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The Implementation of Discovery Learning in the Teaching of English Grammar in the Algerian Secondary School:

An Evaluation of New Prospects and Teachers' Practices

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Dedications

I dedicate this work to:

My parents who encouraged me all the time

My sisters and brothers

My beloved Ahmed and his family, and all my friends.

KAMELIA

My parents, brothers, and sisters.

My parents in law, my husband Lyes, and my sweet daughter Sofia

SABRINA

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Abstract

The present study aims atinvestigating the issue of the Implementation of Discovery Learning in the Teaching of the Grammar of the English language in the Algerian Secondary School. It aims at finding out whether Discovery Learning is implemented in grammar activities in New Prospects textbook and by third year Secondary School teachers of the English language. To conduct this research the Constructivist Theory developed by Jerome Seymour Bruner in 1996 was used. In this study, the Mixed Methods Approach is adopted. Both quantitative and qualitative methods are used for the collection and the analysis of the data. In order to obtain the needed information, New Prospects textbook is used as a corpus and a structured interview is conducted with 7 third year Secondary School teachers of the English language. For data analysis, the rule of three is used to obtain the statistical data from the analysis of grammar activities in New Prospects textbook, whereas Qualitative Content Analysis has been used in order to analyse the grammar activities based on the items included in a checklist, and to interpret the results obtained from the structured interview. The obtained results reveal that Discovery Learning is implemented in grammar activities in New Prospects, it also reveal that third year Secondary School teachers of the English language implement Discovery Learning in teaching grammar.

Key words: Discovery Learning, Grammar, Constructivist Theory.

List of Abbreviations

DL: Discovery Learning.

H: Hypothesis.

IBL: Inquiry Based Learning.

PBL: Problem Based Learning.

PBL: Project Based Learning.

Q: Questions.

SS: Secondary School.

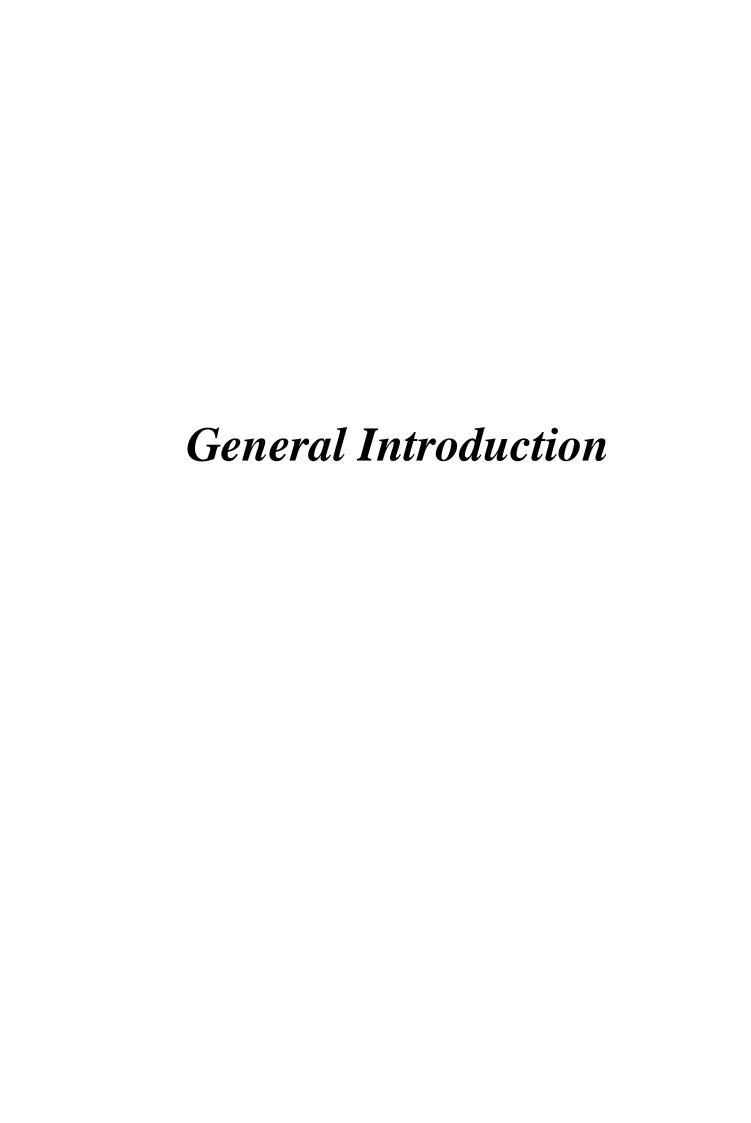
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1. Statement of the Problem

Grammar as one of the elements of a language has a paramount importance in learning foreign languages. Learning grammar in fact provides many bases on which learners can build their knowledge and use language correctly (Ellis, 2006). It is considered as an important element because without grammar, speakers cannot express themselves correctly eventhough they have different ideas. For this reason the mastery of grammar of any given language is very important in order to get successful communication and to have full understanding of a language.

As a matter of fact, the approaches used in grammar instruction differ from the past to the present moment. In the past, grammar used to be taught directly using the deductive approach, where the authority is given to the teacher, by presenting directly the grammatical rules. Grammar instruction then was considered merely as the learning of the rules of foreign grammatical structures by means of memorization without deeper understanding. Learners were considered as passive participants in learning grammar, absorbing only what teachers present directly to them.

Nowadays, contrary to the deductive approach, grammar in most cases is taught inductively, especially with adult learners. In this approach teachers do not present directly the rules and the concepts to be learned, rather they are inferred, discovered and constructed by the learners themselves. In this approach, learners are considered as active participants and constructors of their own grammar, and the role of the teacher is to guide, orient learners while constructing their knowledge. Therefore, instructors nowadays adopt a new method in teaching grammar which is Discovery Learning (DL).

According to Joolingen (1999:385, cited in Ringgi,2014:34) DL is defined "As a type of a method where learners construct their own knowledge by experiencing with a domain and inferring rules from the results of these experiments". In other words,DL is a method

where learners are given more opportunities to observe, think, ask and discover the material and concepts by themselves.

Researches about DL in EFL education has already been conducted by many researchers at the level of International universities. A doctoral thesis entitled "The Effectiveness of Using Discovery Learning Method in Teaching Writing Skill Viewed From The Students' Creativity' which is conducted by Ringgi (2014) at SebelasMaret University. The aim of his research is to reveal whether: (1) Discovery Learning method is more effective than the Direct Method to teach writing to the tenth grade of SMAN 1 DurenanTrenggalek in the Academic Year of 2014/2015; (2) the students who have high creativity have better writing skill than those who have low creativity of the tenth grade of that school; and (3) there is an interaction between teaching method and creativity to teach writing to tenth grade of that school. The results of the study show that: (1) Discovery Learning method is more effective than Direct Method to teach writing; (2) the students who have high creativity have better writing skill than those who have low creativity; and (3) there is an interaction between the teaching method and creativity in teaching writing. Another thesis is submitted by KoenVeermans (2003) in Netherlands entitled "Intelligent Support for Discovery Learning". The research in this thesis consists of two aims. The first one focuses on the design and implementation of a tool to support learners in asimulation-based discovery learning environment, which builds upon the information that can be extracted from learners' activities. The second aim is concerned with the effects of these tools on learners working with these environments. These effects can be subdivided into effects on the way that learners interact with the learning environment, and effects on the learning outcomes of working with the learning environment. The main results of this study show that: The tool can support testing hypotheses and drawing conclusions, and it leaves room for the learners to explore the

relation between variables in the simulation. In addition to that the result also show that the tool is able to operate within a context of authoring environment.

However, after verifying the works that have been investigated in the department of English at MMUTO in relation to the subject under investigation, there is no research that has been conducted concerning the Implementation of Discovery Learning in Grammar of *New Prospects*.

This research investigates the implementation of DL in grammar instruction. The aim is to find out whether (DL) is implemented in grammar activities in *New Prospects* textbook, as well as, whether DL is implemented by third year Secondary School teachers of the English language. In doing so, this work relies on Bruner's Constructivist Theory (1996).

2. Aims and Significance of the Study

The present work aims at investigating the implementation of DL in grammar instruction. The research has been conducted in order to find out whether this method is implemented in *New Prospects'* grammar activities and if it is implemented by third year secondary school teachers of English language. This study is significant in the fact that is the first study conducted at the level of the department of English at MMUTO about DL. Knowing that DL is a useful method in teaching grammar, thus, this research is significant since it aims at investigating the issue within the Algerian context in order to see to what extent the Algerian textbook designers and third year secondary school teachers of English language have taken the inclusion of DL into consideration. The importance of this is in the fact that *New Prospects* is designed with the reform of education of 2002which aims to implement the Competency Based Approach and constructivist view of teaching and learning.

3. Research Questions and Hypotheses

In order to conduct our research, we have raised the following questions:

Q1-Are Grammar Activities in *New Prospects* designed in line with Discovery Learning procedures?

Q2-Do third year Secondary School teachers of the English language implement Discovery Learning in teaching grammar?

In an attempt to answer our research questions, we suggest the following working hypothesis:

H1-Grammar activities in *New Prospects* designed in line with Discovery Learning proceduresH2-Third year Secondary School teachers of the English language implement Discovery Learning in teaching grammar.

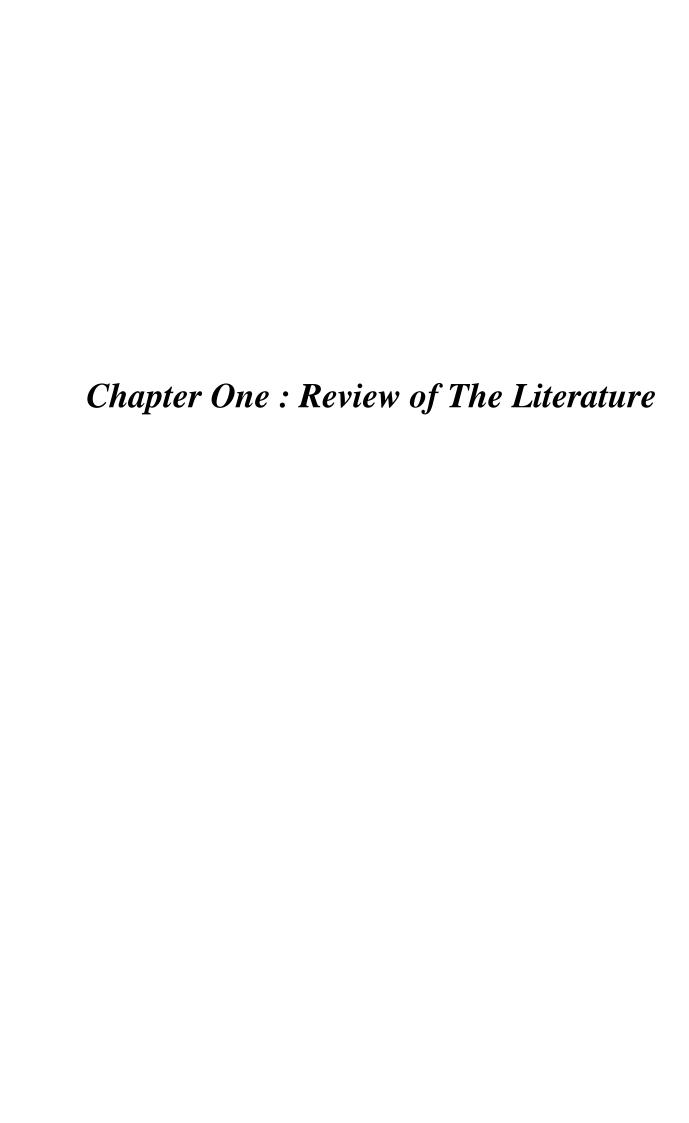
4. Research Techniques and Methodology

To conduct this research, a Mixed Method Research is adopted. That is to say, both quantitative and qualitative methods are used for data collection and data analysis. The quantitative method is used to obtain numerical data, whereas, the qualitative method is adopted to interpret the qualitative data. In order to obtain the needed data, the analysis of grammar activities in *New Prospects* is conducted. In addition, a structured interview is conducted with seven third year Secondary School (SS) teachers of the English language.

5. Structure of the Dissertation

This research follows the traditional complex model. It consists of four chapters, in addition to a general introduction and a general conclusion. The general introduction consists of the statement of the problem, stating the aims and significance of the study. It presents the research questions, hypotheses, and methodology. It shows the structure of the research. The first chapter is a Review of the Literature, in which some definitions and theoretical concepts are reviewed. The second chapter is Research Design and Methodology. It presents the procedures of data collection and data analysis. The third chapter consists in the Presentation

of the Findings obtained from the analysis of *New Prospects*' grammar activities and the structured interview. The last chapter is the Discussion of the Findings, which are discussed and interpreted in relation to the Theoretical Framework and the review of literature where the answers of the research questions are provided. Finally, the general conclusion summarizes the whole work. It restates the topic of the research, the theoretical framework used in this research. It provides recommendations for further investigations.



Introduction

This chapter aims at providing the reader with different concepts related to Discovery Learning and their definitions. In fact, it is divided into three sections. The first one entitled Discovery Learning in which definitions, models, principles, and advantages of DL are presented. The second section namely Constructivism in which definitions, types and principles of constructivism are provided. The last section entitled Discovery Learning in Teaching Grammar. It consists of definitions, the importance of grammar, and the two different approaches to grammar instruction.

I. Discovery Learning

I.1.Definitions

The term Discovery Learning (DL) has been defined in a number of ways. Harmer (1997) defines it as a form of curriculum in which the learners are exposed to a set of questions in order to discover things by themselves. In this situation, learners are guided by their instructors. Emily (2006:5) defines it as: 'an active hands-on style of learning where the student participates actively in the learning process rather than passively receiving knowledge'. In this case, learners play a major role in finding and deducing knowledge by themselves.

Furthermore, Zachos et al (2000:942 quoted in Koen, 2003:5) define DL as: 'The self-grasp of a phenomenon this definition makes it clear that in a DL situation, the learners are active participants in the sense that they construct knowledge by themselves.

According to the American psychologist Bruner (1961), DL is a constructivist learning theory where learners are provided with different tasks where a given problem is raised and they are supposed to find solutions by relating their past experiences to the existing knowledge in order to discover a new truth to be learned.

According to Joolingen and Mayer(2006:130, cited in Ringgi, 2014:22-23) DL is a way of learning where learners are active participants in the sense that they construct their own knowledge by experiencing with the domain and deduce rules, they have more opportunities to understand and memorize better the constructed knowledge, rather than when it is presented directly by the teacher.

I.2. Models of Discovery Learning

DL is an active learning where learners are active participants. This approach includes different models of learning, among them Inquiry-Based Learning, Problem-Based Learning, and Project-Based Learning where learners are engaged actively in the learning process.

I.2.1. Inquiry- Based Learning

Inquiry- Based Learning (IBL) is a form of DL that is also known as "Inquiry Guided Learning" or "Guided Inquiry". According to Lin (2007:12) IBL refers to learning and teaching method, which begins with questions to be solved which means that at the beginning of the lecture learners are asked to perform some activities in order to find the rules then communicate the conclusion. An old native Chinese saying states: "Tell me and I will forget, show me and I will remember involve me and I will understand". Someone can understand from this saying that it is of great importance actively involving the learners in the learning process. It can be considered as a student centered way of learning, where they develop a sense of curiosity about the world around them. According to Max and Doorman (2013 Cited in Lister, 2015) in IBL environment; students work independently or in collaborative groups to develop knowledge by exploring, and problem solving to find their own understanding and solutions.

I.2.2. Project Based Learning

Project -Based Learning (PBL) is a student driven approach to learning. In this model, learners pursue knowledge by asking questions that are curious to know. In this case, learners

develop and ask questions with the guidance of their instructors (Bell, 2010). PB L is a model of learning where learners collaborate and work in teams in an attempt to find solutions for a given problem. In addition, PBL begins with exploring one or more tasks that lead to the production of the final product. The highest level of the project is written and/or oral in order to summarize the different procedures used to produce the final product (Michael and Mayer, 2006:130).

I.1.2.3. Problem- Based Learning

Savery (2006:12, cited in Krain, 2010:293) states that: "Problem -Based Learning empowers learners to conduct research, integrate theory and practice, and apply knowledge and skills to develop a viable solution to a defined problem" This means, in this model of discovery, learners are engaged in a problematic situation where they can apply their knowledge and skills. According to (Lamy, 2007, cited in Krain, 2010:294). PBL is collaborative, which means learners in this model interact with each other and share information obtained to solve the problematic situation following the guidance of their teachers.

Furthermore, it has been claimed by Silver, et al (2007cited in Lister, 2015:3) that 'Problem -Based Learning is a constructivist approach to learning that promotes knowledge development and leads to self-directed and life-long learning'. This means that PBL increases knowledge development in the sense that it helps learners to learn things by themselves in such away they are able to remember self-discovered learning across and all along their lives. In Problem-Based Learning, learners are provided with an ill-defined problem by finding the missing information. Here, learners are supposed to develop different assumptions and hypotheses to find out solutions then justify and support what they have answered and look forward for other questions they may explore (Barrows, 2002, cited in Lister, 2015:2-3).

I.1.4. Principles of Discovery Learning

According to Ringgi (2014:24-25), there are five principles of DL:

-In DL, students are active. Learning is not defined as simply absorbing what is being said or read, but actively seeking new knowledge. Learners are engaged in activities that are real

problems needing solutions. Learners have a purpose for finding answers and learning more.

-The focus in DL is learning how to analyze and interpret information to understand what is

being learned rather than just giving the correct answer from rote memorization. DL pushes

learners to a deeper level of understanding.

-Failure in DL is seen as a positive circumstance. Since errors are tolerated, in fact, the errors

made by learners are considered as an open door to more exploration to find the correct

answer.

-DL is a natural part of human beings. People are born with curiosities and needs that drive

them to learn. Infants learn to talk by discovery. They listen to others around them talk, and

try putting together the pieces of language they have discovered.

I.1.3. Advantages of Discovery Learning

Mendikbud (2013 cited in Ringgi2014:24) proposed several advantages of DL. They are as follows:

-The knowledge gained through this method is very personal and powerful, because it

strengthens the understanding and retention. Learners in this method construct a personal and

powerful knowledge.

-It encourages learners to think and formulate their own hypotheses.

-Making decisions that are intrinsic.

Other advantages are also stated by Murphy, et al (2010) as follows:

-Learners are engaged actively in the learning process, it means that they participate and involve their thinking and creativity.

Learners must utilize their own prior knowledge and understanding in the sense that it plays a major role in discovering new things by relating it to the old one.

-Develops curiosity; in this method learners have a great wiling to know things by asking questions and developing hypotheses.

Furthermore, Schunk (2008, cited in Sofeny, 2017:43) sets other advantages of Discovery Learning, which are as follows:

- It develops a sense of independence of autonomy.
- It enables the development of life-long learning skills.
- It supports active engagement of the learners.
- It highly motivates as it gives individuals the opportunity to experiment and discover something for themselves.

I.2.Constructivism

Constructivism is a theory which explains the way people construct their knowledge. It claims that human beings construct their understanding through experiencing things, and relying on those experiencing to learn and discover new things (Jayeeta, 2005). Driscoll (2000) explains that knowledge exists only within the mind of human beings. In this context, he argues that 'Learners will be constantly trying to derive their own personal mental model of the real world from their perception of that world' (quoted in Jayeeta, 2005:65-74). This means that learners extract their own understanding from what they receive in the real world adding to what they already have to construct their own interpretation of that reality. In any

case, human beings are active creators of their own knowledge by asking questions, exploring and assessing what they know.

According to Merriam and Caffarella (1999:260, cited in Amineh,2015:09) constructivism is a result of the combination of multiple theories into one form including: behaviorism and cognitivism. From the constructivist point of view, learning is a process of constructing meaning. The basic assumption of this theory is that learners construct knowledge for themselves, each learner individually and socially construct meaning (George, 1991:01).

As constructivism has become the dominant view of how learners learn, it may seem obvious to equate active learning with active methods of instruction. Thus, educators who wish to use constructivist methods of instruction are often encouraged to focus on Discovery Learning in which learners are free to work in a learning environment with little or no guidance (Mayer, 2004).

I.2.1. Types of Constructivism

I.2.1.1. Cognitive Constructivism

Cognitive Constructivism is developed by the Swiss psychologist Jean Piaget in 1970. It is an individualistic perspective. This theory includes two major parts: "Ages and Stages' component that predict what children can and cannot understand at different ages, and a "Theory of Development" that describes how children develop cognitive abilities. Piaget (1997, cited in Amineh ,2015) claims that learning is an active construction of meaning. He explains that when learners face a situation that contradicts the way they think, in this case it creates a kind of unbalance. So, here they must take sense of the new information by associating it with their prior knowledge to restore equilibrium or balance.

I.2.1.2. Social Constructivism

Social Constructivism is developed by Lev Vygotsky1978. His main contribution to Constructivism comes from his theories about language, thought, and their interaction with society. Vygotsky (1978, cited in Amineh, 2015) claims that the process of knowledge is influenced by other people in a society and is mediated by culture. Social constructivism focuses on the importance of culture and context to understand what happens in a society and construct knowledge according to this understanding. In his theory, Vygotsky referred to Zone of Proximal Development (ZPD). Jones and Braded (2002:03, cited in Ringgi, 2015) Define this concept as: "The intellectual potential of an individual when provided with assistance from acknowledgeable adult or more advanced child". This means that, the individual has a capacity to acquire and learn things when they are provided by the help of other acknowledgeable individuals.

I.2.1.3. Principles of Constructivism

Marry (1988:404-405) suggests various principles of constructivism:

- -All people are learners, always actively searching for and constructing new meaning.
- -The best predictor of what and how someone will learn is what they already know.
- -Learning often proceeds from whole to part to whole.
- -Errors are critical to learning.

I.3.Discovery Learning in Teaching Grammar

I.3.1. Definition of Grammar

According to Harmer(1988), the grammar of a language is the description of how words are combined and changed to form meaningful sentences in that language, and if a rule of grammar is violated this can hinder and breaks-down communication. In addition, Thorenbury (1999 cited in Cagri,2013:124), defines grammar as a description of different

rules that are used to form correct and meaningful sentences, and also is concerned with the description of the different meanings that these forms and rules convey.

I.3.2. The Importance of Grammar

It has been argued by many scholars that learning grammar has a paramount importance, in the sense that:

-Learning grammar helps learning the rules and having a good knowledge of language.

-Learning grammar provides many basis on which learners can build their knowledge and use language correctly (Ellis, 2006 cited in Heba, 2016).

According to Crystal (2004, cited in Kubra, 2014:07):

Grammar is the structure foundation of the ability to express ourselves, the more we are aware of how grammar works the more we can monitor the meaning and effectiveness of the way we and others use language. It can help foster precision, detect ambiguity and exploit the richness of expression available in English.

This means that grammar is an important aspect of language that help the individual to express him/herself correctly. It is clear that, if someone really masters and knows how the grammar of language works, this helps him/her to understand the meaning and the way we and others use that language. In fact, grammar helps the individual to find the ambiguities and achieve the different expressions available in English.

I.3.3. Deductivevs Inductive Approaches

Methods of teaching grammar have changed from the traditional teacher-centered approach to the student-centered approach. In fact, traditionally, grammar was taught deductively in the sense that the rules and principles are presented first, and then learners have to apply them in exercises. In addition to the deductive method, inductive approach is an approach in which learners are provided with different contexts and instances of language, and then they deduce and discover the rules to be generalized. In this approach, active learning is encouraged where learners are active participants of their own knowledge (Nafi, 2016).

I.3.3.1. Deductive Approach

According to Thornbury(1999, cited in Cagri, 2013) there are three basic principles in a deductive lesson. First, the teacher presents the rules. Second, s/he gives examples by highlighting the rules. At the end the learners practice the rules given and produce their own examples. Presenting new grammatical structures often begins with offering rules first and then examples. According to him, this approach tends to emphasize grammar at the expense of meaning and to promote passive rather than active participation of the learners. This approach is described as the more traditional approach and teacher centered way of teaching.

I.3.3.2. Inductive Approach

Inductive teaching and learning is an umbrella term that involves various instructional methods including: Discovery Learning, Problem- Based Learning and Case- Based Teaching. All these latters share common points, in the sense that they all qualified and characterized as being inductive. They are all learner centered, which means, learners are responsible for their own knowledge. In these ways of learning, learners learn by adding new information to their prior existing cognitive structures. Furthermore, they are all characterized as constructivist methods in the sense that learners construct their own understanding of

reality rather than receiving passively what their teachers present (Michael and Mayer, 2006:123). In addition, Shaffer (1989:398) defines the inductive approach as a way of instruction in which learners focus more on the structure being learned, and they are asked to find for themselves the underlying pattern. In fact, in this approach, the grammatical rules are learned by discovery. Instructors adopt (DL) in order to make learners more active and engaged in their learning process. Learners in this approach are not given directly the rules. Whereas, they are required to induce and discover them by for themselves. DL and inductive approach share a fundamental point in the sense that, learning inductively and by discovery allows learners to use their intuition, induction and creativity to find out and deduce the rules.

I.3.3.2.1. Advantages of the Inductive Approach

Zhou Ke (2008:16) sets different advantages of the inductive approach in grammar instruction:

-The inductive approach actively involves students in their grammar learning process because they have to formulate grammatical rules by themselves and to check, test, and revise these rules rather than receive them passively from their teachers without understanding the reasons behind them.

-The inductive approach helps students to understand and establish the grammatical rules system in a way that is simple, logical, and also consistent with their intuition or grammatical judgment about the sentence.

In addition to that, according to Widodo (2006:122-141), the inductive approach has various advantages:

-Learners are trained to be familiar with the rules discovered; this could enhance learner's autonomy and self-reliance.

-Learners are more active in the learning process, rather than being simply passive recipients; in this activity they will be motivated.

I.4. Theoretical Framework

Constructivism is a very broad conceptual framework with various perspectives. Jerome Bruner is thought of as one of the founding fathers of constructivism, and his particular theory is one of many that lay inside constructivist framework (Cherry, 2004). The Constructivist Theory of Bruner was influenced by the earlier theoretical research of Jean Piaget (1970) and Lev Vygotky (1978). His theoretical framework supports the belief that learners construct new ideas or concepts based upon existing knowledge; the process of learning is active and involves transformation of information, deriving meaning from experience, forming hypotheses and decision making. Through his work, he presented the idea that learners could be active problem solvers and capable of exploring more difficult subjects of instruction.

Bruner formed his constructivist theory in 1996. This theory falls into the cognitive domain in which learners are considered to be creators and thinkers through the use of inquiry, their prior knowledge and experience.

This theory seems to be appropriate for our work since its principles fits DL, as well as, it is clear that if the instruction contains these principles this help learners to discover things by themselves. As a matter of fact, this theory has three main principles:

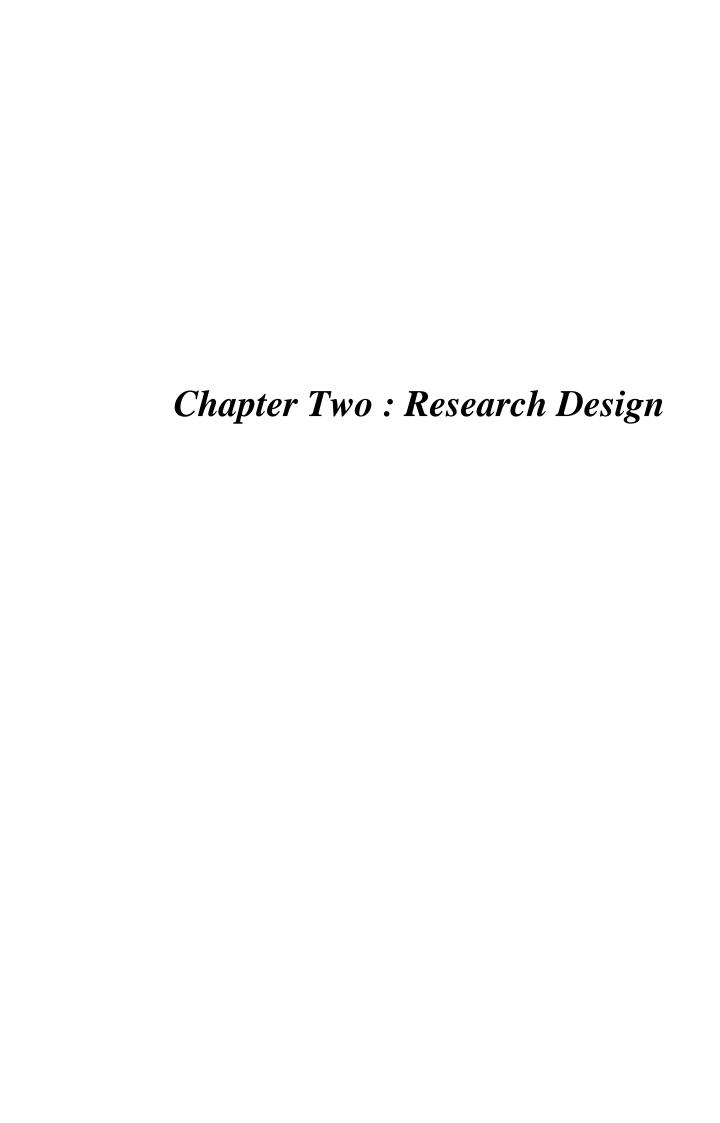
Readiness: instruction must be concerned with the experiences of learners that will enable them to willingly learn; teachers and/or textbook designers have to provide learners with different contexts that involve their prior and existing knowledge in order to enable them to have curiosity to learn and discover new things.

-Spiral organization: instruction must be structured so that learners understand things easily, in the sense that the activities and exercises must be well organized, treat, and discuss the same problem so that learners can gain and grasp the idea easily.

-Going beyond the information given: instruction must be designed to facilitate extrapolation; textbook designers and teachers have to provide learners with activities that help them to go deeply and explore the information given in order to infer the hidden information or the unknown knowledge (Man, 2010).

Conclusion

This chapter has reviewed the literature related to our work which is about The Implementation of Discovery Learning in Grammar teaching. It is divided into three sections: the first section entitled Discovery Learning provided definitions, models, advantages, and Principles of Discovery Learning. The second section entitled Constructivism reviewed definitions, types, and principles of this theory. The third section which is Discovery Learning in Grammar instruction reviewed the two different approaches of grammar instruction. At the end, the advantages of inductive approach were provided since it is related to Discovery Learning.



Introduction

This chapter is methodological. It describes the research design of this investigation which is related to Discovery Learning in teaching grammar in the Algerian secondary school English language textbook *New Prospects*. It describes two types of procedures, namely, procedures for data collection and procedures for data analysis. Both are necessary for answering the questions stated in the general introduction. The first provides us with the description of the textbook, *New Prospects* and the interview which is conducted with seven third year secondary school English language teachers. The second one is the data analysis procedure. It explains the Mixed Methods research that includes both qualitative and quantitative methods used in this study.

II.1. Data Collection Techniques

II.1.1.Textbook Evaluation

Tomlinson (2000, cited in Hashemi,2007:62) contends that "Textbook evaluation is an applied linguistic activity through which teachers, supervisors, administrators, and materials' developers can make sound judgments about the efficiency of the material for making people using them". That is to say, textbook evaluation is a useful technique that helps administrators and materials' developers to make judgments about the usefulness of the material. Textbook evaluation, in fact, aims at making a successful teaching and learning, in the sense that it helps educators and teachers to acquire useful, accurate, and contextual insights into the nature of the material.

II.1.1.1.Description of *New Prospects*

The data are collected relying on the evaluation of the Algerian Secondary School EFL textbook *New Prospects* that is designed for third year learners of the secondary school. Grammar activities included in this textbook are used as a corpus of this study.

New Prospects is a course-book which is designed for learners of the English language at the secondary school by the Ministry of National Education in 2007. This teaching material focuses on the implementation of the Competency-Based approach. New Prospects is composed of six units: 1. Exploring the Past; 2. Ill Gotten Gains Never Prosper; 3. Schools Different and Alike; 4. Safety First; 5. It's A Giant Leap For Mankind; 6. We Are a Family. These pedagogical units deal with a specific theme. Each unit is divided into two parts: Language Outcomes and Skills and Strategies Outcomes. In addition, the topics in this book are taken from real contexts: Civilization, Sports, Corruption, etc.

The pages from eight to thirteen of the textbook contain a table which represents the book map in which the different contents of the textbook are described. Every unit deals with a particular topic divided into two major parts; Language Outcomes which is followed by two sequences Listen and Consider and Read and Consider which aim at learning grammar rules, vocabulary, and pronunciation. The second part which is named Skills and Strategies Outcomes. It contains two sequences Listening and Speaking and Reading and Writing that help learners to practise the four language skills.

In fact, each unit in *New Prospects* contains a number of grammar activities which are designed to assess learners' level. For example; in the majority of the grammar activities learners are asked to consider the sentences given to them then to answer the different questions. This may help instructors to check and know the level of the learners. These activities contain grammatical structures that are collected with different issues treated in the units. These structures are presented in a certain context, which means that the grammatical structures to be taught are not given in isolation, whereas, they are presented in different examples to introduce them.

In order to evaluate the grammar activities in this textbook a checklist is used. It involves different items to be checked. In this study, a checklist is adopted in order to check

Research Design

different items concerning the grammar activities in *New Prospects*. In fact, the items included in this checklist are derived from the review of literature and the theoretical framework used in this study. It contains six items to be checked concerning the way in which grammar activities are presented in *New Prospects*.

II.1.2. Interview

A structured interview is the second technique used in this investigation. It contains a set of questions in order to collect the needed data and find out whether English language teachers of 3rd year secondary school implement Discovery Learning in teaching grammar. In fact, the interview is a form of face to face conversation which aims at gaining reliable and valid data in the form of verbal answers from one or more interviewees.

II.1.2.1.Description of the Interview

The interview was conducted in three secondary schools in different regions of the wilaya of Tizi-Ouzou. It took place between 23rd and 27th May, 2018. It was conducted inside the schools.

The participants are seven volunteer English language SS teachers who have accepted to be interviewed. Two of them were interviewed on the 23rd May, 2018 in a classroom at SS Zamoum Mohamed in Boghni. The third one was interviewed in the classroom at SS Larbes Ali in Assi Youcef. At SS Seghouane in Oudhia four other teachers were interviewed on the 27th May, 2018.

II.2.Procedures of Data Analysis

This section includes the procedures of data analysis. It describes the research method and techniques used in analyzing the data.

II.2.1.Mixed Methods Research

The Mixed Methods Research is used in this study to analyze the findings using both qualitative and quantitative approaches. According to Creswell and Plano (2011), The Mixed Methods Research is an appropriate method to gain a deeper understanding of the issue and research problems. This method is based on the combination of both qualitative and quantitative methods in order to collect as much information as possible. The central assumption of this approach is that the uses of both qualitative and quantitative methods help in gaining better understanding of the phenomenonrather than when a single method is used.

The Qualitative research method involves an interpretive naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, in order to interpret any given phenomena in terms of the meaning people bring to them. In other words, qualitative research method depends on the understanding and interpretation of the problem (Denzin and Lincoln, 2005). The Quantitative research method emphasizes objective measurements and the statistical mathematical or numerical analysis of the data collected. It focuses on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon.

II.2.2.Descriptive Statistical Method and Qualitative Content Analysis

In order to analyze the data obtained from the corpus and the interview, we have adopted both a descriptive statistical method (the rule of three) to analyze quantitative data and content analysis for the qualitative data.

II.2.2.1.Descriptive Statistical Method

We have used the descriptive statistical method to deal with the quantitative data, which means to quantify the number of grammar activities in each unit and the number of activities where discovery learning is implemented in *New Prospects* textbook. To deal with

this, the rule of three is applied as follows: $X = \frac{Z \times 100}{Y}$

X is the calculated percentage, Z is the number of grammar tasks in each unit, and Y is the whole number of grammar tasks.

II.2.2.2.Qualitative Content Analysis

Krippendorff (1980, cited in Michael and Andrea, 2005:191) claims that: "Content analysis is a research method for making replicable and valid inferences from data to their context with the purpose of providing knowledge, new insights, a representation of facts and a practical guide to action". Content analysis is used in order to make a better understanding and knowledge about any given phenomenon. In this investigation, Qualitative Content Analysis is used in order to analyze the content of New Prospects in terms of its grammar activities, and to interpret the data obtained from the structured interview.

Conclusion

This chapter has presented the data collection tools which are the evaluation of grammar activities in *New Prospects* and a structured interview conducted with seven English language teachers of thirdyear SS. It has also presented the procedures of data analysis that is the mixed methods approach; Descriptive statistical method is used to deal with quantitative data, which is to quantify the number of grammar activities in each unit and the activities where discovery learning is implemented. Qualitative Content Analysis is used to interpret the data obtained from the evaluation of grammar activities in *New Prospects* and the structured interview.

Chapter Three: Presentation of The Findings

Introduction

This chapter deals with the presentation of the findings obtained from the evaluation of grammar activities in *New Prospects* and the structured interview held with third year SS teachers of the English language. The aim is to see whether Discovery Learning is implemented in grammar activities in *New Prospects* textbook, and whether it is implemented by thirdyear SS teacher of the English language.

III.1.Presenation of the Findings of the Analysis of New Prospects

III.1.1.The Number of Grammar Activities in New Prospects.

New Prospects contains 82 of grammar activities; the numbers are different from one unit to another. They are as follows: Unit01: 10 grammar activities, Unit02: 16 grammar activities, Unit03: 19 grammar activities, Unit04: 13 grammar activities, Unit05: 15 grammar activities, and Unit06: 10 grammar activities. Applying the rule of three the percentages below represent each number of each unit.

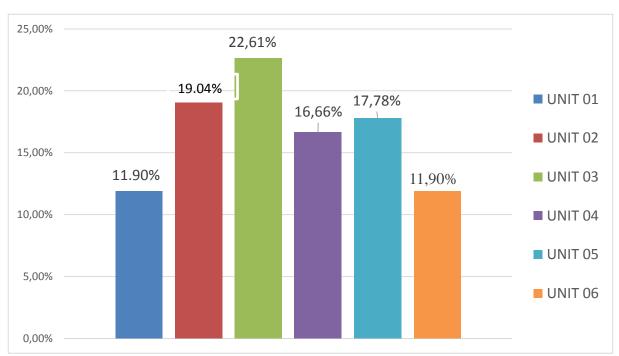


Diagram01: The number of Grammar Activities in each unit of *New Prospects*

Diagram 01 shows that *New Prospects* textbook contains six units. Each unit has an important number of grammar activities and the number of these activities varies from one unit to another. Unit has the highest percentage with 22.61%, and the units 1 and 6 have the smallest percentage with 11.90% for each.

III.1.2. The Number of Grammar Activities that Contain Discovery Learning

After the analysis of Grammar activities in *New Prospects* in terms of the principles of DL, the following percentages represent the number of grammar activities where DL is implemented, and the number of grammar activities where DL is not implemented.

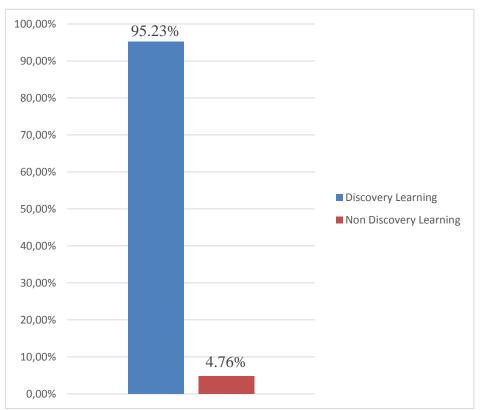


Diagram2: The Number of Grammar Activities Where Discovery Learning is Implemented.

As it is clearly displayed in diagram 2, the grammar activities in which DL is implemented occupy a highest percentage, they represent (95.23%) of the whole grammar activities. Whereas, the grammar activities in which DL is not implemented occupy a small percentage, they represent (4.76%) of the whole grammar activities.

III.1.3.The Implementation of Discovery LearningPrinciples in Grammar Activities of New Prospects.

The following results are obtained from using the rule of three. In each unit, we calculate the whole number of activities where each principle is implemented. In fact, the three following diagrams show that the principles of Discovery Learning are implemented in each unit in *New Prospects*.

III.1.3.1. The Number of Grammar Activities in which Readiness is Implemented

After the analysis of grammar activities in *New Prospects*. We have calculated the number of grammar activities that begin with a given context. The following percentages represent the number of grammar activities in each unit of *New Prospects* where this principle is implemented.

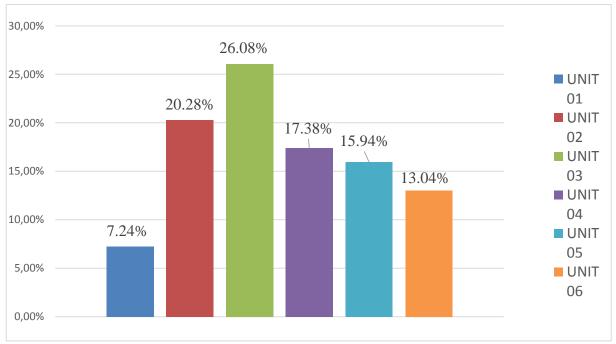


Diagram3: The Implementation of The Principle of Readiness of Grammar Activities in *New Prospects*

Diagram 3 indicates that the principle of Readiness is implemented in each unit in grammar activities in *New prospects*. The percentages vary from one unit to another. Unit 3

contains the highest percentage of grammar activities implementing Readiness with 26.08%. Unit 1 contains the lowest percentage with 7.24%.

III.1.3.2. The Number of Grammar Activities that Implement Spiral Organization

After we have calculated the number of grammar activities that discuss the same grammatical structures, the following percentages represent the number of grammar activities in which this principle is implemented.

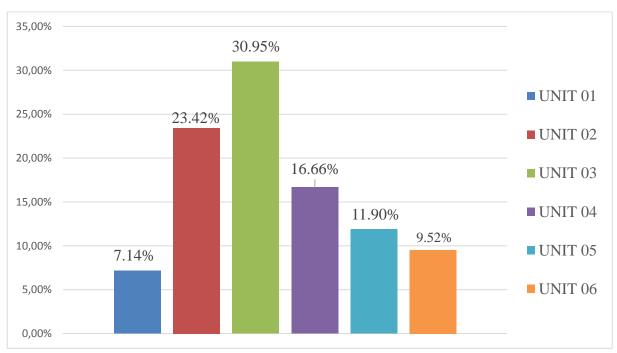


Diagram4: The Implementation of Spiral Organization in Grammar Activities of *New Prospects*.

Diagram four shows that the principle of Spiral Organization is implemented in grammar activities in *New Prospects*. The percentages vary from one unit to another. Unit 3 contains the highest percentage of grammar activities implementing the principle of Spiral Organization with 30.95%. Unit 1 contains the lowest percentage with 7.14%.

III.1.3.3.The Number of Grammar Activities in which Going Beyond the Information Principle is Implemented

After the analysis of grammar activities in New Prospects. We have calculated the

number of grammar activities in order to help learners to expend the information given to them; the following percentages represent the number of grammar activities implementing this principle.

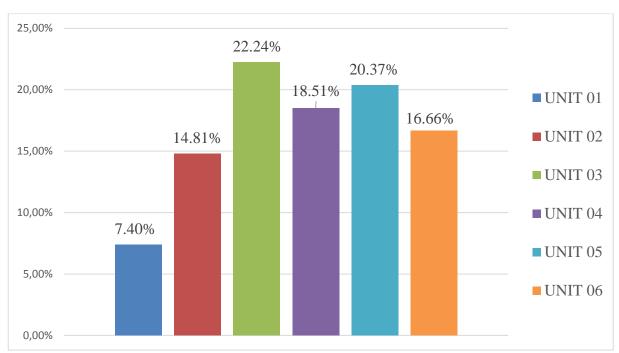


Diagram5: The Implementation of the Principle of Going Beyond the Information of Grammar Activities in *New Prospects*.

From the diagram 5Going Beyond the Information is implemented in grammar activities in *New Prospects*. The percentages vary from one unit to another. Unit 3 contains the highest percentage of grammar activities implementing the principle of Going Beyond the Information with 22.24%. Unit 1 contains the lowest percentage with 7.14%.

III.1.4. The Analysis of Grammar Activities of New Prospects.

The grammar activities that are presented in the following tables are a selected grammar activities of *New Prospects* that include the items included in the checklist.

1.DoNew Prospects' designers provide learners with inductive tasks?

| Unit | Activity | Description | Comment |
|------|----------|--|--|
| 1 | 2p17 | Learners are asked to consider sentences given to them, then answering the questions. | The aim of this activity is to find out the meaning in bold type, then find their negative and interrogative forms. |
| | 1p47 | Learners are provided with two sentences that express condition, then, they are provided with a set of questions to be answered. | they are presented |
| 2 | 3p49 | Learners are provided with a context in which items are written in bold type, and then they are asked to find what the items express. | find and deduce the meaning in bold |
| | 1p76 | Learners are provided with four sentences that express condition, and then they are asked to arrange the sentences according to the conditional type they belong to, then to explain and draw their rules. | types, then to discover and draw |
| | 2p77 | Learners are provided with one sentence with 'Unless', then they are asked to find out, the tenses that proceed and follow unless, which of the items can be used in | This activity aims at making learners aware about what does 'Unless' express, then to find out the rules that are inductively presented. |

| 3 | | replacement of unless, and what does unless express. | |
|---|-------|--|---|
| 4 | 2p115 | Learners are asked to find out what do the clauses written in bold express, and to find out what are the main and the subordinate clauses. | This activity aims at making learners able to distinguish between main and subordinate clauses. |
| 5 | 1p137 | Learners are asked to find what do the items written in bold express, and then to explain the form of the verbs which follow them. | The rules in this activity are presented inductively, and it is up to the learners to deduce and discover them by themselves. |
| | 4p146 | Learners are provided with 3 sentences, and then they are asked to answer the questions that follow. | This activity is about helping learners to distinguish between the verbs of 'state' and 'action', but the rules are not given directly but it is up to the learners to find them. |
| 6 | 1p176 | set of questions related to 'each other' and to 'one another'. In question c for example learners are asked to give the reason why 'one another' used in preference to 'each | activity is to make learners know how 'each other' and 'one another' are used, but the rule is not given |
| | | other'. | |

Table one: The Inductive Approach in Grammar Activities of New Prospect

The qualitative analysis of grammar activities in *New Prospects* indicates that the different grammatical rules are not given directly to the learners, but it is up to the learners to deduce the rules themselves.

2. Do *New Prospects'* designers provide the learners with contexts that help them to discover the grammatical rules?

| Unit | Activity | Description | Comment |
|------|----------|--|---|
| 1 | 2p17 | Learners are provided with a set of sentences and they are asked to consider them and to answer the questions that follow. | where different items related to their prior |
| | 1p23 | Learners are asked to pick out from the context provided to them sentences which contain the comparative and the superlative of quantifiers. | This activity aims at making learners able to distinguish between quantifiers to discover and deduce the rules how they are formed. |
| 2 | 1p47 | Learners are provided with a context about how conditional type is used, and then they are asked a set of questions to be answered. | |
| | 3p49 | Learners are required to consider the sentences provided to them, and to discuss the questions that follows. | activity is to help learners to be ready to learn the |
| 3 | 1p76 | Learners are provided with sentences to consider, and then they are asked to do the tasks that follow. | learners able to |
| | 4p78 | Learners are provided with sentences that are considered as a context, and then | The aim of this activity is to make learners able to know what do the items in |

| | | they are asked to answer the questions that follow. | |
|---|-------|---|--|
| 4 | 1p108 | Learners are asked to consider the modals in bold type, and then they are asked to do the task that follow. | This activity aims at helping learners to know what do the modals in bold express and how they are formed. |
| 5 | 1p137 | Learners are asked to consider the sentences, then to answer the questions that follow. | The objective of this activity is to make learners aware about how 'used to' is used, and help them to deduce what does it express, and what is the form of the verbs following 'used to'. |
| 6 | 1p175 | Learners are asked to pick out from the text which is considered as a context the sentences which express 'likes', 'dislikes', and preferences, then to answer the questions that follow. | The aim of this activity is to help learners to deduce and discover from the context; the form of the verbs that follow the verbs expressing 'likes', 'dislikes', and 'preferences'. |
| | 2p177 | which is considered as a context the | activity is to make learners aware about how quantifiers are used with countable and uncountable |

Table Two: The Use of Context in Grammar Activities of *New Prospects*

The above selected grammar activities are the activities that contain a certain context, that function as examples and situations that help the learners to acquire knowledge.

3.Are grammar activities clear and organized in order to help learners to understand and grasp the rules easily?

| Unit | Activity | Analysis | Comment |
|------|----------|--|--|
| 1 | 2p18 | Learners are asked to add the items in bold to the verbs to make the text meaningful. | This activity aims at making learners aware how to use the items in bold to make a meaningful text. |
| | 3p24 | Learners are asked to fill in the blanks with the appropriate quantifiers. | The objective of this activity is to help learners to discover how to use the quantifiers; their superlative and comparatives. |
| 2 | 1p49 | Learners are asked to rewrite sentences using 'it's high/about time'. | The aim of this activity is to help learners to deduce and know how 'it's high /about time' are used. |
| | 2p50 | Learners are asked to rewrite statements using 'had better' or 'had better not' to convey the same meaning as conveyed by the sentences given. | The aim of this activity is to help learners to discover and deduce the rules when 'had better' and 'had better not' are used. |
| 3 | 1p77 | Learners are asked to consider the situations, then to write the sentences with 'if'. | activity is to discover the form of the conditional type. |
| 4 | 3p109 | Learners are asked to consider the sentences, and then answer the questions that follow. | This activity aims at making learners able to deduce the function of words ending with 'ing'. |
| 5 | 1p145 | Learners are asked to read the text and to pick out the sentences which contain comparative of adjectives and adverbs. | helping learners to know the difference between the |

| 6 | 2p176 | Learners are asked to | The aim of this |
|---|-------|-------------------------|------------------------|
| | | prepare a short | activity is to help |
| | | paragraph about | learners to be able to |
| | | 'likes' and 'dislikes'. | discover and deduce |
| | | | the rules about the |
| | | | use of verbs that |
| | | | express 'likes' and |
| | | | 'dislikes'. |
| | | | |

Table Three: The Implementation of Spiral Organization in Grammar Activities of *New Prospects*

The selected grammar activities presented in the above table are the grammar activities that are connected and related to each other, and discuss the same the same grammatical structured to be learned, in order to help learners to understand better the grammatical structures.

4. Do Grammar tasks in New Prospects enhance the engagement of the learners?

| Unit | Activity | Description | Comment |
|------|--------------|-------------------------------|------------------------------------|
| 2 | 2p49 | Learners are asked to | The aim of this |
| | | respond to each of | activity is to help |
| | | the situation given, | 0 1 |
| | | then to write a | in the information |
| | | sentences starting | given to explore it |
| | | with 'wish'. | and to discover what |
| | | | tense is needed. |
| | 3p49 | Learners are asked to | The objective of this |
| | | consider the | activity is to make |
| | | sentences, then to | learners engaged by |
| | | discuss the questions | giving their own |
| | | that follow. | discussion about the |
| | 2.74 | | items in bold. |
| | 2p56 | Learners are asked to | The objective of this |
| | | rewrite the short | activity is to help |
| | | business man's | learners to be able to |
| | | memo to make it more tactful. | |
| | | more tactiui. | about how passive voice is used by |
| | | | making the necessary |
| | | | changes. |
| 3 | 2p77(grammar | Learners are asked to | This activity aims at |
| 3 | explorer I). | give sentences of | providing learners' |
| | exploier i). | their own about the | 1 |
| | 1 | men own about the | ongagoment in the |

| | 2p77 (grammar explorer II) | Learners are asked to consider sentences, then to answer the questions that follow. | learning process, by giving them the opportunity to give their own sentences about the conditional type. This activity aims at making learners able to engage and go beyond the information given |
|---|---|---|--|
| 4 | 1p116(grammar explorer II) 1p117(grammar explorer III) | Learners are asked to go back to the text on the previous page then to answer the questions. Learners are asked to go back to the text and to pick out | information given. This activity aims at making learners active participants since they are engaged by giving their own sentences. Since learners are asked to explain and illustrate with their |
| 5 | 1p138 | sentences which contain the link words Learners are asked to go back to the questions and | own sentences, this activity aims at making them engaged in the learning process. This activity aims at giving the opportunity for |
| | | answers in the previous page, then answer the questions that follow. | learners to explore the information given to them, to discover new information. |
| 6 | 2p168 | Learners are asked to prepare a short dialogue, for asking and giving advice. | This activity aims at helping learners to discover and deduce the way for asking and giving advice, by using the information given and explore it. |

Table Four: The Engagement of the Learners in Grammar Activities of New Prospects.

The above presented activities are designed to encourage the engagement of the learners and to help them to use their creativity and intuitive thinking.

5. Are leaners provided with sufficient information that guides them to go beyond these information?

| Unit | Activity | Description | Comment |
|------|--------------------------------|--|---|
| 1 | 2p18 | Learners are asked to add used to, was able to, or had to, to the verbs in brackets to make the text meaningful. | information given to |
| 2 | 2p48 | Learners are asked to link each pairs of sentences using the structure discussed in the previous activity. | The aim of this activity is to make learners able to use the information about providing/ provided that, and as long as in to go beyond that information. |
| 3 | 2 in grammar explorer (II) p77 | Learners are asked to write the sentences given to them by using unless | The objective of this activity is to make learners explore the information they have about the use of unless. |
| 4 | 3p118 | In this activity learners are asked to use the items A-G to write if conditional sentences. | The aim of this activity is to make learners able to go beyond the Information that rae already presented to them about the rule of using if in sentences. |
| 5 | 2p145 | Learners are provided with a table, they are required to study the figures and to compare the planets using the comparatives and superlatives of adjectives and adverbs. | This activity aims at making learners aware about the use of comparatives and superlatives of adjectives by using and explores the information given to them. |
| 6 | 1p168 | Learners are asked to consider sentences A-E then to discuss the meaning that each of the modals in bold type conveys. | This activity aims at making learners able to grasp the meaning of the modals in bold type by going deeper. |

Table 05: Going Beyond The Information Principle in Grammar Activities of *New Prospects*.

The above grammar activities are designed to help learners to go deeper, using the information that are already discovered in order to make them understand better the grammatical structures, and to engage them in the construction of their knowledge.

III.2. Teachers' Interview

1. How long have you been teaching English?

The teachers who participated in our interview have an experience which varies from 3 to 25 years.

2.As a teacher, during your experience is there any change in the way you teach grammar?

Out of the 7 participants only the most experienced teachers; those who have experiences which vary from 13 to 25 years answered that there is a change in the way they teach grammar. (2/7) who have more experience have said that they have started teaching grammar by using the deductive approach, and then they have shifted to the inductive one. (5/7) of the participants whose experience varies from 3 to 8 years have replied that there is no change in the way grammar is taught. They started teaching grammar using the inductive approach.

3. How do you proceed in teaching grammar?

All the participants (7/7) have replied that they teach grammar using the inductive approach. In fact, they teach grammar in context. They stated that they provide learners with a context and then the learners deduce the rules themselves.

4. When you teach grammar do you prefer to give your learners the rules first or letting them discover the rules themselves?

All the participants in the interview state that, they prefer letting their learners discover the rules themselves, because letting them discover the rules themselves by using their thinking helps them to better memorize the rules.

5.Do you prefer your learners to work in groups or individually when doing their grammar tasks?

According to 5 teachers, group work is preferable when learners do their grammar activities. They have argued that when learners work in groups they share and exchange their ideas, help each other and the learners become more motivated. The remaining teachers (2/7) have responded that they prefer learners work individually because this helps them to check the learners' understanding of the lesson.

6.Do you think it is easier to teach grammar when the learners discover the rules themselves, or when you provide them with the rules?

All the participants (7/7) have answered that it is easier to teach grammar when the learners discover the rules themselves.

Conclusion

This chapter has presented the findings obtained from the evaluation of grammar activities in *New Prospects* and from the structured interview conducted inside the schools with seven SS teachers of the English language in different regions. From the obtained results, it is deduced that Discovery Learning is implemented in grammar activities in *New Prospects* textbook and by 3rd year English language teachers.

Chapter Four : Discussion of The Findings

Introduction

This chapter discusses the findings obtained from the evaluation of grammar activities of *New Prospects*, and the results obtained from the structured interview conducted with Secondary School teachers of the English language. The aim of this chapter is to answer the research questions, and to confirm or infirm the suggested hypotheses.

IV.1.Discusssion of the Results Obtained from the Quantitative Analysis of

New Prospects Grammar Activities

IV.1.1.The Number of Grammar Activities in Each Unit of New Prospects

From the obtained quantitative results, it is found that New Prospects contains 84 grammar activities in the suggested six teaching units. Each unit contains an important number of grammar activities. For example, unit three has nineteen grammar activities which represent(22.61%) of the whole number of grammar activities in New Prospects. From the results, it is clear that New Prospects designers give a great importance to grammar. These findings confirm the usefulness and the benefits of grammar in learning foreign languages. In fact, grammar is an essential aspect in learning foreign languages. Its mastery helps learners to have a good knowledge about a given language. In addition, the mastery of grammar makes learners become good communicators in the sense that if the individual masters and has a good knowledge about the grammar of a language, s/he will communicate in a clear and a correctway. This helps her/him to avoid misunderstandings and communication breakdowns. Furthermore, without a correct grammar an individual cannot transmit correctly her/his ideas although she/he has a good background about something. In this context, Ellis (2003:168) claims that "Practice in producing grammatically correct sentences was viewed as a key of learning''. This means that, New Prospects' designers consider grammar as a key of learning and as an essential aspect in the learning process.

The quantitative analysis also show that the majority of grammar activities of *New Prospects* are taught using DL and this is shown in diagram (2p23). In fact, the number of grammar activities where DL is implementedoccupies a high percentage which represent (95.23%) of the whole grammar activities. Whereas, there is a small amount of grammar activities where DL is not implemented. From those results, it is deduced that, *New Prospects'* designers consider DL as an important aspect in grammar teaching. DL, indeed, helps learners to create things by themselves and helps them to construct their own knowledge. In addition, this method helps learners to develop their thinking skill and participate actively in their learning process. Moreover, DL is useful in helping learners to discover the intended meaning and engaging them in inquiry and discovery.

IV.1.2.The Implementation of Discovery Learning Principles in the Grammar Activities of *New Prospects*

Grammar in *New Prospects* is taught by using DL which utilizes Bruner's Constructivist Theory (1996).Indeed, fromthe obtained quantitative results (see diagrams 3p24, 4p25, 5p26), it is noticed that the principles of Discovery Learning are implemented in the majority of grammar activities of *New Prospects*. First of all, diagram 3p24 indicates that the principle of Readiness is widely implemented in the majority of grammar activities in each unit of *New Prospects*. Indeed, this principle is a fundamental aspect in teaching grammar and *New Prospects*' designers begin the lesson with it. The basic assumption and idea of this principle is that instruction must begin by providing learners with a context in order to help them to become familiar with the grammatical structure and also to make them ready to acquire new items. For this reason, *New Prospects* designers do not present the new grammatical structure in isolation, but they are presented in a context in order to teach them in more concrete way. For example, instead of giving directly the rules that are associated with specific grammatical structures without putting the latter in examples and different cases

extracted from real life situations, they present them with a specific context in which learners' prior knowledge is involved in order to make them aware of the structure and to be ready to construct new information and knowledge. For instance, in (grammar explorer I p76) learners are provided with four sentences, which function as a context in order to introduce the grammatical structure to be taught and from the context which is provided, the learners will be able to construct and discover their new knowledge. In this activity learners are asked to consider the sentences given to them then to answer the questions A-B. The context of this activity is as follows: 1- If he went to an Art School there'd be no guarantee that he could get a job afterwards. 2- He wouldn't be a teacher even if it were the last job on earth. 3-I wouldn't have been a teacher myself if I'd have my way. 4- If he wants to be an artist, he will have to decide what sort of artist he wants to be, in this context the prior knowledge of learners is involved since the sentences contain the proposition "IF" this helps them to acquire the condition. From their prior knowledge, they will be able to learn new structures included in this activity which are: conditional type 2 and 3. So, relying on this context, the learner will discover and construct new knowledge. Another example in which the principle of Readiness is implemented is the activity one in grammar explorer II page 48. In this activity New Prospects designers want to teach two grammatical structures which are: expressing a "Wish" and "Advice". Learners are asked to consider sentences given to them and to do the tasks that follow. The context of this structures is as follow: A- I wish our fellow citizens had heard our call for fighting corruption earlier than now. B- I wish the present anti-corruption laws were tougher. C- I wish our government would pass a law giving the citizens the right to know how public funds are spent, and the sooner the better. D- It's high time we organized ourselves into an anti-corruption association. E- It's about time wefought this pollution. These two structures are put within a context. When different examples are given to the learners and their experience and prior knowledge are involved, this may help them to

understand the structures better because they have already know what do the expressions "Wish, It's high time and It's about time" express.

The second principle of Discovery Learning which is Spiral Organization plays an important role in learning grammar. For this reason it is implemented in grammar activities in each unit in New Prospects. As it is mentioned in the review of the literature (page 15), when aspecific grammatical structure is presented in a simple, well organized way and applying this structure in a repetitive way this helps learners to understand and grasp the subject matter easily. For example, in grammar explorer (I) p.145, the three activities are well organized, and there is a connection between them in the sense that; they discuss the same grammar item which is the use of comparatives of adjectives and adverbs. In the first activity, learners are asked to pick out from the text the sentences which contain the comparative of adjectives and adverbs and to write them in the table. In the second task, learners are required to find how the comparative of adjectives and adverbs are formed then to illustrate with their own examples. Then, in the last activity they are asked to study the figures given to them in the table then compare them using the comparatives of adjectives and adverbs. These three activities treat the same grammatical structure which is the comparative of adjectives; this structure is repeated in different tasks, so that the learner keeps developing the learned concepts in a more and more details. Adding to this, activity one and two in grammar explorer II page 168 discuss the meaning and the different forms of the modals. In the first activity learners are given different examples containing modals and they are asked to discuss the meaning that each of the modals conveys. And in the second activity the learners are asked to prepare a short dialogue between a school psychologist and a student where they will ask for and give advice using the appropriate modals. Moreover, in activity one and two in grammar explorer I page 48, the structure of "Providing that and As long as" are the structures to be taught. In the first activity the learners are asked different questions concerning

thesestructures, in the second activity they are provided with different pairs of sentences and they are asked to link each pairs using "Providing that and As long as". These two activities are connected to each other; they treat and discuss the same grammatical structure, like this learners will practice these latters in more details to understand them better.

Third, Going Beyond the Information as it is shown in the diagram (5p27) is also implemented in grammar activities in *New Prospects*. Going beyond the information is a fundamental principle in making learners more active and involved in their learning process by means of providing them with exercises in which they are supposed to use their intuition and critical thinking by asking them to explain, discuss, and give their own examples. For example, task 1 in grammar explorer (I, p77), learners are asked to write the sentences with (if). Here the learners will use the information given to them and go deeper by using their thinking and extrapolation in order to achieve the answer. In activity 2 in grammar explorer (I, p77) learners are asked to make four sentences of their ownin which they use condition. By this expression we can understand that the learners have to use their creativity in order to explore the information given to them. The same thing in the activity (2p 168), learners are asked to prepare a short dialogue in which they are supposed to ask and give advice using the appropriate modals. Here learners will effectively use their thinking and intuition in order to go deeply and explore the information given to them so as to achieve a better understanding of the grammatical structure.

In fact, when *New Prospects* designers present a specific grammatical structure, they provide the learners with different activities. These activities function as problems to be solved, learners then use their creativity and intuition individually or in groups to find solutions to those activities.

IV.2.Discussion of the Qualitative Results obtained from The Analysis of Grammar Activities of *New Prospects*

IV.2.1.The Inductive Approach in Grammar Activities of New Prospects

The results obtained from the qualitative analysis of grammar activities in *New Prospects*(see table 1p27) show that the inductive approach is widely used in these activities. Almost all the rules of the grammatical structures are presented in an implicit and indirect way to the learners. *New Prospects* designers use the grammatical structure to be taught in a specific context and it is up to the learners to find, infer, and deduce the meaning of the structures themselves. In fact, the inductive approach in these activities is implemented by using different expressions in order to enhance learners' induction and critical thinking skill. For example, the use of different "wh" questions such as which, how, what....etc, or verbs like find out, consider, explain, and also the use of statements like; what do the items in bold express, draw the rules...etc. This requires from the learners to use their induction and intuitive thinking to find the rules.

In activity 1.p.25, for instance, different conditional types are taught. The grammar tasks do not present the rules which are associated with each type, but they asked learners different questions concerning the use of different conditional types and to find out the meanings and the rules associated with those structures. For example, how to formulate each conditional type and to find the tenses used with each type. In fact, following this procedures and techniques in presenting the structures means that *New* Prospects designers want to make the learners more active and engaged in constructing their knowledge. This approach helps learners to be motivated, as it helps them to develop their metacognition and go deeper in their learning process.

IV.2.2. The Use of Context in Grammar Activities of *New Prospects*

After the analysis of grammar activities in New Prospects, we notice that the majority

of grammar activities contain a context where the grammatical structures are presented. In fact, *New Prospects* designers present a specific grammatical structure in relation to some contexts and learners' experiences. Learners can make connections to their existing and prior knowledge. Indeed, these contexts function as examples and situations where the structures can be used. By following this procedure, *New Prospects* designers want to introduce the structure to the learners, as well as to make them ready and willing to learn the new structures. In addition, they also want to facilitate the learning process to the learners, since they begin first with what they already know. Learners will construct the new knowledge little by little starting from their previous one. Moreover, grammar activities in *New Prospects* give a great importance to teach grammar in context because teaching grammar in context helps learners to understand and to see how the grammatical rules can be used in different sentences and the learners will be able to apply the rules in their speech and daily communication.

Providing learners with context must be given an important consideration. For example, activity one in grammar explorer IV page 68, *New Prospects* designers present to the learners the structure of the passive voice. In doing so, they put this structure in contexts and examples. These contexts in fact, contain what the learners have already known. Because they have knowledge about the structure of the passive voice.

IV.2.3.The Implementation of Spiral Organization in Grammar Activities of New Prospects

From the qualitative analysis of grammar activities in *New Prospects*, we notice that grammar activities in *New Prospects* are spirally organized. They are presented in a simple and clear way. They are designed according to the learners' capacity to understand things. *New Prospects'* designers do not involve difficult items that learners cannot understand. In fact, these activities are connected to each other, since there are a lot of grammar activities that treat and discuss the same concepts and elements. In addition, it is clearly shown that,

before New Prospects designers move to teach new a structure, they provide their learners with different activities where they revisit the basic concepts over and over until the learners reach the level of full understanding and mastery. For example, in activity (1p23) the quantifiers and their meanings is the subject matter to be taught. Learners are asked to pick out sentences that contain the comparatives and the superlatives of quantifiers. In the two subsequent activities New Prospects designers treat the same subject. They ask learners questions about the same structure which is presented in the previous activity. They put the grammatical structure in different exercises in order to help learners to better understand the concepts and the structures to be taught.

IV.2.4. The Engagement of the Learners in the Grammar Activities in New Prospects

From the analysis of grammar activities in New Prospects, it is clearly shown that it contains a lot of grammar activities in which the learners are engaged in constructing their knowledge and learning. From learners' engagement, it is deduced that they are not passive participants. They are rather active learners participating and involved in their learning process. In this case, learners give their different contributions. They make their efforts to make connections between different basic elements of the lecture. In fact, the reason why New Prospects' designers engage and involve learners in their learning, is that, the knowledge obtained from the participation of learners will be stored in their minds and they will remember it along their time since they take a part in the construction of that knowledge. Moreover, when the learners are engaged and involved in the learning process, they understand better the different principles and concepts rather than when they are told and For this reason, grammar activities in New presented without learners' participation. *Prospects* engage learners in the construction of their knowledge by providing them with different exercises in which they are asked to discuss, to explain, and to justify etc. For instance, in activity 2 in grammar explorer II page 168, learners are asked to prepare a

dialogue in which they ask for and give advice. In activity 2 in grammar explorer II.p.77 learners are asked to rewrite the sentences given to them using unless and to make the necessary changes. In these activities learners are engaged actively in preparing what they are asked to by using their thinking, cognition, and experiences. Trowler (2010:03) claims that:

other relevant resources invested Student engagement is concerned with the interaction between the time, effort, and by both students and their institutions intended to optimize the student experience and enhance the learning outcomes and development of students and the performance, and reputation of the institution.

In other words, when learners are engaged in their learning process, they need time, efforts to do this, as well as, relevant materials where they practice their experiences and also to enhance the development of learners' cognitive abilities.

IV.2.5. Going Beyond The Information in Grammar Activities in New Prospects

The analysis of grammar activities in *New Prospects* shows that after the learners generate the major principles, the rules and concepts concerning the grammatical structure they are provided with extra activities in which they practice and explore deeply the structures they have already learned. Learners will explore their understanding of the structures in different situations and cases. They will be able to manipulate things and understand better the function of different grammatical structures. First, learners have opportunities to use their thinking skill, creativity, as well as their productivity. They are also able to develop a sense of self confidence and autonomy in the sense that they feel themselves as problem solvers and autonomous learners in constructing their knowledge. Second, when *New Prospects* designers provide learners with cases to discuss, this helps them to check and assess the learners understanding. For example, in grammar explorer VI page 86, the passive voice is a subject to be taught. Learners construct their knowledge about the passive voice, then in activity (1p87) the instructors provide learners with a passage and they asked them to turn the sentences with

the items in bold type into the passive voice. So, learners will apply their understanding and the different information that they have about the passive voice to go deeper.

IV.2.6. The Implementation of the Constructivist Approach in Grammar Activities of New Prospects

The analysis of grammar activities of *New Prospects* shows that the constructivistapproach is implemented in those activities. *New Prospects* designers designed grammar activities in the way learners can construct knowledge. They provide them with different questions concerning the grammatical structures and ask the learners to find the needed information about the given structure. In this case, learners construct their own knowledge by themselves when responding to the different questions relying on their prior knowledge and experiences. In these grammar activities, indeed, the two types of constructivism are implemented. Frist, the cognitive constructivism developed by Jean Piaget is widely implemented. For example, in grammar explorer I page 137 in the second question, *New Prospects* designers ask the learners to find the meaning that "Used to and Used for" express. Learners in this case, use their cognition and intuition to find what they are asked to.

In addition, social constructivism which is developed by Lev Vygotsky is also implemented. For example, in activity 2 page 176, learners are required to prepare a dialogue with their partners, in which they are asked and answer questions about likes and dislikes. In this case, the learners interact with each other to do so. This interaction between peers and their discussion lead to the construction of meaning. In addition, there are different activities in which learners are asked to discuss things. So, the learners can make teams and groups to discuss matters concerning the grammatical structures, from different of view and ideas learners can construct knowledge from one another.

In fact, the rules of the grammatical structure included in *New Prospects* are not presented directly to the learners. *New Prospects* designers ask the learners different questions

concerning the grammatical structure and then learners find and deduce the rules themselves. After the learners find out the rules, they are provided with extra exercises in order to make them engaged in practicing what they have found. Learners in this case learn through inquiry, they learn things by using their cognition, thinking and intuition.

IV.3.Discussion of the Results of the Teachers' Interview

IV.3.1.From the Deductive to the Inductive Approach in Grammar Instruction

From the results obtained from the structured interview conducted with third year secondary school teachers of the English language, we notice a variation in teachers' experience. In fact, there are those with experiences which vary from 13 to 25 years, and those whose experience varies from 3 to 8 years. Teachers who have a long experience have changed their methods of teaching grammar, in the sense that, they have started teaching grammar using the deductive approach then they have shifted to teach it by using the inductive one. Whereas, those who have short experience did not change the method of teaching grammar. They have started directly using the inductive approach. From this, it can be understood that, in the past with the old curriculum, teachers used to teach grammar explicitly in a direct way, however, with the reform in the educational system in Algeria new curricula are developed and new methods are adopted. Nowadays, in fact, instructors adopt a new method for teaching grammar which is the inductive approach, where the teacher is no longer the main authority in the classroom. The authority shifted to the learners. Teachers use this method to make the instruction more learner-centered. They want to make them active participants. Indeed, this approach helps learners to understand better the concepts and the rules as it makes them creators of their own knowledge, and motivated as well. In this context, Prince and Mayer (2007:14) claim that "The better way to motivate students is the inductive teaching". This means that in the inductive teaching, learners are required to use their thinking, efforts and induction to find solutions for the problematic situation. This of course

makes them motivated and active participants.

IV.3.2.The Method Used By Third Year Secondary School Teachers in Teaching Grammar

From the answers of the teachers, we notice that all the participants use the same method when teaching grammar, which is the use of the inductive approach. In fact, they do not present the grammatical rules directly, but they provide learners first with a specific context in which they present the grammatical structure to show to the learners the different situations where the structure can be used. This method is widely used by Third Year secondary school teachers of the English language because it has a significant importance in teaching and learning grammar. The inductive approach helps the learners to construct, discover, and well understand the structure presented to them and by making a connection between the structures included in the context with their existing knowledge. In such away, learners will construct a new meaning. As one teacher claims: "I teach grammar by using the inductive approach, I give first the learners a context and examples, and then I provide them with exercises".

In addition, the results obtained from the structured interview show that, all the interviewed teachers prefer letting their learners discover the grammatical rules themselves rather thanprovide them with the rules directly. From these answers, it is deduced that third year secondary school Teachers of the English language adopt the learner-centered approach in teaching grammar. In this approach, teachers give learners opportunities to learn and construct knowledge independently. In addition, when the teachers do not provide directly the rules to the learners, this means that they raise in the learners a kind of self-autonomy and give them a kind of responsibility. Teachers consider learners as independent participants and also responsible for their discoveries and findings. In other words, when the learners deduce the rules themselves, they justify and explain what they have found. Furthermore, this helps

them to never forget what they have discovered. Since they use their thinking, creativity and curiosity to know new things, learners will have a life-long understanding. Finally, from the obtained data, all the teachers haveargued that: "It is easier to teach grammar when the learners discover the rules themselves". This method, in fact, makes learners more motivated towards their learning. So, learners in this case are active participants, understand better what they discover, and this indeed facilitates the task to the teacher, in the sense that they better manage their classes. They do not spend a lot of time in explaining and re-explaining the rules. Teachers do not find difficulties with their learners since they are engaged in the learning process.

IV.3.3. The Collaborative Learning in Grammar Instruction

From the analysis of the answers provided by the teachers, we notice that the majority of the teachers prefer and use collaborative learning when their learners do their grammar tasks. When learners work in groups interact with each other and share different information, this interaction therefore leads certainly to the construction of knowledge and meaning, since each one integrate his/her specific knowledge. In addition when learners work in groups, each one helps the other in understanding things. They have more opportunities to learn from each other. Furthermore, collaborative learning helps in raising the critical thinking of the learner. In other words, they ask different questions about the subject matter, and make hypotheses. In addition to that, when the learners work in groups the difficult tasks become easier because there is a sharing of information between the learners. Moreover, they give more opportunities to the learners to express themselves freely without hesitation because they are discussing things with their partners.

From the results obtained from both quantitative and qualitative research method, it becomes clear that grammar activities of *New Prospects* are designed inline with Discovery Learning procedures. This confirms the first hypothesis which states that grammar activities

in *New Prospects* are designed inline with Discovery Learning procedures. Second, from the results obtained from the structured interview by using Content Analysis the second research question stating that third year secondary school teachers of English language implement Discovery Learning method in teaching grammar is confirmed.

Conclusion

The present chapter has discussed the results obtained from both the evaluation of grammar activities in *New Prospects* textbook and a structured interview conducted with seven third year secondary school teachers of the English language, which present valid arguments that answer the research questions and confirm the hypotheses suggested in the general introduction. The study shows that Discovery Learning is implemented in grammar instruction, mainly by *New Prospects* designers and also by third year secondary school teachers of the English language.

General Conclusion

General conclusion

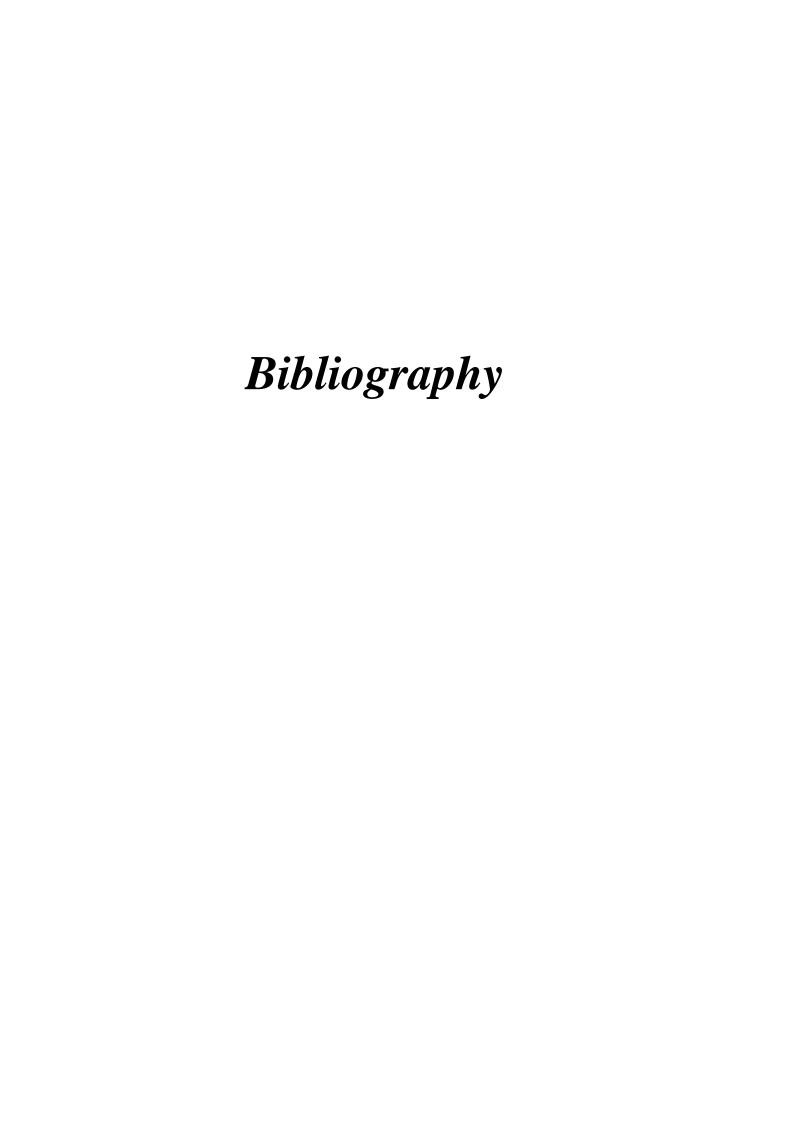
This study has investigated the implementation of Discovery Learning in teaching grammar. The case study of grammar activities of *New Prospects* and third year secondary school teachers of the English language. The main objectives of this research are to find out whether Discovery Learning is implemented in grammar activities of *New Prospects*, as well as, whether it is implemented by third year secondary school teachers of the English language. The theory adopted in this investigation is Bruner's Constructivist Theory (1996). In the theoretical framework, we have dealt with the explanation of the constructivist theory of Bruner, and its basic principles.

In order to answer the advanced research questions, as well as, to confirm or infirm the suggested hypotheses in the general introduction, we have adopted the Mixed Methods Approach, which means we have used both quantitative and qualitative methods for data collection and data analysis. The results have been obtained from both the evaluation of grammar activities of *New Prospects* textbook and from a structured interview conducted with seven teachers of third year Secondary school of the English language. For the quantitative method, we have adopted the rule of three, whereas, the qualitative content analysis is used for the analysis, and the description of grammar activities of *New Prospects* textbook and for the interpretation of the qualitative data of the structured interview.

The discussion of the results obtained from both the analysis of grammar activities in *New Prospects* textbook and the structured interview have provided answers to the research questions and confirm the suggested hypotheses. These results have shown that grammar activities of *New Prospects* are designed in line with Discovery Learning procedures. It has also been found that third year secondary school teachers of the English language implement Discovery Learning in teaching grammar.

General Conclusion

We wish that the results of this research will open the doors for further research. Therefore, we suggest conducting the use of Discovery Learning in other aspects of language, or conducting the same research using classroom observation and questionnaire to learners.



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Checklist

- 1. Do New Prospects' designers provide learners with inductive tasks?
- **2.** Do grammar activities in *New Prospects* provide a context in which learners can discover grammar rules?
- **3.** Are grammar activities clear and organized in order to help learners understand and grasp the rules easily?
- **4.** Are learners provided with sufficient information that guides them to go beyond the information?
- **5.** Do grammar tasks enhance the engagement of the learners?
- **6.** Are grammar activities designed in the way learners can construct meaning?

-Structured interview with 3rd year SS teachers of English language:

-Teacher one:

- 1. How long have you been teaching English?
- -Since 25 years.
- 2. As a teacher, during your experience is there any change in the way you teach grammar?
- -Of course, from teaching grammar to grammar in context. The exercises are preceded by a short paragraph, then read and consider, then learners are asked to do the activities.
- **3.** How do you proceed in teaching grammar?
- -It is not directly, but it is up to the learners to deduce the rules after providing them with a context.
- **4.** When you teach grammar, do you prefer to give your learners the rules first or letting them discover the rules themselves?
- -I prefer letting them discover the rules by themselves, then they are asked to give their own examples, in such away they become active participants.
- **5.** Do you prefer your learners to work in groups or individually when doing their grammar tasks?
- -I prefer my learners work in groups, but the groups should not be large, no more than 5 learners.
- **6.** Do you think, it is easier to teach grammar when the learners discover the rules themselves or when you provide them with the rules?
- -I think that it is easier to teach grammar when the learners discover the rules themselves, they built the lesson, the teacher is a facilitator.

-Teacher two:

- 1. How long have you been teaching English?
- -Since 4 years.
- 2. As a teacher, during your experience is there any change in the way you teach grammar?
- -No, there is no change; I started teaching grammar using the inductive method.
- **3.** How do you proceed in teaching grammar?
- -I teach grammar in context. I give a certain context to the learners, then I asked them to find out a given rule.
- **4.** When you teach grammar, do you prefer to give your learners the rules first or letting them discover the rules themselves?
- -It is better to let them discover the rules themselves, when they discover the rules themselves they will never forget them.
- **5.** Do you prefer your learners to work in groups or individually when doing their grammar tasks?
- -I prefer my learners work in groups in doing their grammar activities, this enable them to share their understanding.
- **6.** Do you think it is easier to teach grammar when the learners discover the rules themselves or when you provide them directly with the rules?
- -It is better when learners discover the rules themselves, this help the teacher manage his/her classroom.

-Teacher three:

- **1.**How long have you been teaching English?
- -I have been teaching English for about three years.
- **2.** As a teacher, during your experience is there any change in the way you teach grammar?.

- -No, there is no change. I started to teach grammar with the new method in which is inductive one.
- **3.** How do you proceed in teaching grammar?
- -For me it is grammar in context; which means the learners deduce the rules themselves.
- **4.** When you teach grammar, do you prefer to give your learners first the rules or letting them discover the rules themselves?
- -Ok, I prefer my learners deduce themselves the rules.
- **5.** Do you prefer your learners work in groups or individually when doing their grammar tasks?
- -For me, in doing their grammar tasks I prefer to make them either in pairs or in groups, in order to help each other and share the information between them.
- **6.** Do you think, it is easier to teach grammar when the learners discover the rules themselves or when you provide them directly with the rules?
- -For me, it is easier when the learners deduce themselves the rules ,because, I am sure that they will never forget them it is their work, they made efforts to find the rules, so, like this they will going to learn them very well.

-Teacher four:

- **1.**How long have you been teaching English?
- -Since 8 years.
- 2. As a teacher, during your experience is there any change in the way you teach grammar?
- -No, there is no change. I started to teach grammar directly using the inductive approach?
- **3.** How do you proceed in grammar?
- -I teach grammar using the inductive approach. I provide the learners with different examples and contexts where I include the structure that they have already found.

- **4.** When you teach grammar, do you prefer to give your learners first the rules or letting them discover the rules themselves?
- -Ok, I prefer to let them discover the rules by themselves, because in such away, the learners will better memorize the rules and remember them better.
- **5.** Do you prefer your learners work in groups or individually when doing their grammar tasks?
- -I prefer that each learner work individually in order to check the learners' understanding.
- **6.** Do you think it is easier to teach grammar when the learners discover the rules themselves or when you provide them directly with the rules.
- -For me, it is easier to teach grammar when the learners discover the rules themselves, because in such away, they apply the rules that they have found.

-Teacher five:

- **1.**How long have you been teaching English?
- -I have been teaching English since 20 years.
- **2.** As a teacher, during your experience is there any change in the way you teach grammar?
- -Of course, in fact I started to teach grammar using the deductive approach, but now I am teaching grammar by using the inductive one.
- **3.** How do you proceed in teaching grammar?
- -Now, I teach grammar by giving the learners a certain context and examples, then the learners discover the grammatical rules, after that, I provide them with extra exercises to apply the rules.
- **4.** When you teach grammar do you prefer to give your learners first the rules or letting them discover the rules themselves?
- -For me, I prefer to let learners discover and deduce the rules themselves, because this can

help learners to create things.

- **5.** Do you prefer your learners to work in groups or individually when doing their grammar tasks?
- -Ok, I prefer my learners work in groups, this help to share and ex-change their ideas.
- **6.** Do you think it is easier to teach grammar when the learners discover the rules themselves, or when you provide them with the rules?
- -For me, it is easier to teach grammar when learners discover the rules themselves, because in this they case will be more motivated.

-Teacher six:

- 1. How long have you been teaching English?
- -Since 13 years.
- 2. As a teacher, during your experience is there any change in the way you teach grammar?
- -Yes, there is a change in grammar instruction. Indeed so, I started teaching grammar with the traditional approach, and then I shifted to teaching it using the modern approach.
- **3.** How do you proceed in teaching grammar?
- -I teach grammar by using the inductive approach. First, I provide learners with exercises, and then they derive the rules themselves.
- **4.** When you teach grammar, do you prefer to give your learners first the rules or letting them discover the rules themselves?
- -I prefer letting the learners discover the rules themselves, this enable them to think and produce things themselves.
- **5.** Do you prefer your learners to work in groups or individually when doing their grammar tasks?
- -I prefer my learners work in groups, because collaborative learning enables learners to share

their knowledge.

- **6.** Do you think, it is easier to teach grammar when the learners discover the rules themselves or when you provide them directly with the rules?
- -I think that it is easier to let learners discover the rules themselves, this help them to be more active than passive.

-Teacher seven:

- 1. How long have you been teaching English?
- -Since 5 years.
- 2. As a teacher, during your experience, is there any change in the way you teach grammar?
- -No, there is no change in the way grammar is taught, I started teaching using the inductive approach.
- **3.** How do you proceed in teaching grammar?
- -I teach grammar in context, this means; I provide learners with a given context, and it is up to them to discover the rules.
- **4.** When you teach grammar, do you prefer to give your learners first the rules or letting them discover the rules themselves?
- -I prefer to let learners discover themselves the rules, because this give them more opportunity to be more active.
- **5.** Do you prefer your learners to work in groups or individually when doing their grammar tasks?
- -I prefer group work when learners do their grammar tasks; there is an ex-change of ideas.
- **6.** Do you think it is easier to teach grammar when the learners discover the rules themselves or when you provide them directly with the rules?
- -For me, it is easier to teach grammar when the learners discover the rules themselves.