	18	,003
CRs	,186	18	,102	,863	18	,014
SAA	,220	18	,021	,891	18	,040
MSA	,216	18	,026	,801	18	,002
CCtx	,180	18	,130	,922	18	,142
CI	,222	18	,019	,890	18	,039
MP	,206	18	,041	,914	18	,100
ME	,261	18	,002	,842	18	,006
CC	,217	18	,025	,907	18	,077
MSA	,295	18	,000	,787	18	,001
SAAC	,273	18	,001	,761	18	,000
SAAC	,305	18	,000	,706	18	,000
SAA	,152	18	,200*	,888	18	,035
SAC	,221	18	,020	,826	18	,004
CInd	,244	18	,006	,833	18	,005
SAAC	,201	18	,052	,880	18	,026

5.2.2.2. Wilcoxon Signed Ranks Test Results

The main aim of this section is to investigate the effect of the proposed model on EFL learners' grammar learning strategies, which is interpreted in the following hypotheses:

H0: there is no statistically significant change in the use of grammar learning strategies of the experimental group after the intervention

- Or (H0: $\mu_1 = \mu_2$)

H1: there is a statistically significant change in the use of grammar learning strategies of the experimental group after the intervention

- Or (H1: $\mu_1 \neq \mu_2$)

According to Lowen and Plonsky (2016, p. 203), Wilcoxon Signed Ranks Test is a non-parametric statistical procedure comparing two sets of scores from the same participants when the data are not normally distributed. It is equivalent of a dependent or paired samples **t-test**, which may be used to investigate the differences between one group's **pretest** and **posttest** scores or the performance on two different data elicitation measures.

Table 57: Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
post-questionnaire grammar learning strategies	Negative Ranks	0 ^a	,00	,00
- pre- questionnaire grammar learning strategies	Positive Ranks	18 ^b	9,50	171,00
Ties		0 ^c		
Total		18		

a. post- questionnaire grammar learning strategies < pre- questionnaire grammar learning strategies

b. post- questionnaire grammar learning strategies > pre- questionnaire grammar learning strategies

c. post- questionnaire grammar learning strategies = pre- questionnaire grammar learning strategies

Test Statistics^a

	post-questionnaire GLS - pre- questionnaire GLS
Z	-3,724 ^b
Asymp. Sig. (2-tailed)	,000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

The Wilcoxon statistic was calculated to determine whether there was any statistically significant difference in the use of strategies as a result of the treatment. It was revealed a statistically significantly positive change in strategy use, $z = -3.72$, $\rho = 0.000$). Subsequently, the alternative hypothesis was retained where it could be interpreted as the success of the treatment the experimental group underwent following the experiential learning approach. The question that might come to light is if there is any correlation between the type of used strategies and the level of the participants in the grammar performance.

5.2.3. Results of the Correlation

Correlation is a numerical measure that specifies the relationship between two or more variables. Correlations assume that there is a linear relationship between the variables, which is determined using the correlation coefficient represented as r that ranges from -1 to 1. As such, a positive correlation, where the correlation coefficient r is close to one, indicates that as one variable increases, the other variable increases as well. Abiding to the methodological and statistical guidelines and according to the findings of table (normality test for strategy questionnaire), where most of the statements are not normally distributed, we should use non-parametric statistical test of Spearman correlation rather than Pearson correlation to determine the relationships between the posttest scores of grammar performance and the use of strategies in the aftermath of the treatment.

5.2.3.1. Spearman's Test Results

Spearman's rank order correlation was run to examine the relationships between level of grammar performance and metacognitive, cognitive, and socio-affective strategies.

Table 58: Spearman's test results between posttest scores and metacognitive strategies

			Posttest	Post mean metacognitive
Spearman's rho	Post-test	Correlation Coefficient	1,000	,310
		Sig. (2-tailed)	.	,211
		N	18	18
	Post-metg	Correlation Coefficient	,310	1,000
		Sig. (2-tailed)	,211	.
		N	18	18

Table 58 demonstrated a spearman's rho correlation between the posttest scores of the experimental group and the used metacognitive strategies after the intervention. The results show that a small positive correlation is found $r=,31$ with $p=0.21>.05$ which means that it is not statistically significant. Therefore, the null hypothesis is maintained.

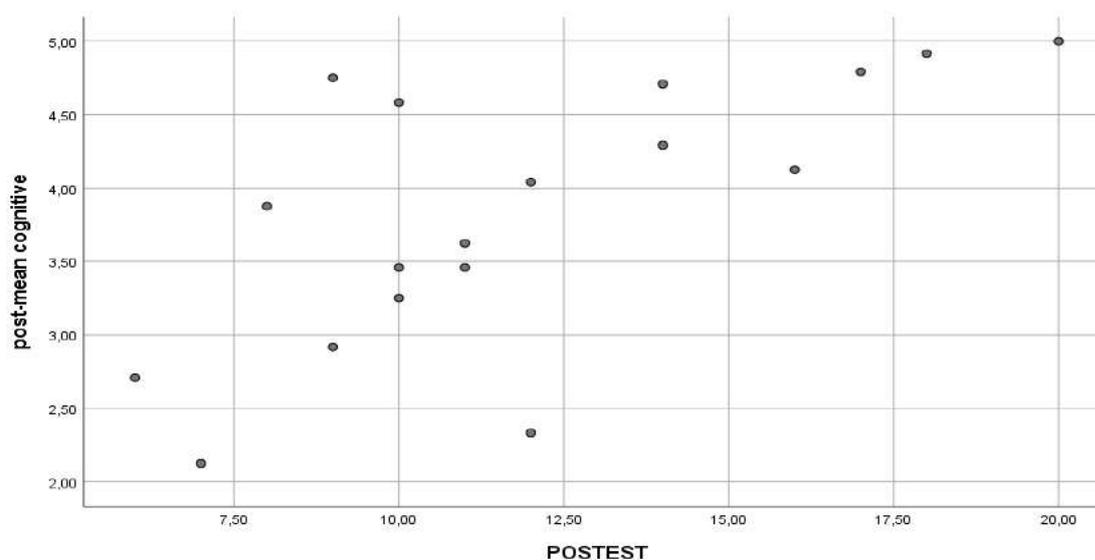
Table 59: Spearman's test results between posttest scores and cognitive strategies

			Posttest	post-mean cognitive
Spearman's rho	POSTEST	Correlation Coefficient	1,000	,674**
		Sig. (2-tailed)	.	,002
		N	18	18
	post-mean cognitive	Correlation Coefficient	,674**	1,000
		Sig. (2-tailed)	,002	.
		N	18	18

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

Results displayed in table 59 show a significant positive correlation between the scores and the cognitive strategies $r(18)=.67$, $p<0.05$. Figure 18 shows a scatterplot displaying the relationship between the two measured variable.

Figure 18. scatterplot displaying the relationship between the posttest mean and the cognitive strategies



In the scatterplot, we can observe a clear, consistent relationship between the posttest scores and the use of cognitive strategies. As the posttest scores increase, there is no decrease in the use of cognitive strategies. This suggests a strong positive linear correlation, indicated by the direction, strength, and form of the fit line in the plot.

Table 60: Spearman's test results between posttest scores and socioaffective strategies

			posttest scores	post-mean socioaffective
Spearman's rho	posttest scores	Correlation Coefficient	1,000	,734**
		Sig. (2-tailed)	.	,001
		N	18	18
	post-mean socioaffective	Correlation Coefficient	,734**	1,000
		Sig. (2-tailed)	,001	.
		N	18	18

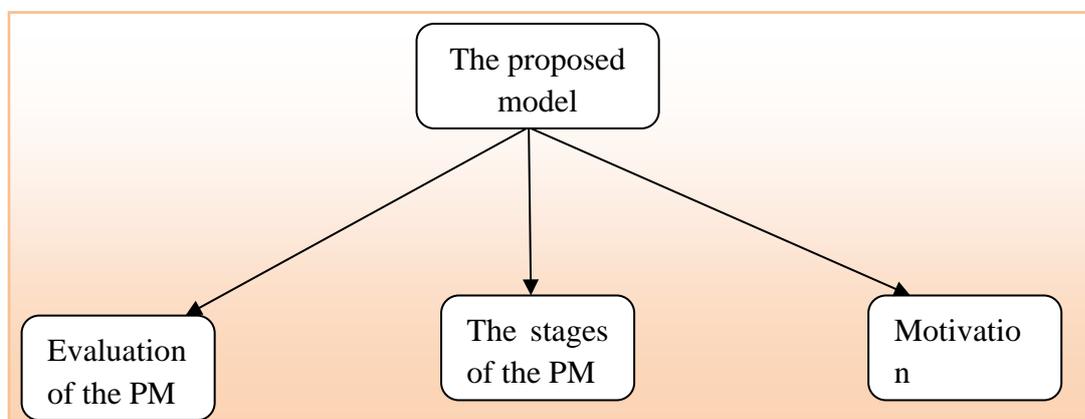
** . Correlation is significant at the 0.01 level (2-tailed).

In the analysis, the results from table 60 showed a strong positive correlation between the posttest scores for grammar performance and the utilization of socioaffective strategies following the intervention, with a correlation coefficient of $r = 0.73$ and a p-value of 0.001, which is less than the significance level of 0.05.

5.3. The Qualitative Findings: The Analysis of the Focus Group Findings

This section of the result chapter presents the findings that were generated by the focus group. The focus group aimed to capture the participants' perceptions and attitudes regarding the proposed model and its efficacy in enhancing their grammatical competences. After coding the students' responses, three main themes have been pinpointed, which are projected in the upcoming figure.

Figure 19: *The main themes of the focus group*



5.3.1. The Participants' perceived evaluation of the proposed model

The participants gave their consent regarding the effectiveness of the proposed model and expressed their satisfaction with its implementation. According to them, this innovative approach to learning grammar encourages active participation. They appreciated the

opportunity to independently think about and write the rules. For example, R1 stated, “I was engaged throughout the sessions; it is more effective than simply being given the rule and then doing the exercise.” Similarly, R3 mentioned, “This approach is unique because we are the ones discovering the rules, which is more beneficial for me.” R2 also recognized the inductive method as an effective way to engage learners in the learning process, stating that it helped her to retain and recall the rules without needing to review them, saying, “It stuck in my mind.”

Notwithstanding the favorable viewpoints, it should be noted that certain individuals encountered difficulties at the beginning of the session. “in fact, the first two sessions, it was hard for me to get it right, but later it goes cool” and “personally, it was hard for me, I’m used to the old method” are examples of such negative attitudes towards the proposed model which might be due the teacher-centred approach they are used to expose to; it is explicitly said by R5 “some of us did not like it because we were used to the way that the teacher explains and we practice since primary school; we are counting on the teacher”. Consequently, changing the students’ beliefs about their capacities and orienting them towards autonomous learners was challenging at the beginning.

The interviewees made a comparison between the current teaching method and the newly introduced one, where they asserted that there is a huge difference between the two. The method they were used to follow which falls under the deductive approach, according to them, was not effective, for they only receive the lessons without really understanding the rules, in addition to the feel of boredom. On the other hand, this new experience they went through was completely distinctive as it made them active, for they are the ones who discover the rules and verify their assumptions.

The participants in the focus group agree that the proposed model is not about rote memorization rather about thinking and understanding that stands for a deep approach to

learning, for they show interest in the subject “now, I like grammar module”, “I were paying attention to other’s answers”. They claim they seek to understand the rule by themselves as they make connections between existing and new findings.

5.3.2. The stages of the proposed model

On the question to express their opinions about the stages of the model, the students’ answers were almost similar to not only remember the experience, but also to retain what they learnt from it and the different stages used in the proposed model. The stages, based on informants’ transcripts, were:

“The stages were helpful, and it seems to be more scientifically oriented, the same procedures to be done when I was in high school” R1

“Yes, they are good. First of all, you bring to the fore the information you had about the topic, and at the end, you get to the conclusion which might be either correct or wrong, so you can correct your mistakes” R3

“We are part of the lecture, we are cognitively and physically present” R9

Such claims denote the effectiveness of the model’s stages in empowering the students with appropriate strategies to be used while learning new grammatical items. Among the metacognitive strategies, being expressed by the participants, is their awareness of their thinking processes as they were learning; “we think before we go through the rule” statement of R6 entails planning strategies, while R2’ response “we use our minds and think how to look for the answer and how to correct the mistakes that we actually do” and “actually we understand what we were actually doing”, claimed by R3 are samples of the use of monitoring strategy.

The students further elaborated on some of the cognitive strategies that they thought they were using while adopting the proposed model. The process of thinking and activating the mind to grasp the rule can be through different ways; such as “comparing the target rule to the

Arabic one” R1 which entails the cognitive strategy transfer and translation. Concentrating on the wrong rules and correcting them” R2 which is about activating the appropriate schema to be either modified or refined to the correct one, or created as it is new like it was claimed by R3 “my previous knowledge was missing, so I added this new information to have the full package”. Another cognitive strategy is induction which was the strategy agreed upon by all students as they claim “ we are the ones who will try to discover the rules”, elaboration and inferencing were among the mentioned strategies as well; the respondents strengthen the use of previous knowledge to guess the target rule.

The respondents emphasized the positive effect of doing the task by themselves as they postulate “in fact, it makes you remember the lesson easily because we do and write the rules with our own way and in our own words, hence I can remember it”. Therefore, the culmination of such processes changes their beliefs from being only receivers to active participants in the teaching learning process as R5 claims “it awakes our self-confidence”.

The difficulties they encountered during the treatment were attributed to the activation of the appropriate schema being in relation with the target structures because they found it difficult to recall what they labelled “forgotten information” which, in turns, leads to another obstacle that is frustration as indicated by R9 “he tries once, twice, and then gives up”, as well as time for they claim it is time consuming. However, as they mentioned, all these hindrances are due the method their teachers were applying, for they acted as merely recipients who do not use any previous knowledge to help understanding the target structures; instead, they are received uncritically, mechanically memorized and repeated.

Being involved in the teaching learning process, the interviewees positively confirmed that they use the learnt target structure to new situations and contexts. R1, for example, states “especially with civilization module, I found long sentences, I try to divide them into clauses to make the image clearer”, R2, also claims “I start using the clauses in my writing and notice

the different types of them when reading”, “it makes apparent to notice the different clauses in paragraphs; however, it was unintentionally done, I also try to use clauses in my writing because they give more value to the piece of writing” asserted by R3 are but evidence of the effectiveness of the proposed model in the transfer of the explicit learnt knowledge to be implicit.

In the same vein, the respondents report their enthusiasms as they assert the ease of remembering the target structure; “the lecture stuck in my mind because it was we who discovered the rule, so it was impossible to forget it”, “when I go home, I am not obliged to revise the lesson because it is stuck in the mind”. Henceforth, the experience the participants went through helps to anchor the information in their brain so that the use of the target structure either in writing or reading will be easy.

5.3.3. Motivation

It is generally agreed upon that students who participate actively in the learning process and display enthusiasm for their academic studies are more likely to achieve higher levels of education. All the informants expressed their joyful and excitements while they were studying grammar, which was noticed in their reports about their classmates’ participations and engagements, R1 stated “many of the students were not used to participate in the grammar session; however, with this method they try to ask questions and participate”, another participant said “it’s like a game or a puzzle, I enjoy it” This approach encourages students to go beyond rote memorization and instead analyze and apply knowledge, considering how learning can be effectively utilized in practical situations (Zelechowski et al., 2017, cited in Kong, 2021) which was clearly expressed by R5

“I think that most of classmates are participating and everyone was sharing information about the lecture and we were discussing our answers, we were eager to know the correct answer”.

These reports prove that the respondents feel themselves engaged in the lecture and a powerful number in the learning process. Their thoughts are taken into consideration for they discussed and evaluated; it is a sign of high interest towards the lesson contents especially the discussion stage where they cooperate in generating the rules by exchanging opinions and interacted in open-end discussion with their peers.

Informants' confidence was increased as declared by R5, "I was motivated and confident that I created the rule with our own words". The team spirit was one of the pillars in achieving the objectives of the experiment for the participants exchange their predictions which gave birth to the socio-affective strategies like cooperation and asking for clarification which leads to a sense of power and to a positive perception of themselves as successful language learners.

5.4. Discussion and Synthesis of the Findings

This section presents the findings from the current study, which is divided into five sections, each examining the results of one of the research inquiries. The first section interprets and discusses the data derived from the examination of the questionnaire aimed at eliciting participants' attitudes toward grammar learning and teaching. The second segment interprets and discusses the results obtained from the analysis of the questionnaire on the obstacles and difficulties that the participants face while learning grammar. The third part interprets and discusses the results obtained from the analysis of the grammar achievement tests administered to second-year students before and after the intervention, with a primary focus on the impact of the proposed model on the participants' grammar learning outcomes. The fourth section is dedicated to discussing and interpreting the findings from both the strategy questionnaire before and after the intervention and the focus group, with a focus on the influence of the proposed model on the use of grammar learning strategies. The final section discusses and interprets the results derived from the analysis of the focus group, with a focus

on the impact of the proposed model on the participants' motivation toward the learning process.

5.4.1. Participants' Perceptions towards Grammar Teaching

The core aim of this sub-section is to unravel some conceptions EFL learners hold about grammar as a subsystem of the target language and its significance in the language learning process. The second aim is to diagnose what types of instruction these participants prefer when engaging in the learning-teaching process.

➤ *The Importance of Grammar in Language Learning and Skills*

Overall, the majority of the participants agreed on the pivotal role grammar plays in learning English since it is the skeleton of the language, and without it communication is broken. They valued the conscious knowledge of grammar as being effective in developing their overall proficiency level. The results of this study are in congruence with those of previous studies; Sopin (2015) mentioned that Libyan students had positive attitudes toward grammar instruction. He attributed such perception to the participants' past learning experiences where grammar teaching was explicit. Marlina et al. (2016) found that all the participants stated their agreement on the importance of grammar. According to them, learning grammar ensures learning the basic rules of language, which facilitates communication with others. In a recent study, Rahuma (2023) investigated both teachers' and students' perceptions of grammar teaching-learning. The results showed that both parties insist on the crucial value of grammar has both in language teaching, learning, and communication.

Henceforth, mastering a language necessitates certain structures to be followed; they need to understand it well so that good communication will be attained. Moreover, the participants in the current study stressed the importance of grammar in the production skills of writing and speaking and less to receptive skills. They believe that good grammatical construction is a must in writing.

➤ *Participants' Preference toward Grammar Instruction*

Based on the results of the questionnaire concerning their preferences about the different types of grammar instruction, the participants had differing perceptions regarding whether and how often grammar should be taught in the EFL context. Some of them did prefer the direct explicit approach, while others were in favour of implicit learning.

82% of the participants agreed that the major role of the teacher is to explicitly provide the learner with the grammatical structures. Such belief, along with their agreement on the practicality and efficacy of repeated regular structure exercises, shapes the participants' preference towards deductive approaches to teaching grammar where the students are expected to memorize the rules imparted by the teacher and retain them later in the examination. These conceptions the informants hold can be attributed to their past experiences while learning grammar. The informants also expressed their negative attitudes towards the Krashen theory of natural exposure to language and that grammar can be implicitly grasped. Nevertheless, they agreed on integrating grammar with communicative tasks.

In gauging learners' beliefs about grammar instruction, Loewen et al. (2009) found that the respondents had positive attitudes towards explicit instruction, which, according to them, was due to the context where foreign language learners had fewer opportunities to communicate in the target language outside classrooms. Such findings were mirrored in the study of Polot (2009), who claimed that such preference towards the traditional method was because of performance anxiety and lack of confidence in the learners' L2 proficiency. Once more, in a recent study done by Mansouri et al. (2019), the results revealed that learners were more interested in isolated-form instruction, yet they acknowledged the complementary nature of these approaches.

Acknowledging the importance of grammar in second language learning, respondents to an exploratory study held by Rahuma (2016) showed mixed views concerning the

appropriate way to teach grammar, where they call for both integrated and isolated instruction of grammar. However, Ansarin et al. (2014) found that students' proficiency level plays a crucial role in shaping their beliefs. Their research revealed that advanced learners favored integrated FFI, while beginner learners did not show a distinct preference for either isolated or integrated FFI. In his study, Sopin (2015) concluded that the preference for either approach depends on the proficiency level of the student; those who prefer Focus on Forms instruction are those who think they still need more grammatical knowledge, while those who are in favor of Focus on form instruction considered explicit grammar instruction inadequate in meeting their needs.

5.4.2. Participants' Difficulties and Challenges while Learning Grammar

Most of the students found difficulties in applying the learned grammatical items into the communicative contexts. Such difficulties could be attributed to several factors. The current study divided these factors into two components: internal and external features. The internal factors are linked to the learner aspect, such as motivation, language transfer, and interlingual transfer, while the external factors include teaching strategies, time, and materials used to learn grammar.

The learner's background is considered a major factor influencing grammar learning either positively or negatively. Brown (2000, p. 223) claims that interlanguage transfer is the negative influence of the learner's mother tongue, which is a major source of difficulty students face. Surprisingly, the participants in the current study neglect such a difficulty where more than 50% disagree with the statement. This could be attributed to their awareness of the differences that do exist between these two languages as they derive from two divergent language families, Arabic being the mother language and English being the target language. Such results were in alliance with the finding of Almuhaysh's study (2022), which showed

that students with higher English proficiency levels performed better in answering the questions than those with lower levels. Again, according to him, the more advanced a language learner is in the second language, the less of an impact their L₁ has on their L₂.

The informants agreed that they find it difficult to transfer the learnt grammatical structures into communicative language use. Thereafter, shifting the declarative knowledge to procedural knowledge was a challenge for them. This could be attributed to the methods they are accustomed to while learning grammar. This claim was supported by their answers in the focus group, where they expressed their dissatisfaction with the methods their grammar teachers employed.

One of the major obstacles the informants agree on is the method used to teach grammar, as they perceived it inappropriate. In fact, the effort the learners put into the learning process by memorizing the rules of the language occurs in a stressful environment, where they have to recall all the rules learned by heart without even being active members in the learning process. According to the participants, the strategies used to teach grammar are based on a deductive approach that relies heavily on the teacher to impart knowledge to students who are passive receivers trying to memorize the rules to be later recalled.

Pathan (2014) states that the conventional approach, which is centered around the teacher, which is uninteresting and not engaging, is the reason why learners struggle to grasp and apply grammar rules and structures. Hence, the method used is the cause of the second factor, which is a lack of motivation. Most of the informants declared their demotivation and dissatisfaction with studying grammar. In her study, Qomariah (2019) aimed to find whether there is a correlation between students' motivation and learning grammar; she used a grammar test and a questionnaire to measure students' motivation. She concluded that there is a high correlation between students' motivation and learning grammar; students with high motivation

had grammar higher than those with low motivation. Therefore, it could be expected the low scores the students gain in grammar examinations.

The participants in the present study do have some misconceptions about the nature of learning and the role both teachers and students play in the teaching-learning process. Based on their answers, most of them perceive that the teacher is the first and the only responsible for the whole process. According to them, he has to decide the lectures to be taught, ensure the smooth flow of the lesson, and provide the students with the activities and exercises about the target structure. Moreover, the informants declare that their instructors have to identify their weaknesses. Such beliefs can be attributed to the traditions these participants are used to, such as the deductive approach and the spoon-fed technique, which negatively affect their motivation and learning autonomy. This situation dictates that action needs to be taken to promote learner autonomy.

Pawlack (2017, p. 3) confirms that success in learning foreign language grammar entails being responsible for one's own learning and going beyond the teacher's controlled environment. By applying the proposed model, the researcher tries to raise learners' awareness about the process of learning and teaching grammar and address the difficulties they encounter while learning grammar. Henceforth, she can correct some misconceptions and try to build their learning identities as powerful and eventually autonomous learners. Metacognition has been widely described as the understanding and management of one's own cognitive processes, involving two separate elements: knowledge and control. Metacognitive knowledge serves as the ground base from which learners nurture the needed information, mainly on themselves as learners and the process underlying learning. This information brings the learners' awareness to the fore about their misconceptions, then

modifies and corrects them and acquires new insights about themselves. Henceforth, metacognitive knowledge is devoted to mainly two functions: preparatory and motivational.

a) *Metacognitive knowledge as a preparatory strategy*: the metacognitive knowledge unit in this current study tries to elicit and uncover the students' concepts about themselves as learners and about learning, then revising and correcting them. The learners believe that effective learning depends 100% on *external factors* rather than *internal ones* (*the researcher's terms*). These factors include the teacher, classroom size, and time, which in turn indicate that the students are dependent learners who rely on the teacher to get everything.

Henceforth, metacognitive knowledge provided the resources to challenge the dependency assumption, which resulted from a long period of exposure to the teacher-centered tradition, to drive them from passive learners to active learners. Besides, this knowledge enlightens their minds that they can learn independently from the teacher's control and that they are responsible for their failure and success, which depends on their efforts. Since their conceptions mirrored the students' responses in the baseline questionnaire, it was pervasive to correct and modify their beliefs about effective listening as a passive skill that entails listening word by word in an informative preparatory stage.

b) *Metacognitive knowledge as motivational strategy*: acknowledging students about the benefits of becoming independent learners motivates students even intrinsically (Cohen, 2001). Motivation helps learners to continue learning. In fact, being aware of the process of underlying learning, what facilitates it, and what is involved in being a good language learner makes the task easier and makes the learners feel more comfortable and motivated to take the risk. Furthermore, it promotes active learner engagement and can motivate them to seek out chances for independent learning beyond the traditional classroom setting.

In short, metacognitive knowledge input led to a significant increase in students' awareness of their own metacognitive processes. This, in turn, helped them understand their

strengths and weaknesses as learners. Consequently, they were better prepared for their anticipated roles in the program. As such, metacognition is considered crucial for guiding individuals in their second language performance and learning. It plays a pivotal role in shifting learners from passive recipients of instruction to active participants in their own learning journey.

5.4.3. The Influence of the Proposed Model on Participants' Grammar Learning

The results from the grammar achievement tests administered before and after the study revealed a substantial improvement in the experimental group's grasp of grammar following the intervention, compared to the control group. Despite having similar proficiency levels before the intervention, the experimental group showed remarkable progress at the conclusion of the study, while the control group did not demonstrate any significant improvement. Descriptive statistics indicate that the experimental group had an average score of 11.88, whereas the control group had an average score of 7.83. The average difference in scores between the two groups was 4.05.

The experimental group's awareness of the mechanics within the dependent clauses after the intervention was highly remarked and interpreted in the improvement of the scores of the first activity; they were able to correct the misuse of punctuation and relative pronouns. The score of the second activity, which was devoted to identifying the types of dependent clauses, witnessed an improvement in the experimental group after the treatment compared with the control group. The findings of the study were inductive of the fact that the proposed model based on experiential learning theory is more effective than the traditional method in helping learners acquire grammatical knowledge. The effectiveness of such significance was tested by using the independent t-test $p=0.001<0.05$. Henceforth, utilizing the instructional design could positively enhance grammar achievement among Algerian EFL learners.

The results of the focus group revealed that all the participants asserted that grammatical knowledge of dependent clauses is stuck in their minds without a need to revise them each time; thereafter, the easiness of recalling the declarative explicit knowledge would pave the way to transforming it to procedural implicit knowledge. The different stages of the proposed model, which entail providing a definition of the main concept, analyzing the sentences, and then extracting the rules, trigger the activation of the appropriate schema and the deployment of valuable and effective strategies for the retention of the target language subsystem structures.

The findings of this study provide further evidence for previous research supporting the use of various experiential learning approaches. Arnold, Warner, and Osborne (2006) also highlighted favorable outcomes following the implementation of Kolb's Experiential Learning Theory (ELT) model, attributed to students' active involvement and participation in the learning process, which contributed to the development of their critical thinking abilities and motivation. In a separate investigation, Fox (2012) evaluated the effectiveness of Kolb's ELT in developing a training program aimed at enhancing the information technology (IT) skills of pre-service teachers. The results demonstrated positive outcomes due to the instructional methods employed by the teachers, demonstrating the significance of effective pedagogical approaches in structuring the IT course. Henceforth, making students aware of language form through developing the skills needed to observe and analyze language form facilitates learning and mastering grammatical rules that eventually call for good grammatical competence; consequently, they can use the grammar of the target language in real communication well.

5.4.4. The Influence of the Proposed Model on the Participants' Grammar Learning Strategies

The experimental group received a strategy questionnaire both before and after the treatment. The purpose of this study was to assess the effectiveness of different grammar learning strategies, namely cognitive, metacognitive, and socio-affective strategies, by comparing their usage before and after the intervention. The implementation of the experiential learning paradigm helped to the improvement of the existing grammar learning methodologies. Among the four techniques, the Cognitive techniques showed the most prominent enhancement, followed by the Socio-affective and Metacognitive Strategies. The average scores vary from 2.86 to 3.83, indicating that the participants are moderately to very skilled in using strategies.

The results of the pre-questionnaire revealed that the participants have already a strategic repertoire that they utilize while they study grammar. The socio-affective strategies gained the highest mean score (3.82), followed by cognitive strategies. A thorough scrutiny of the strategies used within them shows that *asking for clarification* and *seeking teachers' help* is among the most used social strategies on the one hand, and memorizing, repetition, and note-taking are the most used cognitive strategies on the other hand. This might be attributed to the methods used by instructors while teaching grammar, where most of the learners play a passive role, waiting for the teacher to present and explain the grammatical structure to be later memorized. These learners rely heavily on their teachers; they neither analyze grammatical structures nor do they use other resources to learn grammar. The metacognitive strategies, being the least strategy used, indicate that the participants do not prepare in advance, which once more confirms the traditional method the students get exposed to when learning grammar. These results were in congruence with the findings of Rocel & Edralin (2023), which show that low and medium achievers used socio-affective and cognitive

strategies more than metacognitive strategies. Other research conducted in other Arab countries found that the majority of students utilized strategies at a moderate level (Ismail & Khatib, 2013). This suggests that cognitive strategies such as memorizing grammatical rules, repetition, and excessive practice, which are commonly promoted in many EFL language classes (Oxford et al., 2007), may result in poor performance.

The post-questionnaire results witnessed an increasing rate in the strategies used among the participants, where the cognitive strategies moved a step forward and got the first place among the other strategies; the use of top-down strategies such as elaboration, guessing, and induction were the most used ones. The metacognitive strategies were more deployed after the intervention, especially monitoring and evaluation; preparation was the least strategy used, which might be due to the nature of the treatment, where participants were not allowed to take the papers home and were asked not to prepare the lectures in advance. In the same line, Boggu and Anita (2016) found that there was an extremely significant difference between the pre- and post-SILL survey results after the intervention period. According to Pawlak (2018), cognitive strategy itself serves to increase the self-motivation of grammar learners in increasing their knowledge. The overall post-questionnaire results reveal a significant rise in strategies based on the *Wilcoxon Signed Ranks Test* $p=.000$. Henceforth, the instructed design based on the experiential learning theory improves the use of different strategies, which in turn would foster their grammar competence, a claim supported by Rocel & Edralin (2023).

According to Fotos (2001), "no cognitive model of second/foreign language grammar learning would be complete without considering strategies." (p.280). Hence, the deployment of effective strategies guarantees learning grammar efficiently. Zekrati (2017) suggests that in EFL environments, grammar, despite being a major aspect of language courses, should be supplemented with learning strategies in order to facilitate precise and smooth communication. Moreover, Wong (2010) argues that for learners to explore and discover the

rules of a language, they need to have techniques that widen their abilities to appreciate and catch the rules of engagement and recognition. El-Dib (2004) highlights that the utilization of strategy is strongly linked to the learning environment and specific tasks; students typically acquire grammar learning strategies over time, adjusting their repertoire of strategies to reflect new knowledge and experiences. Thereafter, implementing traditional methods in teaching grammar that are based on the teacher, a center of the lecture who spoon-feeds learners, drives them to use ineffective strategies like memorizing, mechanic drills, and repetition. Given that repetitive, rote learning experiences do not necessarily promote this type of strategy adaptation. However, using learner-centered approaches as experiential learning to grammar learning where the learners play an active role in the learning/teaching process triggers the EFL learners to invest in effective strategies and a more diversified set of strategies that would pave the way towards autonomy

We sought to determine any correlation between the improvements in strategy use and achievement tests in grammar. We found a positive correlation between two types of grammar strategies, mainly cognitive and socio-affective strategies, and the achievement test with a correlation coefficient of $p=0.02$ and $p=0.01$, respectively. Such a positive relation could be attributed to the instructional design implemented during the treatment, where the focus was on both cognitive and socio-affective strategies.

During its stages, the proposed model ensures the use of top-down processing, which constitutes a high level of cognition control and regulates events; students use expectation and knowledge sent by bottom-up processing, which starts from basic sensory information up to more conceptual information. Henceforth, multiple cognitive strategies were appropriately and effectively deployed based on the situation. Moreover, socio-affective strategies, though already used before the treatment, are more invested, mainly positive attitudes toward grammar learning and listening to classmates' answers. The results of the focus group were in

agreement with the results of the correlation. The interviewees claimed that they appreciated their classmates' answers and were eager to hear their assumptions.

Concerning the correlation between the metacognitive strategies and achievement test, it was found that there is no positive correlation $p=0.21$. Such results would be attributed to the nature of the treatment; the metacognitive strategy planning was not on the list of the used strategies since the teacher asked the participants not to prepare the lectures. However, monitoring and evaluation were among the strategies that were used. The results of the focus group showed that the informants stated that they use their minds to think about how to look for the answer and how to correct mistakes; this denotes the use of both monitoring and evaluation.

5.4.5. The influence of the Proposed Model on the Participants' Motivation

Motivation and engagement should be prioritized in educational institutions as they are required features in the learning setting. This section aimed to examine the effect of the proposed model on students' motivation to learn grammar. The results of the analysis of the focus group revealed that the instructional design is effective in empowering students' motivation to learn grammar. Being motivated entails many components; the current study discusses the implemented components with the participants. Among them is integrativeness, which is related to the learner's need to be part of the teaching-learning process. The results of the thematic analysis of the focus group indicated that all the interviewees expressed their satisfaction and engagement, for they were playing an active role during the treatment. The instructional design guarantees the involvement of the students in the teaching-learning process because they are the ones who discover the rules.

The Criterion Measures is another dimension of motivation that has been met while implementing the proposed model. It refers to the attention, effort, and commitment of learners. The informants in the current study expressed their joy and excitement in studying

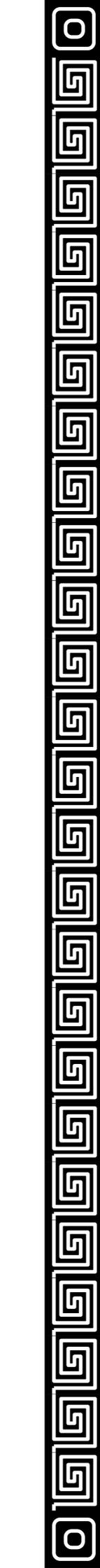
grammar and how this experience helped them focus and concentrate on the content since they were the ones who induced the rules. Furthermore, the dimension of Ought to L₂ Self that captures a learner's motivation to be similar to a friend or a group was also explicitly denoted; all the participants were engaged and tried to find assumptions to share with their classmates was a result of the features of the target instructional method which engage each learner through deep learning. Finally, the learning experience was motivational for the informants; the feeling of joy and satisfaction was high, for they were active and broke the ice of being merely passive receivers in the grammar session where "traditional language teaching in classroom can be monotonous, boring, and even frustrating, and students can lose interest and motivation in learning" (Ellis as cited in Abu Naba'h, 2012, p. 72). The results are consistent with the previous works that insist that L₂ learning experience, criterion measures, and Ought L₂ Self are significant motivation²¹ dimensions that build on the concept of motivation (Dornyei, 2005; Berhe et al., 2023)

The participants were able not only to recall the steps of the instructional design they went through but also to remember the grammatical knowledge they attained during the treatment. This demonstrates that the participants were actively engaged in unforgettable learning experiences that triggered their unique way of learning as they were self-confident, which in turn rebuilt their self-identity as being able to do the task themselves. Henceforth, positive attitudes towards themselves eventually lead to autonomous learners. Azarian, M. (2019) conducted a study to investigate the impact of experiential learning on the language development and personal growth of a group of Iranian EFL learners. The research demonstrated that the majority of students expressed a favorable attitude towards experiential learning. The analysis of the data also revealed that students who underwent experiential learning methods performed significantly better than the other group. Studies have indicated that educational interventions can shape a student's learning identity. Additionally, Blackwell

et al. (2007, p. 54 cited in Azarian, 2019) found that when students were informed that they were responsible for the learning process, it boosted classroom motivation and reversed a decline in grades experienced by the control group. Similarly, Good, Aronson, and Inzlicht (2003, as cited in Rahuma, 2023) noted that an incremental learning intervention led to significant improvements in adolescents' achievement test scores.

Conclusion

Experiential learning theory provides a holistic approach to the teaching/learning process. Amid the myriad approaches and methods which apply Kolb's experiential learning cycle, the current study investigated the effectiveness of a model proposed, which orients the participants' experiences to be a mental one, on EFL Algerian students' grammar proficiency. The findings were in favour of the use of such model as it marks a significant improvement in the post test scores of the experimental group. The participants' use of grammar learning strategies has also witnessed a positive enhancement after the implementation of the experiential learning cycle. The strategies to be deployed by learners depend heavily on the teaching methods used by instructors. The present study opened the venue for the participants to try out new strategies since it violates the common methods used for teaching grammar. Henceforth, top-down strategies, along with metacognitive strategies, were highly acknowledged after the treatment. The findings also revealed that the participants were motivated and engaged in the learning process since they had the chance to actively participate in the lesson and also to contribute to its development. Nevertheless, some of the participants were somehow demotivated because of their repeated incorrect answers. Most of the students expressed their preference towards the proposed model and its positive impact on their understanding of the target language grammatical structures.



General Conclusion

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General Conclusion

Despite the vital role Grammar plays in acquiring the target language, EFL students deem it a necessary evil since It can be challenging for them to apply the grammar rules they learned in class in a flexible manner. Even though they may have a solid understanding of the rules, they struggle to use them effectively when using the language themselves. For this regard, a plethora of research and approaches were conducted to help learners enhance their grammatical competence. Experiential learning is one of the theories which is in favor on learner-centeredness in which learning is considered a meaningful-discovery learning that involves the learner as a whole person. It enlisted a lot of techniques and strategies to teaching grammar.

Students at the department of English, Biskra University, find difficulties in understanding and mastering the types of clauses as a new concept for them as they tend to merely receive the information from the teacher who explicitly identifies the type of the clause as well as the different use and functions. This method seems not to be effective in helping students clearly understand the concept, which is reflected on the low scores students get in the examination. Besides, they do not use these types of clauses in their written production which again confirm that students do not master these rules. This situation urges the researcher to look for remedial actions.

The ultimate objective of the current study was to unravel the impact of experiential learning cycle on EFL learners' grammatical proficiency, use of grammar learning strategies, and motivation to learning. To this end, three data collection tools were utilized: pre-post tests, strategy questionnaire, and focus group. These tools were analyzed using descriptive statistics as well as inferential statistics.

Prior to the analysis and testing the hypotheses, related literature was surveyed. The status of grammar in the different teaching methodologies was acknowledged along with a focus on the cognitive aspect on acquiring grammar. The second chapter drove us to discover the foundations of the proposed model as well as its stages that are based on Kolb's experiential learning cycle and on cognitive theory mainly Information Processing (IP). This model emphasizes the role played by the students' background knowledge and the development of their metacognitive awareness.

Before undertaking the main study, the baseline section was a compulsory step that could be interpreted as the process of needs analysis. . It tried to answer the following questions: what do EFL students believe grammar plays in language learning? And what problems they encounter? We used two methods in order to elicit their perceptions and the problems they face: questionnaire and content analysis. Most of the students recognized the importance of learning grammar and its role in enhancing writing and speaking skills and to less extent reading and listening skills. However, they declared their frustration from learning grammar as it impedes their speaking competency. Some students preferred explicit grammar instruction while others prioritize communication over grammar

Hence, the researcher endeavoured to design a proposed model that was based on the tenets of Kolb's experiential learning cycle, the misconceptions students have towards their own learning as they rely on their teachers in the mastery of the grammatical elements, as well as the difficulties students have when learning. Based on the experiential learning theory, the proposed model, which contains four phases including concrete experience, reflective observation, abstract conceptualization, and active experimentation, provided learners with opportunities to get involved in the teaching /learning process via deploying and developing

effective meta-cognitive and cognitive strategies; hence, it calls eventually for autonomous learners.

The main phase, which aimed at verifying the following hypothesis: Students who receive instruction based on experiential learning would better develop their mastery of types of clauses compared to those who receive instruction according to the conventional approach, adopted a quasi-experimental research. It involved thirty six participants divided into two homogeneous groups; a control group received instruction on dependent clauses following the conventional approach Presentation, Practice, Production while the experimental group received instruction following the proposed model. The treatment lasted twelve weeks, which witnessed the utilization of pre-post tests, pre-post strategy questionnaire, and a fellow focus group.

The scores in the post test for the experimental group yielded a significant improvement compared to the pre test with a mean difference 4.16 which designates the effectiveness of the proposed model compared to the control group. The inferential statistics, using the independent t-test $p=0.001$, underscored the outperformance of the experimental group over the control group. The Wilcoxon Signed Ranks Test Results revealed a statistically significantly positive change in strategy use. Spearman's rank order correlation was run to examine the relationships between level of grammar performance and metacognitive, cognitive, and socio-affective strategies. The results were correlated with cognitive and socio-affective strategies and to less extent to meta-cognitive strategies. The qualitative results, on the other hand, strengthened the finding in the quantitative results; most participants had positive attitudes towards the application of the proposed model to teaching grammar. All the interviewees expressed their satisfaction and engagement, for they were playing an active role during the treatment. The instructional design guarantees the

involvement of the students in the teaching learning process because they are the ones discover the rules.

Pedagogical Implications

The following section offers a series of educational implications for EFL instructors intending to implement the experiential learning cycle to teach grammar to their students, in line with the results of the present research.

Providing an Instructional Approach to Grammar Instruction

The goal of contemporary education involves instructing students on how to think rather than just memorize. In today's classrooms, students can promptly and efficiently gain grammatical understanding. Consequently, education strives to empower students to become independent learners and to acquire suitable learning skills.

- Participation, engagement, and practical application are essential aspects of experiential learning. Throughout the process, individuals have the opportunity to connect with their surroundings and engage in highly adaptable processes. As a result, education occurs on multiple levels, encompassing not only cognitive aspects but also emotional and behavioral dimensions that involve the entire individual. Learners actively engage in mental, emotional, and social exchanges during the learning process within experiential learning (Voukelatou, 2019). Furthermore, learners are prompted to think critically, seek resolutions, and take appropriate measures in relevant scenarios. This type of instruction not only facilitates opportunities for deliberation and clarification of concepts and knowledge but also offers feedback, revision, and application of knowledge and skills in new contexts (Kong, 2021). The improvements made by the participants

in the experimental group were attributed to the structured approach employed in the instructional process. This approach consists of two primary elements: enhancing students' metacognitive awareness and knowledge and teaching the desired structures.

- **Metacognitive Knowledge**

The students' metacognitive knowledge needs to be enlightened where it brings new insights that have been either neglected or unknown to them. The misconceptions the students of the experimental group had about grammar as a passive skill were modified and reviewed by nurturing them with the needed information. It is divided into three components.

- **Person knowledge:** the knowledge of the learners' styles, beliefs, and motivation is a guide for adjusting the teaching process to suit most of the students. The learner's style can indicate the technique that the learner prefers in learning, which in turn motivates him to learn. The learner's belief about learning in general and grammar, in particular, promotes the teacher to have an insight into the way students approach grammar and the way they think learning entails. The present study unveils the reality that most of the students rely on their teacher to learn. This belief comes from the long period of the teaching process, the "teacher-centered approach," that the teachers have been adopting despite the adoption of new approaches in the Algerian education system, such as the competency-based approach.
- **Process knowledge:** In exploring the participants' perceptions and beliefs of what practical grammar entails, Speculation for students' lack of significant preference towards any type of grammar instruction and the neutral position many students expressed is that they have disinterest toward grammar teaching; hence, they show their neutrality towards different methods of learning grammar. Besides, it is deemed

that due to the complexity and the difficulty the students have with grammar, they prefer explicit instruction with complex grammatical structures, while the choice of implicit approach seemed to be the most appropriate for simple structures. Henceforth, we recommend correcting students' misconceptions about grammar via process knowledge "think about thinking."

In sum, metacognitive knowledge has a very potential value, as supported by other researchers, since giving the students opportunities to reflect on their previous misconceptions about grammar, reject and correct them, and acquire new insights about themselves as learners and about grammar raises their awareness of autonomous learning and the way they reach it.

- **Applying the proposed model**

Developing the 21st-century skills, which include communication, collaboration, critical thinking, creativity, problem-solving, ICT literacy, and social skills (Ahonen & Kinnunen, 2015), dictates a gradual replacement of conventional teacher-centered approaches with more learner-centered approaches. Therefore, enabling students to construct their knowledge themselves and to verify their hypotheses to be implemented later, which is done through meaningful, insightful learning of grammar focusing on conceptualization, often replaces rote memorization. HenceforthThe activity is anticipated to lead to thorough processing and comprehension of grammatical content, significantly enhancing learners' awareness of language and making them aware of the intricacies of this particular subsystem of the target language. Additionally, it will acquaint them with the three aspects of grammatical knowledge: form, meaning, and usage

This kind of teaching and learning is expected to result in a positive effect. It is process-oriented that focuses on how content is learned, where analysis and interpretation are

present in order to understand what is learned. Grammar focused on the understanding and application of language rules, and the tactics under this area were commonly employed. In order to enhance students' grammatical proficiency, the instructor should increase the frequency of employing cognitive methods during grammar instruction. Over time, students acquire efficient tactics and put them into practice. Furthermore, incorporating English Language (EL) as the foundation of educational grammar frequently reduced the occurrence of demoralising negative feedback. Indeed, the learning of students is enhanced, intensified, and sustained to achieve permanence through engaging in discussions with fellow learners. This stage involves engaging in a thoughtful and introspective conversation. Overall, the focus on the significance of this aspect of language is anticipated to lead to improved, more profound, and more pleasurable learning, as well as increased retention. The pupils are expected to actively engage in the classroom during the instruction of the grammar concept.

Developing Students' Grammar Learning Strategies

1. Teachers need to focus more on incorporating grammar learning strategies in their classroom instruction.
2. It is essential for teachers to ensure that students fully comprehend the strategies and know how to effectively apply them, particularly when learning and using grammar rules.
3. When teaching grammar, educators should motivate students not only to memorize and recall the grammar rules, but also to employ metacognitive strategies, such as contemplating the contexts in which they can use the newly acquired grammar structures.
4. Teachers should also ensure that students have adequate time to master the grammar concepts and provide additional activities or exercises that require students to apply the memorized grammar rules in different contexts, such as error analysis.
5. Students should be encouraged to adopt the grammar learning strategies that they find most suitable and advantageous for their learning.

6. In addition to utilizing cognitive grammar learning strategies, which have been shown to significantly impact students' grammatical competence, learners should also explore other categories of strategies, including metacognitive and socio-affective strategies.

7. The successful application of these strategic approaches promotes the development of explicit knowledge of grammar rules and the ability to apply them in real-world language processing.

Acknowledging Individual Learner Preferences

Learners have different styles of learning; they all have different ways of accessing information and displaying their knowledge of that information. By implementing the experiential learning model, the instructor ensures that different types of learners are involved in the teaching and learning process. EFL grammar instructors should recognize and respect individual learner preferences regarding learning. While some learners may prefer delving into the experience, others may like to analyze and think. It is therefore focused on that aspect of individuality related to how individuals learn from experience. It has been demonstrated by this investigation that focusing on how students acquire knowledge from a course is more crucial than merely knowing the learning outcomes. Hence, it is advised to strongly advocate for the adoption, adjustment, and exploration of new instructional approaches within the classroom environment.

Promoting Learner Autonomy

Autonomy, for Holec (1981, p. 3 cited in Pawlak, 2017), is Self-directed learning is the capacity to assume control over one's own learning process and entails assuming full responsibility for all decisions related to every facet of this learning. The concept discussed here is commonly found in institutionalised foreign language education, where the focus is on developing reactive autonomy. Reactive autonomy refers to the ability to independently

organise one's resources to achieve a goal, without creating new directions. This approach is considered more practical and achievable. (Littlewood, 1999, p. 75)

The results of the study show that the application of EL can foster student autonomy by encouraging the use of different grammar learning strategies like self-direction and self-correction techniques, as well as grammar confidence. In order to give students the confidence to take charge of their language learning process, EFL teachers should actively encourage students to interact with each other and teach them how to activate the schema as well as appropriate strategies. More importantly, Mastery of grammar is achieved through how much learners are willing to take control of their learning and go beyond what teachers ask for.

Providing a Motivating Environment for EFL Students

Motivation is a crucial factor in the process of acquiring a new language. Instructors should prioritise individual motivating variables and actively seek ways to maintain student engagement in grammatical exercises.; moreover, they ensure the involvement of the learners and their readiness to go beyond their guidance, where grammar becomes not only the use of correct form in controlled exercises but also involves the knowledge of the meaning and skillful use of these structures in real-time communication.

Teachers' Collaboration

Teachers from different courses should collaborate for learning and teaching grammatical structures. Most of the courses in the Algerian universities provide written assignments. Although the different courses are not meant to be grammar instruction, the teachers can emphasize some taught grammatical elements that are important for effective writing. For example, a teacher of written expression reminds her students to use dependent clauses and raises their awareness of such structures that they have learned in the grammar

module. Hence, the students will have more opportunities to practice the target structure, which eventually results in the autonomous stage in the learning process.

The teachers' collaboration is not just at the tertiary level. Rather, it should also be with teachers at secondary and middle schools, where implementing EL should be taken into consideration at a lower level, seeking a "learner-centered approach". Thus, workshops are very beneficial for secondary teachers to learn how to teach grammar using EL from expert university teachers in this field, which could be a stepping stone to promoting learner autonomy at a lower level.

Implementing the proposed model might bring some challenges and difficulties to students who show resistance to shift from teacher dependency to learner interdependency. This can be attributed to the explicit deductive instruction that these students have been exposed to all their lives while studying grammar. Therefore, the teacher must be cautious and must not give up from the first trial.

Implementing the proposed model to teach grammar provides different roles to the teacher depending on the different stages. He first prepares the learning materials and later acts as a facilitator where the educators ensure a healthy atmosphere and relationships with learners; he helps them to be curious in learning grammar, which in turn motivates and encourages the students to be confident. Moreover, the teacher can guide the learners through the learning process by helping them organize and connect new knowledge to existing ones; he might also model and encourage critical thinking.

The implications for teaching derived from the study's findings provide practical guidance for educators who want to enhance the teaching of EFL grammar by incorporating experiential learning cycles. This enables teachers to enhance their abilities and employ a

range of teaching methods that support students and align with the course's objectives. Additionally, it enables students to identify their strengths and weaknesses by engaging in various experiential opportunities, thereby fostering better learning habits.

Limitations of the Study and Recommendations for Future Research

The current research has several limitations that should be considered for future studies. This research employed a quasi-experimental design to investigate the impact of a proposed model for teaching grammar based on Experiential Learning Theory with 36 Algerian EFL learners. Despite using a mixed-methods approach to address the research questions with both quantitative and qualitative data, it was not possible to produce definitive and generalizable results due to educational and technological constraints that affected the study's sample size and duration, as well as the absence of prior research literature in the Algerian EFL context.

The study initially enrolled 60 participants, but only 36 remained committed to completing the two-month course. The decreased number of participants was attributed to the impact of the pandemic, which led to many absences and a lack of motivation among students. As a consequence of the reduced sample size, it became challenging to draw broad conclusions from the quantitative results obtained in this study.

The objective of the current study was to gauge students' strategies used while learning grammatical structures. Henceforth, it was limited only to one category of strategies, which include metacognitive, cognitive, and socio-affective strategies. More research can be conducted in the future to identify the different strategies used when communicating. Moreover, the present study focused on identifying the strategies used by the participants before and after the treatment; further studies can examine the relationship between the use of grammar learning strategies and grammar competence among students. Strategies in the current study were learned implicitly; while implementing the experiential learning cycle specifically identify, analyze, and reflect, the students tried to use new types of strategies

implicitly that they were not using before. We recommend for future research to fuse the implementation of both methods, strategy training and the proposed model, so that the teacher ensures the application of the appropriate strategies in each phase of the proposed model.

The chief objective of the current study is to examine the effect of the proposed model, which is based on Kolbs' experiential learning cycle, on the participants' mastery of grammatical structures, with a focus on grammar learning strategies and how they play a paramount role in enhancing grammatical competence. Further studies can be conducted to investigate the effectiveness of Kolb's Experiential Learning Theory (ELT) model along with his learning style inventory, which focuses on EFL learners' different learning styles and their learning preferences for English grammar.

This study was mainly interested in eliciting learners' attitudes. However, gauging teachers' experiences and perspectives on the experiential learning theory and the proposed model, specifically through an attitudinal questionnaire or an interview, brings more fruitful findings. Henceforth, it is recommended that teachers' viewpoints be investigated in future research.

The current study illuminates the potential of the proposed model in enhancing language learning experiences. It also afforded some pedagogical implication for the effective implementation of the experiential learning cycle in teaching the target language grammar structures. Involving educators to explore students' beliefs and instructional expectations, and develop shared preferences to guarantee successful learning and teaching is pervasive. Moreover, teachers might reconsider the approaches applied when teaching grammar, where the use of different approaches depends on the language feature to be learned, the characteristics of the learner, and the learning conditions. In order to engage students in a more effective learning environment, teachers should provide them with a collaborative and

supportive learning context as well as promote a sense of autonomy, choice, and challenge that are major characteristics of experiential learning theory; the learners are supported in using their skills to adapt to the learning environment and uncovering their latent talents, which has a profoundly positive effect on their learning..

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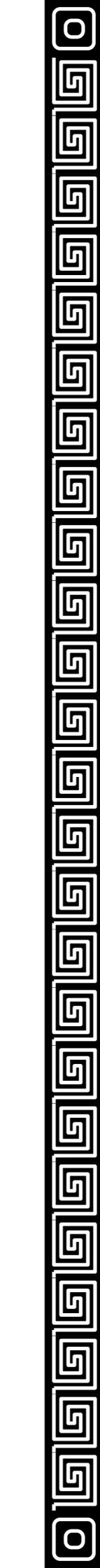
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Appendices

- Appendix A: Pre-test questionnaire (baseline study)
- Appendix B: Samples of participants paragraphs (baseline study)
- Appendix C: Strategy questionnaire (main study)
- Appendix D: Test (pre-post)
- Appendix E: The lessons (noun, adjective, and adverbial clauses)
- Appendix F: Samples of students' papers
- Appendix G: post-experiment interview (main study)

Appendix A: Pre-test questionnaire (baseline study)

Dear students,

This questionnaire is an attempt to collect data for accomplishment of a doctorate thesis about “The Role of experiential learning in enhancing EFL learners’ knowledge of grammatical elements”. Therefore, we would be so grateful if you provide us with precise, clear, and complete responses. Please tick (✓) the appropriate answer(s) and write full statement(s) whenever it is necessary. Be sure that your answers will be anonymous and will be used for research purposes only.

Thank you for your time, effort, and collaboration

STUDENTS’ BELIEFS

Directions: the following statements are about beliefs when learning grammar. Please respond to each statement by placing a tick (✓) in the box which can best indicate your viewpoint.

Section one: Responsibilities of the learners and teachers

The responsibility	The teacher	The student
1.To ensure you make progress during grammar lessons		
2.To decide what you should learn next in your grammar course		
3.To choose what activities to use to master grammar elements		
4.To evaluate your mastery of grammar rules		
5.To identify your weakness in grammar items		

Section two: Beliefs about grammar

Beliefs about grammar	Strongly agree	agree	neutral	disagree	Strongly disagree
6.You study grammar by exposure to the environment of using the language naturally					
7.Teaching linguistic forms can help you produce correct grammar					
8.You can improve your grammatical accuracy through regular structure exercises					
9.You need conscious knowledge of grammar to improve your language					
10.The grammatical drills have to be an a complete communicative context					
11.Excluding grammar from the language program is					

beneficial for you					
12.Learning grammar impedes your speaking competency					
13.Focused-structure exercises play a role in language learning process					
14.Grammar is best taught through communicative activities					
15.Explicit discussion of grammar rules is beneficial to learning					
16.While speaking, teachers should correct grammatical mistakes					
17.Grammar is very important when speaking					
18.Grammar is very important when reading					
19.Grammar is very important when writing					
20.Grammar is very important when listening					
21. I dislike when I am corrected in class					
22. the grammar teacher provides me with the grammatical rules and I apply them to the given exercises					

Section three:Difficulties when learning grammar

Rank the following from 1 to 8 (1 = The biggest hindrance (obstacle) to learning grammar, 8= the least hindrance to learning grammar)

Difficulties	Scale from 1 to 8
Motivation to learn grammar	
The way grammar is being taught	
Lack of practice	
The material used while teaching grammar	
Time allotted to grammar module	
The interference of French and Arabic (L ₁ transfer)	
Difficult and complex grammar components	
The correct and appropriate use of grammatical aspect in context	

Appendix B: Samples of participants paragraphs (baseline study)

Online Comment

We shouldn't be able to leave comments online especially when they are hurtful and could cause distress. First, the rate of suicide has been increasing due to cyber bullying. An example for that is Lily, a South Korean girl, who committed suicide because of malicious comments that affected her mental health. In addition, a lot of pedophiles and twisted people found a place where they can practice their sick ways freely. Hiding behind fake IDs, they could harass

underage girls and even boys sexually without anyone to stop them. Maybe I might say that it's freedom of speech, and that they can say whatever they please. But I believe that your freedom ends at the beginning of others'. Humans should be consistent and responsible with their actions; that they should refrain from hurting other humans. As a result, online comments should be banned as it has more damage than good.

Online Learning

In my opinion, universities should not adopt online learning as a viable alternative. First, some students whose learning style is not suited to online learning can not afford them. The first one is all the time. They will not be able to attend the online classes regularly. Second, human beings need motivation to perform and to be creative in his daily life, so

it is the same for students. If they lose their motivation they will not be compatible, as a result, they will lose their energy for study. In addition, cheating possibilities will increase ~~when~~ ^{when} taking online. Thus, university credibility will be lost. For some reasons, they think that online classes are a good opportunity for both them and their children. However, the children will not have the chance to develop their social skills and to have new friends in this way. All in all, universities should think twice before adopting the online learning.

Appendix C: Strategy questionnaire (main study)

Directions: the following statements describe grammar learning strategies that can be used to facilitate grammar learning. Please respond to each statement by placing a tick (✓) under the level which can show if you use the strategy or not (yes, not sure, or no) and how often do you use the strategy described (5 most used, 4,3,2,1)

Student's Name:

Statements	1	2	3	4	5
1. When I learn a new grammar rule, I try to link it to other rules that I already know.					
2. I categorize the new grammar rule I learn under a group of similar things (e.g. verbs, tenses, adjectives etc).					
3. When I learn a new grammar rule I compare it with its correspondent rule in Arabic					
4. I understand the new grammar rule through linking it to the context/situation in which it is used.					
5. I analyse the parts of the newly learnt grammar rule.					
6. I try to deduce the use of the new grammar rule that I come across.					
7. When my teacher corrects my grammatical mistake, I practice repeating the correct form.					
8. I combine the new rule I learn with the previous ones to produce longer and more complex sentences.					
9. I take notes when my teacher explains a new grammar rule. (e.g. I write down the meaning and the usage of the rule).					
10. I use my own language (e.g. simplification, Arabic) to write the use of the new grammar rule.					
11. when learning grammar, I try to use grammatical knowledge relevant to the target structure.					
12. when learning new grammar structure, I compare it with old ones					
13. I practice writing sentences using the new grammar rule to help me remember its structure.					
14. I memorize a new grammar rule by repeating it several times to myself.					
15. I try to help others when they have problems with understanding or using grammar.					
16. I create my own hypotheses about how structures work and check these hypotheses.					
17. I practice doing grammar exercises outside the classroom.					
18. I consult grammar books for better understanding of the new grammar rule.					

19. I remember the grammar rule by thinking of the context/situation where it is used.					
20. I identify the grammar rules that I face difficulty with and exert an effort to understand them better.					
21. I use the new grammar rule in my speaking.					
22. I practice using the new grammar rule by writing e-mails, letters or compositions.					
23. I replace the grammar rule that I am not sure of with another one that I already know when writing or speaking .					
24. I pay attention to grammar structures when reading and listening					
25. I imagine the situation in which I can use the newly learnt grammar rule.					
26. I notice the new grammar rule when they exist in a listening or a reading text					
27. I prepare for the grammar rule that will be covered before coming to class.					
28. I try to find out why I make grammar mistakes.					
29. I correct the grammatical mistakes that my teacher has marked in my written assignments.					
30. I notice grammatical structures while I m reading for pleasure.					
31. I ask my teacher to repeat the explanation of the new grammar rule when I do not understand it.					
32. I ask my friends for help when I do not understand my teacher’s explanation of a grammar rule.					
33 I encourage myself to practice grammar when I know I have problems with a Structure					
34. I understand grammar better when studying with a friend or a relative.					
35. I try to discover grammar rules by analyzing examples.					
36. When my teacher corrects my grammar, I ask him/her questions about my grammatical mistakes.					
37. I prefer working on grammar tasks alone rather than working with classmates					

adverbial adjective noun

8- Where do you think she will settle down?

M

- The clause M is:

adverbial adjective noun

Task two: correct the errors in the following sentences if there is any. (4.pts) 0.5 for each correction

- 1- What does a patient tell a doctor is confidential.
- 2- When they leave, interests me.
- 3- I can't tell you what did they say.
- 4- I would like to write about many problems that I faced them since I came to United States.
- 5- William Shakespeare who wrote Romeo and Juliet had died in 1616.

Task Three: reorder the words to form correct sentences, then identify the dependent clauses and their functions (5.5pts)

- 1- who /your /some cloths /was shopping/ for/ sister/I met
- 2- guarantee/ on time./she will/ I can't/ be there
- 3- before/ Venice/ die/ see/ I/want/ I/to
- 4- expensive /The/ wife/ maker/ I/ for my/ was/ coffee/bought
- 5- is /the government /what/ be done/needs /looking/ into
- 6- John/ needs/ do/ what/ know/you/?



Appendix E: The lessons (noun, adjective, and adverbial clauses)

The strategy group

language: EFL

Language level: intermediate

focus: *noun clause/ adjective clause/ adverbial clause*

Grade level: second Year University

Overall objective: the main aim of the following action plan for teaching clause is to comprehend the different functions of the dependent clauses.

Aims

1. To define the dependent clause
2. To demonstrate the dependent clause in the sentences
3. To explain their choices
4. To reflect and analyze
5. To negotiate with their classmates
6. To deduce the rule
7. To practice the structures
8. To evaluate their understanding

Lesson plan one: the noun clause

The experimental group

Language level: intermediate

Grade level: second Year University

Language: EFL

Focus: *noun clause*

Allotted Time: 60 minutes

The aims: by the end of this lecture, the students will be able to:

- Define what is noun clause.
- define the introductory words to begin a noun clause (relative pronouns, subordinates)
- deduce the possibility of the omission of the introductory words.

The procedure

1. The teacher asks the students to provide a definition of the target structure (the noun clause) based on their existing knowledge. (10 min)

At this level, all students write their assumptions in **column 01**

2. Students try to deduce the noun clause in each sentence and the introductory words it begins with. (10 min) (sentences 01-07)

At this level each student will underline the set of words that represent the target structure (**column 02**) and try to justify his assumptions (**column 03**).

3. All students share their ideas and discuss their suggestions before deducing the rule (**column 04**). (10 min)

4. The students try to compare sentences to diagnose any difference related the target structure (the omission of the introductory words); they write down their suggestions (05-07min) to be discussed with their classmates. (5-15min) (8)

5. They refine their first draft of the definition of the target structure (**column 05**) (5 min)

6. Direct practice on identifying the noun clause.

noun clause is....(column 01)	noun clause is..... (column 05)
-------------------------------	---------------------------------

statement	explanation	Setting the rule
1. I don't know whether she will come.		
2. Where we live is exciting.		
3. He is worried about how he will pass the test.		
4. Do you know if the store is open?		
5. I heard what he said		
6. That Ann likes her new job is clear.		
7. Our dog eats whatever we put in his bowl.		

8. Compare:

-It is a fact that the world is round.

-That the world is round is a fact.

-The team knew that they would follow the coach's instructions.

Exercise: Answer the following questions using a noun clause as indicated: Example: What did the client say? I can't discuss what the client said.

1. Where are they holding next month's conference? I don't know _____.
2. When will they be ready for trial? They haven't told me _____.
3. How much are they claiming in damages? I still haven't heard _____.
4. Who are their key witnesses? We'll find out tomorrow _____.
5. Why didn't they include an arbitration clause in that contract? I can't understand _____.
6. Whose office should we use? It doesn't matter _____.
7. What is the definition of materiality in that jurisdiction? My associate is checking _____.

Lesson plan two: the noun clause

The experimental group

Language level: intermediate

Grade level: second Year University

Language: EFL

Focus: *noun clause*

Allotted Time : 60 minutes

The aims: by the end of this lecture, the students will be able to:

- induce the functions of the noun clause

Subject, direct object, indirect object, subject complement, and object of preposition.

Remark: the level of the students determines what type of functions the teacher can focus on, and whether these students have studied these functions or not.

The procedure

-The teacher is free to classify the order of the functions.

1. The instructor asks the students to underline the target structure (the noun clause) and prove its function in each sentence based on their existing knowledge. (functions: subject and subject complement)

At this level, all students write their assumptions in **column 02**, where they try to deduce the noun clause in each sentence and the functions.

2. The students try to justify their assumptions (**column 03**).(15 min)

3. All students share their ideas and discuss their suggestions before deducing the rule (**column 04**). (10 min)

4. The same procedure will be done with the rest of the functions.

5. Direct practice to identifying the functions of the noun clause.

statement	explanation	Setting the rule
Whoever ate my lunch is in big trouble. <input type="checkbox"/> <input type="checkbox"/>		
That the museum cancelled the lecture disappoints me.		
The counselor has been wondering if she chose the right career. <input type="checkbox"/> ?		
Our suspect depends on who owns the murder weapon		
The judge will give what you said some deliberation during her decision.		
My question is whether you will sue the company for losses		
Whichever you pick is fine with me		
She told whoever would listen her sad story.		
Do you know when the train should arrive?		
Don't always listen to what people say		
They believe you are guilty		
Karen needs to speak with whoever runs the store		

Exercise: Identify the functions of the noun clauses in the following statements

1. The students were in trouble for what they did in the hall.
2. What my brother enjoys most is playing soccer.
3. She explained why she couldn't come to the party.
4. Mrs. Scott assigned whoever was late extra homework.
5. Whoever first ate oysters was very brave.
6. The speaker told about where he went on his vacation.
7. The team knew that they would follow the coach's instructions
8. The club will give whoever wins the race a gold cup.
9. Ask your child what he wants for dinner only if he's buying. (Fran Lebowitz)
10. He knows all about art, but he doesn't know what he likes. (James Thurber, 1894-1961)
11. It is even harder for the average ape to believe that he has descended from man. (H L Mencken, 1880-1956)

Lesson plan three: the adjective clause

The experimental group

Language level: intermediate

Grade level: second Year University

Language: EFL

Focus: adjective clause

Allotted Time: 60 minutes

The aims: by the end of this lecture, the students will be able to:

- Define what is adjective clause.
- Define the adjective clause and the introductory words to begin an adjective clause with (relative pronouns)
- Deduce the functions of the relative pronoun within the adjective clause.
- Deduce the possibility of the omission of the introductory words.

Remark: the duration of lessons and the completion of the learning objective depends on students' existing knowledge about the target structure

The procedure

- 01.** The teacher asks the students to provide a definition of the target structure (the adjective clause) based on their existing knowledge. At this level, all students write their assumptions in **column 01**
- 02.** Students try to deduce the adjective clause in each sentence and the introductory words it begins with. At this level each student will underline the set of words that represent the target structure (**column 02**) and try to justify his assumptions (**column 03**). (sentences 01-05)
- 03.** All students share their ideas and discuss their suggestions before deducing the rule (**column 04**).
- 04.** The students try to compare sentences to diagnose any difference related to the target structure (the functions of the relative pronouns); they write down their suggestions to be discussed with their classmates. (sentences 06-09)
- 05.** The students try to compare sentences to diagnose any difference related to the target structure (the omission of the relative pronouns); they write down their suggestions to be discussed with their classmates. (sentences 10-13)

adjective clause is....(column 01)	Adjective clause is..... (column 05)
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Statement (column 02)	Explanation (column 03)	Setting the rule (column 04)
01. Charles Dickens was the novelist who wrote David Copperfield.		
02. Louis Agassiz was the first scientist that argued there had been an Ice Age in the past.		
03. That was the man whose car was stolen.		
04. Last week I bought a new computer which is much faster than the old one.		
05. Can you pick up the knife that has just fallen off the table?		
06. People who talks too much annoy me intensely		

07. Do you know the girl that lives next door?		
08. He was a person whom everyone regarded as trustworthy.		
09. An article that I recently read described ten hot jobs in the computer field.		
10. That's the woman that I met at Tony's house		
11. That's the woman I met at Tony's house		
12. That man who was sitting next to Angela never said a word.		
13. That man Angela was sitting next to never said a word.		

Exercise: Combine two sentences together to make one sentence. Put the adjective clause after the noun that it describes. Example:

The student is a very nice person. / She comes from Japan.

The student who comes from Japan is a very nice person.

1. We sent a package to our relatives. They live in Iowa.
2. The woman works as a cashier. She sits next to me in class.
3. That's the book. Everyone is reading it.
4. We bought some trees. Our neighbor told us they were on sale.
5. The car has a bad engine. I bought it last month.
6. I lived in an apartment building. It had a very slow elevator.
7. You should see a doctor. He can help you with your back problems.
8. The tornado was extremely powerful. It hit Minnesota.
9. We saw the woman at the grocery store. She lives next door to us.
10. My wife returned the pants. They were too big for me.

Lesson plan four: the adjective clause

The experimental group

Language level: intermediate

Grade level: second Year University

Language: EFL

Focus: adjective clause

Allotted Time: 60 minutes

The aims: by the end of this lecture, the students will be able to:

- identify the use of when and where as introductory words in the adjective clause.
- Identify restrictive and non-restrictive adjective clauses

The procedure

- 01.** The students try to compare sentences to diagnose any difference related to the target structure (the use of when and where); they write down their suggestions to be discussed with their classmates. (sentences 01-05)
- 02.** The students try to compare sentences to diagnose any difference related to the target structure (restrictive and non-restrictive adjective clause); they write down their suggestions to be discussed with their classmates. (sentences 06-10)

statement	Explanation	Setting the rule
01. The school at which I first studied English is Thassos		
02. I live in the city where I study		
03. I stopped in Maidstone, where my sister owns a shop.		
04. Come back at 3.30, when I won't be so busy.		
05. Tuesday is the day on which I go to the fitness club		
06. Madame Tussaud, whose waxworks are a popular attraction, died in 1850.		
07. The friend whose dog I'm looking after is in Australia.		
08. He presented the flowers to Susan, who burst into tears.		
09. The man that created the virus destroyed many computers.		
10. Einstein, who failed his university entrance exam, discovered relativity.		

Exercise: identify the adjective clauses in the following sentences

1. The follies which a man regrets most in his life are those which he didn't commit when he had the opportunity. (Helen Rowland, 1876-1950)
2. Lila, who has been the fire warden for 30 years, lives in a trailer with some scrappy dogs and cats.
3. I don't remember a time when words were not dangerous. (Libyan author HishamMatar)
4. I remember the day when we first met.
5. The girl I like isn't here yet.
6. These are the earrings that my mother gave me.
7. This is the house where Virginia Woolf lived.

Lesson plan five: the adjective clause

The experimental group

Language level: intermediate

Grade level: second Year University

Language: EFL

Focus: adjective clause

Allotted Time: 60 minutes

The aims: by the end of this lecture, the students will be able to:

- identify the difference between adjective and noun clause in terms of function, position in a sentence, and the being essential in a sentence
- practice the use of the target structure.

The procedure

- 01.** The students try to compare sentences to diagnose any difference related to the target structure (the difference between noun and adjective clause); they write down their suggestions to be discussed with their classmates.
- 02.** They refine their first draft of the definition of the target structure (**column 05**)

Statement	Explanation	Setting the rule
01.The book that I borrowed from the library is fascinating.		
02. she knows that I borrowed a book from the library		
03. The man who lives next door is a doctor.		
04. who lives next door is a doctor		
05. The house where I grew up is for sale.		
06. My father has sold the house where I grew up		
07. I don't understand why he left.		

Exercise: Underline the adjective clause in each sentence below. In the blank write how it is functioning in the sentence.

An article that I recently read described ten hot jobs in the computer field. Someone who cares about the environment can become an

environment Simulations developer. He or she would create programs that predict the effects of global warming. Another job that sounds

interesting is in video game development. Video games are not just for people who want to play. Health and education industries use video games to train employees. A woman whom I have recently met told me about the benefits of video games in therapy. The animation engages children who are having family problems. She described a boy who was acting violently. The child, who was very shy, would not speak to the therapist. Then the therapist watched the boy play. A video game that had special segments helped the therapist make a diagnosis.

Lesson plan six: the adverbial clause

The experimental group

Language level: intermediate

Grade level: second Year University

Language: EFL

Focus: adverbial clause

Allotted Time: 60 minutes

The aims: by the end of this lecture, the students will be able to:

- Define what is adverbial clause.
- define the introductory words to begin an adverbial clause (subordinating conjunctions)
- deduce the different types of the adverbial clauses categorized by their functions.

The procedure

01. The teacher asks the students to provide a definition of the target structure (the adverbial clause) based on their existing knowledge.

At this level, all students write their assumptions in **column 01**

02. Students try to deduce the adverbial clause in each sentence and the introductory words it begins with.

At this level each student will underline the set of words that represent the target structure (**column 02**) and try to justify his assumptions (**column 03**).

03. All students share their ideas and discuss their suggestions before deducing the rule (**column 04**).

04. The students try to compare sentences to diagnose any difference related the target structure (the different functions of the target structure); they write down their suggestions to be discussed with their classmates.

05. They refine their first draft of the definition of the target structure (**column 05**)

Adverbial clause is....	Adverbial clause is.....
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Statement	Explanation	Setting the rule
When dinner is ready, I will arrive.		
Animals are cute while they are young.		
I have loved you since the day I met you.		
Peter Brings His Sunglasses everywhere he goes.		
I can go wherever I want to go.		
As it is raining, we probably should not go to the park today.		
I admire you because you are an inspiration to many people		
I am going outside to play since my homework is finished		

Compare:

1. Because the weather was cold, I didn't go swimming.

2. Even though the weather was cold, I went swimming

Exercise: Combine each pair of sentences with the words in parentheses. Add commas as necessary.

1. The passengers got on the plane. The flight attendant closed the door. (*after*)

2. The passengers got on the plane. The flight attendant closed the door. (*before*)

3. Malea feels nervous. She flies. (*whenever*)

4. The plane was climbing. We hit turbulence. (*while*)

5. I was falling asleep. The pilot made an announcement. (*just as**)

7. I fell asleep. He finished. (*as soon as*)

8. Is tood up to walk to the restroom. The flight attendant told us to fasten our seat belts. (*just after*)

9. We had to stay in our seats. The pilot turned off the seat belt sign. (*until*)

10. We had lunch. The person next to me has been talking non-stop. (*since*)

Lesson plan seven: the adverbial clause

The experimental group

Language level: intermediate

Grade level: second Year University

Language: EFL

Focus: adverbial clause

Allotted Time: 60 minutes

The aims: by the end of this lecture, the students will be able to:

- deduce the different types of the adverbial clauses categorized by their functions.
- identify the mobility of the adverbial clause.

The procedure

01. Students try to deduce the adverbial clause in each sentence and depict the type of it.

At this level each student will underline the set of words that represent the target structure (**column 02**) and try to justify his assumptions (**column 03**).

02. All students share their ideas and discuss their suggestions before deducing the rule (**column 04**).

03. They refine their first draft of the definition of the target structure (**column 05**)

04. Direct practice on identifying the types of adverbial clause.

If it snows tonight, I am not going to work tomorrow		
Kate cannot attend the school dance unless her parents allow her.		
The picnic will be canceled only if it rains.		
While some people like cream and sugar in their coffee, others like it black.		
Babies look at the world with innocence, whereas adults look at it with experience.		
Because he was sleepy, he went to bed.		
He went to bed because he was sleepy.		

Exercise: Underline the adverb clauses in the student handbook passage. Correct the errors in punctuation.

It's your first day of class, and you're not sure what to call your teacher. Is the first name acceptable or too informal? If you use a title,

should it be *Dr.* or *Professor*? At the college level, many teachers actually prefer to use first names, because it feels friendlier and less formal. They prefer not to have the psychological distance that a title creates. While many teachers prefer first names some would rather use titles. *Dr.* is for someone with a Ph.D. degree. It is important to know that not all instructors have Ph.D.'s. In that case, *Professor* is more appropriate, as long as the teacher has the following job title: *Professor*, *Associate Professor*, or *Assistant Professor*. Note that the last name, not first name, is used with *Dr.* and *Professor*. Even though many graduate students teach college courses. They are not professors. One option for addressing them is *Ms.* or *Mr.* + last name. But most prefer first names, since they are still technically students. You can always ask your teacher: "What would you like to be called?" or "How would you like to be addressed?" Teachers like to have contact with students, and knowing your teacher's preference may make it easier for you to approach him or her.

Homework: Identify the type of the dependent clauses, and then name their

1. The truth is I can't get on with my flat-mates
2. Which route would be best isn't obvious
3. The government is looking into what needs to be done
4. The news that the plane had crashed came as a terrible shock
5. Since no one asked me, I did not tell them
6. The architect who designed those flats does not live here
7. The driver of the car that hits a tree is killed
8. It is the same actor we saw at the theater
9. Tania is someone whose courage I admire
10. When I was in town, I met your sister, who was shopping for some cloths.
11. The new manager I met last week seems to be a very capable woman.
12. Mozart could write music since he was only five
13. I can't think of any good films at the moments that I would like to see.
14. I can't guarantee she will be there on time
15. Those young, patriotic men, who rushed to the enlistment centers, had no idea.
16. The village of Blaydon, where I lived as a child, has now become part of the town
17. It hurts when I laugh
18. While Ann was in the hospital, she had a visit from her teacher

19. It did not seem possible that he could be mistaken

20. I will ask when the next train is

Appendix F: Samples of students' papers

English Language Arts

I'm going outside to play since my homework is finished	- Since "since" is a subordinating conjunction and "is" is a subject-verb.	Adverbial clause = Adverbial clause of condition - It stands with: - "I" unless, in case
If it snows tonight, I'm not going to work tomorrow	- dependent clause - stands with "unless" as a subordinating conjunction	Type 5 = Adverbial clause of condition - It stands with: - "I" unless, in case
Kate can't attend the school dance unless her parents allow it	- dependent clause - stands with "unless" as a subordinating conjunction	Type 5 = Adverbial clause of condition - It stands with: - "I" unless, in case
I'm a more nervous than Rhonda is	- dependent clause - stands with "than" as a subordinating conjunction	Type 5 = Adverbial clause of condition - It stands with: - "I" unless, in case
The freshly picked flowers that beautiful is it soft	- dependent clause - stands with "that" as a subordinating conjunction	Type 5 = Adverbial clause of condition - It stands with: - "I" unless, in case
Though the sun is only the world is very chilly	- dependent clause - stands with "though" as a subordinating conjunction	Type 6 = Adverbial clause of contrast - It stands with: - "I" unless, in case
Babies look at the world with innocence, whereas adults look at it with experience	- dependent clause - stands with "whereas" as a subordinating conjunction	Type 6 = Adverbial clause of contrast - It stands with: - "I" unless, in case

word comment =
The comma is placed up the wrong time period (in boys)
- The comma is there in adverbial clause of contrast.

Dakshin Aravind

Qn: 14

Adverbial clause: dependent clause function as adverb in the sentence.

Identify the adverbial clauses in the following sentences

The sentences	Explanation	Setting the rule
When dinner is ready, I will arrive	- dependent clause - stands with "when" as a subordinating conjunction	Type 4 = adverbial clause of time - It stands with: - "I" unless, in case
Animals are cute while they're young	- dependent clause - stands with "while" as a subordinating conjunction	Type 4 = adverbial clause of time - It stands with: - "I" unless, in case
I have loved you since the day I met you	- dependent clause - stands with "since" as a subordinating conjunction	Type 4 = adverbial clause of time - It stands with: - "I" unless, in case
Peter brings his sunglasses everywhere he goes	- dependent clause - stands with "where" as a subordinating conjunction	Type 4 = adverbial clause of place - It stands with: - "I" unless, in case
I can go whenever I want to go	- dependent clause - stands with "whenever" as a subordinating conjunction	Type 4 = adverbial clause of time - It stands with: - "I" unless, in case
As it is raining, we probably shouldn't go to the park today	- dependent clause - stands with "as" as a subordinating conjunction	Type 3 = adverbial clause of cause/reason - It stands with: - "I" unless, in case
I admire you because you are an inspiration to many people	- dependent clause - stands with "because" as a subordinating conjunction	Type 3 = adverbial clause of cause/reason - It stands with: - "I" unless, in case

Grammar lesson: adjective/relative clause
 Level: second year

Adjective clause: to be subject clause that comes before the main verb of the main clause.
 Relative clause: to be subject clause that comes before the main verb of the main clause.

Definition Answer:
 Group: 04

Different clause structure can describe the main that is pre-acted. It can be relative clause at main - relative clause.

Identify the relative clause in the following statement!

Statement	Explanation	Setting the rule
Charles Dickens was the novelist <u>who</u> wrote David Copperfield.	This sentence is a simple sentence. The word "who" is a relative pronoun. It is used to describe the person who wrote David Copperfield.	
Louis Pasteur was the first scientist <u>who</u> argued there had been an Ice Age in the past.	This sentence is a simple sentence. The word "who" is a relative pronoun. It is used to describe the scientist who argued there had been an Ice Age in the past.	
That was the man <u>whose</u> car was stolen.	This sentence is a simple sentence. The word "whose" is a relative pronoun. It is used to describe the man whose car was stolen.	
Last week I bought a new computer <u>which</u> is much faster than the old one.	This sentence is a simple sentence. The word "which" is a relative pronoun. It is used to describe the computer which is much faster than the old one.	
Can you pick up the keyboard <u>that</u> has just fallen off the table?	This sentence is a simple sentence. The word "that" is a relative pronoun. It is used to describe the keyboard that has just fallen off the table.	
People <u>who</u> talk too much annoy me intensely.	This sentence is a simple sentence. The word "who" is a relative pronoun. It is used to describe the people who talk too much.	
Do you know the girl <u>that</u> lives next door?	This sentence is a simple sentence. The word "that" is a relative pronoun. It is used to describe the girl that lives next door.	
Several guests <u>whose</u> cars were parked outside were waiting at the door.	This sentence is a simple sentence. The word "whose" is a relative pronoun. It is used to describe the guests whose cars were parked outside.	

Appendix G: post-experiment interview (main study)

Q1. What are your thoughts on the implementation of the suggested model in language classes?

Q2. Did you find any difficulties?

Q3. Have you notice any depolyement of new strategies while learning grammar?

Q4. Is there any difference between tis new method and the one you were used to? If yes, give more details

Q5. Were you motivated to attend and pariticipate in class?

Q6. Will you apply this strategy for new grammar rules? Why or why not?

Appendix H

Table A.2 Table of *t* Values

<i>df</i>	Level of Significance for a Directional (One-Tailed) Test					.0005
	.10	.05	.025	.01	.005	
	Level of Significance for a Nondirectional (Two-Tailed) Test					
	.20	.10	.05	.02	.01	.001
1	3.078	6.314	12.706	31.821	63.657	636.619
2	1.886	2.920	4.303	6.965	9.925	31.598
3	1.638	2.353	3.182	4.541	5.841	12.941
4	1.533	2.132	2.776	3.747	4.604	8.610
5	1.476	2.015	2.571	3.365	4.032	6.859
6	1.440	1.943	2.447	3.143	3.707	5.959
7	1.415	1.895	2.365	2.998	3.499	5.405
8	1.397	1.860	2.306	2.896	3.355	5.041
9	1.383	1.833	2.262	2.821	3.250	4.781
10	1.372	1.812	2.228	2.764	3.169	4.587
11	1.363	1.796	2.201	2.718	3.106	4.437
12	1.356	1.782	2.179	2.681	3.055	4.318
13	1.350	1.771	2.160	2.650	3.012	4.221
14	1.345	1.761	2.145	2.624	2.977	4.140
15	1.341	1.753	2.131	2.602	2.947	4.073
16	1.337	1.746	2.120	2.583	2.921	4.015
17	1.333	1.740	2.110	2.567	2.898	3.965
18	1.330	1.734	2.101	2.552	2.878	3.922
19	1.328	1.729	2.093	2.539	2.861	3.883
20	1.325	1.725	2.086	2.528	2.845	3.850
21	1.323	1.721	2.080	2.518	2.831	3.819
22	1.321	1.717	2.074	2.508	2.819	3.792
23	1.319	1.714	2.069	2.500	2.807	3.767
24	1.318	1.711	2.064	2.492	2.797	3.745
25	1.316	1.708	2.060	2.485	2.787	3.725
26	1.315	1.706	2.056	2.479	2.779	3.707
27	1.314	1.703	2.052	2.473	2.771	3.690
28	1.313	1.701	2.048	2.467	2.763	3.674
29	1.311	1.699	2.045	2.462	2.756	3.659
30	1.310	1.697	2.042	2.457	2.750	3.646
40	1.303	1.684	2.021	2.423	2.704	3.551
60	1.296	1.671	2.000	2.390	2.660	3.460
120	1.289	1.658	1.980	2.358	2.617	3.373
∞	1.282	1.645	1.960	2.326	2.576	3.291

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