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HOW DOES LEARNERS' GRAMMATICAL ACCURACY COME ABOUT WHEN LEARNING OCCURS COOPERATIVELY?

The Case of First Year Students at the Department of English at
M'sila University

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Abstract

With the growing interest in classroom communicative language learning and teaching techniques, a much greater interest has been attributed to the interactive group activities. In an attempt to investigate the impact of small group interaction on EFL learners' grammatical accuracy achievement, methodological field experiments had been carried out with a sample of 30 students in the Department of English Language and Literature at M'sila University. And for the purpose of extending the research scope into the social and cognitive dimensions, we went further through firstly analysing the learners' interactive contexts using the Interaction Analysis method to investigate the existence and the frequency of the speech functions that might account for this effectiveness; and secondly through exploring the effect of that interactive context on the involvement extent of some of the cognitive processes underlying grammar learning. The obtained results indicated that learners' cooperative work had a positive effect on EFL learners' grammar achievement, and that factors such as the group size, the nature of the interaction, the role of the learner, and the type of the task-based grammatical structure had an influential effect on EFL learners' grammar performance. The extent of the cognitive abilities involvement depended on many factors such as the nature of the interactional context, the time factor which indicated the long-term effect of the interactional context upon the learners' internal processes, the impact of task design on learners' learning, and the type of the target structure itself which may intervene to make one specific cognitive process more or less demanding.



Dedication

This work is dedicated

To my parents,

To my wonderful husband Mahmoud, and to my children:

Manaf , Ilef, and Ayham

To my brothers and sisters



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List of Abbreviations

BIAS:	Brown Interaction Analysis System
CIRC:	Cooperative Integrated Reading and Composition.
CLT:	Communicative Language Teaching
EFL:	English as a Foreign Language
ESL:	English as a Second Language
GI:	Group Investigation.
IA:	Interaction Analysis
IH :	Interaction Hypothesis
IQ:	Intelligence Quotient
LAD:	Language Acquisition Device
L2 :	Second Language
LT:	Learning Together
PG:	Pedagogical Grammar
SCT:	Sociocultural Theory
SD:	Syllabus Design
SLA:	Second Language Acquisition
STAD:	Student Teams Achievement Divisions
TAI:	Team Assisted Individualization
TGT:	Teams-Games-Tournament
ZPD:	Zone of Proximal Development

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GENERAL

INTRODUCTION

General Introduction

Background of the Study

Thus far, much of research has focused on understanding classroom communication by looking at the interaction that occurs between teachers and students. However, another important dimension of classroom interaction has been ignored, that is, the interaction that occurs between the students themselves, and the impact that student-student interaction has on the patterns of communication, classroom learning, and opportunities for second language acquisition. But recently, and with the growing acceptance of communicative language learning and teaching techniques, a much greater interest has been attributed to the interactive group activities.

The background of this lies in Krashen's Input Theory in which he stated that learning takes place when the learner comprehends language at a level just beyond that of his current competency, and in the perspective of interaction he added that learners obtain "Optimal Input" through interaction, that is input which is likely to lead to positive acquisition (Krashen, 1981). Swain (1985) shifted from comprehensible input to comprehensible output in which, according to him, foreign language learners are forced to produce grammatical forms accurately, or at least with sufficient accuracy to be understood.

Vygotsky (1978) with his Sociocultural Theory argued that there is a strong relationship between interaction and cognitive development. The cognition develops as a result of social interaction. He proposed the (ZPD): Zone of Proximal Development in which there are two main stages of an individual's cognitive development. The first stage is what the learner can do by himself; the second one is what he can accomplish with the help of another. Moskowitz (1976) added that the communication of ideas is likely to foster learning through getting the learners more deeply involved in what they

are doing.

In the same perspective, Johnson and Johnson (1981) fault much of research about classroom communication which implies that real learning occurs only between teachers and students and that student-student interaction represents off-task behaviour, discourages achievement, and leads to classroom disruptions. On the contrary, Johnson argues, student-student interaction may actually be more important for educational success than teacher-student interaction. In fact, he claims, constructive student-student interactions influence students' educational aspirations and achievement, develop social competencies, and encourage taking on the perspectives of others. Slavin (1980), Sharan (1980), and Webb (1982) each provided in-depth reviews of research that overwhelmingly conclude that cooperative learning tasks in small groups enhance students' academic achievement, self-esteem, relationships among students of different ethnic backgrounds, and positive attitudes toward school.

The importance of learners' collaborative attention to form in interaction has been also investigated by many researchers who proved that learner-learner interactions provide a context for learners to receive feedback on the target likeness of their output (e.g., Doughty, 2001; Doughty & Williams, 1998; Long & Robinson, 1998). Though the optimal level of consciousness while processing input is debatable, it is claimed that corrective feedback gives learners an opportunity to make a cognitive comparison between their interlanguage and the given input (R. Ellis, 1994) and to engage in focused input analysis (N. Ellis, 2005). Williams' (2001) research, for instance, lends support to the effectiveness of classroom interaction for promoting the use of feedback strategies that can lead to formal learning. However, these data gain seems to indicate that learners benefit more from discussing form with a native speaker than with another learner. Although there were many research studies dealing with the effectiveness of

corrective feedback in native speaker-learner interaction in promoting foreign language development, there is still a need for further evidence of the learner-learner feedback effectiveness.

Research on negotiation for meaning has also indicated that learners' communication breakdowns trigger negotiation for meaning (Gass, 2003; Pica, 1994). However, native speaker-learner and learner-learner interactions may differ with respect to both the quantity of negotiation sequences and the variation in negotiation moves.

In terms of quantity of negotiation moves, learners tend to self-correct more while interacting with one another than when they interact with native speaker (Buckwalter, 2001; Sato, 2007; Shehadeh, 2001). And they also tend to engage in more such negotiations (Porter, 1986; Varonis & Gass, 1985) during which they use interactional moves claimed to benefit foreign language development, such as input modifications (Garcia & Pica, 2000) and interactional feedback (Adams, 2007; Gass & Varonis, 1989; Solev, 2002).

In addition to differences in quantity of negotiation moves, native speaker-learner interactions may differ from learner-learner interactions in the types of negotiation moves used. While for native speakers, negotiation moves mainly involve repeating, simplifying, or expanding the input (Gass & Varonis 1984, 1985b; Varonis & Gass, 1985a), for learners negotiation of meaning can also serve as attempts to make their speech more target like to be comprehensible for their interlocutor, either other learners or native speakers (Swain & Lapkin, 1998; Silver, 2000; Swain & Lapkin, 2001, 2002; McDonough, 2005).

In another scheme, there is a growing interest among teachers and researchers in understanding how language development occurs through situated interaction, not in laboratories, but in classrooms, tutoring sessions and other teaching-learning settings.

A work has prioritized examining developmental processes from a holistic perspective, as they occur moment-by-moment in the interaction of learners (Frawley and Lantolf, 1985; Donato, 1988, 1994; Van Lier, 1991; Brooks, 1992; Hall, 1995a, 1995b; Lantolf and Aljaafreh, 1995; Ohta, 1995, 1997; Swain and Lapkin, 1998). This work has considered learners as neither processors of input, nor producers of output, but as speakers/hearers involved in developmental processes which are realized in interaction. Foreign language learning, in this scheme, is not considered to be wholly resident in the mind of the language learner, such that it can only be inferentially accessed by the researcher, but the learner-and-environment are seen in a holistic perspective. In this approach, previously sharp edges defining who is ‘speaker’ and who is hearer become blurred; speaker/hearers collaboratively produce utterances which they jointly own. And, language acquisition is realized through a collaborative process whereby learners appropriate the language of the interaction as their own, for their own purposes, building grammatical, expressive, and cultural competence through this process.

In summary, empirical research has indicated that the use of feedback in learner-learner interactions differs significantly from that in native speaker-learner interactions in ways that may be significant for language acquisition such as negotiation for meaning, and opportunities to modify output following feedback which may occur more frequently in learner-learner interactions. Also, it indicated that learning facilitated by native speaker-learner interactions is not equivalent to learning facilitated by learner-learner interactions. Consequently it cannot be assumed that the demonstrated benefits of native speaker-learner interactions apply to learner-learner interactions as well.

Additionally, it is worth to mention, in the interaction perspective, that research on learner-learner interactive processes has shown how collaboration may result in provision of developmentally appropriate assistance, the interactional mechanisms

involved in the obtaining or providing of assistance during language learning tasks, and has also shown how that peer interaction may result in the emergence of a ZPD which functions in different foreign language learning settings using different sorts of tasks.

The field of foreign language learning, from its founding, has focused primarily on the cognitive dimension of language learning. More recently, there have been renewed calls for broadening this focus to include a more socially situated view of the acquisition process. Some researchers have rejected the call, maintaining that foreign language learning is essentially a cognitive process, involving the acquisition of a mental grammar. Other researchers have placed particular emphasis on the impact of the social context for its primacy in the foreign language learning process and /or because the social context plays a fundamental role in shaping both foreign language learning process and its outcome. Still others favoured an inclusive approach, in which the social and the psychological aspects form a unity.

As learning a foreign language cannot be realized without grammar which is thought to be necessary, particularly in learning English as a foreign language (EFL), inasmuch as without a good knowledge of grammar, learners' language development will be severely constrained. Moreover, it is considered to furnish the basis for a set of language skills: listening, speaking, reading and writing.

Therefore and from the above overview, empirical evidence is strongly required to investigate whether grammar learning can be promoted by learner-learner interactions especially that this type of interaction makes the majority of interactions in classroom settings, and may be a significant source of feedback for learners. Additionally, more research is still needed to better and further understand the nature of help provided by peers, and the impact that effective interactive context may exercise on the cognitive processes underlying the acquisition of a grammatical structure

Statement of the Problem

As far as the teaching/learning of English as a foreign language is concerned, especially within the Algerian educational system, it is worth noting that notions like learners' interaction, cooperative learning, group work, small group activities are not considered considerably. And it is still mostly whole-class; teacher-centred and large class enrolments where grammar learning relies on the traditional way which is based on the memorization of a tedious set of rules, and the focus on correcting errors in a sentence. This traditional way in fact denies the learner involvement in the learning process, and considers the passive role of the learner who is mostly dominated by the teacher.

Aims of the Study

Our aim through this study is to investigate the effect of small group interaction on the development of learners' accurate grammar performance in one of the Algerian Universities, M'sila University and precisely with first year students at the Department of English. Moreover, we attempt to highlight the social and the cognitive dimensions of the group work. That is we will not be restricted to only checking its effect upon the learners' grammar performance but going further by delving into the interactive context and identifying the different speech functions that might account for this effectiveness. And also by diagnosing the extent of associations that might exist between some selected cognitive processes, that are thought to underlie grammar learning, and learners' accurate grammar performance under the influence of the group work context.

Research Questions and Hypothesis

This research study is based on the hypothesis claiming that small group interaction is likely to help learners of grammar develop their grammatical accuracy, i. e., fostering the accurate and the appropriate use of learned grammatical structures in terms of form

and meaning. However, this hypothesis raises the following research questions:

- a. Does the small group interaction help in fostering the learners' grammatical accuracy?
- b. Are the development outcomes related to the nature of conversational interaction and to the extent of learner involvement?
- c. How does small group interaction affect the learners' cognitive processes underlying grammar learning?

Research Methodology Design and Tools

The research hypothesis testing and the three above major research questions necessitated to cover the topic qualitatively and quantitatively through adopting three scientific methods: the first one was the experimental method through which the cooperative small group interaction effect was tested empirically using one independent variable that was learners' cooperative interaction, and one dependent variable that was the learners' grammatical accuracy development. The second method was the Interaction Analysis method which studies the social organization of "conversation", or "Talk-in-interaction" by a detailed inspection of tape recordings and transcriptions made from such recordings. Its central goal is the description and explanation of the competencies that ordinary speakers use and rely on when participating in intelligible, socially organized interaction (Paul, 1990). And for the purpose of investigating the effect of the interactive group work on the involvement of learners' cognitive processes underlying grammar learning, the introspective method was conducted. This method is based on using the learners as a source of information about their mental processes by verbalizing and describing what is going through their minds when solving a problem or performing a task.

The empirical study was assigned to the population of first year students in the Department of English Language and Literature at M'sila University. In selecting the required sample we applied the stratified random sampling through which the study population was firstly stratified into three strata according to the learners' grammar achievement: high-proficiency level, the intermediate-proficiency level, and the low-proficiency level. In realizing this we referred to learners' achievement records. From each stratum ten students were selected randomly to get a sample of thirty members which represented ten percent (10%) of the whole population. By the end we formed two groups: the experimental group, and the control group containing fifteen members each, where the three level-based strata were represented by five members in each group.

The experimental work took place during the first semester. It lasted ten weeks. The tests were carried out weekly along with the content of the official curriculum. In conducting the experiments, the tests were carried out in extra sessions using the Grammar Dictation Approach that is proposed by Wajnryb (1988).

According to Wajnryb, this approach gives students a more precise understanding of English grammar and consequently leads to higher accuracy in language use. Compared to other more traditional approaches to teaching grammar the value of Grammar Dictation approach is in its interactive basis to language learning. It promotes both the negotiation of meaning and the negotiation of form. It is a co-operative endeavour which forces learners to stay actively engaged in the learning process. "Through active learner involvement students come to confront their own strengths and weaknesses in English language use. In so doing, they find out what they do not know, then they find out what they need to know." (Wajnryb, 1990)

To scrutinize the link between the nature of the interaction and the size of the group involved in it, the Interaction Analysis method was conducted for which we formed from the experimental group consecutively three size-based groups: the first group consisted of five learners, then we formed the second group which consisted of ten learners, and finally we worked with the third group which contained fifteen learners. In gathering the data, the three groups' interactions were recorded using the videotape, which is thought to be the most convenient tool to provide the researcher with the required detailed data that can't be obtained through direct observation.

For the data analysis, there have been several systems proposed for objectively and reliably analyzing classroom discourse all of which are simplification and modification of Flanders' Interaction Analysis Categories (FIAC) (Amidon & Flanders, 1967), a system that has extensively been applied by many researchers in classroom observation (Newman, 2004). Finally, Brown Interaction Analysis System (BIAS) was used to analyze classroom verbal interaction (Brown & Wragg, 1993). This system consists originally of seven categories of verbal behavior. Its first three categories relate to the teacher talk and the next two categories specified for student talk. These categories can be summarized as following: *teachers' lecturing, teachers' questioning, and teachers' responding, pupils' responding, pupils' volunteering, silence, unclassifiable (X)*.

For the sake of making it more relevant to the small group interaction context, several adaptations, extensions and simplifications were proceeded on it to reach by the end the adapted BIAS where the basic descriptive categories were represented by nine speech functions: questioning language use, repairing grammatical forms, asking for explanation, explaining, confirming, proposing, agreeing, disagreeing and silence. The whole small group interaction had been transcribed by dividing it into transactions,

exchanges and moves. The rates of frequency of each speech function at the level of each small group were calculated to be then presented in a histogram, analyzed and interpreted.

The third research method used in this study was the introspective method that was carried out with the experimental group in order to cope with the cognitive dimension of the small group work through investigating the effect of the interactive group work on the learners' cognitive processes involvement, by exploring the existing correlation between those involved processes and the learners' accurate grammar performance. In gathering the required data, the members of the experimental group were subjected to two tests. Firstly to a test of cognitive processes compiled and adapted from psychometric tests. These cognitive tests were intended to measure some of the learners' cognitive abilities that are thought to underlie grammar learning such that: working memory, classification (categorization), analogy, comprehension and associative thinking, attention to detail, analytical thinking (deductive thinking and logical reasoning), and creativity. Secondly, they were asked to respond to a grammatical test incorporating five sub-tests covering different grammatical structures such as: linking verbs, the basic passive form, two other structures of its varieties; and the use of tenses in reported speech.

Task- based self-report was another data gathering tool used to sustain the obtained results from the written tests in which the learners are telling what they are doing while carrying out the task in a way that is temporally and more directly linked to the processes used, as they are being used. Using this research technique, the processes are being reported sufficiently contemporaneously such that the researcher is surer that they were the processes that were actually being used.

The Thesis Presentation

The thesis is presented in six chapters which consecutively deal with related and consequent topics. Thus, the first chapter describes learning by traditional and modern definitions according to major theories. It gives an account of the various conceptualizations related to learning and which influence the learners' achievement such as: thinking, intelligence, memory, motivation, and creativity. It explains the learner's styles and strategies that are adopted in any learning process. Additionally, it brings under light the information processing through explaining the theoretical background underlying it, and through stating the major stages that it goes through.

Chapter two sets the theoretical background to human interaction. It starts with a detailed definition of interaction as a necessary human behavior, and then it explains some of the theoretical assumptions underlying interaction. It also explores one of the methodological practices represented by the cooperative learning through identifying its elements and through examining critically its theoretical underpinnings, and exploring its impact on the learner's performances at different levels.

Chapter three expounds the small group as a small learning community by identifying it and by shedding light on the processes and the dynamics that unfold within it, and that imprint on its members. It clarifies the nature of a small group, its types, and the nature of group dynamics as a discipline devoted to the scientific analysis of this entity.

Chapter four states the different syllabus definitions and explains how syllabus inventories improved from structural to notional/functional and communicative sets, leading to syllabus types in terms of content selection and sequencing. The evolution in learning theories biased the syllabus types from a product-oriented to process oriented pedagogy which demonstrated the adoption of task-based and, the so-called,

competency based pedagogy. Additionally, this chapter explains materials design and development and exemplifies the classification of authentic materials within authentic pedagogy. It also provides a progressive model of materials design and development based on the contributors' abilities of adopting, adapting, and analysis and evaluation of language teaching/learning materials.

Chapter five provides the background to grammar teaching and learning with the identification of some concepts related to that issue, and it gives a comprehensive picture of grammar teaching approaches, the influential grammatical paradigms in second and foreign English language teaching, and the typology of grammars and how grammar types are related to each other. It moves then to limit the scope of teaching grammar within a communicative context. By the end, it brings to light the cognitive dimension of grammar teaching/learning through explaining the cognitive theories underlying the processes of grammar acquisition, and the principles of the cognitive approach to grammar instruction.

Chapter six presents and discusses the data generated by the participants. It explains the basic principles applied in the implementation of the three research methods according to the hypothesis of the research. And provides answers to the major research questions raised to cover the social and the cognitive dimensions of the group work. By the end, it brings to light the hypothesis test result, the outcomes of the group work through expounding the internal social and cognitive processes adopted by the learners while interacting with each other. Some pedagogical implications and call for further research suggestions are afforded by the end.

CHAPTER

1

Human learning and Information Processing

Chapter 1: Human Learning and Information Processing

Introduction

According to Schacter and Gilbert learning is:

“ The act of acquiring new, or modifying and reinforcing, existing knowledge, behaviors, skills, values, or preferences and may involve synthesizing different types of information. The ability to learn is possessed by humans, animals and some machines. Progress over time tends to follow learning curves. Learning is not compulsory; it is contextual. It does not happen all at once, but builds upon and is shaped by what we already know. To that end, learning may be viewed as a process, rather than a collection of factual and procedural knowledge. Learning produces changes in the organism and the changes produced are relatively permanent.” (2009, p. 264)

The study of how learning occurs is part of educational psychology, neuropsychology, learning theory, and pedagogy (Pal, 2011). Hence, learning definition requires clear, concise terms, and more appropriately an ‘operational definition’, and its steps may vary from one learning theory to another because each theory attempts to describe how and why human beings process information according to its own theoretical principles. This is what will be clarified through the first chapter where a set of learning definitions, its theoretical underpinnings, its objectives are provided. Moreover, behaviours that human beings adopt and/or adapt as ways of learning and what most researchers in the field education and psychology like: Brown, Chamot, and Wenden call styles and strategies are also discussed in addition to other issues that are related to human learning.

1. Learning Definition

There is no one, simple definition of learning. Learning is a complex concept that is defined differently according to the context in which it is being discussed. Psychological definitions emphasize that learning involves “ a change in behaviour or potential behaviour that occurs as a result of experience” (Smith, 1993). As a science, psychology studies the processes of learning through rigorous, empirically grounded methods of investigation, but the field of application is very broad.

Educational definitions of learning traditionally tend to focus on learning as the process by which people acquire skills, knowledge, understanding and attributes. For example, Atkin describes learning as occurring most readily and effectively when:

...whole brain processing is engaged, and in particular when the process of learning moves from experience to reflection on experience so that a pattern or framework allows the learning to grasp the meaning of the learning in the mind's eye and finally learning moves on to a facility to use language, rules, laws, principles for accuracy and efficiency in thinking, doing and further learning. (1994, p. 230)

The American author Senge (1992) who popularized the concept of “learning organizations” emphasized the personal, qualitative nature of this kind of learning:

Through learning we recreate ourselves. Through learning we become able to do something we were never able to do. Through learning we re-perceive the world and our relationship to it. Through learning we extend our capacity to create, to be part of the generative process of life. There is within each one of us a deep hunger for this type of learning. (p. 150)

The modern academic world describes learning as an attitude the person adopts towards his environment, according to environmental stimuli and a wide scope of social

needs. Learning can be seen as an active process of transforming knowledge, insights and skills into a learning behaviour. It may be incidental, by chance or intentional. It is considered as an innate, long lasting, ability in human beings.

Chaplin's (1975, pp. 284-285) dictionary of psychology defines learning as an "acquisition of any relatively permanent change in behaviour as a result of practice or experience; a process of acquiring responses as a result of special practice." This short definition is heavily loaded in terms of its meaning. It takes into account 'acquisition' which is innate in human beings, 'relatively permanent change' and 'process' which mean that learning occurs through a number of stages of 'practice and experience', and that the result of learning is seen as a behaviour made of a number of responses. This is more of a behaviourist definition which does not take into account details of the 'practical experience'.

Almost similarly, Entwistle et al. (1979, p. 367) consider that "learning can be viewed in terms of three related elements: intention, process, and outcome". This is straight away a simple definition which excludes learning incidentally and puts focus on intentional learning. This means that human beings are willing to learn whenever they intend or decide to do so. This willingness to learn may be affected by various factors and makes learning a matter of consciousness and awareness. Most important feature of this definition is the term "process" which means that learning takes place in a systematically organized long series of events or instances. These instances can even be seen as stages or steps of the process. The last term "outcome" makes learning a beneficial result of the person's investment. A person, in other terms, would learn if there is some moral, emotional, social, or material profit.

Entwistle's (1979) neglect of incidental learning may be due to the fact that learning is so complex a process that some of its instances cannot be observed,

described and/or evaluated. Child considers this feature of learning in the following terms:

Whilst there is no complete agreement among psychologists about the details of learning processes, they do accept the basic premise that learning occurs whenever one adopts new, or modifies existing, behaviour patterns in a way which has some influence on future performance or attitudes. Unless there were in fact some influences, we would not be able to detect that learning had taken place (...). But the definition includes learning which occurs without deliberate or conscious awareness, bad as well as good behavior and covert attitudes as well as overt performance. (1977, p. 81)

Thus, the absence of deliberate or conscious awareness does deprive the person from learning. Incidental learning can even be seen as a feature of natural learning about immediate environment without particular focus of attention on a particular thing to be learned. Both Entwistle's and Child's definitions, above, do not contradict Chaplin's one but each puts focus on a particular aspect of learning. All three definitions identify at least common factors of learning that we can express as:

- Intentional or programmed learning as a matter of programmed practice
- Incidental learning as a matter of life experience
- Both factors above are a result of willingness and motivation
- Environmental/external stimuli and insights bring some changes
- Changes are continuous and make a whole process
- Results and outcomes are observed in the present and future patterns of behavior.

All these characteristic features of learning are included in almost all other definitions elaborated by other scholars. Fontana (1995, pp. 141-171) and Anderson

(1995) assume the same ideas about the definition of learning and add a number of detailed information relative to external/environmental factors and cognitive processes which affect the learning process.

Fontana (1995, pp. 141-142) defines learning by summarizing what almost all psychologists say, “(...) most psychologists would agree that learning is a relatively persistent change in an individual’s potential behavior due to experience.” Fontana explains that the three major components of this definition are: ‘change’, ‘experience’ and ‘potential behavior’. He also stresses the fact that the studies of these three terms lead to divergent view points between behaviourists and cognitive theories.

Anderson (1995) considers learning as an essential element in cognitive psychology. He focuses the study on the importance of visual and speech perception, attention, and knowledge representation in memory through encoding, storage, retention, and retrieval of information. He adds that all these steps of learning lead to problem solving, reasoning and decision making. In addition to a number of learning types which Anderson surveys (behavioural, intentional, incidental, and power law), his main distinction is made between strategic and tactical learning, “Strategic learning is learning how to organize one’s problem solving for a specific class of problems’, and ‘tactical learning is learning sequences of actions that help solve a problem” (Anderson, 1995, pp. 283-289).

As Entwistle (1979) formulated his statement on the basis of research findings which investigated learning attitudes, his scope of study was on ways or attitudes learners adopt while learning. He even called these ways and attitudes “distinctive approaches”. Child (1977), Fontana (1995) and Anderson (1995) on the other hand, formulated their statements on the basis that “learning” has been an essential element in a number of theories in the field of psychology. While their terms reflect theoretical

assumptions of psychology, Entwistle's terms reflect practical, programmed processes that learners use/choose while learning. Hence, we have to consider, first, the theoretical frameworks of learning that emerged from psychology and, then, take into account the various practical outcomes in terms of learners' styles and strategies while learning.

2. Theories of Learning

A theory is generally a set of assumptions, beliefs, and hypotheses that have been observed, tested and evaluated in the academic world. It attempts to explain and/or describe a given natural, physical, social, or human phenomenon in a scientific way, using simple and precise terms. Over the past century, educational psychologists and researchers have posited many theories to explain how individuals acquire, organize and deploy skills and knowledge. Some light will be shed on a certain number of theories which considered learning as a major element in human personality development and man's intellectual and academic achievements. This is far from being a thorough, encyclopaedic, account of all learning theories and/or experiments but rather a summary of the most influential ones.

2.1. Behaviourism

Child (1977, pp. 81-91) sums up this theory in the works of famous behaviourist psychologists like Watson, Thorndike, Pavlov, Hull, and Skinner. Behaviourist theory focused on the study of animal and human behaviour to determine the connection between stimulus and response as a learning process. That is why the theory is commonly called connectionist. Child considers, within this scope, that Watson determined the law of 'trial and error' which is followed by children in solving a number of problems by applying a process of alternative paths (1977). He then stresses the work of Thorndike which came out with 'reinforcement' as a 'law of effect' and the 'law of exercise' which is basically an assumption of Watson's work. Pavlov's findings

on conditional and unconditional stimuli do not seem to have great impact on classroom teaching, as Child points out, but rather contributed in the study of children's behaviour and reaction to school environment (fear and pleasure of learning, reciprocal inhibition, spontaneous recovery, and stimulus generalization).

Child similarly evaluates the shortcoming of Hull's finding in the stimulus response connection and its contribution to classroom teaching. For him, the main contribution of Hull was the 'reactive inhibition' where there is a tendency not to make a response which has just been made. And he added that the main contribution to programmed learning was made by Skinner with 'operant conditioning' and the conclusions he drew about learning. These conclusions specify that: short steps of learning which grow out of previously learned behaviour; regular reward and control by reinforcement; quick reward after correct response which is known as feedback; and opportunity to discover stimulus discriminations for the most likely paths to success.

Anderson (1995, pp. 8-10) attributes directly behaviourist findings to American psychologists and Gestalt psychology to Europeans. The most important figure of behaviourist theory, according to Anderson, was Edward Thorndike and his basic principle of the effect of reward and punishment on the rate of learning. He argues that the tradition of American studies was focusing on external observable-behaviour, biasing research towards an "action-oriented" psychology which could satisfy educational demands at that time, neglecting "the workings of the mind that underlay that behaviour".

2.2. Cognitive-Constructivist Learning Theories

Constructivism comes from Gestalt theories of perception (Kohler, 1924) that focus on the ideas of closure, organization and continuity (Bower & Hilgard, 1981). The term "gestalt" means "pattern" or "form" in German. Gestalt theory suggests that people

do not interpret pieces of information separately and that cognition imposes organization on the world. Gestalt psychology can be regarded as a comprehensive study reacting to behaviourist theory. The main claim of this theory, according to Child (1977, p. 92) who relied on Kohler's experiments, was that individuals could, out of a sudden insight, find a solution to a problem which they were not able to solve earlier. After a number of trials the individual could repeat the same solution in a similar event and transfer that ability to new situations. A study of perception from this point of view could then be considered as a study of "a whole" set of "patterns" intuitively used by the individual.

Gestalt psychology is also known as a theory of insights or introspections. Its origin can be traced back to the work of the German psychologist Wilhelm Wundt and his psychology laboratory. Anderson (1995, pp. 7-8) considers him as the father of modern psychology and that the European, as opposed to American, theory of psychology started with Wundt's introspective views and experiments. Anderson explains that the introspective theory consisted of mind self-observation or self-inspection. The content of introspective reports could, at that time, make an account of psychological theory. In this method, informants had, for example, "to generate associates to a given word, and then introspect on the contents of their consciousness during the period between reading the word and making associations" (Anderson, 1995, p. 7)

Both Child (1977) and Anderson (1995) consider that Gestalt psychology was in fact the starting point of investigation into a theory of cognition though this was neither the statement nor the claims of that German school. Both agree on the principle that a study of learning cannot be carried out without great consideration be given to

perception and processes of the mind; Gestalt psychology was the initial step to understand processes of the mind.

Theories of intellectual development provide a third research tradition contributing to the notion of cognitive construction (Piaget, 1952, 1969, 1971; Baldwin, 1902, 1906, 1911, & Bruner, 1974). Developmentalists believe that learning results from adaptations to the environment, which are characterized by increasingly sophisticated methods of representing and organizing information. Developmental scientists also forward the notion that children progress through different levels or stages which allow children to construct novel representations and rules.

A fourth line of research depicts learning as a socially mediated experience where individuals construct knowledge based on interactions with their social and cultural environment. Like Piaget and Bruner, Vygotsky (1962, 1978) believed that the formation of intellect could be understood by studying the developmental process. However, like Bruner, Vygotsky felt that intellectual development could only be fully understood within the sociocultural context in which the development was occurring. Current conceptualizations of constructivist learning focus on the 3rd (developmental) or 4th (social) line of research. The two lines of research do not represent opposing perspectives, but rather differences in focus. Where developmental-constructivist tend to focus on the individual and how he or she constructs meaning of the world around him or her, social-constructivists emphasize the group and how social interactions mediate the construction of knowledge.

3. Learning Objectives

A learning objective is defined as a statement that describes the behavior the trainer expects participants to demonstrate as a result of the training, and can be used to evaluate the success of the learning process (Mager, 1975). The terms “goals” and

“objectives” are sometimes used interchangeably although they are different. Goals are broad and sometimes difficult to directly measure. A GOAL is a statement of the intended general outcome of an instructional unit or program. It describes a more global learning outcome. A learning objective, on the other hand, is a statement of one of several specific performances, the achievement of which contributes to the attainment of the goal. A single GOAL may have many specific subordinate learning objectives.

If we take into account what has been said about learning styles and strategies in the broad sense, then their importance can be noticed anywhere in cognitive development of human beings. However, if we take into account the fact that programmed learning aims at making the learners use preferably some styles and strategies, then further considerations must be given to the relationship between aims, goals, objectives of learning and the favourable development of particular styles and strategies to reach those aims, goals, and objectives.

The work of Bloom (1956) was the initial pedagogical commitment into making a relationship between what the learners do and what they achieve while learning. Bloom did not overtly claim for such a relationship but he created a taxonomy of educational objectives in order to express qualitatively different kinds of thinking levels. It is strikingly significant that this early work in the cognitive domain had and still has a great impact on course design and course implementation. Bloom’s taxonomy of educational objectives is not only a study of educational objectives as a product, terminal, behavioural outcome, as many would think. Bloom (1956, pp. 25-43) devoted a whole chapter to the impact of defining educational objectives on curriculum design and implementation in order to achieve those objectives.

By educational objectives, we mean explicit formulations of the ways in which students are expected to be changed by the educative process. That is, the ways in which

they will change in their thinking, their feelings, and their actions. There are many possible changes that can take place in students as a result of learning experiences, but since the time and resources of the school are limited, only a few of the possibilities can be realized. It is important that the major objectives of the school or unit of instruction be clearly identified if time and effort are not to be wasted on less important things and if the work of the school is to be guided by some plan (Bloom, 1956, p. 26).

Bloom (1956, pp. 201-207) determined specific details of the educational objectives in the cognitive domain as six major levels the learners achieve in their learning experience. They are: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. However, in the mid-nineties Lorin Anderson, a former student of Bloom, and David Krathwohl revisited the cognitive domain and made some changes. They suggest that names should change into verbs because thinking is an active process. They also rename *knowledge* as *remembering*, *comprehension* as *understanding*, and *synthesis* as *creating*. They end up with the following order: remembering, understanding, applying, analyzing, evaluating, and creating. They justify their classification of *evaluating* prior to *creating* by considering that the hierarchical structure of thinking means increasing complexity (creative production often requires critical thinking) which implies that creative thinking is more complex than critical thinking and that one can be critical without being creative (Anderson and Krathwohl, 2001). In addition, they supply an exhaustive list of subcategories of potential activities with sample sentence starters in order to help teachers design and write specific performance objectives and activities relevant to Bloom's taxonomy and most appropriate to language learning/teaching. The revised version is shown in the table below.

Table 1.

The Revised Cognitive Domain (Anderson and Krathwohl, 2001)

Category	Example and Key Words (verbs)
<p>Remembering: Recall or retrieve previous learned information.</p>	<p>Examples: Recite a policy. Quote prices from memory to a customer. Knows the safety rules.</p> <p>Key Words: defines, describes, identifies, knows, labels, lists, matches, names, outlines, recalls, recognizes, reproduces, selects, states.</p>
<p>Understanding: Comprehending the meaning, translation, interpolation, and interpretation of instructions and problems. State a problem in one's own words.</p>	<p>Examples: Rewrites the principles of test writing. Explain in one's own words the steps for performing a complex task. Translates an equation into a computer spreadsheet.</p> <p>Key Words: comprehends, converts, defends, distinguishes, estimates, explains, extends, generalizes, gives an example, infers, interprets, paraphrases, predicts, rewrites, summarizes, translates.</p>
<p>Applying: Use a concept in a new situation or unprompted use of an abstraction. Applies what was learned in the classroom into novel situations in the work place.</p>	<p>Examples: Use a manual to calculate an employee's vacation time. Apply laws of statistics to evaluate the reliability of a written test.</p> <p>Key Words: applies, changes, computes, constructs, demonstrates, discovers, manipulates, modifies, operates, predicts, prepares, produces, relates, shows, solves, uses.</p>
<p>Analyzing: Separates material or concepts into component parts so that its organizational structure may be understood. Distinguishes</p>	<p>Examples: Troubleshoot a piece of equipment by using logical deduction. Recognize logical fallacies in reasoning. Gathers information from a department and selects the required</p>

<p>between facts and inferences.</p>	<p>tasks for training.</p> <p>Key Words: analyzes, breaks down, compares, contrasts, diagrams, deconstructs, differentiates, discriminates, distinguishes, identifies, illustrates, infers, outlines, relates, selects, separates.</p>
<p>Evaluating: Make judgments about the value of ideas or materials.</p>	<p>Examples: Select the most effective solution. Hire the most qualified candidate. Explain and justify a new budget.</p> <p>Key Words: appraises, compares, concludes, contrasts, criticizes, critiques, defends, describes, discriminates, evaluates, explains, interprets, justifies, relates, summarizes, supports.</p>
<p>Creating: Builds a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure</p>	<p>Examples: Write a company operations or process manual. Design a machine to perform a specific task. Integrates training from several sources to solve a problem. Revises and process to improve the outcome.</p> <p>Key Words: categorizes, combines, compiles, composes, creates, devises, designs, explains, generates, modifies, organizes, plans, rearranges, reconstructs, relates, reorganizes, revises, rewrites, summarizes, tells, writes.</p>

The impact of these six levels on curriculum design and implementation is quite clear in the extract quoted above. It is in fact ‘the ways in which the students are expected to change; their thinking, feelings and actions’ through the ‘learning experiences’ reflected in ‘unit of instruction’, representing a whole learning plan which make those objectives attainable. The six levels represent altogether a hierarchical order

of stages and processes of learning and a pedagogical procedure in defining achievement objectives.

4. Important Concepts Related to Learning

4.1. Learning and Thinking

There is no doubt that thinking is an activity related to human mind which goes through a number of stages and styles. Mayer (1977, p.6) explains that the cognitive system manipulates knowledge while thinking when he says that thinking includes three ideas: 1) Thinking is cognitive, but is inferred from behaviour. It is internal, in the mind or cognitive system, and must be inferred indirectly. 2) It is a process involving some manipulation of, or a set of operations on, knowledge in the cognitive system. 3) It is directed and results in behaviour which “solves” a problem or is directed towards solution. Through this explanation, Mayer considers that thinking is a result of a given behaviour which is inferred indirectly as a process of the mind. It carries out operations on the knowledge in order to solve a problem.

From another perspective, Matlin (2003, pp. 399-447) declares that thinking involves two basic process or types of reasoning: induction and deduction. For him, induction is the mental operation of processing examples which leads to establishing a general rule, and deduction is the mental operation of using general rules which leads to establishing logical conclusions. Matlin adds that thinking involves decision making as well. Thus, if one thinks about a given subject matter, he/she is attempting to make a decision or solve a problem.

4.2. Learning and Intelligence

Learning and intelligence have sometimes been contrasted with one another, as if learning were something one acquired, whereas intelligence were something one simply had, in high or low degree (McFarland, 1971). Referring to the 20th century research,

intelligence has traditionally been defined in terms of linguistic and logical-mathematical abilities. The notion of IQ (Intelligence Quotient) is based on several generations of testing of these two domains. That is a high IQ correlates to success in educational institutions and in life in general.

In terms of meaningful learning model of Ausubel (1963), intelligence is related to memory in which a high intelligence implies a very efficient process of storing items that are particularly useful in building conceptual hierarchies and systematically eliminating those that are not useful.

A more comprehensible and revolutionary picture of intelligence had been provided by Gardner (1999, 1983) who advanced a controversial theory of intelligence, by which he described seven different intelligences: 1) *linguistic*, 2) *logical-mathematical*, 3) *musical intelligence* which displays the ability to perceive and create pitch and rhythmic patterns, 4) *Spatial intelligence* that is manifested in the ability to find one's way around an environment to form mental images of reality, and to transform them readily. 5) *bodily-kinesthetic* such as the fine motor movement, and athletic process. 6) *The naturalist intelligence* that is represented by the sensitivity to natural objects (plants, animals, clouds). 7) The interpersonal and the intrapersonal intelligence where the former is the ability to understand others, how they interact with one another; the latter by contrast, enables to see oneself, and to develop a sense of self-identity.

Another revolutionary view of intelligence was the one of Sternberg (1988, 1985) who proposed three types of 'smartness'. The componential ability for analytical thinking, the experiential ability to engage in creative thinking, combining disparate experiences in insightful ways; and the contextual ability that enables people to 'play the game' manipulating their environment. Sternberg viewed intelligence differently. In

his research, he sustained tests that measure insight, real-life problem solving, ‘common sense’, getting a wider picture of things, and other practical tasks that are closely related to success in the real world.

Another effort, in the same perspective, was Goleman’s work on emotional intelligence who argued that “the emotional mind is far quicker than the rational mind, springing into action without even pausing to consider what it is doing. Its quickness precludes the deliberate, analytic reflection that is the hallmark of the thinking mind” (1995, p. 291)

4.3. Learning and Memory

Memory is not simply an act of remembering past events and acquired/learned knowledge and information; it is also the act of planning things we need to do in the future. Green (1987, pp. 37-58) rejects the idea of defining memory as “ A passive memory store (...), general knowledge of objects and categories and a permanent record of our personal experiences”. She underlines the fact that psychological studies of memory attempted to “ (...) distinguish psychological models of memory as long-term memory, semantic memory, autobiographical memory, episodic memory and short-term memory, each implying that different kinds of knowledge are parceled out between various memory stores” (1987, pp. 38-39).

4.3.1. Memory Types. The division of memory into many phases, spaces, or fields may vary among scholars, not for disagreement on activities of the mind but rather for the sake of convenience. Additionally, it urges us to consider learning as an activation of memory processes of interrelationships and interdependence. Learning makes memory dynamic by applying various steps of information processing.

The first memory space distinguished by cognitive psychologists is short-term memory. Its name refers to the fact that this memory space could last for a very short

period of time. But it is responsible for a number of operations that are central to the information processing theory. The dynamicity of the short-term memory gives it the quality of being a “working memory”

The second memory space is the long-term store of all knowledge for a long period of time and that is why it is called long-term memory. Slavin (2003, p. 178) qualifies this memory as being permanent, and too wide to be filled in with knowledge during our life time. He adds that some scholars include learning strategies among knowledge stored in long-term memory and define it as ‘long-term working memory’.

The autobiographical and the episodic memory represent our memory of personal experience, of things we saw and heard. Images of our life are very important and cues related to place and time, help us retrieve information stored in these two spaces of memory.

The semantic memory represents our memory of facts and general information about concepts, principles, or rules and how to use them; and our problem-solving skills and learning strategies. Anderson (1983, 1985) drew some important comments about this division by distinguishing between what we know about, or ‘static’ information in memory, and what we know how to do, or ‘dynamic’ information in memory. All the things we know about constitute *declarative* knowledge, and all the things we know how to do are *procedural knowledge*.

4.3.2. Representation in Memory. (The Schematic Representation in Memory).

‘Schema’ is a standard term in contemporary cognitive psychology, although it was first used by other cognitivists such as Piaget in the 1920’s and Francis Charles Bartlett in 1932. Slavin, for instance, had his own point of view about this term by saying:

Cognitive theorists use the terms schema and schemata to describe networks of concepts that individuals have in their memories that enable them to understand

and incorporate new information (...) One clear implication of schema theory is that new information that fits into a well-developed schema is retained far more readily than is information that does not fit into a schema. (2003, p. 180)

Some cognitive scholars considered schema as a frame of knowledge representation (Green, 1987 & Mayer, 1977), networks of semantic memory (Anderson, 1995), and top-down / bottom-up processing of information (Martin, 2003 & Slavin, 2003). Green (1987, pp. 41- 48) considers that ‘the basic idea’ of schema theory, originally suggested by Bartlett (1932), is that “human memory consists of high-level mental representations known as schemas, each of which encapsulates knowledge about everything connected with a class of objects or events.” She mentions two essential roles of schemas:

- They represent general knowledge of objects and events, and;
- At the same time, they guide the interpretation of newly occurring experiences which are eventually absorbed into general knowledge schemas.

But Bartlett’s theory was criticized because of its ‘vagueness’ as there was no obvious argument to explain the relationship between schemas and categories or classes of events and objects.

Green (1987) suggests the use of frames of reference containing slots to be filled in with appropriate values to represent old and new information. She believes that a frame guides the interpretation of an event by providing the types of slots relevant to the event, object or situation encountered. Green’s contribution can be seen in cases where specific information is lacking to complete the values of a given slot. She suggests the use of optional, default values as information proceeds until the person establishes a frame of reference for the newly learned object, event or situation.

According to Kintsch (1974), the most significant mode of storing information in memory for the analysis of language is through propositional representations. Those propositional representations maintain the meaning of information while ignoring unimportant details. Each proposition is denoted by a relation followed by an ordered list of arguments (O'mally & Chamot, 1990). In an example provided by Anderson (1985):

Nixon gave a beautiful Cadillac to Brezhnev, who is leader of the USSR.

In O'mally and Chamot (1990) explanation, the relations existing in this sentence correspond to the verbs (give, is), adjectives (beautiful), or other relational terms (leader of), while the arguments correspond to the nouns (Nixon, Cadillac, Brezhnev). The full ordered list of relations and arguments necessary to describe the proposition expressed in this sentence is usually expressed in parentheses and would include the agent of giving, the object given, the recipient of the giving and the time of the giving, as in (Give, Nixon, Cadillac, Brezhnev, past) in the example below:

Nixon gave a Cadillac to Brezhnev. The Cadillac was beautiful. Brezhnev is the leader of the USSR. The simpler propositions and their simpler respective relations and arguments can be used to generate another original sentence, whose essential meaning would not change, such as:

The leader of the USSR, Brezhnev, was given a Cadillac by Nixon and it was beautiful.

The relations and arguments in propositional analysis can be represented schematically according to Anderson (1985) by a propositional network, as illustrated in figure (1) where the basic unit or element of the propositional network is a node, as shown in the figure by the circles. The arrows connecting each node to its relations and

arguments represent the links. The nodes are similar to the more commonly used terms, ideas, and the links are similar to what have more been referred to as associations.

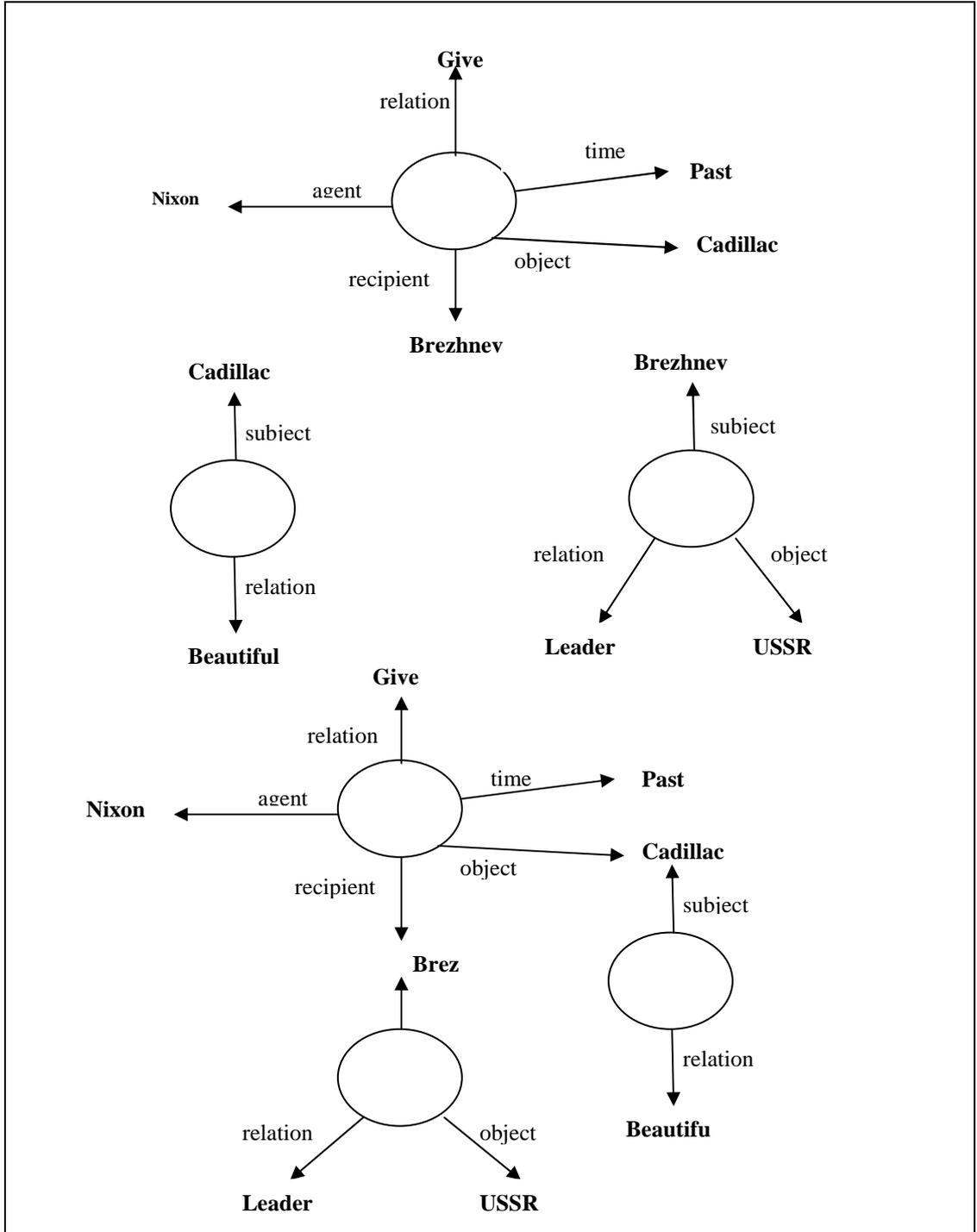


Figure 1. Example of propositional networks. Part D represents the combined networks A – C. (Adapted from Anderson, p. 117.)

4.4 .Motivation

At its most basic level, motivation is some kind of internal drive which pushes someone to do things in order to achieve something. It is noteworthy that motivation is among the important psychological factors leading to success or failure in learning a language and those learners need to be motivated to be successful. Empirical studies indicate that highly motivated pupils learn faster and better than the ones who find the study of language distasteful.

4.4.1. Theories of Motivation. Various theories of motivation have been proposed over the course of decades of research, among them three different perspectives emerge:

1. From a behaviourist perspective, motivation is quite simply the anticipation of reward. Skinner, Pavlov, and Thorndike put motivation at the centre of their theories of human behaviour. In a behavioural view, performance in tasks – and motivation to do so – is likely to be at the mercy of external forces: parents, teachers, peers, educational requirements, job specifications, and so forth (Brown, 2007).
2. In cognitive terms, motivation places much more emphasis on the individual's decisions, 'the choice people make as to what experiences or goals they will approach or avoid and the degree of effort they will exert in that respect' (Keller, 1983, p.389). Some cognitive psychologists see underlying needs or drives as the compelling force behind our decisions. Ausubel (1968, pp. 368-379), identifies six types of needs: the need for exploration, the need for manipulation, for movement and activity, for stimulation, for new knowledge, and finally for ego enhancement.

3. A constructivist view of motivation places even further emphasis on social contexts as well as individual personal choices (Williams & Burden, 1997, p.120). That is each person is motivated differently, and will therefore act on his or her environment in ways that are unique (Brown, 2007).

Marion Williams and Richard Burden suggest that motivation is a ‘state of cognitive arousal’ which provokes a ‘decision to act’ as a result of which there is ‘sustained intellectual and / previously set goal’ (Williams & Burden, 1997, p. 120). They go on to point out that the strength of that motivation will depend on how much value the individual places on the outcome he or she wishes to achieve.

4.4.2. Motivation Types. In discussions of motivation, an accepted distinction is made between extrinsic and intrinsic motivation. The former is caused by outside factors, for example, the need to pass an exam, the hope of financial reward, or the possibility of future travel. The latter, by contrast, comes from within the individual. Thus a person might be motivated by the enjoyment of the learning itself or by a desire to make himself feel better. Deci (1975), quoted in Brown says that:

Intrinsically motivated activities are those for which there is more apparent reward except the activity itself. People seem to engage in the activities for their own sake and not because they lead to an extrinsic reward.....intrinsically motivated behaviours are aimed at bringing about certain internally rewarding consequences namely, feelings of competence and self-motivation. (2000, p. 164)

Yule (2006) identifies two types of motivation for language learning; these are: ‘instrumental’, where the learners’ goals are linked to utilitarian values such as achievement or vocational advantage; and ‘integrative’, where the learners’ attitudes to

the target language community extend to wishing to become accepted as members. The two concepts are a more specific restatement of the notions of intrinsic and extrinsic motivation. He says:

Many learners have an instrumental motivation. That is, they want to learn the second language in order to achieve some other goal, such as completing a school graduation requirement or being able to read scientific publications, but not really for any social purpose. In contrast, those learners with an integrative motivation want to learn the second language for a social purpose, in order to take part in the social life of a community using the language and to become an accepted member of that community. (Yule 2006, pp. 167-168)

Learners are said to be integratively motivated if they intend to integrate themselves with not only the people who speak that language but with its culture as well. In other words, the learners' attitudes to the target language community extend to become accepted as members. Learners are said to be instrumentally motivated if they feel the desire to learn a language to achieve a specific goal such as gaining social prestige, meeting an educational or business requirement, searching for a career... etc.

4.5. Learning and Creativity

Creativity is what happens when an individual produces something that is novel as well as appropriate, generative or influential (Stokes, 2006). One may think of these criteria as different levels on a hierarchy of creativity with novelty being the lowest qualification for creativity and influence being the highest level of creativity. According to this definition, an idea that is novel, appropriate, generative and influential is more creative than an idea that is only novel and appropriate.

4.5.1. Models of Creativity. In order to understand what really happens when creativity happens, a further look into the models of creativity is needed: the Psychodynamic Models, the Personality Models, the Psychometric Models, the Problem Solving Models and the Constraints Model of Creativity. An overview on the different models will be provided below:

4.5.1.1. The Psychodynamic Models of Creativity. Psychodynamic Models of creativity are founded on the idea that creativity is an unconscious process. In other words, creativity involves processes occurring where the individual is unaware. For a long time the unconscious appeared to be the perfect place for creativity to occur, especially because it helped to explain those moments when it seems like a solution or creative idea springs into the conscious mind out of nowhere (Weisberg, 1986).

Weisberg declares that the unconscious mind allowed for creativity because it was thought to be less rigid and less specialized than the conscious mind (1986). It was considered to be less rigid and less specialized because the unconscious was thought to exist so deep within the human brain that it fell outside the realm of the individual's immediate control. Because unconscious thinking was exempt from the kind of planning and thinking we do consciously, ideas were thought to be freer in the unconscious; free to combine in novel ways that would not make much sense to our strict conscious thought patterns.

Weisberg (1986) mentioned Arthur Koestler's Bisociation Theory of Creativity which relies on the unconscious and is rooted in the idea that " solving a problem involves combining thoughts and creative problem solving involves joining novel combinations." Bisociation is the term he uses for the process by which previously unrelated thoughts are brought together and combined in new ways. He added that

according to Koestler, ideas exist in interrelated sets, or matrices. In normal consciousness, the brain operates through associations, meaning that one thought will trigger another thought that is part of the same idea set. For example, the thought of a flower can trigger the thought of a loved one's garden because these two concepts are related in memory and exist within the same matrix.

The same rules do not apply to unconscious thought because, as Freud asserted, unconscious thought is driven only by the fulfillment of wishes and needs and does not concern itself with the ordinary laws of association or logic. This makes the unconscious, a perfect arena for bisociation and creative thinking to occur, as the unconscious is free to combine ideas that are not necessarily part of the same idea set. Koestler also stresses the importance of dreams in creative thinking. For him, the dream state is the ultimate unconscious state in which: "all conscious controls on thought are relaxed and one is free of the habitual associative connections that usually work to limit thought to a single matrix" making the dream state a wonderful arena for creativity to occur (Weisberg, 1986).

Like Koestler, Mednick (1962) considered much of the creative process to be outside of the immediate control of the individual. He believed that creative thinking was the process of forming associative elements into new combinations which are in some way useful, the more mutually remote these associative elements were, the more creative the process or solution. According to Mednick, these remote associative elements were brought together by the unconscious through *serendipity*, *similarity* or *mediation*.

Serendipity refers to the process by which the appearance of stimuli in the environment elicits these associative elements simultaneously. Simply put, this is when something in the environment sparks a eureka moment and everything comes together

to form a perfect solution to the problem at hand (Mednick, 1962). For him remote associative elements could also be brought together to form a creative solution when the elements are evoked contiguously because of their similarity or because of their similarity to some stimulus in the environment. For example, a writer may discover the perfect word to finish his or her sentence with because the word rhymes with another word that preceded it. The rhyme accounts for the similarity aspect and evokes the perfect word for the writer to use in his work. Finally, the associative elements may be brought together through the mediation of their common elements.

Serendipity, similarity and mediation are all processes that take place outside of the immediate consciousness of the individual attempting to find a creative solution to his problem and have more to do with the separate elements that are being brought together to form a creative thought than the thought processes of the individual. However, Mednick does give some credit to the individual because he explains that the organization of an individual's associations will influence the probability and speed of attaining a creative solution. An individual who is typically able to come up with many broad associations for any object or idea will be more likely to come up with a creative solution through similarity, serendipity or mediation. The individual is also responsible for identifying when these remote associative elements come together in a useful way (1962).

4.5.1.2. The Personality Models of Creativity. The Personality Models of Creativity place much more emphasis on the role the individual plays throughout the creative process. In this section, we will explore the ideas of Garlick (2003) who purports that differences in individual brains account for differences in an individual's ability to process information.

While Garlick does not focus his work explicitly on creativity, his work on neural plasticity has provided a better understanding of what accounts for the differences in individual creative abilities. Today it is widely accepted that the brain continuously changes throughout an individual's lifetime. Neural connections, the connections between neurons which allow for the flow of information from one part of the brain to another, constantly develop and change in response to the environment. These neural connections become increasingly complex as an individual moves from childhood to adulthood, meaning that more and more connections are made allowing for efficient information processing. This ability for the brain to change in response to the environment is called neural plasticity. There are individual differences in neural plasticity since no two brains are exactly the same (Garlick, 2003).

Garlic explains that differences in neural plasticity, account for differences in information processing abilities, and thus, differences in intelligence. A child whose brain is very good at adapting to the environment will be able to learn more and make connections faster than a child whose brain is less able to change in response to the environment. He adds that if the unconscious mind is responsible for creating connections between remote or unrelated sets of ideas or for restructuring problems so that we can understand them, it will have a much easier time doing so in a brain that has a vast, complex network of neural connections across which these kinds of connections can be made (2003).

In their work on creativity, Abuhamdeh and Csikszentmihalyi argue that the notion of the artistic personality is more a myth than a reality. However, they also assert that there may be certain personalities that are more suitable for certain times and certain places if the goal of the individual is to achieve success in his or her creative endeavors (2004). They offer a Systems Model of Creativity in which the individual is

one component of an intricate system which also includes the domain and the field. Before we can understand the importance of the individual in this model, we must understand how the Systems Model functions as a whole; we must understand what the domain and the field are.

The domain is any symbolic system that has a set of rules for representing thought and action (Abuhamdeh & Csikszentmihalyi, 2004). For example, music is a domain and various styles of music such as rap and jazz can be considered sub-domains. The domain of music would refer to everything that has happened in music up until that point. Next, the field refers to all of the individuals who act as gatekeepers to the domain. These are the people who have already found success within the domain and now possess the authority to judge whether a work is worthy of being incorporated or accepted into the domain. In the domain of music, the field would include producers, agents, record labels, radio stations etc. Finally, we arrive at the individual. The individual is a person who is knowledgeable about a specific domain and who produces a variation on the domain which will either be accepted or rejected by the field. The diagram below provides a visual representation of how the Systems Model functions.

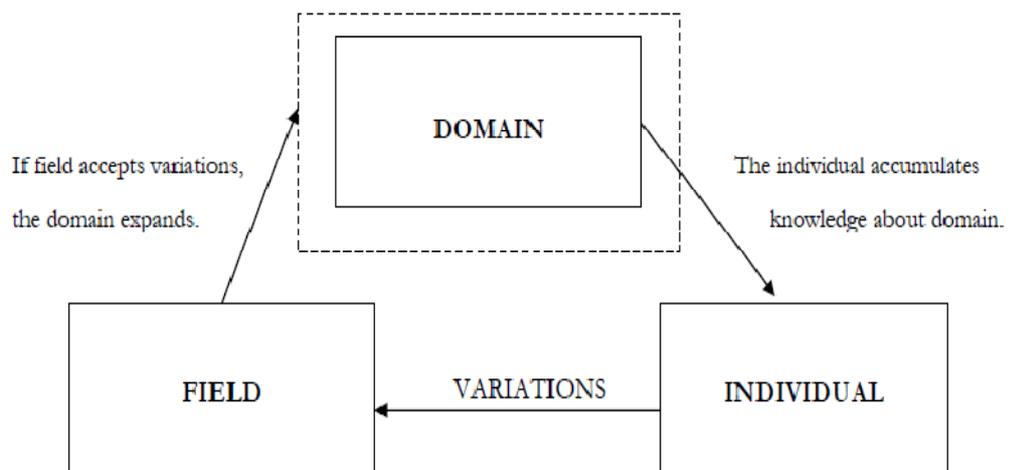


Figure 2. The diagram of the systems model. (Abuhamdeh and Csikszentmihalyi, 2004)

Individual personality plays a significant role in the Systems Model of Creativity. An individual who is extroverted, lively and whose work reflects that will not do well in a time when the field is only accepting work that reflects a more introverted and subdued style (Abuhamdeh, & Mihaly, 2004). They also point out that certain personality traits lead to success in creative fields regardless of the prevailing style of the moment. A study run by Abuhamdeh and Csikszentmihalyi found that compared to their less successful peers, successful artists were more sociable, practical and career driven across the board (2004).

4.5.1.3. Psychometric Model of Creativity. The Psychometric Model of creativity is based on the idea that creativity is something that can be taught. Those who subscribe to the Psychometric Model of creativity promote the idea that creativity is a matter of divergent thinking, non-rational and free association thinking, which can be facilitated by brainstorming and followed by convergent thinking to produce creative solutions or ideas.

Creative problem solving, or creativity, involves three main stages: considering the problem, thinking of possible solutions and testing or evaluating those solutions to determine whether they are useful or not (Weisberg, 1986). For many of us, the most difficult part of this process is coming up with possible solutions that may be appropriate. Divergent thinking, which again is non-rational free association thinking, will allow an individual to find a creative solution to the problem he or she is facing. According to Weisberg (1986), divergent thinking requires fluency, flexibility and originality on the part of the individual. Fluency means that there is a high probability that the individual will produce a significant idea, flexibility means that the individual will produce a variety of significant ideas that pull information from different

knowledge categories and originality means that the individual will produce ideas that are statistically uncommon.

In the same perspective, Weisberg (1986) supported his stance by identifying *Brainstorming* as a method that many supporters of the psychometric model of creativity believe can aid an individual in his or her capacity for divergent thinking. Weisberg argues that brainstorming is effective because it allows people to unleash their inner-creativity. According to him, we are all more creative than we think but our creativity is stunted because we are too judgmental of our thought processes. Many of our creative ideas never make it out into the world because we pre-judge and reject them before we share them with anybody else. The brainstorming is effective in off setting this inhibition because the whole goal of brainstorming it to maximize the number of ideas being presented. However, he added that, in order for any group brainstorming session to be successful it must follow these four basic rules:

1. Criticism is ruled out.
2. All ideas, even the wild ones are welcome. The more wild the better because ideas can always be tamed down.
3. The more ideas the better. Every idea that comes to mind should be presented.
4. Combination and Improvement are sought. Combining your ideas with the ideas of others in your group or improving on an idea that was presented by someone else will allow the entire group to succeed.

In sum, the Psychometric Model of Creativity is rooted in the idea that creativity can be taught and that creativity is simply a matter of divergent thinking which can be facilitated by brainstorming. Once the brainstorming has taken place and all of the ideas are on the table, the individual can turn to their convergent thinking skills, their rational thinking abilities, to sift through the possibilities to find one that works. Like the

Psychometric Model of creativity, the Problem Solving Models of Creativity focus less on the unconscious and personality aspects of the individual and explain creativity as an exercise in problem solving.

4.5.1.4. The Problem Solving Models of Creativity. The Problem Solving Models of Creativity are rooted in the idea that creativity involves finding novel solutions to problem. All searches for these novel solutions take place in a problem space (Stokes, 2006). He adds that the problem space consists of the initial state, the search space and the goal state. The initial state is the representation of the problem or the question that an individual is being asked to answer. It is the problem as it is presented. The next component of the problem space, Stokes explains, is the search space in which the individual may consider and test various solutions to the problem at hand. The goal state is the final state. The goal state represents the culmination of an individual's effort to search space. It is the answer that the individual has been searching for; it is the creative solution (2006).

It is important to note that there exist two types of problems: well structured problems and ill-structured problems. Well structured problems are those in which everything in the problem space is specified. An individual knows what the problem is (initial state), what the solution must be (goal state) and guidelines are provided for reaching the goal state (problem space). An ill structured problem, according to Stokes, is the opposite of a well structured problem, providing an individual with little guidance but much room for creativity. In an ill structured problem, the goal state is not clearly defined, and naturally, neither is the search space which guides the individual to a solution (2006). They are more difficult to solve because it is up to individuals to structure their own problem space.

5. Learning Styles

A preoccupation with learner personalities and styles has been a major factor in psycholinguistic research. Researchers have tried to identify learning styles in their own words, describing individual behavior they have observed. Brown (2000) attempts to define the term style by saying:

Style is a term that refers to consistent and rather enduring tendencies or preferences within an individual. Styles are those general characteristics of intellectual functioning that pertain to you as an individual and that differentiate you from someone else. For example, you might be visually oriented, more tolerant of ambiguity, or more reflective than someone else. These would be styles that characterize a general pattern in your thinking or feeling. (pp. 114 -122)

In his description, Brown distinguishes a number of “cognitive, affective, and physiological traits” which are stable indicators of how learners perceive, interact with, and respond to the learning environment. Brown (2000) focuses the study on Field Dependent/Field Independent, Ambiguity Tolerance/ Intolerance, Reflectivity and Impulsivity, left-and Right-Brain Functioning, and Visual and Auditory styles.

Field Independence is the ability to perceive a particular, relevant factor or item in a field of distracting items. It enables the learner to distinguish parts from a whole, to concentrate on something, to analyze separate variables without the contamination of neighbouring variables. Field Dependence, on the other hand, is the tendency to be “dependent” on the total field so that the parts embedded within the field are not easily perceived, although that total field is perceived more clearly as a unified whole. It is the ability to perceive the whole picture, the larger view, the general configuration of a problem, an idea or an event.

Brown (2000) states that research in the field of learning has established that both styles can be beneficial and useful for the learners according to the contexts in which they learn. While Field Independent styles are more frequently used in classroom-organised learning, Field Dependent styles are much more practised in communicative language learning contexts where the purpose is not in conformity with language rules but rather achieving communicative goals. As a consequence of this dilemma and a compensation of learning styles, Brown suggests that language learning within the classroom requires more Field Independent implementation, and “natural” communicative language learning needs more Field Dependent support (2000).

Tolerance and Intolerance of Ambiguity is a matter of accepting or rejecting contradictory, conflicting ideas with one’s beliefs, principles or structure of knowledge. Some learners are open-minded and can easily cope with different ideologies or events which contradict their own views. Others are close-minded simply reject what ever idea that is incongruent with their own system of cognitive organization. Both styles have their advantages and drawbacks. Successful language learning requires foreign language learners’ tolerance of different language structure and culture and it also requires intolerance of meaningless chunks learned by rote.

Reflectivity and Impulsivity are personality tendencies of making either a slow, calculated decision as an answer to a question – a solution to a problem, or a quick, gambling guess. Brown (2000, pp. 121-122) argues that it has been found that reflective learners make fewer reading errors than impulsive learners but as far as the reading – psycholinguistic guessing game-progresses, impulsive learners tend to be faster than reflective ones. Teacher-learner interaction, however, can be seriously affected by the reflective or impulsive style of the learners. Reflective learners need much more time to

react and require, hence, more patience from the teacher while impulsive learners, who take the risk of responding quickly, may face harsh judgment from an impatient teacher.

On Left – and Right-Brain Functioning, Brown (2000) considers that though neurological bimodality studies (of neurological activity in left and right hemispheres of the brain) established characteristic features of this distinction, it remains unsatisfactory to say that a learner would use one or the other distinctively; learners use more or less one of them or both simultaneously in almost all types of learning activities. The various studies that Brown mentions characterize Left-Brain and Right-Brain dominance in terms of opposite mental operations that can be best summarised in the table below:

Table 2.

Left – and Right-Brain Characteristics. (Table 5.1.in Brown, 2000, p. 125)

Left-Brain Dominance	Right-Brain Dominance
Intellectual	Intuitive
Remembers names	Remembers faces
Responds to verbal instruction and explanations	Responds to demonstrated, illustrated, or symbolic instruction
Experiments systematically and with control	Experiments randomly and with less restraints
Makes objective judgements	Makes subjective judgement
Planned and structured	Fluid and spontaneous
Prefers established, certain information	Prefers elusive, uncertain information
Analytic reader	Synthesizing reader
Reliance on language in thinking and remembering	Reliance on images in thinking and remembering
Prefers talking and writing	Prefers drawing and manipulating objects
Prefers multiple choice tests	Prefers open-ended questions
Controls feelings	More free with feelings
Not good at interpreting body language	Good at interpreting body language
Rarely uses metaphors	Frequently uses metaphors
Favours logical problem solving	Favours intuitive problem solving

Visual and Auditory styles are elementary input recognition. Some learners prefer reading and studying charts, drawings, maps and other graphically represented information. Other learners prefer listening to lectures and audiotapes. Most of the studies mentioned in Brown (2000) distinguish the prominence of visual or auditory styles according to cultural and educational factors and all the studies admit that even if learners favour one of the styles this does not necessarily exclude the use of the other style. In an attempt to define what a learning style is, Lightbrown and Spada (1999, p. 58) say, “Learning style has been used to describe an individual’s natural, habitual, and preferred way of absorbing, processing, and retaining new information and skills.”

The methodologist Wright describes different learner styles within a group (1987, pp. 117-118). ‘The enthusiast’ looks to the teacher as a point of reference and is concerned with the goals of the learning group. ‘The oracular’ also focuses on the teacher but is more oriented towards the satisfaction of personal goals. ‘The participator’ tends to concentrate on group goals and group solidarity, whereas ‘the rebel’ while referring to the learning group for his or her points of reference, is mainly concerned with the satisfaction of his or her own goals.

Working with adult students in Australia, Willing (1987) provides the following classification:

- **Convergers:** these are students who are by nature solitary; prefer to avoid groups, and who are independent and confident in their own abilities. Most importantly they are analytic and can impose their own structures on learning. They tend to be cool and pragmatic.
- **Conformists:** these are students who prefer to emphasize learning ‘about language’ over learning to use it. They tend to be dependent on those in

authority and are perfectly happy to work in non-communicative classrooms, doing what they are told.

- **Concrete learners:** though they are like conformists, they also enjoy the social aspect of learning and like to learn from direct experience. They are interested in language use and language as communication rather than language as a system. They enjoy games and group work in class.
- **Communicative learners:** they are language use oriented. They are much more interested in social interaction with other speakers of the language than they are with analysis of how language works. They prefer not to be guided by the teacher.

Research findings on learning styles underscore the importance of recognizing learners' varying preferences. However, teachers must take a cautious approach measurement of style preferences (Ehrman & Leaver, 2003). The fact that learners' styles represent preferred approaches rather than immutable stable traits means that learners can adapt to varying contexts and situations. And styles can be a reflection if not a direct product of one's cultural background (Wintergerst, DeCapua, & Itzen, 2001; Oxford & Anderson, 1995). That is why research on learning styles prods teachers to help learners first of all to take care of their language learning, to become autonomous learners, and then to become aware of their styles, preferences, strengths, and weaknesses, and finally to take appropriate action on their second language learning challenges (Brown, 2007).

6. Learning Strategies

In the literature concerning cognitive science in general or language learning in particular, the term 'strategy' has been referred to a small range of synonyms such as 'technique', 'tactic' and 'skills', by which individual researchers describe their

understanding in this particular area in slightly differential ways. Mc Donough (1995), for example, sees a number of terms as overlapping with the concept of strategies. He identifies language skills, language processes, mechanisms to compensate for lack of language, action plans, all as terms used at various times to discuss learner strategies.

In fact, one of the tasks of researchers and writers has been to try to come up with clear definitions of what strategies are. There is little in the literature concerning the definition or the identification of language learning strategies. Inevitably these definitions are linked to the researcher's or author's main sphere of interest. Some relate to a psycholinguistic domain (the link between the way the brain functions and the language it encounters, some to a more pedagogical one (the way that students appear to learn in general and learn languages in particular).

There are some views triggering the discussion about whether language learning strategies are behavioral (observable), mental (unobservable) or both. For example, Oxford (1990, p. 8) defines learning strategies as specific actions taken by the learner to make learning easier, faster, more self-directed, more effective and more transferable to new situations. Whereas Weinstein & Mayer (1986) argue that they are the behaviors and thought that a learner engages in during learning that are intended to influence the learner's encoding process.

In addition, the disagreement is about the nature of the behaviors, on the presupposition the language learning strategies are behaviors. Chamot (1987, p.71) claims that “ they are techniques, approaches or deliberate actions that students take in order to facilitate the learning and recall of both linguistic and content area information.” Stern (1983, as cited in Ellis, 1994, p. 531) adds that “strategy is best reserved for general tendencies or overall characteristics of the approach employed by the language learner, leaving techniques as the term to refer to particular forms of

observable learning behavior”. Here Stern describes the nature of strategy as general and overall. While Wenden (1987a, p. 7) blurs the distinction between these two by referring to ‘strategies’ as ‘specific actions or techniques, adding that they are not about general approach of learners like reflecting and risk-taking.

Another major dispute deals with the learners’ awareness of strategy use issue. Wenden (1987, p. 6) claims that:

Learner strategies refers to language learning behaviors learners actually engage in to learn and regulate the learning of a second language ...what they know about the strategies they use....what they know about aspect of their language learning other than the strategies they use.

In the same perspective, Cohen views that:

Second language learner strategies encompass both second language learning and second language use strategies. Taken together they constitute the steps or actions consciously selected by learners either for the learning of a second language, the use of it, or both. (1998, p. 5)

For Seliger (1984, as cited in Ellis, 1994, p. 531), he refers to the abstract cognitive categories of processing information subconsciously or unconsciously as ‘strategies’, while he defines another term ‘tactics’ as learners’ deliberate respond to the learning circumstances. However, many researchers avoid making clear distinction on the issue of consciousness, and some suggest that learners cope with new information by deploying strategies consciously and these strategies would gradually become conscious with repeated application and self-adaptation.

From the above definitions, we notice that some authors have used ‘language learning strategies’ while others used ‘learner strategies’. Both terms appear in the literature to be synonymous and interchangeable. But Maccaro (2001), in his valuable

work entitled ‘learning strategies in second language acquisition’, proposes his own distinction between these two terms by considering ‘language learning strategies’ as the process of language learning, and ‘learner strategies’ as techniques in the learning of any subject. The latter term seems to capture more effectively the emphasis placed on the learner as the active participant in the process of learning. According to this distinction, learner strategies often subsumes learning strategies.

Oxford (1989) divides strategies into two major classes: direct and indirect. Direct strategies deal with the new language, which consists of three classes: memory, cognitive and compensation strategies. Indirect strategies are strategies that support and manage language learning without directly involving the target language. They are divided into metacognitive, affective, and social strategies.

Direct strategies are divided into: memory strategies, such as, grouping or using imagery, have a specific function: helping students store and retrieve new information. Memory strategies fall into four sets:

1. Creating mental linkages: grouping, associating/elaborating, and placing new words into a context.
2. Applying images and sounds: using imagery, semantic mapping, using keyword and representing sounds in memory.
3. Reviewing well: structured reviewing.
4. Employing action: using physical response or sensation, and using mechanical technical techniques.

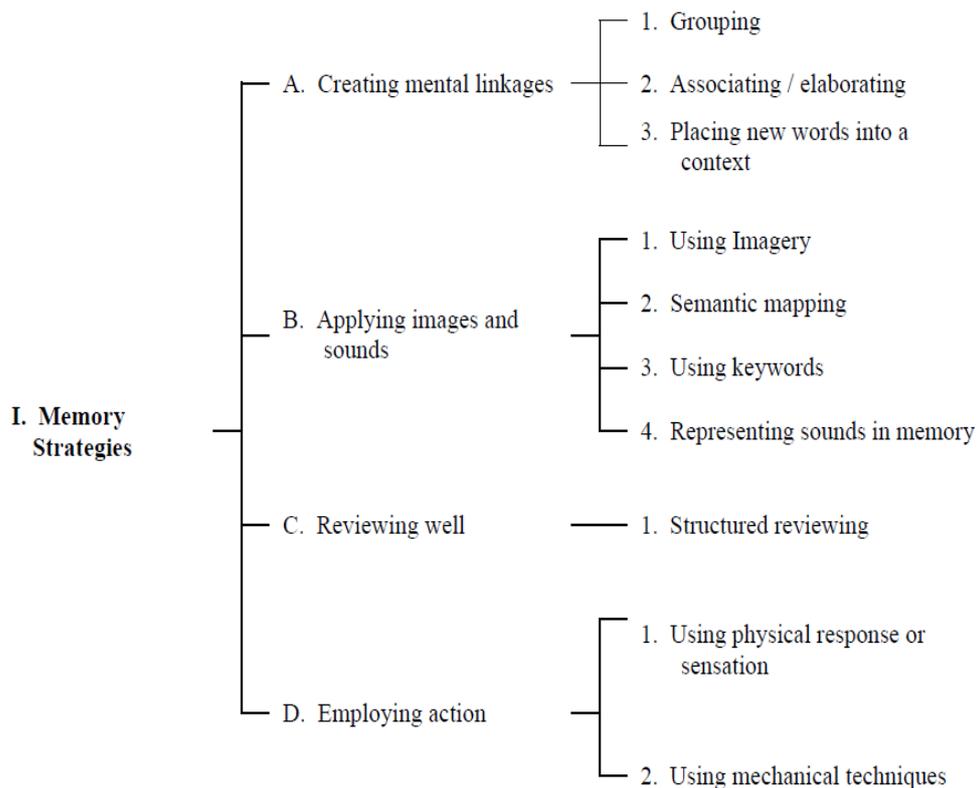


Figure 3. Diagram of the strategy system showing the memory strategies. (Figure 1.4, in Oxford.R,L. 1990, pp. 18-21)

Secondly, cognitive strategies which, according to Oxford, involve hypothesis testing like searching for clues in the material studied or in one’s own knowledge by hypothesizing the meaning of the unknown item. Mnemonic strategies relate one thing to another in a simple stimulus response manner but do not reinforce associations. Cognitive strategies operate directly on incoming information, manipulating it in ways that enhance learning.

Cognitive strategies, such as summarizing or reasoning deductively, would enable learners to understand and produce the target language by many different means. They have four sets:

1. Practicing: repeating; formally practicing with sounds and writing system, recognizing and using formulas and patterns, recombining, and practicing.

2. Receiving and sending messages: getting the idea quickly, using resources for receiving and sending messages.
3. Analyzing and reasoning: reasoning deductively, analyzing expressions, analyzing contrastively, translating, and transferring.
4. Creating structure for input and output: taking notes, summarizing, and highlighting.

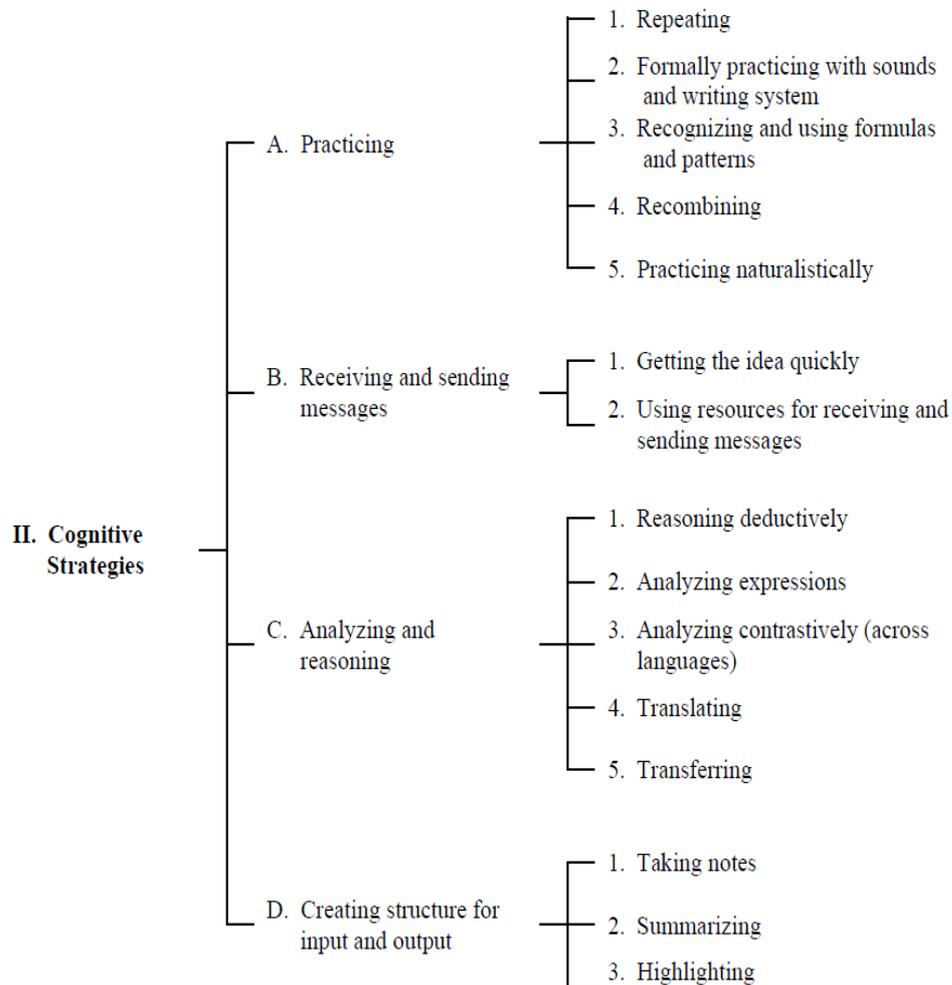


Figure 4. Diagram of the strategy system showing the cognitive strategies. (Figure 1.4, in Oxford.R,L. 1990, pp. 18-21)

Thirdly, the compensation strategies, like guessing or using synonyms, allow learners to use the language despite their often large gaps in knowledge. Compensation strategies consist of:

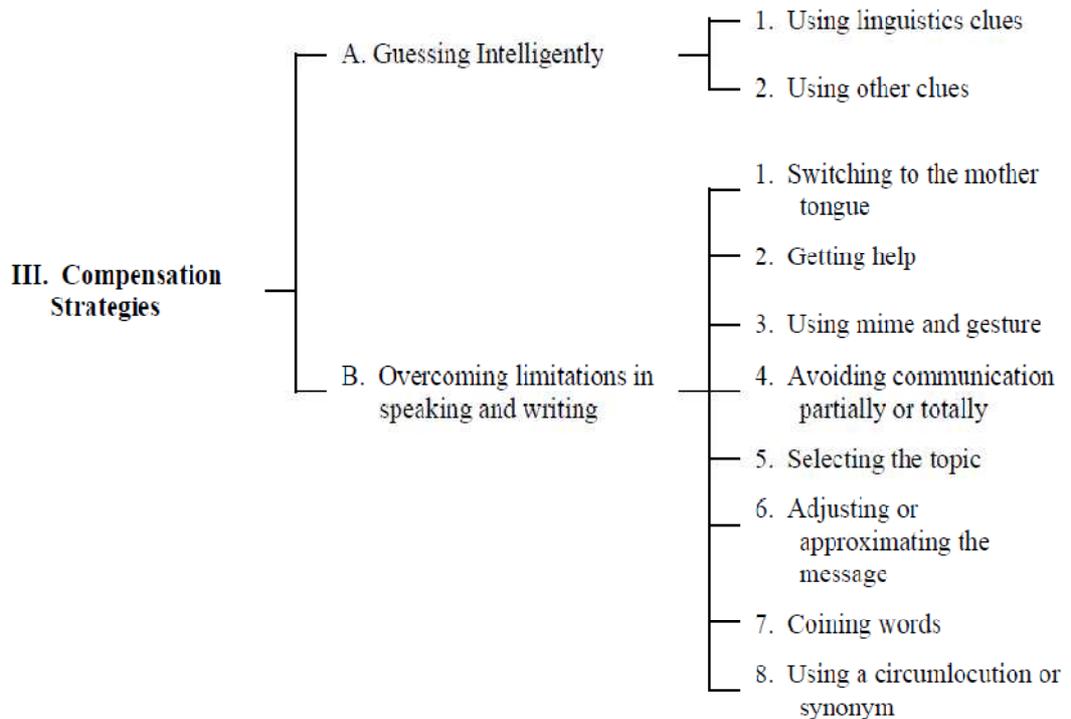


Figure 5. Diagram of the strategy system showing the compensation strategies. (Figure 1.4, in Oxford.R,L. 1990, pp. 18-21)

The indirect strategies entail the metacognitive strategies which are higher order executive skills that may entail planning for, monitoring, or evaluating the success of a learning activity (Brown et al. 1983). They are applicable to a variety of learning tasks (Nisbet & Shucksmith, 1986). The processes that would be included as metacognitive strategies for receptive or productive language tasks are presented in the following:

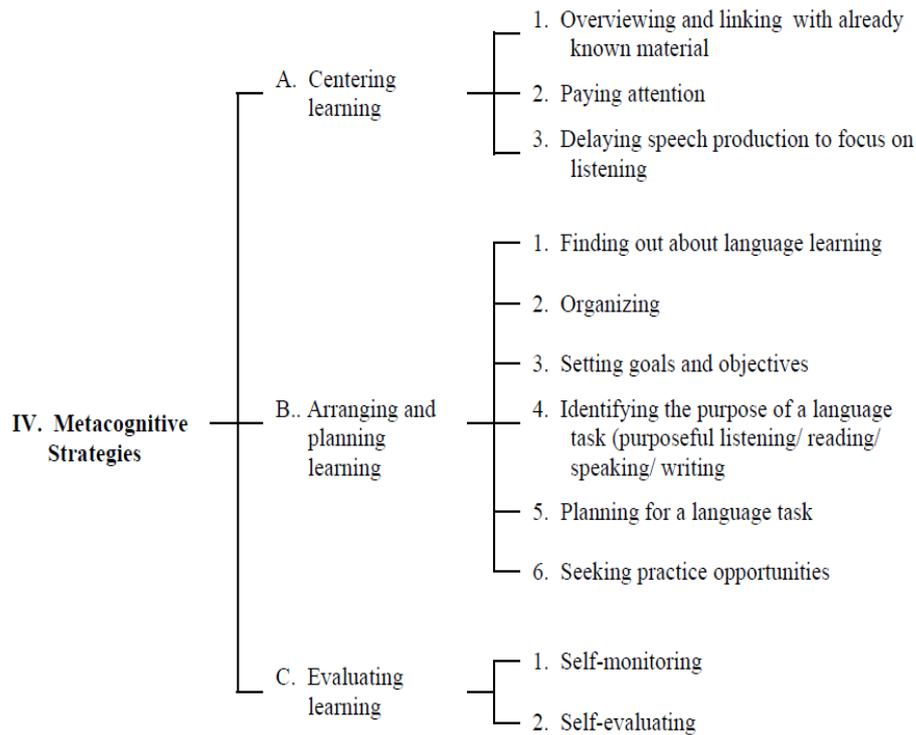


Figure 6. Diagram of the strategy system showing the metacognitive strategies. (Figure 1.4, in Oxford.R,L. 1990:18-21)

Affective strategies help to regulate emotions, motivations, and attitudes. They fall into three sets:

- Lowering anxiety: using progressive relaxation, deep breathing or meditation, using music, and using jokes.
- Self encouraging: giving positive statements, taking risks wisely, giving reward to students.
- Taking emotional temperature: paying attention to responses, using a checklist, writing a language learning diary, discussing feelings with peers.

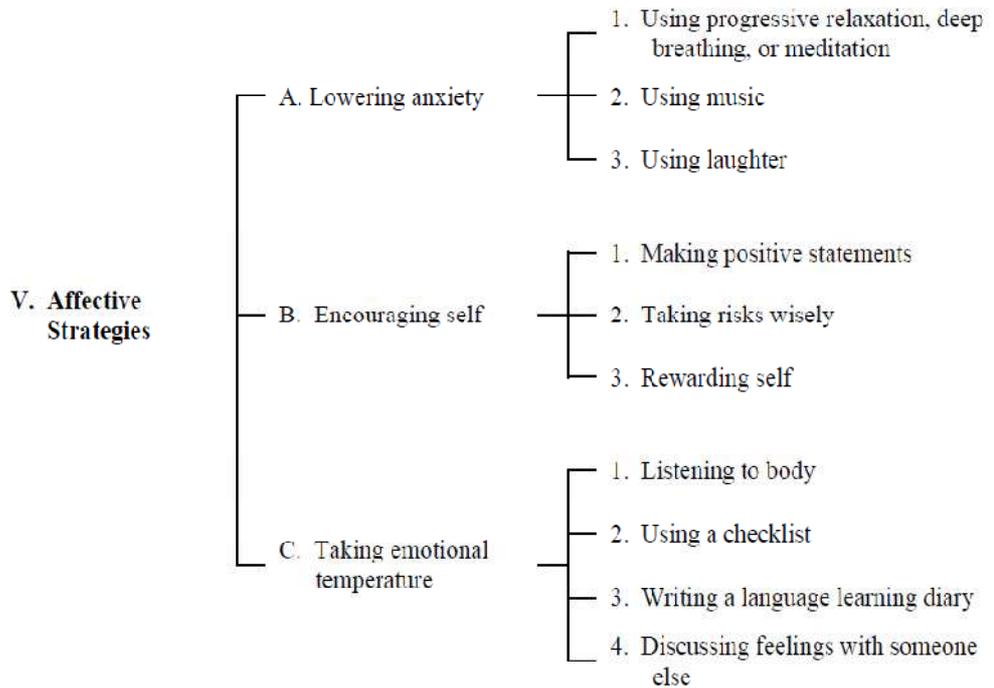


Figure 7. Diagram of the strategy system showing the affective strategies. (Figure 1.4, in Oxford.R,L. 1990, pp. 18-21)

Social strategies represent a broad grouping that involves interaction with another person. Generally they are applicable to a wide variety of tasks, and they help students learn through interaction with others. Social strategies fall into three sets:

1. Giving questions: asking for clarification or verification, asking for correction.
2. Cooperating with others: with peers, with proficient users of the new language.
3. Empathizing with others: developing cultural understanding, becoming aware of other' s thoughts and feelings.

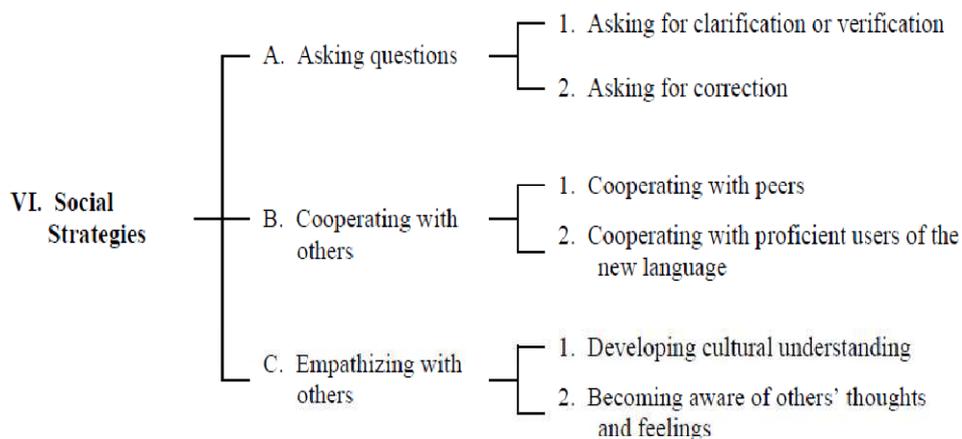


Figure 8. Diagram of the strategy system showing the social strategies.
(Figure 1.4, in Oxford.R,L. 1990, pp. 18-21)

Basically, learning strategies are steps taken by students to enhance their own learning. Strategies are especially important for language learning because they are tools for active, self-directed involvement, which is essential for developing communicative competence. Appropriate language learning strategies result in improved proficiency and greater self-confidence. How language learning strategies stimulate the growth of communicative competence in general can be summed up as follows: metacognitive strategies help learners regulate their own cognition to focus, plan and evaluate their progress as they move toward communicative competence. Affective strategies develop the self-confidence and perseverance needed for learners to involve themselves actively in language learning. Social strategies provide increased interaction and more emphatic comprehension toward the lesson.

7. Communication Strategies

While learning strategies deal with the receptive domain of intake, memory, storage, and recall, communication strategies pertain to the employment of verbal or non-verbal mechanisms for the productive communication of information. Faerch and Kasper (1983a, p. 36) defined communication strategies as “potentially conscious plans

for solving what to an individual presents itself as a problem in reaching a particular communicative goal.” Dornyei’ (1995, p. 58) offered a taxonomy that reflects accepted categories over several decades of research. According to his categorization, communication strategies are set into avoidance strategies and compensatory strategies.

Avoidance is a common communication strategy that can be broken down into several subcategories: syntactic or lexical avoidance within a semantic category; the phonological avoidance and the topic avoidance. The compensatory strategies, on the other hand, involve compensation for missing knowledge. The communication strategies are detailed in the following table:

Table . 3.

Communication Strategies (Table: 5.3 in Brown, 2000, p. 127)

Avoidance Strategies
<ol style="list-style-type: none"> 1. Message abandonment: leaving a message unfinished because of language difficulties. 2. Topic avoidance: Avoiding topic areas or concepts that pause language difficulties.
Compensatory Strategies
<ol style="list-style-type: none"> 3. Circumlocution: Describing or exemplifying the target object of action (e.g., the thing you open bottles with for corkscrew) 4. Approximation: Using an alternative term which expresses the meaning of the target lexical item as closely as possible (e.g., ship for sailboat) 5. Use of all-purpose words: Extending a general, empty lexical item to contexts where specific words are lacking (e.g., the overuse of thing, stuff, what-do-you-call-it, thingie) 6. Word coinage: Creating a non existing L2 word based on a supposed rule (e.g., vegetarianist for vegetarian)

7. Prefabricated patterns: Using memorized stock phrases, usually for “survival” purposes (e.g., Where is the _____ or Comment allez – vous? Where the morphological components are not known to the learner)
8. Non linguistic signals: Mime, gesture, facial expression, or sound imitation.
9. Literal translation: Translating literally a lexical item, idiom, compound word, or structure from L1 to L2.
10. Foreignizing: Using a L1 word by adjusting it to L2 phonology (i.e., with a L2 pronunciation) and/or morphology (e.g., adding to it a L2 suffix)
11. Code-switching: Using a L1 word with L1 pronunciation or a L3 pronunciation while speaking in L2.
12. Appeal for help: asking for aid from the interlocutor either directly (e.g., What do you call....?) or indirectly (e.g., rising intonation, pause, eye contact, puzzled expression)
13. Stalling or time-gaining strategies: Using fillers or hesitation devices. to fill pauses and to gain time to think (e.g., well, now let’s see, uh, as a matter of fact)

8. Information Processing

Many cognitive trends studied information processing starting from the speculation that the human mental processes could be compared to computer functioning in dealing with a number of digits. The “Information-processing Model” represents what occurs when information flows through various internal structures that are supposed to exist inside the learner brain. Gagne et al. (1984); for instance, claimed that some of the processes used by the system may be performed better or faster by some people than by others, but the nature of the system is the same.

During the 1970’s, in an attempt to bring the issue of information processing into the learning process with more or less success in moving away from the stimulus

response model towards an elaborate thinking/problem solving challenge, Massaro (1975) and Mayer (1977) elaborated two major works.

As far as Massaro's work (1975) is concerned, he states that:

the stages of mental processing include: detection recognition and reaction (...) which lead us to consider information processing as the processes we have identified between stimulus and response (...) and can be clarified in terms of our information-processing analysis. Stimulus is the information available to the detection process which transduces the physical signal into a neurological code. (pp. 39-40)

Massaro (1975) discusses the relationship between the storage structure in immediate memory and the psychological process at each stage of processing information through visual recognition. He considers that the visual stimulus leads first to perceptual visual storage and then to recognition and storage in immediate memory. These three steps: perception, recognition and immediate memory-stages are followed by the rehearsal stage which in turn will lead to the recall stage. Hence recall (remembering) cannot take place unless there is enough rehearsal of the items stored in immediate memory. Massaro adds that:

... the central assumption of our information-processing model is that a number of processing stages occur between stimulus and response. These processing stages are assumed to be successive and each stage operates on the information available to it. The operation of a particular stage takes time and transforms the information, making it available to the next stage of processing. Two theoretical constructs are important to this approach. First, the structural construct describes or defines the

nature of the information at a particular stage of processing. Second, the functional construct describes the operations of a stage of information processing. (1975, pp. 248-257)

In explaining his assumption, Massaro (1975, p. 601) draws a flow diagram of the temporal course of auditory and visual information processing, where he distinguishes first the stimuli as sound and sight wave patterns which lead to an auditory and visual receptor system. At this step he considers the stage of feature detection or sensation which is followed by perceptual auditory and visual storage. This storage helps in establishing primary recognition that is called by Massaro the perception stage which develops the interpretation of signs. This stage is followed by synthesized auditory and visual memory which represents a secondary recognition and leads to a stage of conception 'concept formation'. Concepts are then stored in a generated abstract memory. They are recorded and rehearsed through a last stage that Massaro calls knowledge of rules. According to this model, recording and rehearsal act as a feedback to generate more concepts in abstract memory and reinforce synthesized items in auditory and visual memory.

In the second trend led by Mayer (1977), he makes a close link between information processing, thinking and cognition. Mayer considers that the information approach to thinking assumes that a human being is a processor of information whose cognitive processes, including thinking, can be presented as either: 1) a sequence of mental processes or operations performed on information in the subject's memory; or 2) a sequence of internal states or changes performed on information that progress towards a goal.

Information processing was given a higher status by more recent works in the field of educational psychology. Among the prominent scholars we mention (Anderson, 1995), (Matlin, 2003), (Slavin, 2003), (Woolfolk, 2004), (Baron and Kalsher, 2005), and (Ormord, 2006).

Anderson (1995), for instance; thought that the information processing approach became predominant in cognitive psychology, and attempted to analyze cognition into a set of steps in which an abstract entity, called information, is processed. The paradigm showed how an individual saw a probe stimulus which had to be encoded and then compared to each digit in the memory set. Then, the individual had to decide on a response and generate it. Time required for stimulus perception, decision making, and generating a response was of high importance in this paradigm which accounted much more for mathematical operations and relations of digits.

Matlin (2003, p. 10), on the other hand, considers that one component of the information processing approach is to interpret the mental process as “information progressing through the system in a series of stages, one step at a time”. These stages, according to Matlin, are: First, reception of stimuli and comparison with information stored in memory; Second, seeking additional information stored in memory; Third, making a decision; and finally, executing the response. Matlin considers that the most prominent example of this approach was the model developed by Atkinson and Schiffrrin in 1968 (figure: 09) which had great influence on cognitive psychology.

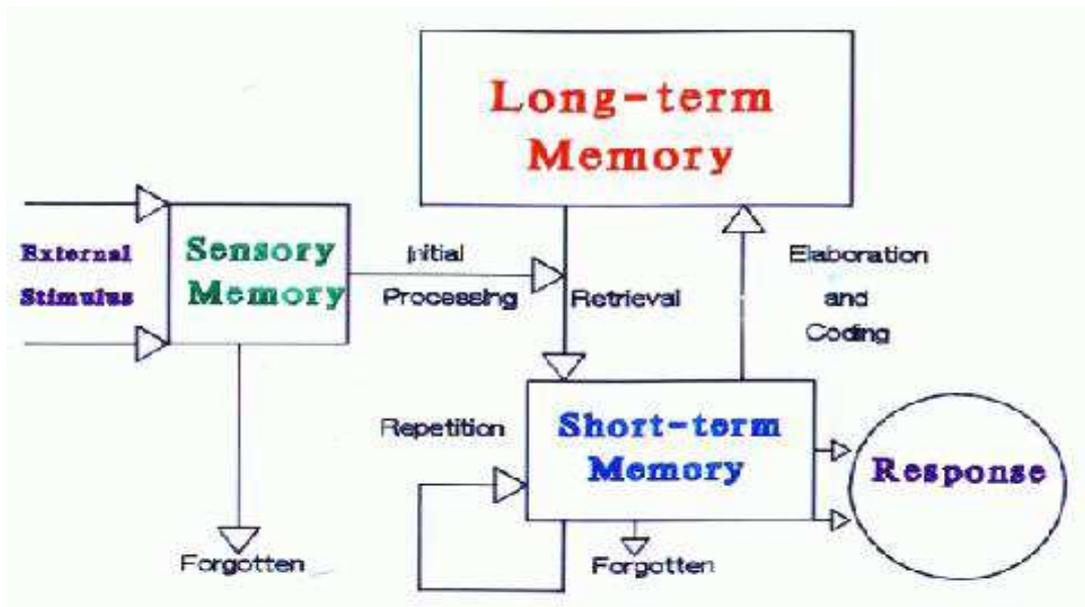


Figure 9. A Stage model of memory (Adapted from Atkinson and Shiffrin (1968))

In this model, memory is defined as a sequence of discrete steps in which information is transferred from one storage area to another. This first step is called the sensory memory which gets the external stimuli for a few seconds. The second step is the short term memory (or working memory) which gets from sensory memory amounts of information and uses them during some seconds (about 30, according to Matlin). The third step is where the information that has been rehearsed passes from short term memory to long term memory for relatively permanent storage.

In this model, most of the received information in sensory memory is lost unless there is a certain amount of focus of attention and perception. Short term memory requires rehearsal so that information is understood and stored in long term memory. In criticizing this model, Matlin (2003, pp. 12-13) claims that it had an impact on further developments in cognitive psychology but considers that this impact diminished in recent years because, and for matters related to convenience, psychologists focused their investigations on two broad aspects of learning: 1) kinds of memory and their

interrelationships, and 2) a theoretical framework that accounts for an information processing model.

More recent works in educational psychology stress the fact that, even if first information processing models speculated over computer and artificial intelligence findings, it is sometimes the neuropsychological research (human brain functioning) which influenced developments in the world of computer operations. Woolfolk (2004), and Ormord. (2006) consider information processing as a core approach to cognitive psychology in general and a central aspect of all specific descriptions of memory types as sensory memory, short term/working memory, and long term memory.

Woolfolk, (2004) states that:

For most cognitive psychologists, the computer model is only a metaphor for human mental activity. But other cognitive scientists, particularly those studying artificial intelligence, try to design and program computers to ‘think’ and solve problems like human beings. Some theorists suggest that the operation of the brain resembles a large number of very slow computers, all operating in parallel (at the same time), with each computer dedicated to a different, specific task.” (p. 239).

Ormord (2006) went further by putting information processing at the central dynamic phenomenon of cognitive development in children. After a long criticism of Piaget’s and vygotsky’s views about learning, she devotes a whole chapter to the importance of information processing view of cognitive development. She comes to various outcomes of this importance in considering that all learning styles and strategies are the result of information processing theory.

All recent four works, mentioned above, agree on the stages and models of information processing which are prominent in child cognitive development, learning, and problem solving. They distinguish aspects related to sensory, short term, working, and long term memory and provide models of processing like bottom-up/top-down and schema representation of knowledge and remembering.

Conclusion

In this chapter, we attempted to provide a somehow detailed overview on learning, its objectives, and its processing. Thinking, intelligence, memory, and creativity are the evidence which show the utility of any kind of learning.

Although learning styles and strategies are presented under two separate titles, we have avoided, in this chapter, to make a clear-cut distinction between them because they are the core of the information processing model of learning. Styles represent the trends and tendencies of learners to use a number of strategies while learning. Strategies are identified as specific moves used by learners to tackle a given task in a particular stage of learning. Learners are generally subject to learning environments which encourage/discourage them to use some styles and strategies, and avoid others.

The distinction made between the different types of strategies serves the pedagogical, programmed learning environment. Actually, this can be obvious through the designed objectives to be achieved in a given course and the pedagogical instructions given to the learners in order to make them complete/perform a particular task.

In this chapter, we tried to shed light on the information processing which represents the learning process that is sometimes stated in terms of schematic representation of information in the mind

CHAPTER

2

Learners' Interaction and Cooperative Learning

Chapter II: Learners' Interaction and Cooperative Learning

Introduction

As opposed to traditional methods of teaching a second or a foreign language (L2/FL), where lecturers transform knowledge to the students and where students were considered passive receivers of this knowledge, recent approaches of teaching L2/FL emphasize the construction of knowledge by both the teacher and the learner; hence, the student is considered active constructor, discoverer and transformer of his own knowledge. The main principle of these recent approaches is communicating in the classroom. One central component of communication is interaction between learners. The reason is that teacher and learners exchange ideas during interaction; they produce and receive knowledge about the content and the forms of the language at the same time. This will give them greater opportunity to learn L2 using the target language itself mainly that practice is considered as one of the effective strategies of learning.

In this chapter, the first part provides a general overview on interaction by defining it and by stating the different theoretical perspectives behind it such as: the interaction hypothesis, the sociocultural theory, and the depth of processing model. The second part covers the cooperative learning as a general method that can be applied in many academic subjects through presenting its conceptual definition, comparing it with other methods and structures, giving its theoretical background and the criteria for using it effectively, and finally stating its benefits.

1. Interaction Definition

The word interaction is formed by the prefix *inter*, which implies togetherness, reciprocity, and the noun *action*. So interaction is a mutual activity which requires at least the involvement of two persons and which causes mutual effect. Ellis (1999, p.1) defines interaction as “the social behavior that occurs when one person communicates with another”. He also says that it “can occur inside our minds, both when we engage in the kind of ‘private speech’ discussed by Vygotsky (1978), and, more covertly, when different modules of the mind interact to construct an understanding of or a response to some phenomenon”. Interpersonal and intrapersonal interaction are closely connected with regard to both our use and our acquisition of language. That is, intrapersonal interaction is required in order to interact interpersonally and, also, interpersonal interaction serves to trigger intrapersonal operations, including those that are involved in language acquisition. Ellis focuses on interaction as an interpersonal and intrapersonal phenomenon, but Chapelle (2003, p.56) proposes the addition of interaction “between person and computer”. She synthesizes the basic types of interaction in the light of three different SLA theoretical perspectives discussed by Ellis (1999): interaction hypothesis (Hatch 1978; Long, 1996; Pica 1994), sociocultural theory (Lantolf and Appel 1994) and the depth of processing theory (Craik and Lochart, 1972).

9. Theoretical Perspectives on Interaction

2.1. The Interaction Hypothesis

Brown (2007) remarked that the interpersonal context where a learner operates takes on great significance, so the interaction between learners and others is the focus of observation and explanation. The interaction hypothesis (henceforth IH) is an excellent example. The IH, which has also been referred to as the input, interaction, and output

model by Block (2003), the interaction theory by Carroll (1999), the oral interaction hypothesis by Ellis (1991), and the interaction approach by Gass and Mackey (2007), was first proposed by Long (1981). In its initial formulation, Long stated that participation in conversation with native speakers, which is made possible through the modification of interaction, is the necessary and sufficient condition for second language acquisition. Long (1981) also gave a clear definition of the two constructs input and interaction, “Input refers to the linguistic forms used; by interaction is meant the functions served by those forms, such as expansion, repetition, and clarification” (p. 259).

Ellis (1991) indicated that the IH advances two main claims about the role of interaction in second language acquisition:

1. Comprehensible input is necessary for second language acquisition.

2. Modifications to the interactional structure of conversations taking place in the process of negotiating a communication problem help to make input comprehensible to a second language learner. Long (1983, cited from Ellis, 1991) extended Ellis claim by suggesting:

1. Access to comprehensible input is characteristics of successful acquisition in first and second language.

2. More quantities of comprehensible input are likely to lead to faster acquisition (extensive exposure to input).

3. Lack of access to comprehensible input will result in little or no acquisition.

As Ellis (1991) observed, Long (1983) embraced the views about the role of comprehensible input proposed by Krashen (1982). Researchers who saw comprehensible input as a major causative factor in second language acquisition, as Ellis (1994) noticed, are Krashen (1981, 1985, 1989) and Long (1981, 1983, 1989).

Although comprehensible input plays an important role in Krashen's input hypothesis and Long's interaction hypothesis, there is a difference in the ways these two researchers saw comprehensible input. As Ellis (1994) rightly commented, Krashen claimed that input becomes comprehensible thanks to simplification and with the help of contextual and extralinguistic clues, whereas Long argued that interactive input is more important than non-interactive input.

The evolution of the IH has been contributed by Pica (1987). As Ellis (1991) indicated, the IH is not only most clearly associated with the work of Long (1980) but it is also closely associated with the work of Pica (1987). In other words, Long proposed the hypothesis, whereas Pica empirically investigated it. Ellis (1991) noted that by carefully testing the claims of the hypothesis, Pica has extended the IH in a main way by emphasizing the importance of the social relationship between participants as a determinant of interactional modifications. Therefore, in Ellis's (1991) point of view, the IH can be summarized as follows.

1. Comprehensible input is necessary for second language acquisition.
2. Modifications to the interactional structure of conversations taking place in the process of negotiating a communication problem help to make input comprehensible to a second language learner.
3. Tasks where there is a need for the participants to exchange information with each other promote interactional structuring.
4. A situation where the conversational partners share a symmetrical role relationship affords more opportunities for interactional restructuring.

Having reviewed and critically evaluated the IH, Ellis (1991) went even further by proposing "a revised version of the interactional hypothesis" (p.36). His revised version is as follows:

1. Comprehensible input facilitates SLA but is neither necessary nor sufficient.
2. Modifications to input, especially those taking place in the process of negotiating a communication problem make acquisition possible providing that the learners: (1) comprehend the input, and (2) notice new features in it and compare what is noticed in their output.
3. Interaction requiring learners to modify their initial output facilitates the process of integration.

As Ellis (1991) contended, the claims in his revised version are weaker than those of the original IH and one particular example is comprehensible input which is deemed as neither necessary nor sufficient for acquisition. He also emphasized that the advantage of his revised version is that it is possible to see how the hypothesis can be empirically tested. As an important hypothesis, the IH is under continuous review, evaluation and reformation. Indeed, Long (1996) suggested an updated version of the IH. He wrote:

..it is proposed that environmental contributions to acquisition are mediated by selective attention and the learners' developing L2 processing capacity, and that these resources are brought together most usefully, although not exclusively, during negotiation for meaning, Negative feedback obtained during negotiation work or elsewhere may be facilitative of L2 development, at least for vocabulary, morphology, and language-specific syntax, and essential for learning certain specifiable L1-L2 contrast. (p. 414)

Long (1996) also indicated that negotiation for meaning, especially negotiation work that triggers interactional adjustment by the native speakers or more competent interlocutors, facilitates acquisition as it connects input, internal learner capacities, particularly selective attention, and output in productive ways. Additionally, he clearly

pointed out that the IH is certainly not intended as anything like a complete theory of language learning because many aspects of the proposal have barely been investigated in adult second language acquisition and those aspects may pose potential problems.

2.2. Sociocultural Theory, Interaction and L2 Acquisition.

Vygotsky's sociocultural theory (SCT henceforth) was concerned with the crisis of the 20th century regarding the challenge between two main camps of psychologists – those who were advertising a naturalistic perspective (the behaviorists) and those who followed a cognitive approach in psychology and emphasized the description and understanding of mental activities. The followers of a naturalistic approach focused on the naturalistic and the biological endowments that humans share with primates, which were largely involuntary and reflexive in the presence of stimuli. Vygotsky's concern was mainly focused on higher mental thinking, rational thought, problem-solving, planning, meaning-making, etc. Vygotsky proposed that human beings possess two different levels of biological foundations. One was lower-level activities and the higher-level abilities, which include consciousness. He stated that by employing higher level cultural tools, such as language, literacy, numeracy, logic, etc., humans are able to have voluntary control over his/her consciousness. The role of these tools is to act as a buffer between an individual and the environment and mediate between the person and his/her social/physical world (Lantolf and Thorne, 2007).

Sociocultural theory has a holistic approach towards learning. The theory emphasizes meaning as the central aspect of any teaching and holds that skills or knowledge must be taught in all its complex forms, rather than presented as isolated, discrete concepts (Turuk, 2008). Learners are thought to be active meaning-makers and problem-solvers in their learning process. The theory also lays great stress on the

dynamic nature of interconnections among teachers, learners and tasks and advocates concept of learning which stems from interactions among individuals

Ellis (2000) argues that sociocultural theory is based on the assumption that learning emerges not through interaction but in interaction. When learners get involved in doing certain tasks with the help of another learner or the teacher, they internalize the way to carry out the same task by themselves. Hence, social interaction is believed to facilitate or mediate the learning process. According to Ellis (2000) the interactions that help the learners with their learning process are those in which the learners scaffold the new tasks.

One of the key contributions of sociocultural theory to the issue of language learning is that of ‘participation’ (Pavlenko and Lantolf, 2000, cited in Davies, 2007) which combines the social context with individual acquisition. In other words, In order for an individual to become a competent speaker of a language, the mere personal effort would not result in the mastery of the language unless he benefits from other people’s (especially adult) participation to negotiate. The sociocultural theory (SCT henceforth) is characterized by some key constructs (concepts) that have been the issues of many research studies, among them we state:

2.2.1. Zone of Proximal Development. The concept of ZPD in sociocultural theory is expanded far beyond the original form of it which was introduced by Vygotsky (Cook, 2008). The dissatisfaction with two practical issues in educational psychology prompted Vygotsky to introduce the concept of ZPD. These issues included the assessment of a child’s intellectual abilities and the evaluation of instructional practices (Turuk, 2008). Regarding the first issue, Vygotsky argues that the testing techniques used assessed only the actual level of development, yet ignored the potential abilities of the child. He maintained that psychology should be more concerned with the

potential abilities of a child, i.e. what a child will be to accomplish in the future but he/she has not achieved yet. In order to predict the future abilities of children and their importance, he defined the concept of ZPD as —the distance between a child’s actual developmental level as determined by independent problem solving and the higher level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers (Turuk, 2008, pp. 248-249).

ZPD contributes to shaping the mental functions of a child which has not become mature yet, but will develop in future. According to Cook (2008), the distinctive aspect of Vygotsky’s ZPD lies in the fact that the gap between the learner’s current state and their future knowledge is bridged by assistance from others; learning demands social interaction so that the learner can internalize knowledge out of external action. ZPD is considered significant in the sense that it is the region in which the transition from interpsychological functions (between people) turns into intrapsychological functions (inside the child).

It is believed that learning causes a variety of internal developmental functions to be activated and this process happens only when the child is interacting with his peers or the adults in his environment. When the internalization of the learning process occurs for the child, it becomes part of his/ her internal achievements. Vygotsky contends that instruction is not the only determining factor; the biological factors also play an important role in ZPD. These two processes are intertwined in such a complicated way that one cannot consider a distinct role for either instruction or development. Vygotsky maintains that the child’s development and intellectual possibilities determine the boundaries of the child’s possible development.

A major pedagogical implication of ZPD is its emphasis on the collaboration and social interaction. Newman, Gleitman, and Cole (1989, cited in Lantolf & Thorne,

2006) name dialogic interaction and social mediation as the necessary elements for learning and development to occur. They maintain that cognition change does not take place if the system is a closed one and it is because of the constructive process of the zone that production change is possible.

After Bruner's introduction of scaffolding (1986), Donato(1994) extends the notion by suggesting that scaffolding is a framework for peer interaction and individuals can scaffold one another. He maintains that the dialogic interaction has potential to foster linguistic knowledge. Some examples of peer scaffolding can be dyadic interactions between students such as role-plays, translations and interview tasks. The notion of the ZPD also suggests that teachers, both in practice and in training, can achieve an insight to teaching through reflective practice and collaboration with other teachers. Furthermore, an enlarged notion of the ZPD implies that mediation is not limited to the scaffolding offered by other human beings but may come in the form of socially constructed semiotic artifacts, such as books, maps, and diagrams.

2.2.2. Internalization. Another sociocultural theory concept is the notion of internalization, that is, the process by which intermental functioning in the form of social relations among individuals and interaction with socially constructed artifacts is turned inwards and transformed into intramental functioning (Vygotsky, 1978). A pedagogical implication of *internalization* for second/foreign language classrooms is the enhancement of interactions among the learners. Following the significance of interaction among the learners, it is also vital that teachers realize that the role of expert is not limited to that of a teacher, but can also be applied to those learners who have internalized an aspect of the language.

2.2.3. Mediation Theory. One of the most important aspects of sociocultural theory is the concept of *mediation*. As human beings use physical tools to make changes in their environment, and consequently upgrade the conditions of their lives, they also use symbolic tools, or signs, to mediate and regulate their relationships with the people in their surroundings and thus change the nature of their relations with them. Williams and Burden (1997) point out that for Vygotsky and his followers, mediation refers to the use of ‘tools’. Tools in this sense refer to anything that is used in order to help solve a problem or achieve a goal. The most important of these tools is symbolic language..., the use of mediational language to help learners move into and through their Zone of Proximal Development (ZPD) is of particular significance. (p. 65)

2.2.4. Activity Theory. Activity theory, as one of the components of SCT, was developed by one of Vygotsky’s students, A. Leontev. It deals with the unified nature of human behavior, which is considered to be the result of the integration of social and cultural mediations. Lauria (1979) believes that mind is not the result of the activity occurring in the brain but a functional system shaped as the brain’s electro-chemical processes come under control of our cultural artifacts, the most important of which is language. In line with Lauria (1979), Lantolf (2000) also suggests that an activity is motivated by a need which might be either social, like the need to get literate or biological, such as the need for food, which is hunger. Therefore, it is believed that motives emerge through certain activities which are goal directed and are accomplished under certain conditions.

2.2.5. Scaffolding and ZPD. Scaffolding has been interpreted as social assistance, which is an idea offered mostly by Jerome Bruner (1986). He noticed that children acquire their first language while their parents offer scaffolding in the form of continuous help to them through conversational formats.

Using Vygotsky's sociocultural theory of mind, Lantolf (2007) elaborates on the nature of collaborative interaction. Learners scaffold one another as they take part in collaborative activity and such collaboration would lead to the co-construction of linguistic knowledge. The concept of scaffolding suggests that the knowledgeable person (adult, teacher, or peer) helps the less knowledgeable (child, or student) to accomplish a task which he or she would not otherwise be able to do by himself or herself. It is also interpreted as anything a learner benefits from or consults with, which might be a dictionary, grammar books, the traditional classroom technique of Initiation, Response, or any corrective feedback offered by the teacher.

Scaffolding has also been connected to Vygotsky's ZPD. The ZPD is defined as the distance between the actual developmental level as determined by independent problem-solving and the level of potential problem-solving abilities as determined through problem solving under adult guidance or in cooperation with more capable peers (Vygotsky 1978, p. 86). The fundamental idea is that for scaffolding to facilitate L2 learning, it needs to exist within a learner's ZPD. Cook (2008) finds it parallel to the teachability concept stating that you cannot teach things that are currently out of the learner's reach (p. 229). Teachability concept suggests that one cannot teach things which are beyond the learners' present level of knowledge.

2.2.6. Inner Speech. Vygotsky (1986) perceives language development as a process which begins through social contact with others and then gradually moves inwards through a series of transitional stages towards the development of inner speech. In other words, the phenomenon of inner speech is rooted in the society, as internalized social speech. The importance of inner speech can be realized in some psychologists' viewpoints when they describe thought as the inhibited, soundless speech (Vygotsky, 1978).

Inner speech arises in a developmental fashion: first there is social speech, then comes the egocentric speech of children and finally inner speech is formed. Vygotsky (1986) states, inner speech is speech for oneself: external speech is for others (p. 225). Private speech is a vital construct with regard to the role of interaction in L2 acquisition. Vygotskyian sociocultural theory suggests that learners initially use language for communicative interaction purposes with their interlocutors and, eventually, this interpersonal speech takes on an intrapersonal function in which the speech is directed to the self. Interpersonal (social) speech can have an intrapersonal (private) function (Lantolf, 2007).

2.3. Depth of Processing Theory.

This theory is entirely cognitive in orientation drawing on a traditional model of information processing. It has been stated by Ellis (1999) as one of the major perspectives because according to him it can also incorporate an interactionist perspective on learning in the sense that interaction serves as a means of achieving the kind of mental activity required for new material to be stored in long-term memory. The traditional model consists of three types of memory. The traditional processing models are premised on the existence of three types of memory store. Sensory registers allow for a literal copy of input without attention and are subject to rapid and large decay. The short-term store requires conscious attention and allows for recycling of information. Decay takes place but less rapidly. The long-term memory requires information to be organized meaningfully and can maintain information over a long period of time with minimal loss. Another feature of such models is that they propose a limited capacity, either in terms of the size of the memory stores or in terms of limitations in people's ability to process new information in the input or in terms of an interaction of these two (Ellis, 1999).

This traditional processing model had been revised by Craik and Lockart (1972) who suggest that memory is less a function of different types of store and more a function of the nature of the processing in which learners engage when faced with material in the input. They went further by arguing that a stimulus can be processed at different levels. The preliminary level involves the analysis of purely formal features such as lines, angles, brightness, pitch and loudness. The deeper level involves matching input against existing schemata in order to extract patterns and meaning. They propose, “ ... that trace persistence is a function of depth analysis, with deeper levels of analysis associated with more elaborate, longer lasting, and stronger traces “ (p.676). Additionally, they supported their argument by proposing two types of processing. (1) Processing type involves the repetition of analyses that have already been carried out. While within type (2), processing requires deeper analysis of the stimulus.

However, Craik & Lockart view processing depth as continuous rather than dichotomous. And according to them, there is a single memory space which is activated differently depending on the depth of processing. The degree of retention is given to a stimulus, the extent to which it matches existing mental structures and the processing time available. The level of processing that an individual engages in depends on a person's motivation (i.e. his or her assessment of the usefulness of the information), and on externally on the nature of the task a subject is asked to perform. However, this model was criticised for underspecifying 'the depth processing', and for representing 'conceptual framework' rather than a 'theory'. This problem had been addressed later by Wittrok's generative model of learning (Wittrok, 1974). In this model, Wittrok focuses on differentiating aspects of what Craik and Lockart referred to as type 2 (i.e. processing that occurs at the semantic level). And he proposed that improved retention occurs when subjects engage in 'generative processing' (i.e. processing that involves the

generation or elaboration of material based on the input stimulus. Learning, then, is seen as a function of the associations, concrete and abstracts, which subjects generate between the stimulus and prior experience. When such associations are developed long-term memory occurs, and also, subjects are able to transfer information to new contexts and problems.

The levels of processing and generative processing models constitute a potentially rich seam that remains untapped by L2 researchers. There are, however, some obvious limitations. The models do not provide a clear theoretical basis for distinguishing different mental and behavioural activities in terms of the depth of processing they involve (Ellis, 1999). More attention, ellis adds, also needs to be paid to individual learner differences. The major limitation of the models is that they have not involved interaction. Nevertheless, according to Ellis, interaction, in various guises, can function as one means of stimulating Type 2 processing such as the negotiation of meaning. And he claims that one of the more obvious ways in which these model scan be exploited in SLA is by examining how interaction of both the interpersonal intrapersonal kinds helps learners to process deeply and, thereby, to acquire the L2.

Within the classroom contexts, theorists and researchers have shed light on a number of teaching techniques used to motivate the learners' interactional activities to handle different language tasks. Among these techniques, it is worth to mention the cooperative learning, as a good illustrating example, that will be covered in detail in the coming section.

10. The Cooperative Learning

Cooperative learning is one strategy for group instruction which is under the learner-centered approach. Many educators give different definitions of cooperative learning.

3.1. Definitions of Cooperative Learning

According to Slavin, “Cooperative learning is an instructional program in which students work in small groups to help one another master academic content.” (1995). In another definition, Brown (1994) states that “cooperative learning involves students working together in pairs or groups, and they share information. They are a team whose players must work together in order to achieve goals successfully.”

In addition, Kessler (1992) proposes the definition of cooperative learning particularly in language learning context:

Cooperative learning is a within-class grouping of students usually of differing levels of second language proficiency, who learn to work together on specific tasks or projects in such a way that all students in the group benefit from the interactive experience.

Olsen and Kagan (1992) have defined cooperative learning as:

Group learning activity organized so that learning is dependent on the socially structured exchange of information between learners in groups and in which each learner is accountable for his or her own learning and is motivated to increase the learning of others. (p. 8).

According to Johnson, Johnson, and Smith (1991), cooperative learning is “The instructional use of small groups so that students work together to maximize their own and each other’s learning. . . . To be cooperative, learning groups must be carefully structured” (p. 12).

Cooperative learning comes in many forms. Among the most widely used and researched cooperative learning methods are student team learning methods, including Student Teams Achievement Divisions (STAD), Teams-Games-Tournament (TGT),

Team Assisted Individualization (TAI), and Cooperative Integrated Reading and Composition (CIRC); Jigsaw methods, including Jigsaw and Jigsaw II; and group investigation (G-I) methods, including Learning Together (LT), Co-op Co-op; and Group Investigation (GI).

3.2. Elements of Cooperative Learning

Cooperative efforts are expected to be more productive under certain conditions. The followings are the five basic elements of cooperative learning.

3.2.1. Positive Interdependence. The first requirement for an effectively structured cooperative learning environment is that students believe they “sink” or swim together.(Johnson, Johnson & Stanne, 2000) That is, cooperation occurs only when students perceive that the success of one depends on the success of the other. Whatever task students are given to perform, each group member must feel that his or her contribution is necessary for the group’s success. Students have to learn to work together in order to accomplish tasks. This is why learning task must be designed in a way that makes them believe, “they sink or swim together.” Through the assigned material, students learn to achieve the goal. Therefore, a number of ways of structuring positive interdependence are carried out such as reward, resources, or task responsibilities to supplement goal interdependence. Each group member has a unique contribution to make to the joint effort because of his or her resources or role or task responsibilities.

3.2.2. Face-to-Face Interaction. The second element of cooperative learning requires face-to-face interaction among students within which they promote each other’s learning and success. Johnson (2005) suggests that it is necessary to maximize the opportunities for them to help, support, encourage, and praise each other. Such promotive interaction helps to promote the following:

- orally explaining how to solve problems
- teaching one's knowledge to other
- checking for understanding
- discussing concepts being learned
- connecting present with past learning

3.2.3. Individual and Group Accountability. The third essential element for all cooperative learning methods is individual accountability. Individual accountability is present only when each group member is held responsible by other members for putting in a reasonable share to the group's final outcome. Two scenarios could happen if individual accountability is not well-structured. Students could either fail to notice group members' needs for encouragement and support (Johnson, Johnson, & Smith, 1991) or choose to seek a free ride on others' efforts by leaving the task to their group members (Kerr & Bruun, 1983). On one hand, this could diminish students' learning motivation; on the other hand, those members who are stuck doing all the work might actually benefit tremendously on the process of taking over the responsibilities at the expense of the free riders (Johnson & Johnson, 1990).

In Slavin's meta-analysis of research on cooperative learning (1995, 1996), individual accountability was found to be pivotal to the success on cooperative learning performance. The simultaneous use of individual accountability and group goals substantially enhanced the effect of cooperative learning. Johnson, Johnson, and Smith (1991) suggested using the following methods to structure individual accountability: (1) Keep the group size small. The smaller the group size, the greater individual accountability could be. (2) Give each student an individual test. (3) Randomly call on a student to orally present the group's work in front of the whole group or the whole class. (4) Observe group process and record the frequency of each student's

participation. (5) Have the checker in each group check his or her members' comprehension by asking them to explain what has been learned or to elaborate the logic underlying the group's answer. (6) Have students teach what they have learned to their group members.

3.2.4. Prior Training of Group Skills. To achieve group goals, group members need to trust one another, communicate clearly and accurately, avoid misunderstanding, accept and assist one another, and resolve disagreements constructively (Johnson & Johnson, 2003). In order to achieve all these, group skills are indispensable. According to Olsen and Kagan (1992), group skills include acknowledging group members' contributions, valuing group members' contributions, asking group members to provide input, praising group members, checking for agreement, keeping the group on task, keeping conversation quiet, and reconciling discrepancies. Johnson and Johnson (1990) recommended a few steps for teaching students group skills. First, the instructor is to provide the rationale for using group skills. This may include improvement of group dynamics and extra points for the use of group skills. Then, the instructor is to model how and when to use group skills and ask students to role-play the skills with their group members. Next, students are constantly reminded to use the social skills they have learned so that they can go through the phases of unnatural enactment and internalize the skills (Olsen & Kagan, 1992).

3.2.5. Group Processing. Johnson, Johnson, and Smith (1991) defined group processing as: “reflecting on a group session to describe what actions of the members were helpful and unhelpful and to decide what actions to continue or change” (p. 22). The purpose of group processing is, “to clarify and improve the effectiveness of the members in contributing to the collaborative efforts to achieve the group's goals” (p. 22). Like prior training of social skills, group processing is emphasized in group

investigation methods. Empirical studies (Johnson, Johnson, Stanne, & Garibaldi, 1990; Yager, Johnson, Johnson, & Snider, 1986) found that students in the cooperation with group processing condition had higher academic achievement than students in the cooperation without group processing condition.

4. Differences between Cooperative Learning and Collaborative Learning.

The terms “cooperative learning” and “collaborative learning” have been used interchangeably not only by the general population but also by many educational practitioners, including those who utilize peer learning in their classrooms (Adams, 2000; Walling, 1987). The confusion is understandable; while some dictionaries illuminate the different natures of cooperation and collaboration (Chiu, 2000), many do not. For example, one dictionary defines “cooperate” and “collaborate” as “to act or work together for a particular purpose” and “to work with someone for a special purpose,” respectively (Cambridge Advanced Learner’s Dictionary, 2003). The two definitions are virtually the same.

Nevertheless, while both cooperative learning and collaborative learning are types of peer learning, they are different in many ways—from their underlying assumptions to emphases to implementations (Bruffee, 1999). The table below presents a summary of the differences between collaborative learning and two main types of cooperative learning, i.e., Peer Tutoring and Group Investigation methods.

Whereas cooperative learning originated with the assumption that competition could obstruct learning, collaborative learning originated with the assumption that the hierarchical authority structure could obstruct learning. Due to the different assumptions, cooperative learning emphasizes interdependence and individual accountability to ensure that students work together instead of competing with one

another. On the other hand, collaborative learning emphasizes student autonomy over structure.

As a result, cooperative learning involves elements that play either little or no role in collaborative learning. For example, goal and outcome interdependence and students' responsibility for one another are essential ingredients in cooperative learning to ensure that every student is making contributions; but these elements are not stressed in collaborative learning because the autonomous nature of this approach has given students power to decide among themselves how things should be done. Meanwhile, whereas the teacher keeps close observation and intervention to make certain interdependence and accountability take place, these are the least of the collaborative teacher's concern because he or she does not want to jeopardize student self-governance. Another difference between cooperative and collaborative learning is the formation of groups. In cooperative learning, it is systematic and often requires the teacher's preparation. The table below sums up those differences.

Table 4.

Differences between Cooperative Learning and Collaborative Learning (Adams, 2000; Bruffee, 1999; Johnson, Johnson, & Smith, 1991; Sharan, 1980)

	Cooperative Learning		Collaborative Learning
	Peer Tutoring Methods	Group Investigation Methods	
Underlying Assumption	Competition can obstruct learning	Competition can obstruct learning	The hierarchical authority structure can obstruct learning
Emphasis	Interdependence and Accountability	Interdependence and Accountability	Student autonomy
Group formation	Heterogeneous groups	Heterogeneous groups	Random or interest Groups
Positive Interdependence	Yes	Yes	No

Individual Accountability	Yes	Yes	No
Responsibility	For self and each Other	For self and each Other	For self
Task and group Processing	Only task Emphasized	Both emphasized	Only task Emphasized
Group skills	Not usually taught	Directly taught	Not usually taught
Procedure	Prescribed/specified by the teacher	Prescribed/specified by the teacher	Students choose task roles & decide among themselves how things should be done
Teacher observation and intervention Assignment	Often Group-based	Often Group-based	Seldom Individual or group-based

5. Theoretical Underpinnings of Cooperative Learning

According to Slavin's (1995) model of cooperative learning, cooperative learning is supported by two major categories of theories: motivational theories and social cognitive theories. The following sections explore these two categories of theories pertaining to cooperative learning.

5.1. Motivational Theories

Expectancy-value theories, goal theories, and self-determination theories are the most important contemporary motivational theories. Some of them are interrelated with each other while others stand alone.

5.1.1. Expectancy-Value Theories. Expectancy-value theories are a set of conceptualizations contributed by many scholars over the course of half a century. As Wigfield (1994) summed up, the theories conceive that one's motivation to perform a

learning task depends on two dimensions: “expectancy of success” in the given task, and the “value” attached to successfully performing the task.

5.1.1.1. Success-related Dimension. This first dimension is related to three factors: (a) how a learner attributes his or her past success or failure; (b) how a learner construes competence; and (c) how a learner maintains self-esteem. These factors are discussed in more details in attribution theory (Weiner, 2000), self-efficacy theory (Bandura, 1993) and self-worth theory (Covington, 1992) respectively. Although the focuses of the theories vary slightly, they are intertwined, and together they illustrate a picture of individuals’ performance expectations and their confidence levels in undertaking tasks. As Dorney (2001) put it, they answer the question of “Can I do this task?” (p. 21).

Attribution Theory. Attribution theory (Weiner, 2000) assumes that learners’ s motivation is influenced by the “causal stability” of their attributions of past successes and failures. For example, after there is an exam outcome, learners might ask themselves what has caused that outcome. The “causal stability” of a given attribution affects their future motivation. “Causal stability” is the duration of a cause. The more “stable” and “constant” it is, the more “uncontrollable” it becomes for learners. On the contrary, the more “unstable” and “temporary” it is, the more “controllable” it becomes for learners. Causes such as luck and level of effort are perceived to be unstable. They are temporary phenomena and subject to alteration. Therefore, they tend to have less impact on learners’ future motivation and behavior. Conversely, causes such as inherent ability and unfairness of a teacher are perceived to be stable and constant. Since they are conceived permanent, the learning situation hence becomes “uncontrollable” to the learners. When a cause is seen as constant, a student feels lack of control and lack of

power to alter the situation. This type of cause tends to impact motivation negatively and trigger future failure.

Self-efficacy Theory. Bandura's (1993) self-efficacy theory is closely related to Weiner's attribution theory. In this theory, he assumes that the way learners define competence will influence their interpretation of a learning outcome as well as motivation and future actions on learning. Those who deem competence as an "acquired" skill tend to evaluate their own ability by their personal improvement; those who deem competence as an "inherent" ability tend to evaluate their ability by comparing it against the success of others. Consequently, when encountering frustrations, the former often choose to examine the processes such as effort and use of strategies (i.e., "unstable," "temporary" and "controllable" causes based on the attribution theory) and tend to be ready for more challenges that would broaden their repertoire of knowledge. On the other hand, the latter see their inherent competences (i.e., "stable," "constant" and "uncontrollable" causes based on the attribution theory) as the source of failure; in order to save their self-esteem, they often choose to put forth little effort or select easier tasks so that they could attribute failure to lack of endeavor instead of admitting their low inherent ability.

Bandura's (1993, p. 144) remarks on self-efficacy were summed up in a comparative chart (see table 5) to show the diverse effects self-efficacy could bring upon learners who construe efficacy differently.

Table 5.

Effects of Self-Efficacy. (Bandura's 1993, p. 144)

<p style="text-align: center;">People Who Construe Efficacy as Acquired</p>	<p style="text-align: center;">People Who Construe Efficacy as Inherent</p>
<ul style="list-style-type: none"> • Low self-efficacy • Difficult tasks = Personal threats • Shy away from difficult tasks • Have low aspirations and weak commitment to goals • Maintain a self-diagnostic focus rather than concentrate on how to perform successfully • Dwell on personal deficiencies, possible obstacles, and all kinds of adverse outcomes in the face of difficulties • Slacken their efforts and give up quickly in the face of failure • Slow to recover sense of efficacy after failure or setbacks • Fall easy victim to stress and depression 	<ul style="list-style-type: none"> • High self-efficacy • Difficult tasks = Challenges to be mastered • Approach difficult tasks • Maintain strong commitment to goals • Maintain a task-diagnostic focus that guides effective performance • Enhance and maintain efforts in the face of difficulties • Attribute failure to insufficient effort or deficient knowledge and skills that are acquirable • Quickly recover sense of efficacy following failures or setbacks • Have low vulnerability to depression

Self-worth Theory. Covington's (1992) self-worth theory is also closely related to Weiner's attribution theory. It assumes that the utmost human priority is the quest for self-acceptance and that, in order for learners to believe that they have worth as a person in the school context, they need to believe they are academically competent first. Therefore, they often choose to enhance or at least protect their sense of academic competence in order to sustain their sense of self-worth. This is where attribution theory enters the picture. In order to enhance one's sense of control and sense of self-worth, a learner's most preferred attribution for failure is to evade trying, whereas the most preferred attributions for success are ability and effort (Covington & Omelich, 1979).

5.1.1.2. Task Value-related Dimension. While the above theories on the "expectancy" dimension answer to the question of "Can I do this task?" . The second dimension of expectancy-value theories answers to the question of "Do I want to do the task?" (Dornyei, 2001). Eccles and her colleagues (Eccles, 1987; Eccles & Wigfield, 1995, 2002; Eccles (Parsons) et al., 1983) have identified four types of task values: attainment value, intrinsic value, utility value, and cost.

Attainment value refers to personal importance of performing well on a task. This type of value relates directly to one's ideal self-schemata. For example, if an individual identifies with masculinity and competence in a given area, he will have higher attainment value for a task if it allows him to confirm the self-schemata. *Intrinsic or interest value* refers to enjoyment and pleasure that an individual gets when performing the task itself. Utility value refers to the degree of relationship an individual perceives between a task and long-term or short-term goals. When learners do not particularly enjoy a certain task (i.e., low intrinsic value), they might still do it if they see the task as a mediator to a future goal.

Last but not least, *cost* refers to the negative perspectives an individual attaches to a task, such as fear of the consequence, task anxiety, and the amount of effort required. When learners assign high cost to a task, they are more liable to avoid doing the task. The role of educators, therefore, is to design curriculum and instruction that would minimize the fourth type of task value while enhancing the first three types so that learners have sufficient motivation to participate in learning tasks. The following table summarizes the expectancy-value theories.

Table 6.

Summary of Expectancy-Value Theories (Eccles, 1987; Eccles & Wigfield, 1995, 2002; Eccles (Parsons) et al., 1983)

Dimension	Answer to the Question of	Component	Focus
Expectancy of Success	“Can I do this task?”	Attribution theory	How a learner attributes his or her past success or failure
Value	“Do I want to do this task?”	Self-efficacy theory	How a learner construes competence
		Self-worth theory	How a learner maintains self-esteem
		Attainment value	Personal importance of performing well on a task
		Intrinsic/interest Value	Enjoyment/pleasure an individual gets when performing a task itself
		Utility value	Degree of relationship an Individual perceives between a task and current/future goals
		Cost	Negative perspectives an individual attaches to a task

5.1.2. Goal Setting Theory. Locke and Latham’s (1990) goal setting theory claims that human behaviors are regulated by goals or purposes. While a goal, once chosen or accepted by an individual, is not constantly in one’s conscious level, it stays in the background and is readily called into consciousness to guide the subsequent behaviors heading for the goal. Based on the theory, difficult goals bring about a higher level of performance than do easy goals; specific difficult goals bring about a higher level of performance than do ambiguous goals of “do your best” or no goal. Moreover, Locke and Latham reviewed several empirical studies and pointed out a number of factors that could impact how one sets goals. Many of these factors are closely related to the theoretical model of cooperative learning proposed by Slavin (1995). The following table presents a summary of Locke and Latham’s literature review on how these factors could influence a learner’s goal setting.

Table 7.

Factors Influencing Goal Setting and Goal Commitment. (Locke and Latham’s, 1990).

Factors	Empirical Findings	Investigators
<ul style="list-style-type: none"> • Role modeling 	<ul style="list-style-type: none"> • Observing a high-performing role model brings about higher personal goal setting and higher commitment to difficult goals than observing a low-performing model. 	<ul style="list-style-type: none"> • Rakestraw & Weiss (1981); Earley & Kanfer (1985)
<ul style="list-style-type: none"> • Competition 	<ul style="list-style-type: none"> • Competition brings about higher personal goal setting (but not higher goal commitment) than no competition on a brainstorming task. 	<ul style="list-style-type: none"> • Mueller (1983)
<ul style="list-style-type: none"> • Group goals 	<ul style="list-style-type: none"> • Having group goals on top of personal goals brings about higher goal commitment to the personal goals than having 	<ul style="list-style-type: none"> • Matsui, Kakuyama, & Onglatco (1987)
<ul style="list-style-type: none"> • Encouragement 		<ul style="list-style-type: none"> • Garland & Adkinson

<ul style="list-style-type: none"> • Feedback 	<p>personal goals alone.</p> <ul style="list-style-type: none"> • Encouragement and persuasion increase level of goal setting. • Giving performance feedback brings about higher goal setting than not giving feedback. 	<p>(1987)</p> <ul style="list-style-type: none"> • Erez (1977)
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5.1.3. Self-Determination Theory. As Dornyei (2001) pointed out, one of the most common distinctions in motivational theories is that between extrinsic motivation and intrinsic motivation. While some critics of cooperative learning (Kohn, 1991a, 1991b) argue that extrinsic motivation triggered by cooperative learning can negatively affect intrinsic motivation, proponents of cooperative learning believe otherwise. Deci and his colleagues' (Deci & Ryan, 1985; Deci, Vallerand, Pelletier, & Ryan, 1991) self-determination theory is apparently very much in line with the perception of cooperative learning advocates in this regard. In this theory, they present four forms of behaviors on a continuum based on the degree of motivation internalization; it clearly argues that extrinsic motivation can facilitate intrinsic motivation and transfer a learner from the right (controlled and extrinsic) toward the left (self-determined and intrinsic) of the continuum.

(Deci & Ryan, 1985, p. 137) based on the degree of regulation that is internalized from outside to inside an individual. Due to the basic human psychological needs for competence and self-determination, learners are innately motivated to master and incorporate many behaviors that are not themselves intrinsically motivated but are valued by the social environment and thus are instrumental for the long-term effectiveness. Behaviors that the organism would not do naturally will have to be

extrinsically motivated, but these behaviors may be integrated into the realm of self-determination.

The four forms of behaviors proposed by Deci and Ryan (1985) are: externally regulated behaviors, behaviors regulated through introjection, behaviors regulated through identifications, and integrated regulated behaviors. Each form of these behaviors contains more self-regulation than the previous form and is one step closer to intrinsically motivated behaviors. It is worth noting, however, that while it appears that Deci and Ryan (1985) initially saw integrated regulation as identical to intrinsic motivation, they and their colleagues (Deci, Vallerand, Pelletier, & Ryan, 1991, p. 330) later stated that integrated regulation is not yet identical to intrinsic motivation, “Intrinsic motivation is characterized by interest in the activity itself, whereas integrated regulation is characterized by the activity’s being personally important for a valued outcome”. Nonetheless, despite the discrepancy, it is clear that self-determination theory emphasizes human motivation as an active internalization process. Intrinsically motivated behaviors originate from one self and are the prototype of self-determination; extrinsic motivation can facilitate intrinsic motivation due to human beings’ need for self-determination. The following table provides a brief description of these behaviors by the degree of internalization.

Table 8.

Motivated Behaviors by the Degree of Internalization. (Deci & Ryan, 1985, p. 135-137)

Types of Regulation	Description	Scenario
Externally regulated behaviors	Behaviors that require the presence of external contingencies.	“Mom’s mad. I have to clean up the room now.”
Behaviors regulated Through introjection	Behaviors that occur when individuals monitor their own behaviors but have not yet accepted the regulation as their own. This type of behaviors entails self-control and often involves debates within oneself about to do or not to do.	“I should clean up my room. Good boys clean up their rooms.”
Behaviors regulated through identifications	Behaviors that come about when individual have arrived to the state of valuing and identifying the actions.	“Let me clean up my room now—it lets me find things easier.”
Integrated regulated behaviors	Behaviors that occur when the value of given actions is already assimilated with one’s personal beliefs, needs, and identities.	“I like to clean up my room.”

5.2. Social Cognitive Theories.

As Merriam, Caffarella and Hansman put it, “learning does not occur in a vacuum” (Merriam & Caffarella, 1999, p. 22); rather, learning is shaped by “the nature of the interactions among learners, the tools they use within these interactions, the activity itself, and the social context in which the activity takes place” (Hansman, 2001, p. 45). It takes the context, culture, and tools in the learning situation for learning to happen. In a similar vein, Perry (1970) pointed out in his scheme of cognitive development that peer interactions help a learner advance from a lower level of

cognitive development into a higher level. Among the leading social cognitive theorists of the relationship between the cooperative learning context as a small learning community and the learners' cognitive development we mention: *Vygotsky* with his sociocultural theory (it was well detailed above).

Dewey (1963) also deemed participation in social environment as critical to learning. He criticized traditional whole-class instruction, and charged traditional instruction for failing to “secure the active cooperation of the pupil in construction of the purposes involved in his studying” (1963, p. 67). He emphasized that in a cooperative setting, “the individual appropriates the purpose which actuates it, becomes familiar with its methods and subject matters, acquires needed skills, and is saturated with its emotional spirit” (1963, p. 26). For Dewey, simply waiting passively for the instructor to hand-feed knowledge does not warrant learning; learners need to gain experience through activities in which they actively participate and cooperate with others.

Like Vygotsky, and Dewey, Bruner (1990) considered active participation and personal interaction imperative. In his claim about language acquisition, Bruner maintained that early acquisition of a language entails communication. “Language is acquired not in the role of spectator but through use. Being ‘exposed’ to a flow of language is not nearly so important as using it in the midst of ‘doing’” (p. 70). Using and practicing a language in a cooperative group is again a better way of facilitating language learning than listening passively to an instructor because for the complete development of language skills, “they all depend upon being practiced and shaped by use” (p. 72). “It is only *after* some language has been acquired in the formal sense, that one can acquire *further* language as a ‘bystander.’ Its initial mastery can come only from participation in language as an instrument of communication”. (p. 73).

Bandura's social cognitive theory (1986) presents an interactive model of causality in which the environment, behaviors, and cognitive and personal factors all function as causal factors of each other.

According to Bandura (1986), an individual's thoughts and feelings can be shaped, directed, and modified through modeling and social persuasion (p. 25). Modeling not only can direct attention, enhance stimulation, and facilitate learning, but also can arouse emotions. To facilitate development of cognitive skills, verbal modeling of thought processes is necessary. "Cognitive skills are less readily amenable to change . . . when covert thought processes have not been adequately reflected in modeled actions" (p. 74). Bandura explained that if the model solves a problem without demonstrating the thought process, the observer could see only the end result without the slightest idea how that has been accomplished:

Learning cognitive skills can be facilitated . . . by having models verbalize their thought strategies aloud as they engage in problem-solving activities. The covert thoughts guiding the actions are thus made observable through overt representation. Modeling both thought and actions has several helpful features that contribute to its effectiveness in producing generalized, lasting improvements in cognitive skills. (p. 74)

It is worth noting, however, that although Bandura argued for the effect of modeling, he also reminded that it takes time for modeling to exert its impact on cognitive skill development, "The production of a reciprocal effect takes time" (p. 25).

6. The Impact of Cooperative Learning

The following aspects are the expected benefits of adopting cooperative learning:

6.1. Learning for All.

Cooperative learning makes sense in inclusive classrooms because it builds upon heterogeneity and formalizes and encourages peer support and connection. However, cooperative learning is not of value only to students with disabilities. All students need to learn and work in environments where their individual strengths are recognized and individual needs are addressed. All students need to learn within a supportive community in order to feel safe enough to take risks.

6.2. Academic Achievement.

Through cooperative learning, critical thinking is stimulated and students clarify ideas through discussion and debate. The level of discussion and debate within groups of three or more and between pairs is substantially greater than when an entire class participates in a teacher led discussion. Students receive immediate feedback or questions about their ideas and formulate responses without having to wait for long intervals to participate in the discussion.

Using cooperative learning, students are continuously discussing, debating and clarifying their understanding of the concepts and materials being considered during the class. They are constructing their own knowledge base. The emphasis is on understanding the material as evidenced by the student's ability to explain ideas to their peers. This leads to a sense of content mastery versus a passive acceptance of information from an outside expert. This further promotes a sense of helplessness and reliance upon others to attain concepts.

6.3. Skilled Communication.

Social interaction skills are developed with cooperative learning strategies. A major component of cooperative learning elaborated by Johnsons, Holubec & Roy (1984) includes training students in the social skills needed to work collaboratively. These skills help them to be aware of the need for healthy, positive, helping interactions when they work in groups; and for developing ways to manage conflict before it arises. (Cohen, 1994)

6.4. Psychological Health.

Learners who were in classrooms with a significant amount of cooperative learning are psychologically healthier than learners who were not. They gain higher self-esteem. Learners In cooperative learning classes have more positive feelings about themselves than do learners in traditional classes. Slavin (1990) also documented the findings that these learners have feelings of individual control over their own fate in school and their cooperativeness and altruism become higher as well.

Conclusion

Cooperative learning is supported by one of the strongest research traditions in education, with thousands of studies conducted across a wide range of subject areas, age groups, ability levels and cultural backgrounds. The result, in general, suggest that cooperative learning develops high-order thinking skills, enhances motivation and improve interpersonal relations as well as enhancing motivation and peer relations. Students can be learning-independent, who can learn how to learn by their own in groups. Most important is that cooperative learning exploits the diversified abilities of students to increase their cognitive, psychological and social performance, and as such, it is an effective way to address the problem of individual differences.

CHAPTER

3

Small Group Learning Community

Chapter III: Small Group Learning Community

Introduction

The tendency to join with others in groups is perhaps the single most important characteristic of humans, and the processes that unfold within these groups leave an indelible imprint on their members and on society. Group dynamics are the influential processes that take place in groups and also the discipline devoted to the scientific analysis of those dynamics. In this chapter, we will cover the nature of a small group, its definition, its description and types; and the nature of group dynamics.

1. Defining Groups

A group is defined as two or more individuals who are connected to one another by social relationships. Although groups come in all shapes and sizes, they tend to “gravitate to the smallest size, two” (Hare, 1976, p. 215). The dyad is, by definition, the only group that dissolves when one member leaves and the only group that can never be broken down into subgroups (Levine & Moreland, 1995). The size of a group influences its nature in many ways, for a group with only two or three members possesses many unique characteristics simply because it includes so few members. In a large group, for example, the chances for each member to be connected to all other members become very small. As groups increase in size, they tend to become more complex and more formally structured (Hare, 1976).

The word “Group” received many definitions, where every definition was based on one specific feature. Some of these definitions do not specify the nature of the connection between group members, but others require members be linked in a particular way before an aggregation of individuals can be considered a group. But no matter what the nature of the linkage, the group members must be connected at a social level. The table below samples theorists’ definitions of the word *group*.

Table 9.

Some Definitions of the Word Group. (Donelson, 2006)

Central feature	Definition
Categorization	A group is “two or more individuals . . . [who] perceive themselves to be members of the same social category” (J. C. Turner, 1982, p. 15).
	“We mean by a group a number of persons who communicate with one another, often over a span of time, and who are few enough so

Communication	that each person is able to communicate with all the others, not at second hand, through other people, but face-to-face” (Homans, 1950, p. 1).
Influence	“Two or more persons who are interacting with one another in such a manner that each person influences and is influenced by each other person” (M. E. Shaw, 1981, p. 454).
Interaction	“A group is a social system involving regular interaction among members and a common group identity. This means that groups have a sense of ‘weness’ that enables members to identify themselves as belonging to a distinct entity” (A. G. Johnson, 1995, p. 125).
Interdependence	“A group is a collection of individuals who have relations to one another that make them interdependent to some significant degree” (Cartwright & Zander, 1968, p. 46).
Interrelation	“A group is an aggregation of two or more people who are to some degree in dynamic interrelation with one another” (McGrath, 1984, p. 8).
Shared identification	“A group . . . is two or more people possessing a common social identification and whose existence as a group is recognized by a third party” (R. Brown, 2000, p. 19).
Shared tasks and goals	“A group is defined as three or more people who work together interdependently

	on an agreed-upon activity or goal” (Keyton, 2002, p. 5).
Structure	“A group is a social unit which consists of a number of individuals who stand in (more or less) definite status and role relationships to one another and which possesses a set of values or norms of its own regulating the behavior of individual members, at least in matters of consequence to the group” (Sherif & Sherif, 1956, p. 144).
Systems	“Groups are open and complex systems . . . a complex, adaptive, dynamic, coordinated, and bounded set of patterned relations among members, tasks, and tools” (Arrow, McGrath, & Berdahl, 2000, p. 34).

2. Existing Theories on Group Development

Literature shows a variety of approaches to group development. Thorough analytical reviews of group development literature (Arrow et al., 2005; McLeod, 2005; Chang et al., 2003) have proposed two bases of all existing group development models: (1) the psychodynamic perspective of group development; and (2) the temporal perspective of group development. With different assumptions on the nature and drivers of change, as well as the antecedent theoretical traditions in social sciences, each model leads to one or more of the existing models of group development. From these reviews, two paradigms or schools of thought regarding group development emerge: The first paradigm, which is called the “*psychodynamic, or progressive change paradigm*” has heavily been influenced by natural evolution theories. The second paradigm, which is called “the punctuated equilibrium paradigm” is influenced by contemporary evolutionary biology and natural history theories (Gersick, 1991). Additionally, this

second paradigm was initially described by its authors, as inspired by revolutionary theories (Gersick, 1991).

2.1. The Psychodynamic or Progressive Change Paradigm.

Within this paradigm, the literature shows three streams of thought. The progressive, or linear additive models (Bennis & Sheppard, 1956; Mills, 1964) are based on the idea that the group moves onward and upward to its implicit goal and is described as moving toward the resolution of distinct issues, often of opposing nature. For example in Bennis' and Shepard's model the issues of dependence vs. interdependence as a key conflict to be resolved. Originating from the period of Enlightenment in Europe, individual development theories were replicated in the models of development of the group as a whole (Hartman & Gibbard, 1973; Gibbard & Hartman, 1973).

The **recursive models** (Tuckman, 1965; Bion, 1961; Shutz, 1958) are very similar to all the main ideas of the linear-progressive model of group development. Its main difference is that although the linear model assumes that the group life and activity moves towards a peak of effectiveness and then continues to function at this level, the life cycle modes add a terminal phase of decline and "death of the group". It places the period of maximum productivity near but not at the end (Hartman & Gibbard, 1973; Gibbard & Hartman, 1973c).

The **morphing models** are based on a time based exchange of forces and issues and constant emergence). Most representative are the models offered by Bales (Bales, 1953; 1951, a,b,c; 1950) and Slater (in Tuckman, 1965) who was a student of Bales. These models postulate that there are boundary issues in small group life which are actually based on conflicts and discomforts deeply rooted to the human condition. Therefore they cannot be simply overcome, or achieved and then disappear. Although

these models show a progressive mode towards resolving, the dynamic issue of equilibrium can never be attained (Hartman & Gibbard, 1973).

Tuckman (1965), after reviewing and comparing the literature has proposed a linear-progressive conceptual model of group development, which was serving also functions of integrating and organizing the antecedent research on groups in one model. In this model five stages of group development are proposed. In the *Forming* stage, testing becomes the key concern of groups. At the interpersonal level, we see the establishment of dependency relationships with leader(s), other members of the group or pre-existing standards and norms. In the *Storming* stage, resistance to both group influence and task requirement is shown. During this phase, conflict, polarization around interpersonal issue and negative emotional emerge to respond to the task requirements. In the *Norming* stage, resistance and conflict are overcome and together with the development of cohesiveness, new standards, norms and new roles emerge for the group member. During this stage, intimate personal opinions are expressed. In the *Performing* stage, interpersonal structure becomes the tool through which group energy is channeled into the task with results enhancing group performance. The group continues to function at this level until it reaches the *adjourning* stage, when it disbands. Groups also tend to cycle repeatedly through some of these stages, as group members strive to maintain a balance between task-oriented actions and emotionally expressive behaviors (Bales, 1965). The five stages of group development are summed up in the following figure:

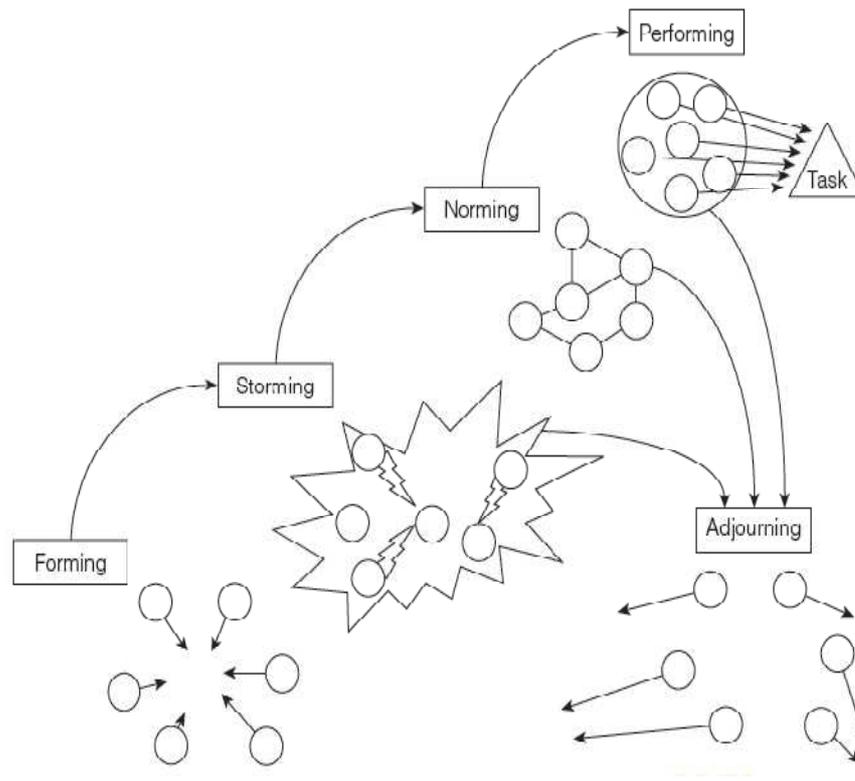


Figure 10. Tuckman's theory of group development stages. (Tuckman, 1965; Tuckman & Jensen, 1977)

2.2. The Punctuated Equilibrium Paradigm.

This paradigm was perceived until recently as opposing and contradicting to the linear progressive paradigm of group development (Chang et al. 2003). It is stressing the notion of timing or mechanics of how a group moves from one stage to a subsequent one, or how groups go about adapting stages into time limits (Gersick, 1988,b; Hare, 1976; McGrath, 1986; Poole, 1983b;Tuckman, 1965;).

Task forces in different settings (i.e., task forces are natural groups, operating within specific and often limited time periods) develop until the completion of their task. Gerick found that such teams did not fit the traditional paradigm (Gersick, 1988, a, b). Although there was variation in the way these teams developed, Gersick showed that development phases were marked by a “punctuated equilibrium”. They were characterized by different periods of inertia. Groups exhibited a somewhat unique

approach to its task as they commenced and remained in this condition over time. This phase was interrupted precisely halfway through the group's overall duration. It was described as a midpoint transition of big, revolutionary changes in the group's overall structures and processes in order to achieve its task. Every group then underwent a fundamental change in its initial conditions adopting new perspectives on their work and structure and remaining in this condition over time. This second phase of inertial activity was interrupted one last time, which in all groups occurred just before their deadlines, initiating a final stage of intensive activity to complete their mission and task (phase 3).

Early studies comparing the two models showed that theories from the progressive and the punctuated equilibrium models complement each other (Arrow, 1997; Lim et al., 1994; Seers et al, 1997; in Chang et al., 2003). This offered the possibility that they could be integrated. It appeared that groups go through both punctuated equilibrium (i.e., group's awareness of time and pace as well as changes in the task) and linear progressive development (i.e., changes in the socio-emotional aspects of the group and how these impact task behavior). In addition, based on Wollin (1999), it appeared that the punctuated equilibrium model explained development in groups at a more fundamental and macro level, while the linear progressive model explained developmental at a micro and incremental level. Thus, depending on the temporal dimension and the lens of observation, micro level phenomena are taking place within the larger macro level phenomena of development.

3. Types of Small Groups

Researchers often begin their analyses of group processes by drawing distinctions between the different types of groups they study. Typologists, no matter what their scientific field, bring order to their individual observations by identifying shared

similarities and significant differences among the individual cases they examine. The group typologist asks, “What type of group is this?” and answers by classifying groups into meaningful clusters or categories.

3.1. Primary Groups and Secondary Groups.

Sociologist Charles Horton Cooley (1909), in his early studies of groups, distinguished between *primary groups* and *secondary groups*. Primary groups, such as family and friends, are small, long term groups characterized by face-to-face interaction and high levels of cohesiveness, solidarity, and member identification. In many cases, individuals become part of primary groups involuntarily: Most are born into a family, which provides for their well-being until they can join other social groups. Other primary groups form when people interact in significant, meaningful ways for a prolonged period of time. Cooley (1909) believed that their most important function was in creating a bridge between the individual and society at large:

Primary groups are primary in the sense that they give the individual his earliest and complete experience of social unity, and also in the sense that they do not change in the same degree as more elaborate relations, but form a comparatively permanent source out of which the latter are ever springing. (p. 23)

In earlier times, individuals belonged only to primary groups. They could live out their entire lives without leaving their small, close-knit families, tribes, or communities. As societies became more complex, however, these more complex social structures are called by Cooley secondary groups. Such groups are larger and more formally organized than primary groups, and they tend to be shorter in duration and less emotionally involving. However, secondary groups continue to define the individual's place in the social structure of society (Parsons, Bales, & Shils, 1953).

3.2. Planned and Emergent Groups

Dorwin Cartwright and Alvin Zander (1960) noted that groups tend to fall naturally into two categories: *planned groups*, which are deliberately formed by their members or by an external authority for some purpose, and *emergent groups*, which come into existence spontaneously when individuals join together in the same physical location or form gradually over time as individuals find themselves repeatedly interacting with the same subset of individuals.

Arrow, McGrath, and Berdahl (2000) extended this distinction between planned and emergent groups by asking another question: Is the group created by forces within the group (*internal origins*) or forces outside of the group (*external origins*)? Arrow and her colleagues combined both the planned-emergent dimension and the internal-external dimension to generate the following fourfold taxonomy of groups:

- ***Concocted groups*** are planned by individuals or authorities outside the group. A team of laborers digging a trench, the flight crew of an airplane, and a military squad would all be concocted groups, as those who created them are not actually members of the group.
- ***Founded groups*** are planned by one or more individuals who remain members of the group. A small Internet start-up company, a study group would all be founded groups.
- ***Circumstantial groups*** are emergent, unplanned groups that arise when external, situational forces set the stage for people to join together—often temporarily—in a unified group. A group of travelers stranded together when their bus breaks down, and a crowd of patrons at a movie theater would be circumstantial groups.
- ***Self-organizing groups*** emerge when interacting individuals gradually align their activities in a cooperative system of interdependence. Parties, drivers

leaving a crowded parking lot through a single exit, and a half- dozen adolescents who hang out together are all organized groups, but their organization is generated by implicit adjustments of each member to each other member.

4. Group Characteristics

All groups, despite their distinctive characteristics, also possess common properties and dynamics. When we study a group, we must go beyond its unique qualities to consider characteristics such as interaction, interdependence, structure, cohesiveness, and goals that appear with consistency in most groups, no matter what their origin, purpose, or membership.

4.1. Interaction

Group interaction is as varied as human behavior itself, for any behavior that an individual can perform alone can also be performed in a group context. Robert Freed Bales (1950, 1999), after observing groups interacting in all types of situations, identified two classes of interaction that are most common in group situations: *Task interaction*, and *Relationship interaction*.

Task interaction includes all group behavior that is focused principally on the group's work, projects, plans, and goals. In most groups, members must coordinate their various skills, resources, and motivations so that the group can make a decision, generate a product. When a jury reviews each bit of testimony, a committee argues over the best course of action to take, the group's interaction is task focused.

Relationship interaction (or *socioemotional interaction*), in contrast, is focused on the interpersonal, social side of group life. If group members falter and need support, others will buoy them up with kind words, suggestions, and other forms of help. When group members disagree with the others, they are often roundly criticized and made to

feel foolish. Such actions do not help the group accomplish its designated task, but they do sustain the emotional bonds linking the members to one another and to the group.

4.2. Interdependence

Most groups create a state of interdependence, for members' outcomes, actions, thoughts, feelings, and experiences are determined in part by other members of the group (Wageman, 2001). Interdependence results when members are able to influence and be influenced by others in the group. In a *unilateral interdependence* for example, a leader may, for example, influence others but not be influenced. In other groups, in contrast, influence is more mutual: One member may influence the next member, who in turn influences the next (*sequential interdependence*) or two or more members may influence each other (*reciprocal or mutual interdependence*). Interdependence can also occur because groups are often nested in larger groups, and the outcomes of the larger groups depend on the activities and outcomes of the smaller groups (*multilevel interdependence*). The different types of interdependence are presented in the below figure.

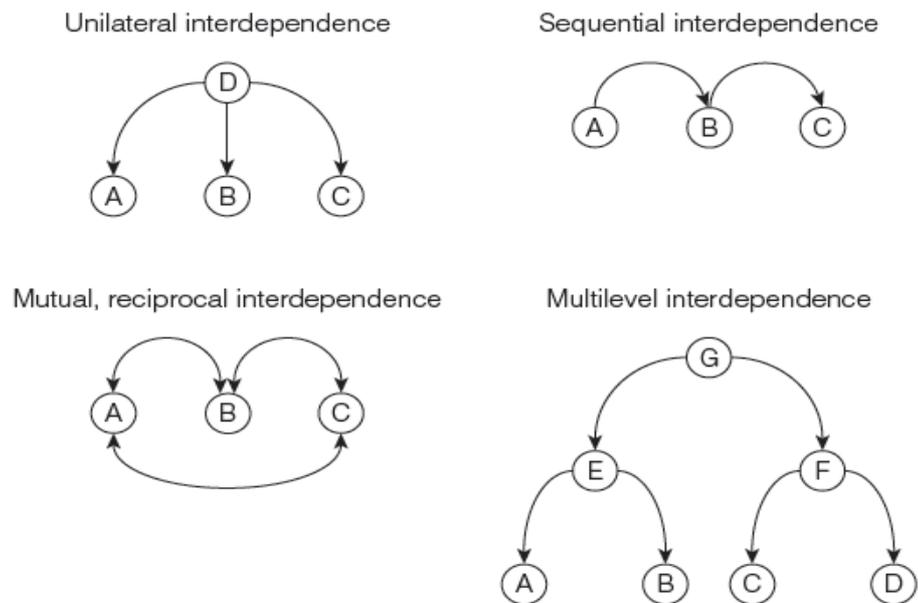


Figure 11. Types of group interdependence. (Wageman, 2001)

4.3. Structure

A group's structure is the internal framework that defines members' relations to one another over time. Work in this area examines group norms, status systems, roles, and communication networks, etc. Group structure arises quickly but changes slowly. Members who are believed to be task competent from the start are given opportunities to demonstrate their competence, thereby acquiring a high status position. Member status is important because those who are highly regarded relative to others are more influential in group discussions and decisions (Kirchler & Davis, 1986) and occupy a central position within communication networks, sending and receiving more messages than others (Shelly, Troyer, Munroe, & Burger, 1999). Bales (1950), in his Interaction Process Analysis, classified member behaviors in terms of task roles (helping the group to complete its work), or social roles (helping members to get along with one another). Likewise, task and social dimensions are included in Cota, Evans, Dion, Kilik, and Longman's (1995) 'primary' component of group cohesion, which characterizes the teamwork and attraction between members.

4.4. Group Goals and Tasks

Groups usually exist for a reason. A team strives to outperform other teams in competitions. In groups, people solve problems, create products, create standards, communicate knowledge, have fun, perform arts, create institutions, and even ensure their safety from attacks by other groups.

Groups do so many things that their activities can be classified in a variety of ways. Joseph E. McGrath's circumplex model of group tasks, for example, distinguishes among four basic group goals: generating, choosing, negotiating, and executing. As Figure (12) indicates, each of these basic categories can be further subdivided, yielding a total of eight basic tasks. When groups work at *generating* tasks, they strive to concoct

the strategies they will use to accomplish their goals (*planning tasks*) or to create altogether new ideas and approaches to their problems (*creativity tasks*). When *choosing*, groups make decisions about issues that have correct solutions (*intellective tasks*) or questions that can be answered in many ways (*decision-making tasks*). When groups are *negotiating*, they must resolve differences of opinion among members regarding their goals or decisions (*cognitive conflict tasks*) or resolve competitive disputes among members (*mixed-motive tasks*). The most behaviorally oriented groups actually do things: *Executing* groups compete against other groups (*contests/battles*) or perform (*performances*). Some groups perform tasks from nearly all of McGrath's categories, whereas others concentrate on only one subset of goals (Arrow & McGrath, 1995; McGrath, 1984).

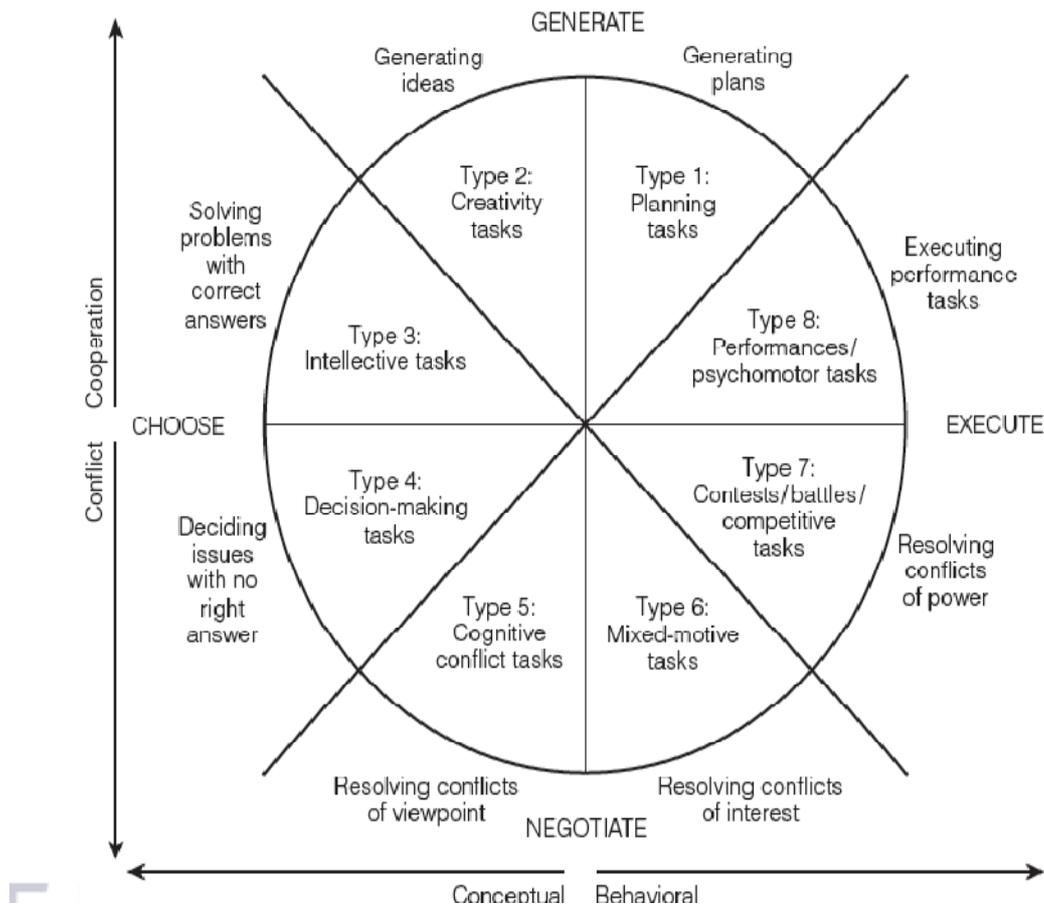


Figure 12. Joseph E. McGrath's task circumplex eight basic group activities.

(Arrow & McGrath, 1995; McGrath, 1984).

4.5. Cohesiveness

Groups are not merely sets of aggregated, independent individuals; instead, they are unified social entities. Groups cannot be reduced down to the level of the individual without losing information about the group as a unit, as a whole. Whenever a group comes into existence, it becomes a system with *emergent properties* that cannot be fully understood by piecemeal examination.

The Gestalt dictum, “The whole is greater than the sum of the parts,” suggests that a group is more than the sum of the individual members. This quality of “groupness” or unity is determined, in part, by group cohesion—the strength of the bonds linking members to one another. A group of executives squabbling among themselves each time the group must reach a decision is clearly less cohesive than a sports team whose members train together (Donelson, 2006).

5. Roles in a Group

Borchers (2010) has identified several roles which relate to the completion of the group's task:

Table 10.

Roles in Groups. (Borchers, 2010)

Task-Oriented Roles	Social Roles	Individualistic Roles
<ul style="list-style-type: none"> • Initiator-contributor: Generates new ideas. • Information-seeker: Asks for information about the task. • Opinion-seeker: Asks for the input from the group about its values. • Information-giver: Offers facts or generalization to the group. 	<ul style="list-style-type: none"> • Encourager: Praises the ideas of others. • Harmonizer: Mediates differences between group members. • Compromiser: Moves group to another position that is favored by all group members. • Gatekeeper/expediter: Keeps communication channels open. 	<ul style="list-style-type: none"> • Aggressor: Attacks other group members, deflates the status of others, and other aggressive behavior. • Blocker: Resists movement by the group. • Recognition seeker: Calls attention to himself or herself. • Self-confessor: Seeks to disclose non group

<ul style="list-style-type: none"> • Opinion-giver: States his or her beliefs about a group issue. • Elaborator: Explains ideas within the group, offers examples to clarify ideas. • Coordinator: Shows the relationships between ideas. • Orienter: Shifts the direction of the group's discussion. • Evaluator-critic: Measures group's actions against some objective standard. • Energizer: Stimulates the group to a higher level of activity. • Procedural technician: Performs logistical functions for the group. • Recorder: Keeps a record of group actions. 	<ul style="list-style-type: none"> • Standard Setter: Suggests standards or criteria for the group to achieve. • Group observer: Keeps records of group activities and uses this information to offer feedback to the group. • Follower: Goes along with the group and accepts the group's ideas 	<p>related feelings or opinions.</p> <ul style="list-style-type: none"> • Dominator: Asserts control over the group by manipulating the other group members. • Help seeker: Tries to gain the sympathy of the group. • Special interest pleader: Uses stereotypes to assert his or her own prejudices.
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6. The Nature of Group Dynamics

When Kurt Lewin (1951) described the way groups and individuals act and react to changing circumstances, he named these processes group dynamics. But Lewin also used the phrase to describe the scientific discipline devoted to the study of these dynamics. Later, Cartwright and Zander, two of the most prolific researchers in the field, supplied a formal definition, calling group dynamics a “field of inquiry dedicated to advancing knowledge about the nature of groups, the laws of their development, and their interrelations with individuals, other groups, and larger institutions” (1968, p. 7).

Cartwright and Zander (1968) also pointed out what group dynamics is *not*. It is not, for example, a therapeutic perspective holding that psychological well-being can be ensured through participation in small groups guided by a skilled therapist. Nor is it the communication of certain rules or guidelines that enable individuals to develop the

skills needed for smooth and satisfying social interactions. Finally, group dynamics does not refer to a loose collection of maxims concerning how groups *should* be organized emphasizing, for example, such principles as equal participation by all group members, democratic leadership, and high levels of member satisfaction. Rather, group dynamics is an attempt to subject the many aspects of groups to scientific analysis through the construction of theories and the rigorous testing of these theories through empirical research.

7. Leadership and Small Group Communication

Leadership is one of the most studied aspects of group communication. Scholars in business, communication, psychology, and many other fields have written extensively about the qualities of leaders, theories of leadership, and how to build leadership skills. It's important to point out that although a group may have only one official leader, other group members play important leadership roles. Making this distinction leads us to differentiate between leaders and leadership (Routledge, 2011)

Routledge defines *the leader* as a group role that is associated with a high-status position and may be formally or informally recognized by group members. *Leadership* is a complex of beliefs, communication patterns, and behaviors that influence the functioning of a group and move a group toward the completion of its task. A person in the role of leader may provide no or poor leadership. Likewise, a person who is not recognized as a “leader” in title can provide excellent leadership (2011).

7.1. The Three Major Perspectives on Leadership.

Theorists have distinguished three major perspectives on leadership:

The trait approach, the emergent approach, and the communication skill and competence approach.

7.1.1. The Trait Approach .The trait approach to group leadership distinguishes leaders from followers based on traits, or personal characteristics. Some traits that leaders, in general, share are related to physical appearance, communication ability, intelligence, and personality (Pavitt, 1999). In terms of physical appearance, designated leaders tend to be taller and more attractive than other group members. This could be because we consciously and/or subconsciously associate a larger size (in terms of height and build, but not body fat) with strength and strength with good leadership. As far as communication abilities, leaders speak more fluently, have a more confident tone, and communicate more often than other group members. Leaders are also moderately more intelligent than other group members, which is attractive because leaders need good problem-solving skills. Interestingly, group members are not as likely to designate or recognize an emergent leader that they perceive to be exceedingly more intelligent than them. Last, leaders are usually more extroverted, assertive, and persistent than other group members. These personality traits help get these group members noticed by others, and expressivity is often seen as attractive and as a sign of communication competence. (Cragan & Wright, 1991)

The trait approach to studying leaders has provided some useful information regarding how people view ideal leaders, but it has not provided much insight into why some people become and are more successful leaders than others. The list of ideal traits is not final, because excellent leaders can have few, if any, of these traits and poor leaders can possess many. Additionally, these traits are difficult to change or control without much time and effort. Because these traits are enduring, there isn't much room

for people to learn and develop leadership skills, which makes this approach less desirable for communication scholars who view leadership as a communication competence. Rather than viewing these traits as a guide for what to look for when choosing your next leader, view them as traits that are made meaningful through context and communication behaviors.

7.1.2. The Emergent Approach. The emergent approach to studying leadership considers how leaders emerge in groups that are initially leaderless and how situational contexts affect this process (Pavitt, 1999). The situational context that surrounds a group influences what type of leader is best. Situations may be highly structured, highly unstructured, or anywhere in between (Cragan & Wright, 1991)

Leaders emerge differently in different groups, but there are two stages common to each scenario according to Ernest G. Bormann and Nancy C. Bormann (1988). *The first stage* covers only a brief period, perhaps no longer than a portion of one meeting. During this first stage, in an implicit process, about half of the group's members are eliminated from the possibility of being the group's leader. But there are some communicative behaviors that influence who makes the cut to the next stage of informal leader consideration. Group members will likely be eliminated as leader candidates if they do not actively contribute to initial group interactions, if they contribute but communicate poorly, if they contribute but appear too rigid or inflexible in their beliefs, or if they seem uninformed about the task of the group.

The second stage of leader emergence is where a more or less pronounced struggle for leadership begins. In one scenario, a leader candidate picks up an ally in the group who acts as a supporter or lieutenant, reinforcing the ideas and contributions of the candidate. If there are no other leader candidates or the others fail to pick up a

supporter, the candidate with the supporter will likely become the leader. In a second scenario, there are two leader candidates who both pick up supporters and who are both qualified leaders. This leads to a more intense and potentially prolonged struggle that can actually be uncomfortable for other group members. Although the two leader candidates don't overtly fight with each other or say, "I should be leader, not you!" they both take strong stances in regards to the group's purpose and try to influence the structure, procedures, and trajectory for the group.

7.1.3. Communication Skill and Competence Approach. This final approach to group leadership is the functional approach, which focuses on how particular communication behaviors function to create the conditions of leadership. This last approach is the most useful for communication scholars and for those who want to improve their leadership skills, because leadership behaviors (which are learnable and adaptable) rather than traits or situations (which are often beyond our control) are the primary focus of study. As we've already learned, any group member can exhibit leadership behaviors, not just a designated or emergent leader. Therefore leadership behaviors are important for all of us to understand even if we don't anticipate serving in leadership positions. (Cragan & Wright, 1991)

The communication behaviors that facilitate effective leadership encompass three main areas of group communication including *task*, *procedural*, and *relational functions*.

Leadership behaviors that contribute to a group's *task-related functions* include providing, seeking, and evaluating information. Leaders may want to be cautious about contributing ideas before soliciting ideas from group members, since the leader's contribution may sway or influence others in the group, therefore diminishing the

importance of varying perspectives. Likewise a leader may want to solicit evaluation of ideas from members before providing his or her own judgment. In group situations where creativity is needed to generate ideas or solutions to a problem, the task leader may be wise to facilitate brainstorming and discussion.

A group leader with high communication competence can facilitate brainstorming and group discussion to enhance the creativity and quality of group members' ideas. This can allow the leader to keep his or her eye on the "big picture" and challenge group members to make their ideas more concrete or discuss their implications beyond the group without adding his or her own opinion. (ibid). Communication competence can be through contributing ideas, seeking ideas, evaluating ideas, seeking idea evaluation, visualizing abstract ideas, and also by generalizing from specific ideas.

Cragan and Wright (1991) added that leadership behaviors that contribute to a group's procedural-related functions help guide the group as it proceeds from idea generation to implementation. Some leaders are better at facilitating and managing ideas than they are at managing the administrative functions of a group. So while a group leader may help establish the goals of the group and set the agenda, another group member with more experience in group operations may step in to periodically revisit and assess progress toward completion of goals and compare the group's performance against its agenda. It's also important to check in between idea-generating sessions to clarify, summarize, and gauge the agreement level of group members. A very skilled and experienced leader may take primary responsibility for all these behaviors, but it's often beneficial to share them with group members to avoid becoming overburdened (ibid). *Procedural-related functions* may be exercised through: Goal setting, agenda

making, clarifying, summarizing, verbalizing consensus, and generalizing from specific ideas.

Leadership behaviors that contribute to a group's relational functions include creating a participative and inclusive climate, establishing norms of reflection and self-analysis, and managing conflict. By encouraging participation among group members, a leader can help quell people who try to monopolize discussion and create an overall climate of openness and equality. Leaders want to make sure that people don't feel personally judged for their ideas and that criticism remains idea centered, not person centered. A safe and positive climate typically leads to higher-quality idea generation and decision making. Leaders also encourage group members to metacommunicate, or talk about the group's communication. This can help the group identify and begin to address any interpersonal or communication issues before they escalate and divert the group away from accomplishing its goal. A group with a well-established participative and inclusive climate will be better prepared to handle conflict when it emerges. Conflict when handled competently can enhance group performance. Leaders may even instigate productive conflict by playing devil's advocate or facilitating civil debate of ideas. Some of the key leadership behaviors that contribute to *the relational functions* of a group include the following: Regulating participation, climate making, instigating group self-analysis, resolving conflict, instigating productive conflict (Cragan & Wright, 1991).

8. Leadership Styles

Given the large amount of research done on leadership, it is not surprising that there are several different ways to define or categorize leadership styles. In general, effective leaders do not fit solely into one style in any of the following classifications.

Instead, they are able to adapt their leadership style to fit the relational and situational context (Julia.T, 1977). One common way to study leadership style is to make a distinction among autocratic, democratic, and laissez-faire leaders (KLewin, Lippitt, & White, 1939). These leadership styles can be described as follows:

- Autocratic leaders set policies and make decisions primarily on their own, taking advantage of the power present in their title or status to set the agenda for the group.
- Democratic leaders facilitate group discussion and like to take input from all members before making a decision.
- Laissez-faire leaders take a “hands-off” approach, preferring to give group members freedom to reach and implement their own decisions.

While this is a frequently cited model of leadership styles, we will focus in more detail on a model that was developed a few years after this one because it offers some more specifics in terms of the communicative elements of each leadership style. The four leadership styles used in this model are directive, participative, supportive, and achievement oriented (Robert, & Terrence, 1974).

8.1. Directive Leaders

Directive leaders help provide psychological structure for their group members by clearly communicating expectations, keeping a schedule and agenda, providing specific guidance as group members work toward the completion of their task, and taking the lead on setting and communicating group rules and procedures. Although this is most similar to the autocratic leadership style mentioned before, it is more nuanced and flexible. The originators of this model note that a leader can be directive without being

seen as authoritarian. To do this, directive leaders must be good motivators who encourage productivity through positive reinforcement or reward rather than through the threat of punishment. Directive leaders provide structure and clear expectations for their group. To be effective they must be skilled motivators.

8.2. Participative Leaders

Participative leaders work to include group members in the decision-making process by soliciting and considering their opinions and suggestions. When group members feel included, their personal goals are more likely to align with the group and organization's goals, which can help productivity. This style of leadership can also aid in group member socialization, as the members feel like they get to help establish group norms and rules, which affects cohesion and climate. When group members participate more, they buy into the group's norms and goals more, which can increase conformity pressures for incoming group members. This is good to a point, but it can become negative when the pressures lead to unethical group member behavior. In addition to consulting group members for help with decision making, participative leaders also grant group members more freedom to work independently. This can lead group members to feel trusted and respected for their skills, which can increase their effort and output.

The participative method of leadership is similar to the democratic style discussed earlier, and it is a style of leadership practiced in many organizations that have established work groups that meet consistently over long periods of time (Cragan & Wright, 1991).

8.3. Supportive Leaders

Supportive leaders, according to Cragan and Wright (1991), show concern for their followers' needs and emotions. They want to support group members' welfare through a positive and friendly group climate. These leaders are good at reducing the stress and frustration of the group, which helps create a positive climate and can help increase group members' positive feelings about the task and other group members. As we will learn later, some group roles function to maintain the relational climate of the group, and several group members often perform these role behaviors. With a supportive leader as a model, such behaviors would likely be performed as part of established group norms, which can do much to enhance social cohesion. Supportive leaders do not provide unconditionally positive praise. They also competently provide constructive criticism in order to challenge and enhance group members' contributions.

A supportive leadership style is more likely in groups that are primarily relational rather than task focused. For example, support groups and therapy groups benefit from a supportive leader. While maintaining positive relationships is an important part of any group's functioning, most task-oriented groups need to spend more time on task than social functions in order to efficiently work toward the completion of their task. Skilled directive or participative leaders of task-oriented groups would be wise to employ supportive leadership behaviors when group members experience emotional stress to prevent relational stress from negatively impacting the group's climate and cohesion (Cragan & Wright, 1991).

8.4. Achievement-Oriented Leaders

Achievement-oriented leaders, for Cragan & Wright, strive for excellence and set challenging goals, constantly seeking improvement and exhibiting confidence that group members can meet their high expectations. These leaders often engage in systematic social comparison, keeping tabs on other similar high-performing groups to assess their expectations and the group's progress. Achievement-oriented leaders are likely less common than the other styles, as this style requires a high level of skill and commitment on the part of the leader and the group. Certain group dynamics must be in place in order to accommodate this leadership style. Groups for which an achievement-oriented leadership style would be effective are typically intentionally created and are made up of members who are skilled and competent in regards to the group's task. In many cases, the leader is specifically chosen because of his or her reputation and expertise, and even though the group members may not have a history of working with the leader, the members and leader must have a high degree of mutual respect (1991).

Conclusion

In this chapter, we provided an overview on the small group as small learning context, and as a teaching technique through reflecting the nature of a small group, its definition, its description and types; and the nature of group dynamics.

CHAPTER

4

Syllabus and Teaching Material Design

Chapter IV: Syllabus and Teaching Materials Design

Introduction

This chapter will provide a critical review on L2 syllabus designs. It will cover major designs from a historical perspective and discuss their significance within the realm of L2 classroom teaching and methodology. While running through the points, we will examine the criteria of syllabus design (selection and sequencing) and the recommendations for implementation. Application of these criteria will determine that syllabus design is nowadays closely linked to methodology, teaching materials, and learning tasks. We will provide a highly critical review of some of the major Syllabus types. Hence, we will also attempt to define language teaching materials and describe the various ways of their analysis and evaluation.

1. Syllabus and Curriculum Definition

The terms "syllabus", "syllabus design" and "curriculum" have given rise to confusion in terms of their definitions and use. According to Stern (1983) the field of curriculum studies is part of the discipline of educational studies. In its broadest sense, it refers to the study of goals, content, implementation and evaluation of an educational system. In its restricted sense, curriculum refers to a course of study or the content of a particular course or programme. It is in this narrower sense of curriculum that the term "syllabus" is employed. According to Stern, "syllabus design" is just one phase in a system of interrelated curriculum development activities.

Shaw's (1975) survey of literature on second language syllabus development brings out the following distinction between "curriculum" and "syllabus". He states that "... the curriculum includes the goals, objectives, content, processes, resources, and means of evaluation of all the learning experiences planned for pupils both in and out of the school and community, through classroom instruction and related programs...". He then defines "syllabus" as, " a statement of the plan for any part of the curriculum, excluding the element of curriculum evaluation itself."

"Curriculum" as defined by Allen (1984) is a very general concept. It involves consideration of philosophical, social and administrative factors which contribute to the planning of an educational programme. "Syllabus" then refers to that subpart of a curriculum which is concerned with the specification of what units will be taught.

In defining a language "syllabus", Noss and Rodgers (1976) refer to it as "a set of justifiable, educational objectives specified in terms of linguistic content". Here the specification of objectives must have something to do with language form or substance,

with language-using situations, or with language as a means of communication.

Stevens (1977) says that the syllabus is:

partly an administrative instrument, partly a day-to-day guide to the teacher, partly a statement of what is to be taught and how, sometimes partly a statement of an approach ... The syllabus embodies that part of the language which is to be taught, broken down into items, or otherwise processed for teaching purposes.

In Wilkins' (1981) words, syllabuses are defined as "specifications of the content of language teaching which have been submitted to some degree of structuring or ordering with the aim of making teaching and learning a more effective process."

Johnson (1982) explains syllabus as an "organized syllabus inventory" where "syllabus inventory" refers to the items to be taught. Crombie (1985) also defines "syllabus" as a list or inventory of items or units with which learners are to be familiarised. But Corder (1975) points out that it is more than just an inventory of items. In addition to specifying the content of learning, a syllabus provides a rationale of how that content should be selected and ordered (Mackey, 1980).

Candlin (1984) takes a different stand when he says that syllabuses are:

social constructions, produced interdependently in classrooms by teachers and learners ... They are concerned with the specification and planning of what is to be learned, frequently set down in some written form as prescriptions for action by teachers and learners.

Basically, a syllabus can be seen as "a plan of what is to be achieved through our teaching and our students' learning" (Breen, 1984) while its function is "to specify what is to be taught and in what order" (Prabhu, 1984).

1.1. Syllabus Design Definition.

After having understood what the terms "curriculum" and language "syllabus" refer to, the next step would be to come to terms with what language "syllabus design" encompasses. According to Webb (1976), syllabus design is understood as the organization of the selected contents into an ordered and practical sequence for teaching purposes. His criteria for syllabus design are as follows:

- progress from known to unknown matter
- appropriate size of teaching units
- a proper variety of activity
- teachability
- Creating a sense of purpose for the student.

Garcia (1976) expands on this and provides more comprehensive criteria which should be taken into consideration when designing a language syllabus. He says that:

Particulars concerning the social forces, the prejudices, the habits and the motives of the student population, the relation of student characteristics to what are considered universal concepts in language learning processes, contemporary insights into the nature of the language, and how it should be taught to non-native speakers and for what realistic purposes, must guide curricular decisions.

Designing a language syllabus is no doubt a complex process. According to Amran Halim (1976), the language course designer has to pay serious consideration to all the relevant variables. He has grouped all the variables into two categories, namely:

- Linguistic variables, which include the linguistic relations, between the language to be taught and the language or languages which the student uses in his daily activities; and
- Non-linguistic variables which range from policy to social, cultural, technological and administrative variables. According to Munby (1984), syllabus design is seen as "a matter of specifying the content that needs to be taught and then organizing it into a teaching syllabus of appropriate learning units."

Maley (1984) sums it up when he says that syllabus design encompasses the whole process of designing a language programme. He says that "the needs analysis which produces an order unit of items to be taught is organically related to a methodology consistent with the syllabus, a set of techniques consistent with the methodology, and evaluation procedure consistent with the whole."

From the above explanations on syllabus design, it can be concluded that syllabus design involves a logical sequence of three main stages, that is, 1) needs analysis, 2) content specification, and 3) syllabus organization. This follows very closely the general model advocated by Taba (1962) which gave the following steps:

- Needs analysis
- Formulation of objectives
- Selection of content
- Organization of content
- Selection of learning activities
- Organization of learning activities
- Decisions about what needs evaluating and how to evaluate.

In this chapter, we will deal with the three main stages of syllabus design as listed earlier.

2. Stages in Languages Syllabus Design

Three main stages have been identified in the process of designing a language syllabus, namely needs analysis, content specification and syllabus organization.

2.1. Needs analysis

According to Richterich (1972) language needs are "the requirements which arise from the use of a language in the multitude of situations which may arise in the social lives of individuals and groups."

The concept of needs analysis enables us to discriminate between various learner types and to produce syllabus inventories specifically geared to their needs. By analysing the language needs of specific groups of learners, we should be able to identify those notions and functions which will be most valuable to teach. The point of interest is the concept of "common core". This refers to areas of interest which are common to all students whatever their particular situations and specializations. There is a reasonable assumption that all students will need to be able to do certain things in the foreign language.

Van Ek (1976) was more realistic when he said that it would be more feasible to identify large overlapping categories of needs which are found to be shared by a large number of students rather than to specify in minute detail the "micro-needs" of each individual language learner. It was also felt that a very basic or 'threshold" level of linguistic skills would be sufficient for most purposes to satisfy a learner's needs.

2.1.1. Needs and Objectives. Some writers like Widdowson (1981) have pointed out a controversy between "needs" and "objectives". As Widdowson comments:

The expression - learner needs - is open to two interpretations. On the one hand, it can refer to what the learner needs to do with the language once he has learned it. This is a goal-oriented definition of needs and related to terminal behavior, the end of learning. On the other hand, the expression can refer to what the learner tends to do in order to actually acquire the language. This is a process-oriented definition of needs, and related to traditional behavior, the means of learning.

According to Hawkey (1984), the keywords used by Widdowson suggest objectives rather than needs. Corder (1973) said that the content and structure of a syllabus are related to the objectives of the learner or of society. These must be specified in terms of what he wants or must be able to do in terms of social behavior and linguistic performance. This is known as his "terminal behavior". But Ingram (1982) maintains that a clear specification of objectives provides a means of ensuring coherence of language activities in responding to learner needs.

2.2. Content Specification

After having determined the language needs of the learner, the next step would be to decide on the content of the syllabus. Most language syllabus content is drawn from inventories or lists which may be word frequency lists, inventories of functions or lists of specific topics. Content can be also specified through a series of checklists which deal with communicative functions, discourse skills, and study skills. For example, Breen (1984) says that "Starting with a general view or definition of the target language and/or its use, more specific objectives or "needs" are selected as appropriate subject matter."

From the objectives, elements of the subject matter are focused upon, for example, particular structures, sets of functions, or a range of communicative events.

A useful general analysis to specify content has been put forward by Brumfit (1984). According to him there are three types of such analyses. The first is that of the linguist, that is, formal analyses of phonology, syntax, morphology, or certain types of semantic categories. The second type is interactional analyses of various kinds, such as situational and functional categories which lead to the analyses of discourse rhetoric. The third type of analysis is an analysis of what is talked or written about.

Each of these analyses presumes a different view of the nature in which language is learned. For example, the first presumes inductive or deductive learning; the second presumes that discourse is learnt to interact and to communicate; while the third one presumes that interesting and motivating content is necessary. Trim (1973) pointed out that the content specifications of a syllabus can be described in terms of:

- 1) The behavioural input-output chain involved;
- 2) The elected language which can be used in a wide range of contexts; and
- 3) The taught language that is appropriate to the interest of the pupils and the situations in which he might possibly use his linguistic knowledge.

But Shaw (1976) sees the selection of content to be concerned mainly with two questions:

- 1) How much can we teach or how much can be learnt by the learners in question;
and
- 2) Which items should be included.

He suggests a criterion for selection based on the "relative usefulness" or "relative difficulty" of the content matter. He argues that students' point of entry level and the duration of the course provide a good indicator of how much should be included and how difficult the content matter should be. Purposes and types would determine the usefulness of the content. Based on this criterion, Shaw proposed the following general procedure for selection of content:

- 1) Determine previous knowledge of learners,
- 2) Decide amount of content in general terms,
- 3) List items in rough order of specific frequency,
- 4) Group for relative difficulty,
- 5) Check that both functional and notional categories are present,
- 6) Check coverage of grammatical items.

This section therefore provides us with some means by which we can go about selecting content matter for a language syllabus.

2.3. Syllabus Organization

Having once decided on what to teach, the next state is to decide on an appropriate strategy of presentation. The objective of organizing a syllabus should be to promote learning, and not just to provide a description of the language. Therefore, the content matter should be organized in such a way so as to facilitate teaching and learning. The unit of organization should also suit the particular purpose of learning.

According to Allen (1984), there are basically three approaches which can be utilized to sequence and organize content:

1. The traditional, structural-analytic approach in which the highest priority is given to formal grammatical criteria;
2. The functional-analytical approach which defines objectives in terms of categories of communicative language use; and
3. A non-analytic, experiential, or "natural growth" approach, which aims to immerse learners in real-life communication without any artificial pre-selection or arrangement of items.

According to Johnson (1982), the organization of content matter depends on what is meant to be achieved. Wilkins suggests that a needs analysis be used to establish "semantic priority" so that the sequencing of items would depend on what is considered more useful.

Brumfit (1981) however pointed out that it is important that content matter be organized with priority for teaching purposes. He distinguishes two criteria for organization, that is, "intrinsic" and "extrinsic". "Extrinsic" refers to all criteria for sequencing not derived from within language itself while "intrinsic cohesion will be dependent on the extent to which items in the syllabus are elements of a system. If they are, then it will be possible to present the system in a structured way so that the overall system is reflected in the organization and sequencing of the elements. ...However, extrinsic criteria may also have to be produced for a language learning syllabus. These are criteria, usually defended on motivational grounds, in which an apparent cohesion may be established by the introduction of a story line, for example, in a text, or by the inclusion of information thought to be attractive to students "... syllabuses inevitably find themselves using a mixture of the two types."

Wilkins does not altogether disagree with Brumfit's intrinsic/ extrinsic distinction, but he states that "in fact intrinsic criteria play a very small role in any kind of syllabus" and that "in a grammatically based syllabus, in practice it is extrinsic criteria that dominate, just as with other types of syllabus."

Gibbons (1984) also argues that neither linguistic analysis nor psycholinguistic research has shown that valid intrinsic criteria is important for sequencing syllabus components beyond the beginning level, In practice, syllabus organization is determined largely by extrinsic considerations especially learner needs and pedagogical factors.

3. Syllabus Implementation

No matter how well developed a syllabus, it would not be able to achieve what it is meant to if serious consideration is not given to its successful implementation. Various sources have cited a number of factors which need to be given consideration in the successful implementation of a language syllabus. These factors would also affect the choice of an appropriate syllabus for use. Maley (1984) gives the following factors: 1) cultural, 2) educational, 3) organizational, 4) learner, 5) teacher, and 6) material.

Cultural factors are cited as the most powerful factors in the implementation of any language programme. It depends on whether a society is outward-looking and welcomes innovation, or inward-looking, seeking inspiration from deeply-rooted traditional values. The attitudes of a given society towards the learning process, towards books, towards teachers are also of key importance.

Educational factors refer mainly to educational philosophy. Other factors are whether the system is authoritarian or participatory, whether it views learning as acquiring knowledge or acquiring skills, whether learning is considered a product-

oriented business or as a life-long process, and whether the system encourages dependence or learner initiative. It is also important that top-level administrators are well-informed about the syllabuses. It is also important to take account of the role of exams in a given educational system.

Organizational and administrative factors will affect the implementation of a programme especially if the national educational system is highly centralised or highly decentralised. This will be reflected in the way decisions are arrived at and communicated to others, that is, whether they are by open consensus or by closed decree.

It is equally important that there is a clearly defined structure of communication between the administration and those executing a programme. There should be sufficient channels of communication between syllabus designers and classroom teachers. There should also be a clear structure of communication between technical and secretarial staff on the one hand and the teaching staff on the other.

Learner factors involve the age and background of the learners as being highly significant. It is also significant how learners are selected for the programme because certain syllabuses may not suit the study habits of certain learners.

Teacher factors refer to the training and experience of teachers which provide an important criterion for successful implementation. The availability of teacher training is a key factor. It is important that the teacher is proficient in the target language. Teachers' language proficiency and training may well favor the choice of one syllabus vs. another. Teachers will have to understand why the syllabus is as it is so that they see the necessity of having to change their teaching procedure if necessary. Teachers, administrators and educators must be familiar with the objectives of the syllabus. It is

also important that teachers are aware from the start about the number of hours they are expected to work as this will have important consequences for time-tabling and teacher morale.

Material factors mean that there should be an adequate budgetary provision for all aspects of the programme. The hardware ordered for the programme should be appropriate and not just ordered for prestige reasons. Spares for the hardware should be readily available and they should be serviceable in the vicinity. Software should also be appropriate and available to those who need it. There should also be adequate provision for secretarial assistance.

Other sources have also given class size as a variable or factor to be considered. For example, the sorts of drills associated with structural syllabuses would be difficult to conduct where there are classes of fifty (50) or more. The economic condition is another important factor, mainly because new materials and retraining of teachers is expensive, it is vital that this factor be kept in mind for all aspects of the implementation process because the whole process actually depends on it (Kaur, 1999).

The successful implementation of a syllabus also depends largely on the extent to which materials, methodology and exams are compatible with it. These very same factors would also have to be taken into consideration when selecting an appropriate syllabus type to achieve the purpose desired.

4. Syllabus Analysis

Richards and Rodgers (2001, pp.20-34) discuss their tiered framework for evaluating methodologies. The three tiers are *Approach* (the underlying theories), *Design* (selection of content), and *Procedure* (specifics of the activities). This has

become a somewhat standard tiering framework for TEFL/TESL courses. It is a method that forces the user to consider the development and the connectedness across the three tiers. For novice teachers and novice course writers, it forces contemplation regarding theoretical approaches. As some teachers inevitably like to ‘play it by ear’ and don’t care to think about pedagogical theory, an adaptation of Richards and Rogers’ framework (Fig.13) may help teachers and writers to sharpen their awareness of theory, and force them to examine how theory relates to the design of courses, the procedures within the classroom, and how it ultimately affects theory by either fortifying it or editing it.

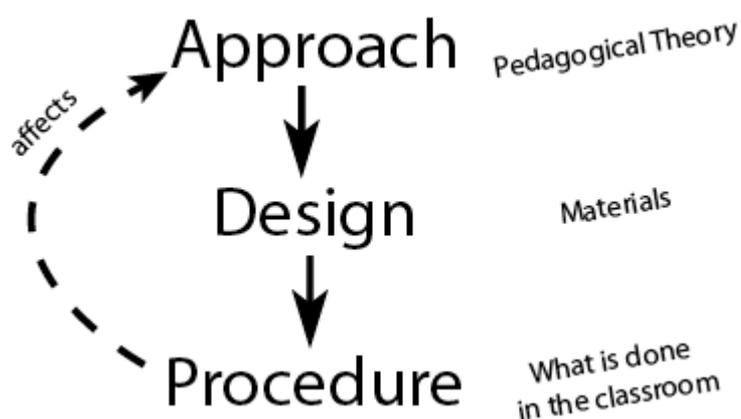


Figure 13. The dynamic effects of the approach-design-procedure framework. (Richards and Rodgers, 2001)

4.1. Product vs Process.

There is a significant syllabi dichotomy: *product vs process*. The product syllabus focuses on what linguistic content is to be learned. It is very clear and formal — such as a list of grammar points, or vocabulary words. The product syllabus and the standardized test have a reciprocal relationship. This type of syllabus can also be called a content-based syllabus, or in extreme cases, *teaching for the test*.

The opposing type of syllabus is *the process syllabus*. It does not work off a list of words or bullet points, but a set of learning processes. In short, it defines the skills that are to be acquired, not the content. Nunan (1988, p. 40) discusses how the product syllabus and the process syllabus are incompatible. As defined, the latter creates open-ended learning situations that hope to build skills for the real world, while the former puts sharp focus on very particular content, often disregarding the skills that may be required for real world application (White, 1988). However, it must be realized that although this argument is seemingly logical, it is also fully possible to incorporate both approaches into lesson plans.

4.2. Synthetic vs. Analytic

Another significant syllabi dichotomy is: *synthetic vs analytic*. Ellis (2012, p. 342) says that “the former involves a structural approach to teaching that has as its goal the creation of 'form and accuracy contexts', while the latter involves a task-based approach that seeks to create 'meaning-and-fluency contexts’.”

According to Wilkins (1976), the synthetic syllabus assumes that the teaching of discrete bits of the language will cause a gradual accumulation of parts that will eventually create a whole structural framework for which the L2 will reside. It assumes that language is like a set of building blocks that can be layered down for a foundation and then built into meaningful structures. Such a syllabus may work well with grammar-based instruction.

As far as the analytic syllabus is concerned, Robinson (2011, p.306) assures that due to developments in cognitive research and various other factors, “the shift from synthetic to analytic approaches.... can be expected to continue.”

The analytic syllabus as Wilkins’ describes it, is a list of purposes for the L2 learning and the means to meet those purposes. Identify the needs and then satisfy them

with the appropriate language usage. It is a more social and perhaps gregariously reciprocal teaching approach. It is real-world and learner-centered. This means that grammar teaching often takes second chair at best, but does not mean that grammar should be dropped entirely, so it is different from Krashen's no-grammar mandates (Krashen & Terrell, 1983).

In this perspective a crucial question to ask, which is more appropriate for the L2 classroom, synthetic or analytical? To this question, Ellis (2012) recently responded in this way:

There is now plenty of evidence to show that both approaches can contribute to learning... it will have to be filtered through the teacher's personal understanding of the instructional context, and this, to a large extent, will depend on experience. (pp. 342-343)

It would seem that although analytical syllabi are in the vogue, elements of a synthetic syllabus can, and perhaps should, be incorporated by the syllabus writer, or engaged as an adaptation by the classroom teacher.

4.3. Linear vs Cyclical

Most language courses, especially in the past, were usually "linear" whereby new points are strung along in a line and each point was completely utilized before moving on to the next. All the learning points were isolated and they were presented one after the other in some order. They required a great deal of practice before moving on to the next item (Dörnyei, 2008).

However, the concept behind the "cyclical" or "spiral" syllabus reflects the natural process of learning a language whereby the same things keep turning up in different combinations with different meanings, that is new bits of language are

gradually learnt by experiencing them intermittently in different contexts (Skehan, 1996)

While the "cyclic" syllabuses have greater pedagogical and psychological advantages, they are more difficult to organize. That could be the reason why "linear" syllabuses are more readily found.

5. Different Approaches to Foreign Language Syllabus Design.

Reasons of pre-selection of items, by which we get a syllabus inventory, is necessary because teaching / learning a subject cannot include every single item of knowledge. Some criteria of selection must guide the choice. The pre-ordering of items into a sequence gives a systematic and progressive arrangement to the whole syllabus because teaching/learning cannot take place all at once. There are at least three approaches that yielded a certain number of syllabus types.

5.1. Structural Syllabi

Structural linguistics focused its research on the formal and/ or behaviorist features of language. Sounds, phonemes, letters, words, phrases, sentences and patterns of language were its main categories or units. Its main procedure of analysis was to break down language into its constituent elements and then describe them. The outcome of structuralist theories was a set of descriptive rules of how language structures and patterns are organized. The overall knowledge of language rules, structures and patterns became widely known as linguistic competence. Linguistic performance of learners is, thus, conceived of as a level at which learners are capable of handling those formal structures and patterns of language.

In a description of such a trend to syllabus design, Wilkins (1976, p. 2) says that "in planning the syllabus for such teaching, the global language has been broken down

into an inventory of grammatical structures and into a limited list of lexical items". He, of course, specifies that syllabus designers selected their inventory from these lists according to the following criteria: simplicity, regularity, frequency and contrastive difficulty for the grammar inventory, and; -frequency, range, availability, familiarity and coverage for the lexical inventory.

A logical consequence of the above-mentioned assumptions leads to a linear sequencing of the syllabus items which are organized one after the other according to the degrees of easiness or difficulty, generality or detail, simplicity or complexity. As soon as the first item of the syllabus is covered, the second one comes into the process of teaching, and so on for the next items. The relationship that holds the items of the syllabus together is an adjunction. This feature entails that each syllabus item occurs only once in the process of teaching; any reoccurrence is a repetition or a revision, not part of the process. There may be various reasons for such a selection and organization, but the most obvious one is that the items do exist, so we must teach them. It is rather a very conformist one.

Pedagogical implementation resulted in the presentation of situational/ artificial settings illustrated by adapted written texts or dialogues, generally followed by repetition, memorisation, substitution and formal distribution drills where the whole process is teacher-centred. This is called 'gradual accumulation' by Wilkins (1976) and 'investment' by Widdowson (1990). Though both describe the same process/strategy, the former suggests that structural learning accumulates knowledge in terms of layers, one on top of the other, while the latter suggests that structural learning is a gradual/partial investment for a long-term outcome (competence). While Wilkins is describing structural teaching, Widdowson is describing structural learning.

5.2. Notional/Functional Syllabi

In the structural syllabuses the 'item' is the unit of a syllabus inventory. As there can be an exhaustive list of items like structures that the course designer can choose from, there is no such alternative for other types of syllabuses. The terms 'notions' and 'functions' impose a different categorization of syllabus items which do not rely on the study of structures. Murison-Bowie (1983, p. 7) considers this change of focus from structures on to meaning. He says that "notional/functional" is a term which has come to be used for a set of categories deriving from a particular way of describing language from a semantic point of view.' The first attempt to bring such a change into the real world of syllabus design was Wilkins (1976).

To solve the problem of focus, Wilkins developed two sources of meaning to choose from: notions and functions. He distinguished three types of meaning as: ideational, modal and functional meaning; -meaning that is expressed through grammatical systems in different languages: ideational, cognitive, or propositional meaning; -meaning that expresses the speaker's or the writer's attitude: modal meaning; and -meaning that is conveyed by the function of an utterance: functional meaning; Wilkins (1976, pp. 21-54) consequently drew three types of categories most relevant to notions and functions of language and which can be a source of syllabus inventory selection: semantico-grammatical categories which include notions of grammar as relative concepts of the world which are built in every human being's mind. These notions/concepts help the person manage the world around him and express/understand organization of time, quantity, space, relational meaning, quality, shape, size,.... etc, categories of modal meaning which include modality, scale of certainty and uncertainty, scale of commitment, intention and obligation; categories of communicative function which include judgement and evaluation, approval and disapproval, suasion, argument,

information asserted, sought or denied, agreement and disagreement, concession, rational enquiry and exposition, personal emotions and emotional relations.

Grammatical and modal meanings are, exhaustively, described by many linguists as Wilkins himself says (Wilkins, 1976, p.34). For, if there is an approximate agreement among scholars on an inventory of semantico-grammatical and modal meaning categories, there is no such solution for the functional ones. The latter represent 'the meaning that arises from the fundamental distinction, very important for language teaching, between what we *do* through language and what we report by means of language' (Wilkins, 1976, p.41).

This new orientation of focus onto the study of meaning reveals the difficulty and the width of scope for the syllabus designer. As meaning can be grammatical, modal and functional, the syllabus designer cannot simply rely on already established inventories or ready-made courses; each inventory or course has been set for a particular community. This peculiarity is due to the fact that functions of language are determined by a careful needs analysis of the learners and the purposes for which they would use the language. As learners' needs and purposes may vary from one learner to another, common needs and common purposes have to be found in order to represent common grounds from which a notional functional syllabus can be selected.

VanEk (1979, p. 105) called this selection 'the common core' to mean that the selected functions are common to different learners like secretaries, lawyers, engineers, and doctors for whom he selected three headings and distinguished the following units:

Functional:

- requesting information
- giving information
- enquiry

Settings:

- hotel
- statio
- shop

Notions:

- availability/non-availability
- location
- cost.

Whereas the order of structural items -in a structural syllabus -is somehow clear (ease Vs difficulty, etc...), the order and range of notional/ functional items is always shaped by many factors of needs analysis. Furthermore, the whole process/strategy of learning -adopted by the notional/functional syllabus is no longer synthetic but analytical. Learners are exposed to the selected items and 'accumulate' experience of the foreign language to use Widdowson's term-in order to develop a communicative competence. Grammar is no longer taught explicitly to learners. They are supposed to work out, and find out, their way to understand the grammatical system of the language by analysis. The consequence of the above-mentioned assumptions, on syllabus ordering, is the sequencing of its elements in a cyclical, spiral manner; the elements coincide with each other in a correlative way. They are joined to each other in the shift of a spiral or cyclical movement, allowing occurrence and reoccurrence of the items in different contexts of language use.

5.3. Communicative Syllabi

The structural and notional/functional trends yielded syllabuses from a description of language usage and language use. The communicative trends, however, invested the subject in different terms; they either tended to analyze terminal behavior in a very

atomistic way or attempted to rely on second language research and cognitive processes to implement the syllabus. Though notional/functional trends were the leading movement in the analysis of learners' needs and purposes of language use, communicative trends sharpened the impact of this feature and widened its scope in syllabus design.

Munby (1978) is the typical representative of this field. He leads the communicative syllabus studies into an investigation of the communicative behaviour of the learners of a foreign or second language. "(...) a specific category of second language participant has specific communicative objectives which are achieved by controlling particular communicative behaviours." (Munby, 1978, p. 29). The terms 'specific' and 'particular', as used here by Munby, show that he was leading the subject to the teaching of English for Specific Purposes. He further proposes a processing model of terminal communicative competence which takes into consideration the 'participant's (learner's identity), the communicative needs processor and profile of needs, the language skills selector, the meaning processor and the linguistic encoder.

The most important element of this model is the communicative needs processor (CNP) in which Munby includes eight essential parameters that determine both linguistic and non-linguistic data analysis. -Four independent parameters serve the processing of non-linguistic data. They are: purposive domain, setting, interaction, and instrumentality. -Four dependent parameters -determined by the independent ones - serve the processing of linguistic data. They are: dialect, communicative event, communicative key, and target level.

Though Munby's work was considered as a watershed in the development of ESP, many critical remarks (McDonough, 1984, p. 33; and Hutchinson and Waters, 1987, p. 54) were made about its 'purist' and 'idealist' point of view and about its 'limits' of a

'scientific' needs analysis. Application of Munby's model came out with end-result syllabuses that cared little about how learners would achieve the results. This impediment enhanced, rather, other orientations to care about the communicative processes and consider implementation and methodology integral parts of syllabus design.

As we pointed out above, there is nowadays almost no clear cut distinction between syllabus design and methodology in the communicative approach (Yalden 1987 and Widdowson 1990). Yalden considers the process of understanding planned for learners, relying much on second language theory and adopting models much more similar to the one suggested by Abbott (1981, p. 28). Such processes base the implementation of a syllabus on pedagogical steps which encourage the development of strategies of understanding the input, rehearsal, strategies of remembering, and strategies of communicating the output. Such a model of syllabus design relies also on information theory.

Widdowson considers the process of teaching the content of the syllabus, relying much on the nature of the resources as common schematic knowledge, shared by teachers and learners, and adopting models much more similar to discourse analysis strategies. Such processes base the implementation of a syllabus on pedagogical terms which guide teachers in presenting their material. Such a model of syllabus design relies also on communication theory. Thus, the communicative trends are not specific about the type of content to be taught (structural or notional/functional), but attempt to focus on methodological measures used in order to implement the syllabus.

This variety of trends or approaches gave birth to a number of criteria which bear on syllabus inventory selection and organization providing different types of syllabuses, of course, in an attempt to answer the five questions we asked at the beginning of this

paper. Some of them answered all the questions while others focused on answering only some of them, as we shall see in this syllabus typology. We shall consider, hence, the criteria of syllabus design and syllabus types.

6. Syllabus Types

Syllabi are not totally distinct from each other. All actual language teaching syllabuses are integrated product of two or more of the types of syllabi presented here. In other words, although different language teaching syllabuses are introduced here as though each can be employed on its own, in practice, these syllabuses rarely occur independently of each other. For a particular course, one type of syllabus usually dominates, while other types of content might be integrated with it. For instance, there is minimal distinction between the skill-based and task-based syllabuses. In fact, the way in which the instructional content is employed in the real teaching procedure is the determining element in choosing a syllabus. This section will take a look at nine of common syllabi through stating their characteristics, advantages, and disadvantages as follows.

6.1. Procedural Syllabus

The procedural syllabus was proposed by Prabhu (1980). Prabhu's '*Bangalore Project*' was based on the premise that structure can be best learned when attention is concentrated on *meaning*. The focus shifts from the linguistic aspect to the pedagogical one focusing on learning or the learner. The tasks and activities are designed and planned in advance but not the linguistic content. In this syllabus *tasks* are graded conceptually and grouped by similarity. Within such a framework the selection, ordering and grading of content is not so much considerable for the syllabus designer. Arranging the course around tasks such as information- and opinion-gap activities helps

the learner perceive the language subconsciously while consciously focusing on solving the meaning behind the tasks.

6.2. Cultural Syllabus.

Stern (1992) introduces ‘cultural syllabus’ to be incorporated into second/foreign language education. There are many challenges regarding defining the concept of *culture*. Seelye (1984, p. 26) refused to define culture, calling it ‘a broad concept that embraces all aspects of the life of man’, and Brown (1994) calls it the “glue” that binds a group of people together. In order to have a better understanding of the term *culture*, Stern (1992, p. 208) suggests that writers ‘have tried to reduce the vast and amorphous nature of the culture concept to manageable proportions by preparing lists of items or by indicating a few broad categories’. Stern keeps on by discounting such lists as presented by Brooks and Chastain as providing only ‘cultural titbits’. Nostrand’s (1978) emergent model is praised by Stern as an attempt to overcome this, as is Seelye’s observation that all of mankind have the same needs, and that different groups will satisfy these needs in different ways, as this gives a viewpoint for studying culture. However, Stern also implies that although both Nostrand’s and Seelye’s work give a viewpoint, they are difficult to be put in practice. Hammerly (1982) suggests a mix of anthropological culture and classical culture. He highlights three areas, i.e. *information culture*, *behavioural culture* and *achievement culture*. Stern believes this to be valuable, but claims that it does not solve the problem of the range of cultural topics.

Believing in the fact that there is a consensus on the objectives of teaching culture, Stern (1992) indicates that aims should be:

- A research-minded outlook
- The learner’s own country
- Knowledge about the target culture

- Affective goals; interest, intellectual curiosity, and empathy.
- Awareness of its characteristics and of differences between the target culture
- Emphasis on the understanding socio-cultural implications of language and language use

6.3. A Situational Syllabus.

With this type of syllabus, the essential component of organization is a non-linguistic category, i.e. the situation. The underlying premise is that language is related to the situational contexts in which it occurs. The designer of a situational syllabus tries to predict those situations in which the learner will find him/herself, and applies these situations, for instance; seeing the dentist, going to the cinema and meeting a new student, as a basis for selecting and presenting language content. The content of language teaching is a collection of real or imaginary situations in which language occurs or is used. A situation usually includes several participants who are involved in some activity in a particular setting. The language used in the situation comprises a number of functions combined into a plausible part of available discourse. The main principle of a situational language teaching syllabus is to teach the language that occurs in the situations.

In this syllabus, situational needs are important rather than grammatical units. The major organizing feature is a list of situations which reflects the way language and behavior are used every day outside the classroom. Thus, by connecting structural theory to situations the learner is able to induce the meaning from a relevant context. One advantage of the situational approach is that motivation will be heightened since it is "learner- rather than subject-centered" (Wilkins, 1976, p. 16).

6.4. Skill-Based Syllabus.

Skills are abilities that people must be able to do to be competent enough in a language, rather independently of the situation or context in which the language use can occur. In this syllabus, the content of the language teaching involves a collection of particular skills that may play a role in using language. Although situational syllabuses combine functions together into specific settings of language use, skill-based syllabi merge linguistic competencies (pronunciation, vocabulary, grammar, and discourse) together into generalized types of behavior, such as listening to spoken language for the main idea, writing well-formed paragraphs, delivering effective lectures, and so forth. The chief rationale behind skill-based instruction is to learn the specific language skill. Another less important objective might be to develop more general competence in the language, learning only incidentally any information that may be available while utilizing the language skills (Nunan,1988)

6.5. Structural or Formal Syllabus.

This is recognized as the traditional syllabus which is often organized along grammatical lines giving primacy to language form. The focus is on the outcomes or the product. It is, in fact, a grammatical syllabus in which the selection and grading of the content is on the basis of the complexity and simplicity of grammatical items. In other words, it specifies structural patterns as the basic units of learning and organizes these according to such criteria as structural complexity, difficulty, regularity, utility and frequency. The learner is expected to master each structural step and add it to his/her grammar collection. It makes ample use of highly controlled, tightly structured and sequenced pattern practice drills (Krahnke, 1987)

6.6. Task-Based Syllabus.

A task-based syllabus supports using tasks and activities to encourage learners to utilize the language communicatively so as to achieve a purpose. It indicates that speaking a language is a skill best perfected through interaction and practice. The most important point is that tasks must be relevant to the real world language needs of the learner. It should be a meaningful task so as to enhance learning. The content of the teaching is a series of multifaceted and focused tasks that the students want or need to perform with the aid of the language they are learning. Tasks combine language and other skills in specific contexts of language use (Tag & Woodward, 2011)

Since language learning is considered subordinate to task performance and language teaching also occurs just as the need arises during the performance of a particular task, the tasks are best defined as activities with a purpose other than language learning so as to develop second language ability.

6.7. Content - Based Syllabus.

This syllabus is intended to design a type of instruction in which the crucial goal is to teach specific information and content using the language that the learners are also learning. Although the subject matter is of primary and vital importance, language learning occurs concurrently with the content learning. The learners are at the same time language students and learners of whatever content and information is being taught. As compared with the task-based approach of language teaching that is connected with communicative and cognitive processes, content-based language teaching deals with information. This syllabus can be exemplified by assuming a chemistry class in which chemistry is taught in the language the learners need or want to learn, possibly with linguistic adjustment to make the chemistry more understandable. (Tag & Woodward, 2011)

6.8. Notional/Functional Syllabus.

The chief emphasis of this syllabus is upon the communicative purpose and conceptual meaning of language i.e. *notions* and *functions*. In other words, the content of the language teaching is a number of the *functions* that are performed on using the language, or of the *notions* that language is utilized to express. Functions can be exemplified by instances such as inviting, requesting, agreeing, apologizing; and notions embrace age, color, size, comparison, time, etc. Besides, grammatical items and situational elements are considered at subsidiary level of importance. As opposed to the hypothesis of structural and situational syllabuses which lies in the fact that it is most often in search of 'how' or 'when' and 'where' of language (Brumfit and Johnson, 1979, p. 84), the functional/notional syllabus seeks for 'what is a learner communicates through language'.

An important point regarding notional-functional syllabus is that the needs of the students have to be explored and analyzed by different types of interaction and communication a learner may be involved in. Accordingly, needs analysis is central to the design of notional-functional syllabuses. Needs analysis should be taken into account so as to establish the necessary objectives. Apart from needs analysis that has an implicit focus on the learner, this type of syllabus proposes a new list consisting of notions and functions that become the main focus in a syllabus. White (1988, p. 77) argues that "language functions do not usually occur in isolation" and there are also difficulties of selecting and grading function and form.

6.9. Lexical Syllabus.

As one of the advocates of the lexical syllabus, Willis (1990, pp. 129-130) asserts that "taking lexis as a starting point enabled us to identify the commonest meanings and patterns in English, and to offer students a picture which is typical of the way English is

used”. He continued to claim that they were able to follow through the work of Wilkins and his colleagues in their attempt to establish a notional syllabus. They also were able to suggest to students a way of referencing the language they had experienced. Thus learners were able to use their corpus in the same way as grammarians and lexicographers use a corpus in order to make valid and relevant generalizations about the language under study.

7. Teaching Materials.

Materials are defined as anything which can be used to facilitate the learning of a language. They can be linguistic, visual, auditory or kinaesthetic, and they can be presented in print, through live performance or display, or on cassette, CD-ROM, DVD or the internet’ (Tomlinson, 2001, p. 66). They can be instructional, experiential, elicitive or exploratory, in that they can inform learners about the language, they can provide experience of the language in use, they can stimulate language use or they can help learners to make discoveries about the language for themselves (Richards, 2001).

7.1. Materials Development

According to Tomlinson (2001) materials development is both a field of study and a practical undertaking. As a field it studies the principles and procedures of the design, implementation and evaluation of language teaching materials. As an undertaking it involves the production, evaluation and adaptation of language teaching materials, by teachers for their own classrooms and by materials writers for sale or distribution. Ideally these two aspects of materials development are interactive in that the theoretical studies inform and are informed by the development and use of classroom materials. (p. 66)

Materials designed and developed for a limited scope of audience target the learners who will use the designed materials for some specific needs. At the same time,

they are practical implication of teachers and/or teacher-trainees in the process of design and development. Such case studies and experiments emerged in the 1970's and are still practised in many countries where English is taught as a foreign language and/or for specific purposes (Mead and Lilley, 1975). We will present below an account of these studies to illustrate how long and beneficial the world-wide experience was to develop a number of materials production criteria.

Harvey and Horzella (1977, p. 37) sorted out of their case study in the humanities some first steps of materials production for ESP in order to satisfy the needs of Chilean students. They insisted on 'the determination of area and type of discourse samples, the formal/functional analysis of the samples, the selection of the formal/functional core-language to cover the most essential elements, and the organisation of resulting core-language into units.' The case study revealed a process based initially on rhetorical structures of academic discourse and ending with the organisation of the designed materials into units of a language teaching course. Similarly, Johns and Davies (1983, pp. 2-3) reject the use of a 'text as a linguistic object' and adopt the use of reading comprehension texts 'as a vehicle for information.' Their basic selection criterion is the topic-type which provides a framework for information structure and consequently leads to rhetorical organization and structural features of the text. The latter will serve as guidelines for the material designer to produce learning tasks and activities which favour information explanation, transfer, and extension (Johns and Davies, 1983, pp. 12-13). Within the same scope, Scott et al. (1984, p. 115) suggest a 'standard exercise' to teach reading comprehension of authentic texts, for Portuguese students, according to a top-down model of information processing. In the 'standard exercise' Scott (1984, pp. 115-116) provides a list of thirteen (13) steps which involve anticipation, skimming, scanning, reproducing, note-taking, inferring, lexical search, and speed in reading

comprehension. The idea of using standard exercises in specific materials development projects would find its way through the next decades, as we shall see below.

Moore (1977) had a materials development project in order to teach EAP to Colombian students. The project started with a teaching team whose tasks were to determine the needs of the students and set some learning goals and objectives, to produce some isolated units, to teach and evaluate these units by teachers and students, and to revise and implement the units to suit a whole course. The most interesting findings of this project were the criteria for the selection of texts and the steps of materials production (1977, pp. 47-49). The text selection criteria included variety and interest, authenticity and relevance, conceptual/information structure to involve reading tasks, and level of difficulty. The materials production process required seven steps: ‘- the analysis of information structure and cohesion of the text; -the simplification of the text (when, why, what, and how to improve and/or remove some aspects of the text through reduction, expansion and adaptation); the presentation of the text (length, format and illustration with visuals); the exploitation of content (rhetorical and information structure); the exploitation of the text by producing exercise types which cover comprehension skills and language items like lexis; the reinforcement of exercises to identify items, form of instructions, questions and expectation of learners’ responses); -the application of evaluation criteria (purpose, type, content, interest, authenticity and difficulty) to each activity’ (Moore, 1977, pp. 48-49)

This early contribution in materials production was a pioneer work in limited scope of audience to meet the needs of Colombian students. Despite its regional limitation, the criteria of text selection and steps of materials production would remain valid all along the 1980’s, 1990’s and the beginning of the 21st century.

Lautamatti (1978, pp. 102-103) set grounds for the development of materials for a reading-oriented course based on teachers' knowledge of the reading process as a psycholinguistic model, knowledge of information, functional and formal structure of paragraphs, and knowledge of particular difficulties of Finnish learners in English as a foreign language. She distinguished a number of criteria for the selection and grading of reading tasks which include length of text, amount of information and structural properties, variation of reading tasks to achieve comprehension, and focus on classroom procedures which favour reading strategies and interaction in order to achieve communication purposes.

7.2. Materials Evaluation

Materials evaluation has been defined by Tomlinson (2003: 15) as “a procedure that involves measuring the value (or potential value) of a set of learning materials”. An evaluation focuses largely on the needs of the users of the materials and makes subjective judgements about their effects (Tomlinson, 2003). An evaluation might include questions such as ‘Do the reading texts sufficiently engage learners?’, which elicit responses containing a necessarily subjective value judgement. Evaluations can be carried out pre-use, in-use or post-use. The main aim of evaluating materials pre-use, according to Rubdy (2003, p. 42), is to measure the potential of what teachers and learners can do with them in the classroom. In-use and post-use evaluations are important in establishing how successful learning materials are (McDonough & Shaw, 2003, p. 71).

With the widespread adoption of commercially produced textbooks as core teaching materials a greater focus began to be placed on materials evaluation in the early 1980s. Initially, the role of textbooks within English language teaching was explored (Swales, 1980; Allwright, 1981; and O'Neill, 1982). The need for a more

systematic approach to materials evaluation emerged during this time as it became apparent that any set of commercially produced teaching materials would be unlikely to be completely suitable for a particular group of learners (McGrath, 2002; McDonough & Shaw, 2003).

A number of theoretical evaluative frameworks have since been published (e.g. in Williams, 1983; Breen & Candlin, 1987; Sheldon, 1988; McDonough & Shaw, 2003; Cunningsworth, 1995; and McGrath, 2002). These have mostly been checklist-based, usually in the form of questions to be answered to determine the extent to which the materials fulfill a set of criteria. While there is a scarcity of evaluation schemes specifically designed for young learner materials, Halliwell (1992) provides a checklist for evaluating and comparing young learner coursebooks.

Tomlinson & Masuhara (2004, p. 7) proposed the following questions for evaluating criteria:

- a) Is each question an evaluation question?
- b) Does each question only ask one question?
- c) Is each question answerable?
- d) Is each question free of dogma?
- e) Is each question reliable in the sense that other evaluators would interpret it in the same way?

Very few of the lists of criteria proposed in the literature satisfy these conditions, and most of them are not generalizable or transferable. For example:

- a) ‘Are there any materials for testing?’ (Cunningsworth, 1984) is an analysis question in the same checklist as evaluation questions such as ‘Are the learning activities in the course material likely to appeal to the learners. . .?’

b) ‘Is it attractive? Given the average age of your students, would they enjoy using it?’ (Grant, 1987, p. 122) combines two questions in one criterion.

c) ‘Does the writer use current everyday language, and sentence structures that follow normal word order?’ (Daoud & Celce-Murcia, 1979, p. 304) contains two questions and both are unanswerable without a data analysis of both a corpus of current language and the complete script of the materials. ‘To what extent is the level of abstractness appropriate?’ (Skierso, 1991, p. 446) is another example of a criterion which is too broad and vague to be answerable.

d) ‘Are the various stages in a teaching unit (what you would probably call presentation, practice and production) adequately developed?’ (Mariani 1983, p. 29) is dogmatic in insisting on the use of a Presentation Practice Production (PPP) approach.

e) ‘Is it foolproof (i.e. sufficiently methodical to guide the inexperienced teacher through a lesson)?’ (Dougill 1987, p. 32) is unreliable in that it can be interpreted in different ways by different evaluators.

In the last ten years a number of other writers have proposed frameworks for materials evaluation instead of checklists. McGrath (2002, p. 31) distinguishes between ‘general criteria (i.e. the essential features of any good teaching-learning material)’ and ‘specific (or context related) criteria’ and, in relation to choosing a coursebook, proposes a procedure which includes materials analysis, first-glance evaluation, user feedback, evaluation using situation specific checklists and, finally, selection. McDonough & Shaw (2003, p. 61) suggest that the evaluators first conduct an external evaluation ‘that offers a brief overview from the outside’ and then carry out ‘a closer and more detailed internal evaluation’. They stress that the four main considerations when deciding on the suitability of materials are: *usability, generalisability, adaptability and flexibility*.

Riazi (2003) provides a critical survey of textbook evaluation schemes from 1975 onwards, in which he points out the transience of many of the criteria, which he says were based on pedagogic approaches fashionable at the time. In his conclusion he supports Cunningsworth (1995) in insisting on the importance of collecting data about the context of learning and proposes a procedure which includes a survey of the teaching/learning situation, a neutral analysis, a belief-driven evaluation and a selection.

Other writers have offered principled advice on developing evaluation criteria, including Wallace (1998), who suggests twelve ‘criterion areas’ for materials evaluation; Rubdy (2003), who proposes and gives examples of a dynamic model of evaluation in which the three categories of psychological validity, pedagogical validity and process and content validity interact; Tomlinson & Masuhara (2004), with their evaluation procedure for inexperienced teachers and McCullagh (2010), who sets out the procedure she used to evaluate materials for medical practitioners.

7.3. Materials’ Adaptation.

Considering how teachers adapt materials systematically or intuitively every day, there is surprisingly little help for them in the literature. One of the major early books on materials development, Madsen & Bowen (1978), did, however, focus on adaptation. It made the important point that good teachers are always adapting the materials they are using to the context in which they are using them in order to achieve the optimal congruence between materials, methodology, learners, objectives, the target language and the teacher’s personality and teaching style. In order to achieve this congruence Madsen & Bowen propose ways of personalizing, individualizing, localizing and modernizing materials.

While Candlin & Breen (1980), criticize published communicative materials and suggest ways of adapting them so as to offer more opportunities for communication, Cunningsworth (1984), focuses on how to change materials so that they get the learners to do what the teacher wants them to do. Willis (1996), in his turn, was among the experts who have given advice about adaptation in the nineties, on ways of changing classroom management and sequencing to maximize the value of task-based materials, Nunan (1999), on procedures for making materials more interactive and White (1998), on ways of increasing student participation when using listening materials.

McDonough & Shaw (2003) devote a chapter to adaptation. After considering the many reasons for adapting materials, they focus on the principles and procedures of adaptation and give advice on *adding, deleting, modifying, simplifying and reordering*. McGrath (2002) also devotes a chapter to discussing the objectives, principles and procedures of adaptation. He proposes 'four evaluative processes' (p. 59) when basing a lesson on a coursebook and goes on to discuss the issues and procedures involved in each process. Teachers may select the material that will be used unchanged, reject either completely or partially sections of the material, add extensions or further exploitation of the existing materials and replace components of the materials. McGrath sets a series of useful tasks for the readers to check their understanding of his suggested procedures and their ability to use them. Some of these tasks involve the reader adapting coursebook materials.

A different approach to adaptation is taken by Saraceni (2003), who advocates providing the learners with an important role in adapting the materials they are using. In order to involve learners in the process, she proposes that materials should actually be written with learner adaptation in mind, aiming to be learner-centred, flexible, open-ended, relevant, universal and authentic, and giving choices to learners. She also

stresses that offering provocative topics and aesthetic experience can facilitate learner adaptation. She criticizes published materials for being, for example, trivial, stereotypical and un-motivating, and provides an example of materials designed so that they can be adapted by the learners using them (as does Wajnryb, 1996). A similar line is taken by Jolly & Bolitho (2011), who propose a dynamic approach to materials writing and adaptation which involves teachers as materials writers trialling their materials with their classes and then modifying them to take account of student feedback and suggestions.

Tomlinson and Masuhara (2004, p. 11) aim ‘to help teachers to reflect upon their own practice and identify principles and systematic procedures for materials adaptation’. They discuss the principles and procedures of materials development at a very practical level, providing suggestions for optimizing the teaching context so as to make it adaptation-friendly and setting the readers five tasks involving them in the adaptation of materials for students they are actually teaching. They also stress the need for a criterion-referenced evaluation of materials before making decisions about adaptation.

8. Factors to Consider When Designing Materials.

Six key factors that teachers need to take into account when embarking on the design of teaching materials for their learners. These relate to, and refer back to some of the advantages and disadvantages:

The first and most important factor to be considered is *the Learners*. If the point of teacher-created materials is relevance, interest, motivation and meeting specific individual needs, then clearly teachers must ensure they know their learners well. Any consideration of syllabus or materials design must begin with a needs analysis. This should reveal learning needs with regard to English language skills in listening,

speaking, reading, writing, vocabulary knowledge and grammar; as well as individual student's learning preferences. It is not just learning needs that are relevant to the teacher as materials designer, however. Equally important is knowledge about students' experiences (life and educational), their first language and levels of literacy in it, their aspirations, their interests and their purposes for learning English.

The curriculum and the context are variables that will significantly impact on decisions about teaching materials. Many teachers are bound by a mandated curriculum defining the content, skills and values to be taught. Whether imposed at school or state level, a curriculum outlines the goals and objectives for the learners and the course of study. Whatever the curriculum, it is the teacher's responsibility to ensure that the goals and objectives of the overarching curriculum are kept close at hand when designing materials (Nunan, 1988).

As noted earlier, the context in which the teaching and learning occurs will impact on the types of materials that may need to be designed. For example, a primary-level mainstream, English-speaking setting, with a set curriculum and access to native speakers may require materials that facilitate interaction about subject content, and develop cognitive academic language proficiency. However, refugee adults may need teaching materials that focus on meeting immediate survival needs and gaining employment.

The resources and facilities available to the teacher-designer are also mentioned above as an element of context. Clearly teachers must be realistic about what they can achieve in terms of materials design and production within the limitations of available resources and facilities. Access to resources such as computers (with or without Internet access), a video player and TV, radio, cassette recorder, CD player, photocopier,

language lab., digital camera, whiteboard, cardboard, laminator etc will impact on decisions in materials design. Hadfield and Hadfield (2003) offer some useful suggestions for ‘resourceless’ teaching which address the impoverished reality of some teaching contexts.

Personal confidence and competence are factors that will determine an individual teacher’s willingness to embark on materials development. This will be influenced by the teacher’s level of teaching experience and his or her perceived creativity or artistic skills and overall understanding of the principles of materials design and production. In reality, most teachers undertake materials design to modify, adapt or supplement a course book, rather than starting from scratch, and this is probably the most realistic option for most teachers. Harmer (2001) and Lamie (1999) propose some decisions to teachers:

- 1) Add activities to those already suggested.
- 2) Leave out activities that do not meet your learners’ needs.
- 3) Replace or adapt activities or materials with:
 - supplementary materials from other commercial texts
 - Authentic materials (newspapers, radio reports, films etc)
 - Teacher-created supplementary materials.
- 4) Change the organizational structure of the activities, for example, pairs, small groups or whole class.

Time was discussed earlier as a disadvantage for teachers who wish to design their own materials. It is thus, important to consider ways to make this aspect manageable. Block (1991) suggests a number of ways in which teachers can lighten the load, including sharing materials with other teachers, working in a team to take turns to

design and produce materials, and organizing central storage so materials are available to everyone.

9. Authentic Materials

Rogers (1988) defines authentic materials as “appropriate” and “quality” in terms of goals, objectives, learner needs and interest and “natural” in terms of real life and meaningful communication. Harmer (1991) defines authentic texts as “materials which are designed for native speakers; they are real texts; designed not for language students, but for the speakers of the language”. Jordan (1997) refers to authentic texts as “texts that are not written for language teaching purposes”. Peacock (1997) describes authentic materials as materials that have been produced to fulfill some social purpose in the language community. What we understand that is common in these definitions is “exposure to real language and its use in its own community” (Widdowson, 1990), in other words it is the benefit students get from being exposed to the language in authentic materials. In short, “authentic materials are materials that we can use with the students in the classroom and that have not been changed in any way for ESL students. A classic example would be a newspaper article that’s written for a native-English-speaking audience” (Sanderson, 1999).

Nunan (1999) defines authentic materials as spoken or written language data that has been produced in the course of genuine communication, and not specifically written for purposes of language teaching. In fact, in his teaching he encourages his students to bring into the classroom their own samples of authentic language data from real-world contexts outside of the classroom. They practice listening to and reading genuine language drawn from many different sources, including TV and radio broadcasts, taped conversations, meetings, talks, and announcements. They also read magazine stories,

hotel brochures, airport notices, bank instructions, advertisements and a wide range of other written messages from the real world in situations as they occur.

While Nunan (1999, p. 27) realizes that it is not realistic for teachers to use only authentic materials in the classroom, because ultimately if they only encounter contrived dialogues and listening texts, their learning task would be made more difficult. He also goes on to say that it is important that learners listen to and read authentic material of as many different kinds as possible. This will help motivate the students by bringing the content and the subject matter to life for them, and enable them make the important connections between the classroom world and the world beyond it.

10. Task-Based Language Teaching

Another aspect of teaching material design considered essential to many leading language researchers today is that such materials promote task-based learning. Task-based learning is an overall approach to language learning that views the tasks that learners do as central to the learning process. The learning process is seen as a set of communicative tasks that are directly linked to curricular goals. Nunan (1991, p. 279) outlines five characteristics of a task-based approach to language learning:

- 1) An emphasis on learning to communicate through interaction in the target language.
- 2) The introduction of authentic texts (teaching materials) into the learning situation.
- 3) The provision of opportunities for learners to focus not only on language, but also on the learning process itself.
- 4) An enhancement of the learner's own personal experiences as important contributing elements to classroom learning.

5) An attempt to link classroom language learning with language activation outside the classroom.

He views the task as a piece of meaning-focused work which involves learners in comprehending, manipulating, producing and interacting in the target language. Specifically, tasks can be analyzed according to the goals, the input data, the activities derived from the input, the settings and roles implied for teacher and learners. Nunan graphically depicts a way to analyze the various elements of tasks, as shown in the following figure.



Figure 14. A Framework for analyzing communicative tasks. (Nunan , 1989, p. 11)

Goals refer to the general intentions for the learning task. Input is the data that forms the point of departure for the task. Activities specify what learners will actually perform with the input. Roles refer to the social and interpersonal relationship between learners and teachers in a task. Settings refer to the classroom arrangement affecting interaction entailed in the task, such as pair work or group work. When selecting, adapting, modifying and creating communicative tasks, Nunan believes that specification of all these components is needed.

Many researchers today make an important distinction between *target tasks*, which students need to accomplish beyond the classroom, and *pedagogical tasks*, which form the basis of the classroom activity during the instruction.

Detailed divisions and typology of tasks revealed further details to be considered. Breen (2001, pp. 153-154) identifies four types of tasks which imply the

design of four slightly distinct task-based syllabuses: 1) communicative tasks involving learners in sharing meaning in the target language about everyday life; 2) metacognitive or learning tasks involve learners in sharing meaning about how the language works or is used in target situations and/or sharing meaning about students' own learning processes; 3) content tasks where content, methodology and learning interact during classroom lessons providing content and topic oriented syllabuses with formal tasks. 4) Decision-making tasks providing a framework for negotiations about the purposes, contents and ways of working in process oriented syllabus. By this division, Breen (2001, pp. 154-155) explicitly states that this is an extreme prototypicality of task-based syllabuses which may vary from one situation to another.

In almost the same way, Ellis (2003, pp. 210-216) distinguishes four types of tasks according to; '*pedagogical, rhetorical, cognitive, and psycholinguistic*' classifications. For Ellis, *pedagogical tasks* are directed towards learner training in the four language skills with focus on vocabulary and grammar, and have direct impact on the design of course books. They include tasks like 'listing, ordering or sorting, comparing problem solving, sharing personal experiences and creative activities like projects. *Rhetorical tasks* draw on theories of rhetoric that distinguish different discourse domains like narrative, description, instruction, reports, etc... to design courses for academic purposes. They are often linked to academic language functions in academic written discourse like definitions, classifications, giving examples, etc... Rhetorical tasks influence the negotiation of meaning and learners' production in various discourse domains.

For Ellis, *cognitive tasks* are specific task types to procedural language learning that learners undertake when working on information. Psycholinguistic classification of tasks relies on interaction relationships that learners undertake with each other as

holder, requester, and supplier roles. These tasks depend on goal orientation (whether they require agreement or disagreement of the partners) and outcome options (whether they require an 'open' or 'closed' end-outcome). These two typologies or classifications of tasks by Breen (2001) and Ellis (2003) show that task-based pedagogy and task-based syllabus design have gone a long way in the detailed study of the learning process, the learners' needs, the learning goals and objectives, and the learning outcomes in the classroom and in the real world. All these factors resulted in a variety of syllabuses each claiming it could satisfy the learners' needs.

Conclusion

We attempted, in this chapter, to explain the importance of syllabus design in language teaching and learning and its relative dependence on the various approaches and trends which developed in the field. The notional/functional and communicative trends have been taking the lead in the last three decades and even biased syllabus design towards learners' needs, learning procedures and learning outcomes. The application of these trends in particular contexts resulted in a variety of syllabuses which converge on the principles of learning procedures but diverge on learners' needs and learning outcomes.

The problematic issue of syllabus and materials design and development is held in the grips of needs, processes and purposes. On one hand, almost all commercial wide audience syllabuses and courses develop language learning/teaching materials which attempt to focus on the achievement of a given proficiency level while adopting a given learning procedure. On the other hand all specific limited audience syllabuses and courses develop language learning/teaching materials which are based initially on a careful analysis of the limited audience needs, the definition of specific achievement objectives, and the design of appropriate materials and learning procedure. The former is nowadays a flourishing educational business while the latter is an experiential educational minefield for teachers and researchers who wish to improve specific learning/teaching contexts.

CHAPTER

5

Teaching/Learning

**Grammar: From Theory
to Practice**

Chapter V: Teaching/Learning Grammar: From Theory to Practice

Introduction

Grammar gains its prominence in language teaching, particularly in English as a foreign language (EFL) and English as a second language (ESL), in as much as without a good knowledge of grammar, learners' language development will be severely constrained. Further, grammar is thought to furnish the basis for a set of language skills: listening, speaking, reading and writing since learning the grammar of a language is considered necessary to acquire the capability of producing grammatically acceptable utterances in the language.

Practically, in the teaching of grammar, learners are taught rules of language commonly known as sentence patterns. In the case of the learners, grammatical rules enable them to know and apply how such sentence patterns should be put together. The teaching of grammar should also ultimately centre attention on the way grammatical items or sentence patterns are correctly used. In other words, teaching grammar should encompass language structure or sentence patterns, meaning and use.

In this chapter, we attempt to give a comprehensive picture of grammar teaching approaches, influential grammatical paradigms in second and foreign English language teaching, and cognitive theories underlying the processes of grammar acquisition.

1. Defining grammar

Grammar has been identified in different ways depending on the linguistic theory that sets the definition. The problems researchers encountered in the process of trying to grasp the essence of grammar and squeezing it into definitions are demonstrated in the following table which provides an overview of grammar interpretations in a chronological order. These definitions seem to represent a development in the interpretation of *grammar* from a narrow view to a broader one.

Table 11.

A summarizing Table of Grammar Definitions Following Chronological Order

Source	Definition
Leech, Deuchar and Hoogenraad (1982, p. 51)	“We shall use grammar in reference to the mechanism according to which language works when it is used to communicate with other people. We cannot see this mechanism concretely because it is represented rather abstractly in the human mind. One way of describing this mechanism is a set of rules which allow us to put words together in certain ways, but which do not allow others.”
Crystal (1987, p. 88)	“It is difficult to capture the central role played by grammar in the structure of language, other than by using a metaphor such as 'framework' or 'skeleton'. Two steps can usually be distinguished in the study of grammar. The first step is to identify units in the stream of speech (or writing or signing) units such as 'word' and 'sentence'. The second step is to analyse the patterns into which these units fall, and the

	<p>relationships of meaning that these patterns convey.</p> <p>Depending upon which units we recognize at the beginning of the study, so the definition of grammar alters. Most approaches begin by recognising the 'sentence', and grammar is thus most widely defined as 'the study of sentence structure'. A grammar of a language, from this point of view, is an account of the language's possible sentence structures, organized according to certain general principles.”</p>
J. C. Richards, J.C., Platt J. and Platt H (1992, p. 161)	<p>“A description of the structure of a language and the way in which linguistic units such as words and phrases are combined to produce sentences in the language. It usually takes into account the meanings and functions these sentences have in the overall system of the language. It may or may not include the description of the sounds of a language.”</p>
Jung, L (1993, p. 111)	<p>“Grammar is the linguistic description of the rule system of a language and the explicit or implicit representation of this rule system in the learner’s mind.”</p>
Batstone (1994b, p. 4)	<p>“At its heart, then, grammar consists of two fundamental ingredients – syntax and morphology – and together they help us to identify grammatical forms which serve to enhance and sharpen the expression of meaning.”</p>
Brown (1994b, p. 347)	<p>“Grammar is a system of rules governing the conventional arrangement and relationship of words in a sentence.”</p>
Lock (1996, p. 4)	<p>“Grammar includes two aspects:</p> <ol style="list-style-type: none"> 1. the arrangements of words and 2. the internal structure of words.”

Ur (1996, p. 87)	“Grammar is a set of rules that define how words are combined or changed to form acceptable units of meaning within language.”
Larsen-Freeman (2003, p. 142)	“...grammar(ing) is one of the dynamic linguistic processes of pattern formulation in language, which can be used by humans for making meaning in context-appropriate ways.”

Three observations can be made about the content of these definitions, taken from the linguistic and the pedagogical field. Firstly, in the definitions of Brown, Lock and Jung the structuralist point of view of grammar is prevailing covering only morphology and syntax. It is interesting to note that Lock (1996), whose book is about functional English grammar seems to exclude meaning from the narrow definition of grammar. Grammar is defined in these definitions in its narrow sense as an external system isolated from the speakers and the context. In sum, in the narrow sense grammar means morphology and syntax (Finocchiaro and Brumfit, 1983; Stern, 1992).

Secondly, the traditional, narrow view of grammar meaning morphology and syntax is expanded by scholars, psychologists and others who look at the English language from a different point of view than that of the grammarians (Crystal, 1987; Richards, Platt and Platt, 1992; Batstone, 1994a and Ur, 1996). In their interpretation grammar is not simply structure, but structures in use in particular contexts. Larsen-Freeman (1991) reminds us that grammar is best seen as involving interrelationships among form, meaning and contextualization including the dimensions of semantics and pragmatics into the scope of grammar. Celce-Murcia (1991) also takes the view that grammar interacts with meaning, social function, or discourse and does not stand alone as an autonomous system which should be learnt for its own sake. This is a broader

view of grammar also shared by Helbig (1992) and takes us closer to pedagogical application.

Thirdly, three of the definitions take us into the cognitive dimension where grammar is seen not in terms of its forms but of its underlying knowledge systems (Leech, Deuchar and Hoogenraad, 1982; Larsen-Freeman, 2003). With this a reference is made to the internal grammar which is acquired through different mental processes. As a result, grammar is regarded as a system in a dynamic sense. The word “dynamic” used by Larsen-Freeman refers to our understanding of grammar as process and not only product.

2. Grammatical Paradigms

Halliday (1994) claims that in the Western heritage there have been two major approaches to grammar: the formal and the functional. Each has had its prominence at different periods. The interrelationship of these two approaches to grammar has led to the emergence of the four grammatical paradigms related to different types of grammatical descriptions based on different approaches to language. Historically, English grammars, according to their general aims and objectives, can be divided into: *Traditional grammar; Structural grammar; Transformational-generative grammar; and Functional grammar.*

These grammatical paradigms have not existed in isolation; moreover, they have been intertwined over the centuries. A detailed discussion of these paradigms follows.

2.1. Traditional Grammar

By traditional grammar we mean the Aristotelian orientation towards the nature of language as exemplified in the work of the ancient Greeks and Romans, the speculative works of the medieval age, and the prescriptive approach of the 18th century grammarians (Howatt, 1984). The term itself is a vague expression to refer to a number

of grammars that are primarily concerned with language as a set of rules. Traditional grammar is often valued as a mental discipline and respected as a tradition. The terminology and the system of classification were based on the work of Aristotle and Dionysius Thrax. Developed for the analysis of Greek and Latin, traditional grammar divided the target language into eight parts of speech: nouns, verbs, participles, articles, pronouns, prepositions, adverbs and conjunctions. Learning the language meant the study of the eight categories and the development of rules for their use in translation (Hinkel & Fotos, 2002).

In the Middle Ages vernacular languages started to be used instead of Latin and attention turned to developing a grammatical description of English. One of the earliest grammars of English was created by Ben Jonson (Howatt, 1984). The grammar of Latin was taken as the norm and even later grammars were concerned with codifying the principles of English and reducing it to rules. The most notable of these grammars were written by Lowth (*Short Introduction to English Grammar*, 1762), by Murray (*English Grammar*, 1794), and by Jespersen (*A Modern English Grammar*, 1909:49) (Crystal, 1998). Although they are considered to be traditional grammars or scholarly grammars, they paved the way for the modern grammars. They were already regarded as pedagogical versions of traditional grammars, however, they still had a limited scope and strong Latin orientation.

The main objective of these grammars was to make language rules systematic and explicit what every native speaker knows implicitly. However, they were limited in scope and inflexible in the sense that they were unable to cope with the realities of English in use. As a result, traditional grammars do not deal explicitly with semantics; however, meaning is not totally excluded. Sweet expressed his didactic purpose when writing his grammar and summarized it the following way:

We study the grammar of our own language for other objects than those for which we study the grammar of foreign languages. We do not study grammar in order to get a practical mastery of our own language, because in the nature of things we must have that mastery before we begin to study grammar at all". (1891, p. 5)

The Grammar-Translation Method as a teaching approach is generally associated with the traditional grammatical paradigm. This traditional approach has been extremely influential in instructional pedagogy and it is still being used as the primary approach of language instruction. The ultimate goal of the method is the study of the literature through reading and translation (Bárdos, 1997). The Grammar-Translation Method has no explicit theory of language learning, language is regarded as an object to be studied rather than a tool to be used. Students are expected to learn the rules, memorize patterns, and translate sentences and passages from one language to another. The method is easy for a teacher with limited language knowledge and not much time or training who simply wants to follow a textbook and have the reassurance of clear-cut answers. Different versions of this method are still widely used all over the world as the main language teaching approach.

Traditional grammar provides a poor model for the grammars of different languages, since the Latin framework used by it does not reflect the realities of the language and implies that Latin is an organized language while other languages are not. Its scope is limited, overemphasizing form over function and meaning, disregarding the dynamic nature of language. It does not adequately distinguish all the linguistic levels, it operates only at the sentence level and below.

2.2. Structural Grammar

Structural grammar aims at overcoming the shortcomings of traditional grammar: the lack of objectivity, precision, and scientific respectability. The aim was achieved

through objective, detailed and systematic observation which resulted in descriptions of patterns of language in use. While traditional grammar provides an idealized set of rules derived from Latin, structuralists are concerned with patterns of language in use. The eminent representatives of the movement were Fries, Harris, and Bloomfield (1998). The fundamental principles of structuralism are outlined by Francis the following way:

A language constitutes a set of behaviour patterns common to the members of a given community. It is part of what anthropologists call the culture of the community. Its phenomena can be observed, recorded, classified and compared. The grammar of each language must be made up on the basis of a study of that particular language – a study that is free of preconceived notions of what a language should contain and how it should operate. The analysis and description of a given language must conform to the requirements laid down for any satisfactory scientific theory: simplicity, consistency, completeness, usefulness. (1993, p. 430).

While the focus of traditional grammar was the written language, structuralist grammar dealt mainly with speech and analyzed the sound system. Bloomfield's book entitled "Language" (1933) includes a precise description of phonemes – the distinctive individual sounds of language. Whereas traditional grammar defined the parts of speech in terms of meaning, the structuralists regarded it as subjective and unscientific. Therefore, they defined the parts of speech based on where they are located in the structure of a sentence and based on their structural characteristics (e.g. "the" is a word which comes before a noun; or "searched" is a verb because it contains the suffix "ed"). Sentence patterns are important in structuralist grammar. In analyzing the sentence they used a process called *Immediate Constituent Analysis* (IC). The sentence is divided into

parts until the process cannot be continued any further and the fundamental building blocks of the sentence are reached.

The structural view of language was combined with the principles of behaviourist psychology. As a result, the Audio-lingual Method to second language teaching emerged. The linguistic description provided by structuralism outlined patterns that could be drilled without recourse to rules and translation. Substitution tables and pattern drills were used that involved the manipulation of a particular structure. The structures were designed so that they started with the easy structures and moved gradually to more complex ones. This way they tried to avoid errors and the use of learners' first language was also discouraged. The Audio-lingual Method was influential until the 1970's, however, pattern drills and substitution tables are quite commonly used techniques to reinforce a particular structure even nowadays.

Structuralism ignores meaning, native speaker's intuition and their competence of being able to generate an infinite number of sentences from a finite set of items. It does not recognize that the analysis of a relatively small sample of instances of language cannot account for the entire language system. It emphasizes structure at the expense of function and meaning. As a result, it does differentiate for example between sentences that have the same structure but different meaning. Similarly it does not deal well with the syntax of complex sentences.

2.3. Transformational-Generative Grammar

Transformational-generative grammar is a linguistic theory associated with Noam Chomsky, particularly with his book *Syntactic Structures* (1957). Transformational generative grammar does not teach us how to analyze sentences; it teaches us how sentences are generated in a language. It attempts to define rules that can generate the infinite number of grammatical sentences possible in a language. Neither traditional nor

structural grammar was interested in the generation of sentences. The starting point of Transformational-generative grammar is a rationalist assumption that a deep structure underlies a language, and that a similar deep structure underlies all languages. These abstract deep structures are transformed into the surface structures that characterize particular languages. Transformational-generative grammar seeks to identify rules called deep structure rules that govern relations between parts of a sentence, on the assumption that beneath such aspects as word order a fundamental structure exists.

Chomsky's (1957) belief of the existence of a *universal grammar* as a key characteristic of all languages contradicts the ideas of structuralism. Instead of focusing on surface structures he looks at the relationships between the surface structures and the underlying deep structures. The deep structures are seen as universal to all languages and are said to be genetically programmed in the human brain. These abstract deep structures are transformed into the surface structures that characterize particular languages. The recognition of surface and deep structures makes it possible to relate all the sentences of a language and even different languages. Transformational-generative grammar can account for any structural ambiguity by relating ambiguous constructions to two deep structures. The sentence *Hunting tigers can be dangerous* can be related to two different deep structures:

DS: Tigers +pres. Hunt+ X+ Tigers pres. can be + dangerous

DS: X pres. Hunt+ tigers + IT + pres. can be + dangerous

This way Transformational-generative grammar can account for any structural ambiguity by relating ambiguous constructions to two deep structures. Although Chomsky (1980) insisted that his theory of grammar had little direct classroom application. It has had tremendous influence on second language learning: “ is undoubtedly the most dynamic and influential,... Every other school of linguistics tends

to define its position in relation to Chomsky's view on particular issues" (Stern, 1983, p. 140).

Transformational-generative grammar emphasizes the ideal speaker-listener's competence at the expense of the ability to use the language appropriately in real communication. The emphasis is still on form and it does not take social and cultural differences into account. It operates at sentence level and below. However, the generative approach opened a new perspective which reflected "the creativity of language, the process of linguistic production and interpretation, which structural linguists disregarded" (Stern, 1983, p. 142). Chomsky and his followers did not take any steps to encourage the use of transformational-generative grammar in language teaching. As a result, the theory is seen as an abstract system by teachers and tends to be ignored. The theory of Transformational-generative grammar influenced the emergence of the cognitive view of language learning creating an opposition to the Audio-lingual approach, behaviourism and structuralism.

2.4. Functional Grammars

Transformational-generative grammar focused on the speaker's competence. This notion was extended in the 1980s to what Hymes called communicative competence (1972). His model focuses more on appropriate use of language, that is, on how language functions in discourse. Although not rejecting Chomsky's model entirely, Hymes extended it and gave greater emphasis to sociolinguistic and pragmatic factors. His concept of communicative competence emphasizes language as meaningful communication, including the appropriate use of language in particular social contexts.

As a next step in the development of competence Canale and Swain (1980) offer an alternative model of communicative competence that has become extremely influential. This model consists of grammatical competence, sociolinguistic competence

and strategic competence. Sociolinguistic competence is broken down into sociocultural and discourse competence. In this model grammatical competence is the knowledge of the language code, including lexical items, rules of morphology and syntax, sentence-grammar semantics and phonology. Grammar started to have a more functional orientation and meaning in social contexts became the centre of investigation. Functional approaches to grammar can be differentiated from formal or generative approaches to grammar by their focus on the communicative, as opposed to cognitive, aspects of language. The most influential functional grammars are: Dik's (1978) Functional Grammar and Halliday's Systemic Functional Grammar (1994). Their major contribution to the movement was to explore the relationship between the forms of the language (the lexical and syntactic elements) and the function of language in particular contexts. The roots of functional grammar lie in sociology and anthropology rather than in psychology (Trask, 1993).

2.4.1. Functional Discourse Grammar. Functional discourse grammar (Hengeveld and Mackenzie, 2005) is the successor to Dick's (1978) Functional Grammar expanding its scope by adopting as its starting point the communicator's intention to influence his or her interlocutor through the use of linguistic discourse. It is characterized by the following properties:

- It takes the discourse act as its basic unit of analysis. It is thus a discourse rather than a sentence grammar and is capable of handling discourse acts both larger and smaller than a sentence;
- It distinguishes an interpersonal, a representational, a structural, and a phonological level of linguistic organization;

- It orders these levels in a top-down fashion. It starts with the representation of the linguistic manifestations of the speaker's intentions at the interpersonal level, and gradually works down to the phonological level;
- It structures each of the levels of linguistic organization hierarchically.

By organizing grammar in this way, Functional discourse grammar takes the functional approach to language to its logical extreme: within the top-down organization of the grammar, pragmatics governs semantics, pragmatics and semantics govern morphosyntax, and pragmatics, semantics and morphosyntax govern phonology. Therefore, Functional discourse grammar is a discourse grammar rather than a sentence grammar. Since the model strictly separates the interpersonal, representational, morphosyntactic, and phonological characteristics of every discourse act in terms of different levels, the interaction between these levels of linguistic organization can be studied systematically.

2.4.2. Systemic Functional Grammar. Halliday's systemic functional grammar was offering an alternative to Chomsky's approach, in which language was seen not as something exclusively internal to the learner, but rather as a means of functioning in society. Language is seen as a representation of reality, transmitted for a specific purpose, and structured as a message. Halliday (1994) describes grammar as a resource for making meaning. He argues that speakers and writers draw on their language resources according to the social context to make three kinds of simultaneous meanings or metafunctions: ideational meaning, interpersonal meaning and textual meaning.

The ideational metafunction means using language to represent our experience of the world. Analyzed this way, a clause consists of a process and some number of participants in it. The participants are given functional labels depending on their role in the clause. The interpersonal metafunction is the interaction between speakers it

encodes. Distinctions of mood, tense and positive-negative fall under this metafunction. The textual metafunction is the way it encodes its role in a greater span of communication, in a text. This means language use to create a coherent and cohesive text both in speaking and writing.

Although functional grammar is a theoretical construct, it has had a great influence on language teaching, more specifically on syllabus design. A more functionally oriented syllabus was prepared by Wilkins (1976) describing the communicative meanings that learners would need to be able to make. In this type of syllabus, “ notions and functions are generally seen as replacing linguistic structures as units of content, and a notional/functional orientation is seen to be incompatible with a concern for grammatical structure and meanings intrinsic in form”(Widdowson, 1990, p. 41).

The notional-functional syllabus has been quite influential on second language teaching. A number of British applied linguists have become advocates of functional syllabuses and have emphasized language as a social phenomenon (Widdowson, 1990; Wilkins, 1976; Littlewood, 1981; Brumfit and Johnson, 1979). Grammar content is organized on the basis of forms required for particular communicative activities. Although it appears first to be the opposite of the structural approach, there is actually a structural basis to functional grammar instruction. The typical characteristics of functional grammars as opposed to their structural alternatives are summarized in the following: 1) linguistic form subserves communicative function; 2) focuses on competence and performance; 3) acquisition arises from use; and 4) there is discourse basis for form selection.

Functional grammar puts the emphasis not so much on correcting grammatical errors or on syntax, but extending the learners’ ability to use language effectively and

appropriately in a variety of contexts. The key point is that taking text as a major unit of analysis means that grammar is treated beyond the level of sentence syntax. The words and structures that make up a text are known as the lexico-grammar, which realizes the three metafunctions, the ideational, interpersonal, and textual meanings of a text by patterning words into phrases, clauses, or clause complexes.

The impact of functional grammars on the teaching of grammar includes the exploration of the context and the situation first, then the specific genres are analysed and finally students are assisted to identify grammatical patterns characterizing a particular genre.

Although Functional grammar places the emphasis on using language to achieve real-life purposes, it has some weaknesses as well. Since most linguistic functions lack satisfying definitions or reliable means of identification, the sequencing and grading of functions and notions are more complicated than in a structural syllabus. Notions and functions do not provide a basis for the systematic coverage of the language to be taught (Brumfit, 1981). Moreover, the category of notion is not easy to interpret in other language which makes the implementation of the functional approach difficult (Bárdos, 2005). Similarly to Transformational-generative grammar, the theory is too complicated for teachers to directly implement in the classroom. However, it would require investment on the part of the teacher and a willingness to re-think language and grammar.

3. The Typology of Grammars

The need to provide foreign language teaching with an appropriate type of grammar has always been a central issue and led to the emergence of a number of initiatives which are characterized with a constant debate about the relationship between theoretical or *linguistic grammars* and applied grammars or *didactic grammars*.

Grammar, on the one hand can serve scientific or theoretical purpose, on the other hand pedagogical purposes, depending on the users and the target audience. Therefore, a distinction can be made between *linguistic* and *didactic grammars*. *Linguistic grammars* include traditional grammars, structural grammars, transformational-generative grammars, and functional grammars, primarily used by linguists. Each has its purposes and its methods. Each is connected to a grammatical paradigm already discussed in section (2) in this chapter. *Didactic grammars*, on the other hand, are often associated with school grammars, grammars for teachers and learners. In the literature descriptive grammars, prescriptive grammars and pedagogical grammars are labelled as applied grammars. The cover term didactic grammar is also used to refer to them.

The distinction between *linguistic* and *didactic grammar* is a broad categorization. There has always been a tension between these two options; however, a *didactic grammar* should be based to some extent on *linguistic grammars*. *Linguistic grammars* offer a comprehensive, explicit and objective description of language rules, while *didactic grammars* adapt rules from *linguistic grammars* for teaching and learning purposes according to criteria such as the order of acquisition or the needs of learners. *Didactic grammars* are more eclectic, drawing on insights from formal and functional grammars, as well as corpus linguistics, discourse analysis and pragmatics (DeCarrico and Larsen-Freeman, 2003). From both broad perspectives different types of grammar have emerged with considerable overlaps representing stages with different focus on a scale ranging from *linguistic* to didactic grammars.

The theoretical side has already been explored. We should turn now to didactic considerations and discuss grammar types which influence instructional practice. From this perspective *didactic grammars* are important including descriptive grammar, prescriptive grammar, theoretical grammar and pedagogical grammar.

3.1. Descriptive Grammar

Descriptive grammars aim to describe language as it is actually used and represent speakers' unconscious knowledge or mental grammar of the language.

According to Crystal *descriptive grammar* is:

An approach that describes the grammatical constructions that are used in a language, without making any evaluative judgments about their standing in society. These grammars are commonplace in linguistics, where it is standard practice to investigate a 'corpus' of spoken or written material, and to describe in detail the patterns it contains. Descriptive grammars are data-oriented and define grammar inclusively rather than exclusively. They are essentially reference grammars as full in their coverage as possible" (1998, p. 118).

A *descriptive grammar* of a language does not only consist of accounts of syntax and morphology, moreover, phonetics, phonology, semantics and/or lexis are included. *Descriptive grammars* aim at revealing the mental grammar which represents the knowledge a speaker of the language has (Howatt, 1984; Trask, 1993; Odlin, 1994). According to Odlin, *descriptive grammars* provide a detailed look at both contemporary usage and earlier patterns in the language. For language teachers the boundaries between *descriptive* and *prescriptive grammars* are often not clear.

3.2. Prescriptive Grammar

Grammars with rules that make distinctions between correct and incorrect forms are defined as prescriptive grammars. *Prescriptive grammars* can be thought of as the opposite of descriptive grammars in that they describe rules that govern the use of language. They describe a proper way in which to speak and write. This approach to grammar description codifies certain distinctions between standard and non-standard

varieties, and often makes overt value judgments by referring to the standard and non-standard varieties as correct and the non-standard as incorrect.

3.3. Didactic Grammar and Pedagogical Grammar

The terms *didactic grammar* and *pedagogical grammar* are often used as synonyms in the literature, however, it is important to make a difference for the purpose of clarity. The term *pedagogical grammar* (PG) is used in this dissertation as a type of *didactic grammar*. According to Crystal (1998) *pedagogical grammar* is:

A book specifically designed for teaching a foreign language, or for developing an awareness of the mother tongue. Such ‘teaching grammars’ are widely used in schools, so much so that many people have only one meaning for the term ‘grammar’: a grammar book. E.g. M Swan (1995) *Practical English Usage* Oxford: OUP.

For applied linguists and language teachers, the focus is more on *didactic grammar*, the type of grammar designed for the needs of second-language students and teachers. Although teaching grammar in a second language might involve some of the prescriptive rules for the standard varieties, didactic grammars resemble a descriptive grammar more than a prescriptive one, especially in terms of the range of structures used (Odlin, 1994). Other authors break further down the concept of *pedagogical grammar* and distinguish between three different types (Hüllen, 1971; Corder, 1973; Helbig, 1981): PG for course book writers; PG for learners; PG for teachers;

4. Relationship between Grammar Types

Leech identifies only three varieties of grammar: academic grammar, teachers’ grammar and grammar for learners (1994, p. 17). He claims that teachers should ideally be well versed in both academic grammar and grammar for learners. They should have a sound academic knowledge of the language and they should also be skilled in the

methodologies of mediating grammar to learners. The problem is still the indirect relationship between academic knowledge and the way it can be put to use in the classroom. The following figure models views about the types of grammar and their relationships:

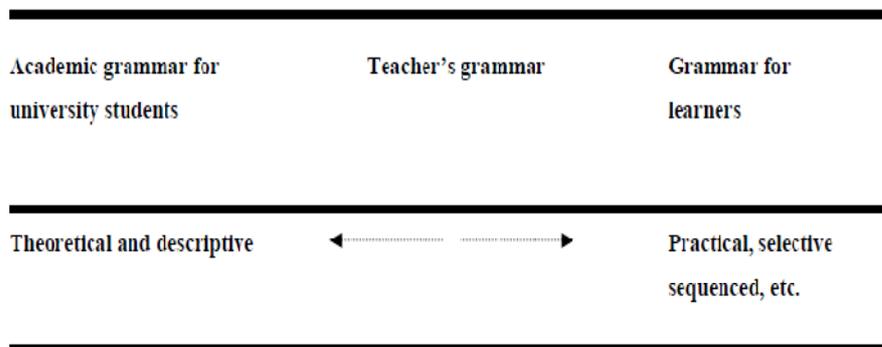


Figure 15. Types of grammar (adapted from Leech, 1994, p. 17)

Based on the different definitions of grammar types we can create a link between these grammars for teaching purposes. *Descriptive grammar* mediates between *theoretical* and *didactic grammars* as shown in Figure 16 below. This realistic view of grammars suggests that theory and pedagogical practice are relatively self-contained, each with its own aims and criteria, whereas description tends naturally to be oriented towards one or the other - perhaps both. In this view *descriptive grammar* provides an input to both *theoretical* and *didactic grammars* (Leech, 1988). Therefore, the role of *pedagogical grammar* –as a type of didactic grammar– is that of an interpreter between a number of formal grammars, the audience and situation specific language teaching materials.

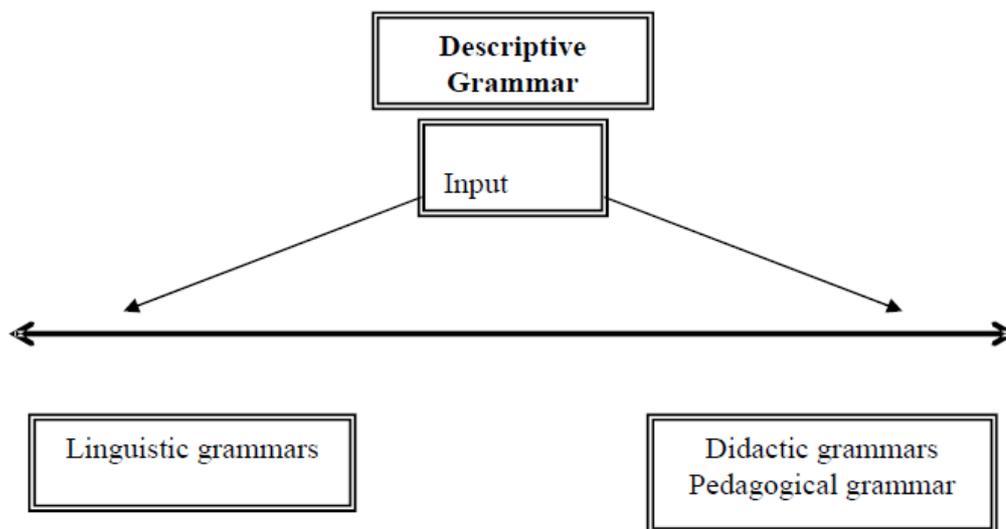


Figure 16. Descriptive grammar as a source of other grammars. (Leech, 1988).

Descriptive and theoretical linguistics have often been presented as fields with conflicting interests. However, modern descriptive grammars should benefit from the work carried out by theoretical linguists and vice versa since as Aarts claims that “both disciplines are concerned with grammatical structure and how to characterize it” (1993, p. 200). The two areas differ regarding their objectives and methodology. The aim of a theoretical grammar is to construct a theory which allows us to interpret the data in order to see how that data fits in within the framework of the theory whether it is structuralist, functionalist or generativist. The focus is on partial analysis of some chosen areas of grammar.

Descriptive grammar, on the other hand, aims to focus on empirical data in order to provide a detailed account of the principles governing grammatical categories. Descriptivists often criticize theoretical analysis, since they are based on idealized and insufficient data (Aarts, 1993; Stern, 1983). That is, linguistic theory is concerned “with an ideal speaker-listener in a homogeneous speech community” (Chomsky, 1965, pp. 3-4). However, theoretical ideas are being incorporated into descriptive work, therefore,

linguistic theory can be an important source of information for descriptive grammars. New descriptive grammars like Quirk et.al. (1985) bridge the gap between theory and description by incorporating many of the insights of modern theoretical linguistics and thus making grammatical descriptions accessible to a wider audience.

Didactic grammars have been largely influenced by descriptive grammars focusing on the product of language use. The importance of language description in applied linguistics has been questioned by some theorists (Stern; 1980, 1983; Widdowson, 1990) because of the perception that the theoretical insights of descriptive linguistics are different from the practical needs of language pedagogy. Still, the descriptive view has led to new insights about language and new ways of talking about and defining units of language. Didactic grammar has taken on a more descriptive focus, with learners being required to deduce rules from linguistic data (Tomlin, 1994).

The following table attempts to give a summary of the comparison of the three types of grammatical descriptions which influence instructional practice.

Table 12.

Conceptual Levels Underlying Grammar Teaching

	Linguistic grammar	Descriptive grammar	Didactic grammar
Objective	To construct a theory or model of language	To describe the grammatical constructions that are used in a language	To make grammatical rules understandable for learners To systematise grammar in a pedagogically appropriate way
Basis	Small sample of sentences Idealised, insufficient data	Empirical data in order to provide a detailed account of the principles governing grammatical categories	Data provided by descriptive grammar
Organisation	Organized according to universal structural categories	Organized according to structural and functional patterns supported with examples	Organized according to usefulness and ease of learning
Target audience	Linguist or student of linguistics	Anybody who is interested in the study of language	Teachers or learners

Since the above discussed grammars provide the source of grammatical information, it is necessary to be clear about the conceptual levels of grammatical statement. The following figure symbolizes these relationships (Stern, 1992:131):

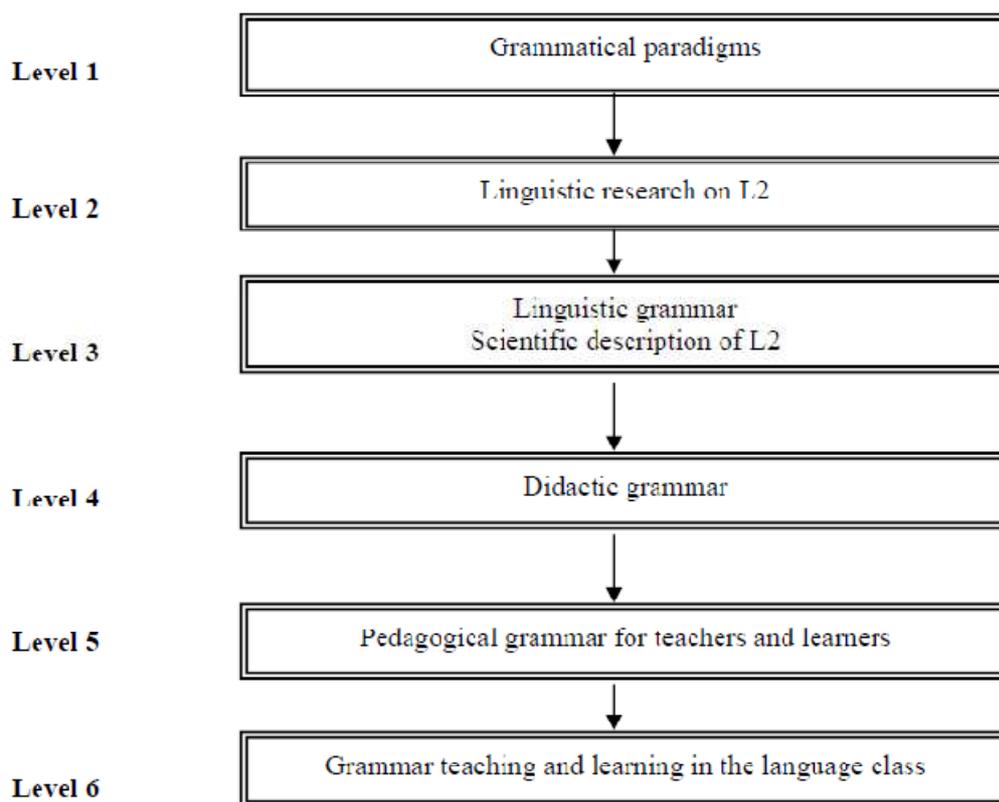


Figure 17. Conceptual levels underlying grammar teaching (Stern, 1992, p. 131).

On the first level, grammatical theory manifested in grammatical paradigms provides models with categories and procedures for descriptive research. These will provide the necessary tools to describe and analyze the language on the second level. The third level comprises a possibly full description of the language, offering the best possible analysis of the target language within a particular paradigm. The fourth level is didactic grammar, which relates theory to practice working as an interface in the sense that the information provided by the linguistic theory is filtered and made accessible for teachers and learners to be used.

Didactic grammar is a cover term for any type of grammar resource for teachers and learners. Its practical manifestation is Grammatical paradigms Linguistic research

on L2 Linguistic grammar Scientific description of L2 Didactic grammar Pedagogical grammar for teachers and learners Grammar teaching and learning in the language class *pedagogical grammar*, the implementation and adaptation of *linguistic grammars* to specific needs already filtered by didactic principles. These provide grammatical information to be used in classroom practice.

5. Second Language Acquisition (SLA) and Grammar Teaching

Second Language Acquisition (SLA) is a relatively new field of study; it has existed for little more than thirty 30 years (Ellis, 1993). During this time it has had considerable influence on the teaching of grammar. In this perspective, Ellis (1994) states that “ there is now general acceptance in the SLA research community that the acquisition of an L2 grammar, like the acquisition of an L1 grammar, occurs in stages” (p. 21).

Besides Ellis, Krashen (1985) and Pienemann (1986, 1989) made comments on the effect of developmental sequences on grammar pedagogy. Although both of them base their conclusions on the findings that learners of a second language proceed through predictable stages, their teaching proposals are different.

Krashen suggests that teachers should count on the availability of the linguistic features at the appropriate next developmental level (which he calls $i+1$) in any rich enough context of comprehensible input. His proposal is exclusively based on the provision of comprehensible input and is against the use of any specific linguistic form for focused attention. He emphasizes the value of language teaching methods, thus his focus is on how to teach. Pienemann’s pedagogical recommendations on the other hand are based on his teachability hypothesis. Unlike Krashen he concentrates on what to teach, on the linguistic features that are likely to be affected by instruction and when those features are best taught. Although they disagree on pedagogical recommendations,

Krashen and Pienemann appear to agree on the assumption that learners themselves will process and use for acquisition only those items which are developmentally appropriate (1985).

6. Some Concepts Related to Grammar Teaching and Learning

According to Rutherford (1987), for 2,500 years the teaching of grammar had often been synonymous with foreign language teaching. Current views on grammar teaching and learning can be traced back to nineteenth-century thinking. There is, for instance, the assumption that a good knowledge of grammar leads to clear thinking and aids intellectual discipline. In order to fully understand the present picture of grammar teaching, it is useful to consider in some detail some of the most important concepts in grammar teaching and learning.

6.1. Form - Focused Instruction.

The concept of focus on form comes out of the debate on whether and how to include grammar in second language instruction and which is the most effective form of grammar teaching in the communicative classroom. Focus on form studies in the 1980s were primarily concerned with finding out whether focus on form instruction enabled learners to acquire the structures they had been taught (Ellis, 1984). Studies in the field in the 1990s distinguished different kinds of form-focused instruction. Ellis (2002) claims that form-focused instruction needs to be envisaged in terms of whether or not the primary focus of the instruction is on form or meaning and how the attention is allocated, intensively or extensively. On the one hand, there are those who would limit attention to grammar by means of corrective feedback with minimal or no interruption in communication (Doughty and Valera, 1998), on the other hand there are those who advocate separate attention to grammar and subsequent integration of the knowledge provided in increasingly communicative activities (DeKeyser, 1998). This will be

illustrated in the coming section which attempts to give an overview of the literature on form-focused instruction and its effect on grammar teaching.

6.1.1. Focus on Forms. Long (1991) describes *focus on forms* as instruction which provides activities whose primary purpose is to teach language forms in isolation. Doughty and Williams (1998a) claim that in a *focus on forms instruction* learners engage in production activities ranging from mechanical to more communicative drills. These drills have the pitfall that too much attention to form results in deliberate rather than automatic language use. This option uses a synthetic approach to syllabus design and is accompanied by synthetic methods like the Grammar Translation Method, the Audio-lingual-Method, the Silent Way or Total Physical Response. It is associated with synthetic classroom devices including explicit grammar rules, repetition of model sentences, transformation exercises and direct error correction. *Focus on forms* classes consist mainly of work on the linguistic items with little if any communicative language use.

The *focus on forms* approach is based on the assumption that instructed foreign language learning derives from general cognitive processes, and entails the learning of a skill, therefore it is characterized as a skill-learning approach (DeKeyser, 1998). As such, it consists of the following stages:

1. “providing understanding of the grammar by a variety of means (including explanation in the L1, pointing out differences between the L1 and the L2
2. exercises entailing using the grammar in both non-communicative and communicative activities for both comprehension and production.
3. providing frequent opportunities for communicative use of the grammar to promote automatic, accurate use” (Sheen, 2002, p. 304).

The *focus on forms* option is attacked for several reasons. First, there is no needs analysis to identify learners' communicative needs, therefore, there is too much of the language focus and too little of the skill focus. Second, it ignores language learning processes altogether and the fact that SLA is not a process of accumulating knowledge. Third, the idea that what you teach is what learners learn is simply not true, teachability is constrained by learnability (Pienemann, 1984, 1986, 1989)

6.1.2. Focus on Form. “Focus on form overtly draws students' attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning or communication” (Long, 1991, pp. 4-46). *Focus on form* arises from meaningful activity and the process is purely incidental to the interactive communicative activities that constitute the core of classroom practice. This means that teachers attempt to draw learners' attention to linguistic forms as they arise in activities whose primary focus is on meaning. Such a focus, according to Long involves no pre-planning in terms of linguistic forms to be covered. Long and Robinson (1998) add to all this that the outcome of *focus on form* should be noticing. Schmidt (1993) stated that attention in the form of noticing is an essential feature of the acquisition process. Long and Robinson further elaborate that noticing should be brought about by negotiations between the teacher and the learners. These restrictions assume normal synthetic syllabi.

For the same approach the term *form-focused instruction* is used by Lightbown, (1998) and Spada, (1997). Lightbown believes that *focus on form* should not be done when students are focused on meaning since it can cause negative reactions in students. *Focus on form* should be treated as separate learning activities. In Spada's interpretation *form-focused instruction* refers to “any pedagogical effort which is used to draw the learners' attention to language form” (1997, p. 73). Being dissatisfied with the terminology and its coverage Sheen (2000) renamed the concept for *planned grammar*

instruction (PGI). He claims that PGI has a wider scope than the other two terms, since it imposes no restrictions on permitted forms of instruction, whether direct or indirect, planned or spontaneous.

In terms of the theoretical underpinnings *focus on form* derives from an assumed degree of similarity between first and second language acquisition positing that the two processes are based on an exposure to comprehensible input arising from natural interaction. However, that exposure is insufficient to enable learners to acquire the grammar of the second language, consequently, this lack needs to be compensated for by focusing learners' attention on grammatical features.

6.2. Focus on Meaning Instruction

The third main option is focus on meaning, an approach where the main concern is the communication of meaning without any attention given to the forms used to convey this. The Natural Approach of Krashen and Terrell (1983) and other so-called noninterventionist approaches are examples of this option. The starting point of *focus on meaning* is not the language, but the learner and the learning processes. It is believed that second language acquisition is essentially similar to first language acquisition, therefore, creating similar conditions should be necessary and sufficient for second language acquisition. Focus on meaning classrooms are highly communicative, learners are presented with examples of communicative language use and they are expected to analyse the language at a subconscious level and induce grammar rules simply from exposure to the input. Grammar is considered to be learnt implicitly and incidentally.

However, there are some problems with a *focus on meaning* approach. Long (1990) suggests that adolescents and adults fail to achieve native-like levels in a second language because they have lost access to innate abilities they used in their early childhood. Consequently, it is insufficient to recreate the conditions of first language

acquisition in the classroom. Ellis (1994) also claims that comprehensible input is necessary, but not sufficient, so a pure *focus on meaning* is inefficient. Since research in grammar teaching suggests that some conscious attention to form is necessary for learning to take place, *focus on meaning* has not been a hot issue lately.

6.3. Pragmatics and Discourse in Grammar Teaching

The terms *pragmatics* and *discourse* are not emphasized in traditional grammar teaching, but in the light of communicative competence and a functional view on grammar, they are rather significant. Pragmatics has to do with language use in sociocultural contexts. Crystal (1997, p. 301) defines pragmatics as:

The study of language from the point of view of users, especially of the choices they make, the constraints they encounter in using language in social interaction and the effects their use of language has on other participants in the act of communication.

In communication there are many possibilities and pragmatic strategies for conveying communicative acts and meaning (Rose & Kasper, 2001). Pragmatics is an important part of communicative competence. In Canale and Swain's review of this concept (as cited in Rose and Kasper, 2001), it is included in what they call *sociolinguistic competence*.

A discourse-based approach to language teaching, on the other hand, would focus not only on grammatical forms, but also on the meaning and use of the forms in context. Nassaji and Fotos (2011) recognize the pragmatic meaning in context as an essential function of grammar. Many grammatical items and rules cannot be explained without reference to context, as they are context-dependent. A sentence can be understood in one way if it is understood literally and in a quite different way if contextual and pragmatic factors are considered. A grammatically correct utterance is, as already

mentioned, not necessarily appropriate. Thus discursal knowledge, in addition to grammatical and lexical knowledge, is significant.

Discursal knowledge takes into account what has already been mentioned. Consequently, context and discourse should be included in the teaching of grammar. Grammar should be taught “through context-embedded discourse rather than through abstract, context-free sentences” (Celce-Murcia, 2002, p. 122).

Within the communicative paradigm and a discourse-based view, the communicative use of grammar, i.e. the ability to understand and use grammar in communicative contexts, is of utmost importance. Pragmatics and discourse play an important role here, and should perhaps have an even greater place in the teaching of grammar than it traditionally has had.

6.4. Grammatical Competence and Grammatical Performance

Grammatical competence is the speakers’ knowledge of the forms and meanings that exist in grammar, and a theoretical knowledge of how to use them. This type of knowledge is reflected in the grammar rules. *Grammatical performance*, on the other hand, is the ability to use grammar correctly and appropriately. The latter is the ultimate goal of language teaching (Newby, 1998). Tasks that are sentence-based typically develop the grammatical competence, whereas performance tasks are typically more communicative in nature.

To view grammar as a skill is relatively new. Larsen-Freeman coined the term *grammaring*, which is similar to the concept of grammatical performance, in the early 1990s. By drawing attention to the skill dimension of grammar, she challenges the way in which grammar has traditionally been viewed. Grammar is not about syntax (form) alone. Semantics (meaning) and pragmatics (use) are equally important in order to speak English well. Grammaring is “the ability to use grammar structures accurately,

meaningfully, and appropriately” (Larsen-Freeman, 2003, p. 143). To help the learners develop this ability, grammar must be regarded not only as knowledge, be it knowledge about the language or knowledge about how to use the language, but as a skill, which will consequently impact the way grammar is taught.

6.5. Deductive and Inductive Teaching

The terms *deductive* and *inductive* are relevant in relation to how grammar is presented and acquired. With a deductive approach, a rule is first given (by a teacher or a textbook) and studied. Further, this explicit knowledge serves as a basis for controlled practice to consolidate and internalize the rule. With an inductive approach, a grammatical phenomenon is studied (e.g. in a text). This may be followed by a task that helps the learners to form generalizations about the language. Deductive teaching of grammar is at the core of much traditional grammar, whereas inductive grammar teaching is found in more recent approaches, as well as in the traditional direct method (Newby, 1998; Simensen, 1998).

6.6. The Task

A task is an activity which required learners to arrive at an outcome from given information through some process of thought and which allowed teachers to control and regulate that process was regarded as a task (Prabhu, 1987 :24)

In an other definition, a task is:

An activity or action which is carried out as the result of processing or understanding language (i.e. as a response). For example, drawing a map while listening to a tape, listening to an instruction and performing a command may be referred to as tasks. Tasks may or may not involve the production of language. A task usually requires the teacher to specify what will be regarded as successful completion of the task. The use of a variety of different kinds of tasks in language

teaching is said to make language teaching more communicative . . . since it provides a purpose for a classroom activity which goes beyond the practice of language for its own sake. (Richards, et al. 1986, p. 289)

In this definition, we can see that the authors take a pedagogical perspective. Tasks are defined in terms of what the learners will do in class rather than in the world outside the classroom. They also emphasize the importance of having a non-linguistic outcome.

Breen (1987) offers another definition of a pedagogical task as:

. . . any structured language learning endeavour which has a particular objective, appropriate content, a specified working procedure, and a range of outcomes for those who undertake the task. ‘Task’ is therefore assumed to refer to a range of workplans which have the overall purposes of facilitating language learning – from the simple and brief exercise type, to more complex and lengthy activities such as group problem-solving or simulations and decision-making. (p. 23)

This definition implies that anything the learner does in the classroom qualifies as a task. More circumscribed is the following from Willis (1996), cited in Willis and Willis (2001), a classroom undertaking “. . . where the target language is used by the learner for a communicative purpose (goal) in order to achieve an outcome’ (p. 173). Here the notion of meaning is subsumed in ‘outcome’. Language in a communicative task is seen as bringing about an outcome through the exchange of meanings.

Ellis (2003) defines a pedagogical task in the following way:

A task is a work plan that requires learners to process language pragmatically in order to achieve an outcome that can be evaluated in terms of whether the correct or appropriate propositional content has been conveyed. To this end, it requires them to give primary attention to meaning and to make use of their own linguistic

resources, although the design of the task may predispose them to choose particular forms. A task is intended to result in language use that bears a resemblance, direct or indirect, to the way language is used in the real world. Like other language activities, a task can engage productive or receptive, and oral or written skills and also various cognitive processes. (p.16)

David Nunan (2004) defined a pedagogical task:

As a piece of classroom work that involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is focused on mobilizing their grammatical knowledge in order to express meaning, and in which the intention is to convey meaning rather than to manipulate form. The task should also have a sense of completeness, being able to stand alone as a communicative act in its own right with a beginning, a middle and an end.

While these definitions vary somewhat, they all emphasize the fact that pedagogical tasks involve communicative language use in which the user's attention is focused on meaning rather than grammatical form. According to Nunan (2004), this does not mean that form is not important. But in his own definition he refers to the deployment of grammatical knowledge to express meaning, highlighting the fact that meaning and form are highly interrelated, and that grammar exists to enable the language user to express different communicative meanings. However, as Willis and Willis (2001) point out, tasks differ from grammatical exercises in that learners are free to use a range of language structures to achieve task outcomes – the forms are not specified in advance.

7. Communicative language Teaching (CLT) and Grammar

One of the cornerstones of CLT is the interpretation of *competence*. The origins of the concept of *competence* go back to Chomsky's understanding of it as the knowledge of "an ideal speaker-listener, in a completely homogeneous speech community" (1965, p. 3). Competence, the primary concern of linguistic theory, is said to underlie performance. Hymes (1972) wished to broaden the concept of *competence* beyond grammar as a reaction against Chomsky's interpretation. Besides including knowledge of the formal linguistic system, Hymes wanted to account for the possibility of our use of the language in social interaction. Thus, Hymes' *communicative competence* includes four components:

- 1) The formal possibility of an utterance;
- 2) Its feasibility;
- 3) Its appropriacy in relation to a context;
- 4) Its probability of use;

Two of these four components – appropriacy and probability – have had tremendous influence on communicative foreign language teaching. What is taught by teachers is not formally driven, but determined by the use or the context. As a result, grammar became neglected. This was due to the reaction against an earlier over-emphasis on grammar. Soon, however, it was acknowledged that the tendency to overemphasize appropriateness and probability happens at the expense of the other sectors, including *grammatical competence*. It meant that Hymes' *communicative competence* implied *grammatical competence*. Its effect was the realization that form-oriented activities need to precede message-oriented activities if effective communication is to take place (Hawkins, 1981; Littlewood, 1981).

The integration of grammar teaching into communicative language teaching seems to be a need to fill the gap left by the first attempts to apply communicative language teaching. While the strong version of the communicative movement pays no attention to grammar learning in the classroom, the weak version attempts to integrate a communicative component into a traditional setting (Allright, 1977). CLT does not mean a rejection of grammar, but the adaptation of a different approach to the teaching of grammar. Brown adds that “reason, balance, and the experience of teachers in recent CLT tradition tell us that judicious attention to grammatical form in the adult classroom is not only helpful, if appropriate techniques are used, be essential to a speedy learning process” (Brown, 1994b, p. 349).

In sum, communicative language teaching has its theoretical roots in sociolinguistics and in the models of language use. The integration of grammar teaching into the communicative syllabus needs to be addressed as part of communicative competence, however, the reinstatement of grammar should not lead back to an emphasis on formal considerations. In addition, psycholinguistics needs to be involved for evidence of how learners learn looking for ways of relating these insights to pedagogical practice.

Another influence on the communicative approach came from Searle’s *Speech Act Theory*. His distinction between “just uttering sounds or making marks and performing an illocutionary act” (Searle, 1969, p. 42) cannot be realized in many activities in language teaching, since these are still ultimately concerned with language as a code, rather than language as communication. Many activities under the umbrella term “communicative” still fall outside Searle’s definition of serious and genuine communication since they include a number of things which are not normally part of the way language is used in the world outside the language classroom.

8. The Cognitive Dimension in SLA and Grammar

Cognitive science is a relatively new field emerging in the mid-1950s with the work of cognitive psychologists, linguists such as Chomsky (1957), and the establishment of artificial intelligence as a research area. It is cross-disciplinary, with contributions from psychology, philosophy, psycholinguistics, neuroscience, artificial intelligence, and cognitive anthropology, but the shared focus of research is the working of mind (Fotos, 1993). In a definition by Ellis (1999), he states that the study of cognition in language learning deals with “mental representations and information processing” (p.22) and seeks to develop “functional and neurobiological descriptions of the learning processes which, through exposure to representative experience, result in change, development and the emergence of knowledge”. According to this definition, both first and second language learning are seen to use the same general information-processing mechanisms that are responsible for all forms of knowledge and skills development.

Human language use depends on a creative faculty that is being able to use the stored rules and patterns (Rubin, 1987). Therefore, knowing how grammar rules can be stored, used and checked is of crucial importance for learning a second language. Although there are different ways of explaining how second language acquisition takes place, SLA researchers base their theories on cognitive psychology. The following sections investigate the role of cognitive theories, their effect on second and foreign language acquisition, and grammar teaching in particular, where a cognitive model of grammar is proposed.

8.1. The Relationship between Language and Thought

The nature of the relationship between language and thought has been debated for the past two thousand years. Theories of grammar instruction must therefore be

informed by this debate. Currently there are four main views of the relationship between language and thought:

8.1.1. Linguistic Determinism. It is represented according to Carroll (1956) by Sapir-whorf hypothesis which suggests that both thought and language are determined by culture. This stance refers to the idea that people's thought processes are culturally determined by the features of the language they speak. For example, culturally determined phenomena such as the time of events or the color or shape of objects might become especially important for grammar learning in a given language. For Carroll (1956), Sapir-whorf hypothesis, had a strong version, that language determines thought, but it was unsupported and a weak version which had significant implications for intercultural communication. That is if a concept exists in one language but cannot be expressed easily in another, this difference may have an impact on cognitive style and the ease of cross-cultural communication involving communication.

8.1.2. Cognitionism. This view was held by the child psychologist Piaget (1967) who suggested that cognitive development in the infant occurs in clearly defined stages and precedes language. That is infants are claimed, according to Piaget, to possess certain cognitive prerequisites such as an understanding that objects have permanent existence. But this view was not supported by research and is not currently a central focus of investigation (Fotos, 1993).

8.1.3. Rationalism. This approach was represented by the work of Chomsky (1957), and more recently by Pinker (1994) who argued that language is an innate, human specific ability which is not dependent on other cognitive processes. Children, for Chomsky, are genetically equipped to acquire language in infancy. Thus some type of language template must already exist in the mind – an autonomous module of “universal grammar”, awaiting minimum input for activation and “setting” according to

the rules of the specific language. Language is considered to be syntax and morphology which are the grammatical rules that determine how morphemes are combined into grammatical units to produce meaning. Although the existence of the innate principles received empirical support, it has also been suggested that social interaction is another dimension that should be considered, this will be explained below.

8.1.4. Interactionism. It derives from Vygotsky view (1934, 1962), who held that language and thought are initially separate but become interdependent during acts of communication since meaning is created through interaction. In Empirical research led by Donato (1994), “communities of practice” were recommended because according to him, this term is defined as “ a social area in which learning is constructed as gradually increasing participation in the values, beliefs and behaviors takes place”. In the same perspective, Ochs and Schieffelin (1995) extended the social interaction theory by recommending a language socialization approach to grammar acquisition, where sociocultural contexts, rather than innate structure or grammatical frequency, are suggested to guide grammar development rather than innate structure.

An additional contribution in this area was the Cognitive-Functional Linguistics which emerged as a cross-discipline field represented by the work of Tomasello (1998) and others who viewed grammar as a functional response to communicative needs shaped by the social contexts in which these needs arise.

The relationship between language and thought is quite complex according to the first four positions where language capacity appears to be innate, but its development is mediated by prior cognitive development, social interaction, and culture-specific concepts expressed through structures and vocabulary. Whereas the immature brain appears to be “wired” for unconscious and rapid language acquisition, hence the cognitive functions of attention and effort became increasingly necessary for older

children and adults to learn a second language, just as learning any other skill. Within the cognitive perspectives, language learning was treated inside the context of general skills development, “not as an autonomous ‘mental organ’ but rather....As a complex mosaic of cognitive and social communicative activities closely integrated with the rest of human psychology” (Tomasello, 1998).

9. A Cognitive Approach to Grammar Communicative Teaching

Researchers now agree that it is essential to integrate some form of grammar instruction within a communicative framework if students are to attain high levels of target language accuracy, particularly in the EFL context, where opportunities to encounter communicative use of the target language are rare. As an alternative to delivery of a formal grammar lesson, task work has been recommended to supply students with communicative use of target grammar point, as well as to promote interaction, production, and opportunities for corrective feedback (Skehan 1998a). The use of purely communicative tasks which nonetheless require comprehension and production of target grammar points has been recommended (Loschy and Bley-Vroman 1993).

In addition, grammar problem-solving tasks in which students discuss the structure as task content, and the language they produce during task performance. It is suggested that this "metatalk" helps them develop awareness of the relationship of form to meaning (Swain 1985). It should also be acknowledged that such structure-based interactive tasks, with their obvious grammatical content, provide an acceptably serious type of communicative activity within the framework of a traditional approach to grammar instruction.

Conclusion

In this chapter we tried to briefly review the historical context of grammar teaching and interpret the development of grammar teaching and learning from the perspective of applied linguistics, second language acquisition theories, and cognitive processes.

Owing to contributions from SLA research, we can appreciate the fact, that the acquisition of grammar is not likely to be accounted for by one type of learning process. Regardless of which type of process is responsible for learning, it is clear, that some attention to form must be given to grammar by second language learners. However, it is also clear, that the attention to form should not come in the shape of decontextualized drills or isolated grammar exercises. For new forms to be incorporated into learners' interlanguage system, it is assumed, that learners must first notice what it is they are to learn. Then, even when they are able to produce grammatical structures accurately, learners still need to learn what they mean and when they are used. In sum, what needs to be learnt about grammar can be characterized by the three interconnected dimensions: form, meaning, and use.

CHAPTER

6

The Investigation Part

Chapter VI: The Investigation Part

Introduction

This chapter has a practical tendency; it entails the implementation of three research methods: the experimental method, the interaction analysis method, and the introspective one. It provides the description of the participants' criteria and selection; and sets the objectives of the three methods. In addition, it explains the basic principles applied in their implementation according to the hypotheses of the research; and provides the hypotheses tests' results, and the gains produced by the participants. Moreover, it gives answers to the major research questions raised to cover the social and the cognitive dimensions of the group work impact. By the end, a general conclusion is afforded to be followed by the limitations of the work, and some of the proposed implications and further research suggestions.

1. Methodology Design

In the present study, we do not aim only to detect the effect of the learners' interaction on grammar development as has been discussed in many previous research studies, but to go further by extending the research scope into the social and cognitive dimensions through analysing the learners' interactive contexts by exploring the different speech functions that might account for this effectiveness, and by investigating the effect of that interactive context on the involvement extent of some of the cognitive processes underlying grammar learning. In this research, we purposed to immerse learners within a context where they engage in communicating about task-based activities that trigger them to negotiate form and meaning using different communication strategies and different speech functions to solve the problem at hand.

The whole research is based on three scientific research methods: 1) The Experimental Method through which the cooperative small group interaction effect is investigated empirically using one independent variable that is learners' cooperative interaction, and one dependent variable that is the learners' grammatical accuracy development. 2) The Interaction Analysis Method which studies the social organization of "conversation", or "Talk-in-interaction" by a detailed inspection of tape recordings and transcriptions made from such recordings (Paul, 2004). Its central goal is the description and explication of the competencies that ordinary speakers use and rely on in participating in intelligible, socially organized interaction (Heritage & Atkinson, 1984). 3) The introspective method which is a way of eliciting self-reflections from respondents to obtain information about unobservable mental processes such as thoughts, feelings, and motives (Z. Dornyei, 2007). The whole research procedures are described, explained and detailed in the coming sections.

2. The Experimental Method

2.1. The Participants

The current empirical study was assigned to the population of first year students in the Department of language and English Literature at Mohamed Boudiaf, M'sila University. In selecting the required sample we applied the stratified random sampling through which the study population was firstly stratified into three strata according to the learners' achievement: high-proficiency level, the intermediate-proficiency level, and the low-proficiency level. In realizing this we referred to learners' achievement records. From each stratum ten (10) students were selected randomly. By the end we got a sample of (30) members which represented (10%) of the whole population. Then we formed two groups: the experimental group, and the control group containing (15) members each, where the three level-based strata were represented by (5) members in each group. The sampling procedure is illustrated in the figure below:

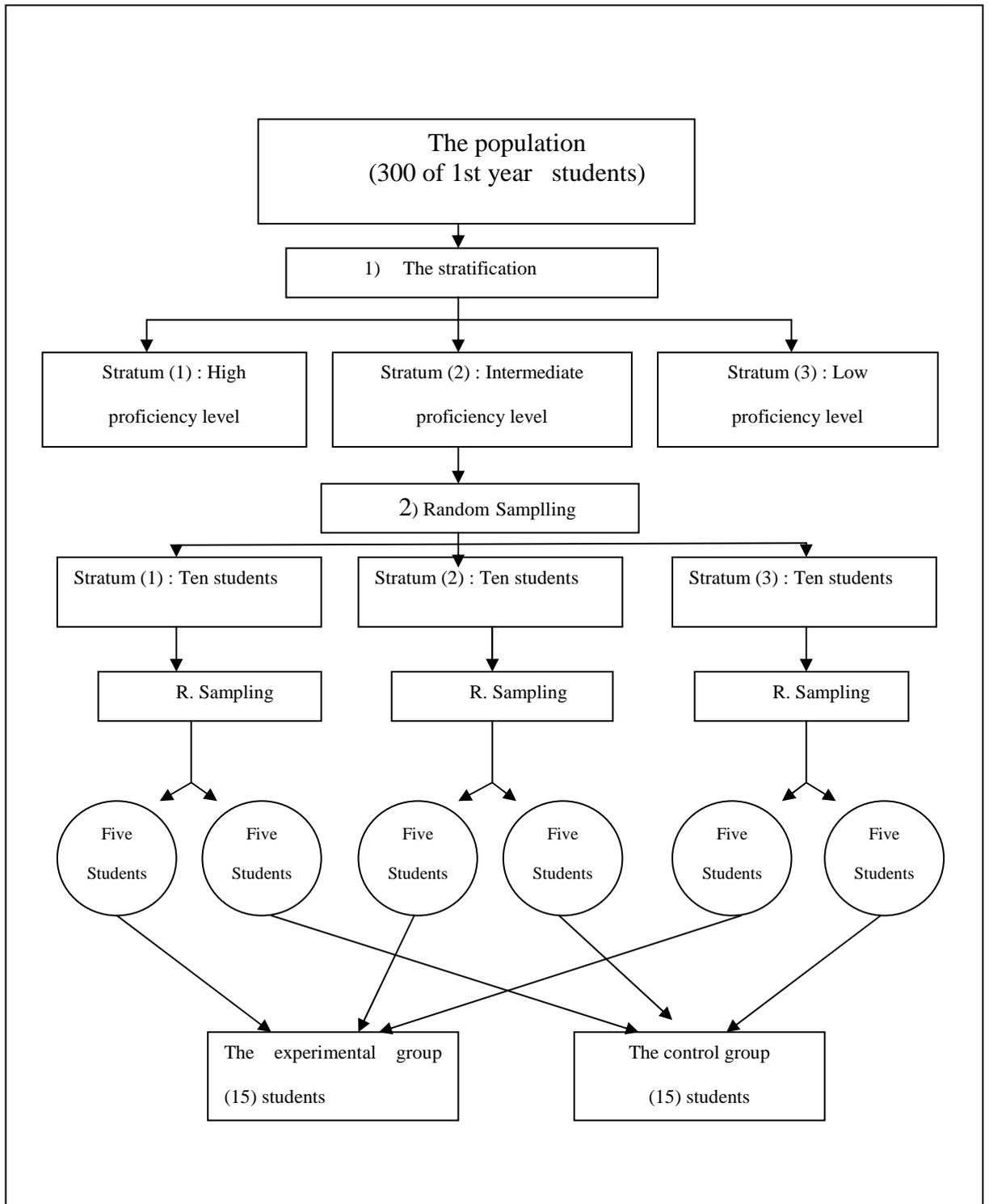


Figure 18. The sampling procedure

2.2. Design and Procedure

The empirical work took place during the first semester. It lasted ten (10) weeks. The tests were carried out weekly. The teacher (researcher) was supposed to teach the

grammar patterns in whole class ordinarily where both groups: the experimental and the control group members were subjected to the same circumstances. Then, they participated in the experimental work. The conduction of the experiments necessitated working in extra sessions, which was a difficult issue being frustrated by administrative constraints, and by the participants as well who were not all the time motivated to attend the unofficially scheduled sessions.

During the experiments, the Grammar Dictation Approach proposed by Wajnryb (1986) was implemented. This approach is based on the idea of approaching grammar within context where language forms, structures, and patterns are treated from the perspective of their particular contextual meaning rather than as instances of rules where usage is devoid of a semantic base. According to Wajnryb, this approach gives students a more precise understanding of English grammar and consequently leads to higher accuracy in language use. Compared to other more traditional approaches to teaching grammar the value of Grammar Dictation approach is in its interactive basis to language learning. Additionally, it promotes both the negotiation of meaning and the negotiation of form. It is a co-operative endeavour which forces learners to stay actively engaged in the learning process (1990). The procedure of each experiment consisted of four stages:

2.2.1. The Preparation Stage. At this stage, the teacher has to follow three steps: first, he prepares the learners for the text they will be hearing by exploring the warm-up suggestions in each lesson. Second, he prepares the learners for the vocabulary of the text. This vocabulary should be pre-taught if the teacher suspects that it is unknown to the learners or difficult for them to infer. Third, the teacher should ensure that the learners know what they are expected to do at each stage of the procedure. Fourth, the teacher should organize the learners into groups before the dictation begins.

2.2.2. The Dictation Stage. In this stage the teacher should read the short text where each sentence contains the target grammatical structure. The text should be read three times at a slower pace than the teacher's natural speaking rate. The learners belonging to both groups are asked to take notes independently using their note-taking sheets.

2.2.3. The Reconstruction Stage. As soon as the dictation is finished, the experimental group members should interactively proceed to pool their notes and share them for five minutes to discuss the use of the introduced grammatical structure. However, the control group members should study their notes individually for five minutes being allowed to consult dictionaries and textbooks to supplement their notes. The learners are advised to pay special attention to the production of the target grammar forms. After the completion of the reconstruction phase the text reconstruction sheets should be collected for the analysis.

2.2.4. The Analysis and Correction Stage. After the scoring of the learners' reconstructed texts, a collective correction is set by the teacher with the members of both groups.

As far as the scoring of the reconstructed texts is concerned, the scale of scoring ranged from 0 to 10 where the respondent was awarded one point for each accurate grammatical use of the target structure. In some cases, an accurately produced sentence was worth two points if it involved two grammar forms. The mean scores of the participants' achievements from both groups were calculated at the level of each test.

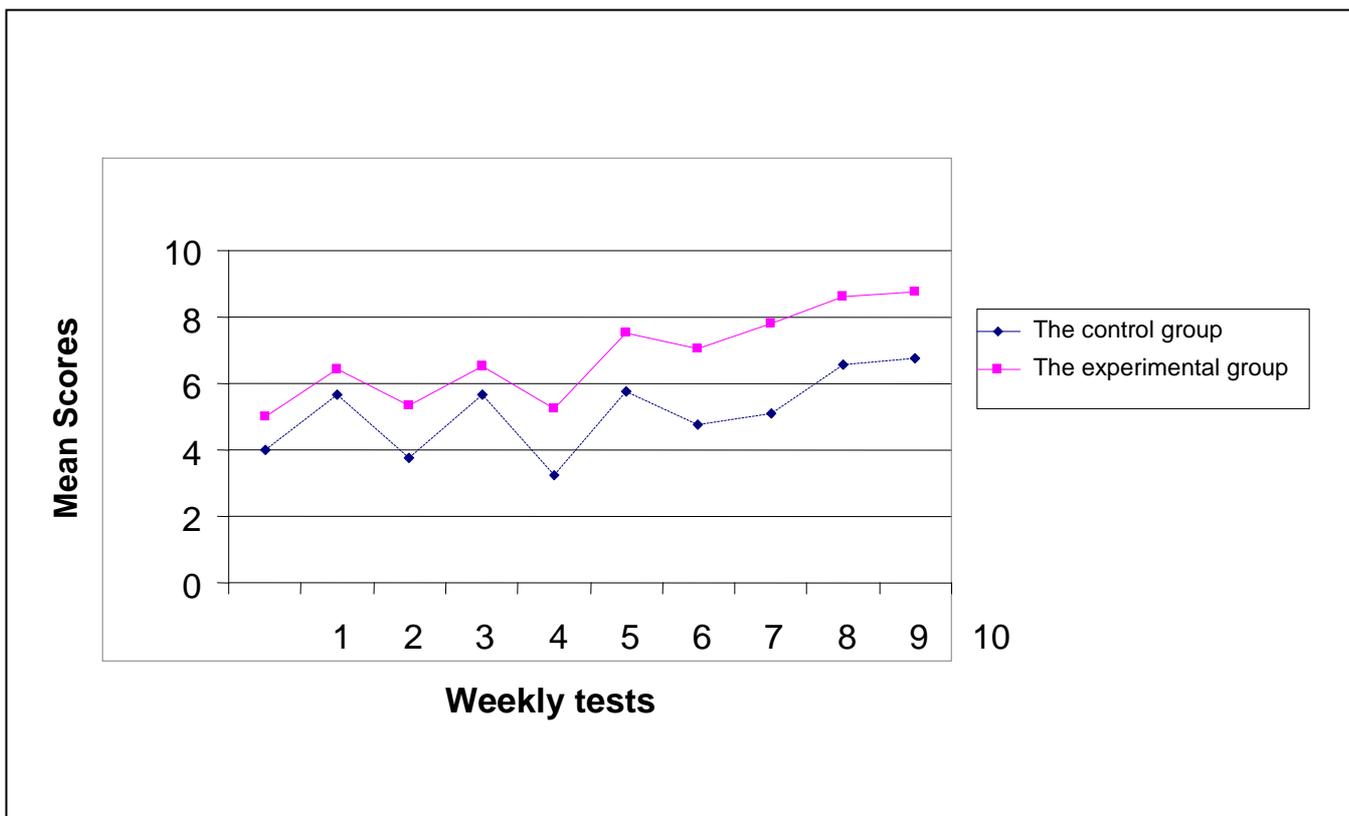
2.3. Results.

The whole developmental stages of both groups' achievement during the whole empirical work are plotted in table (13) and illustrated in graph (01) below.

Table 13.

The Results Obtained by the Experimental and the Control Groups During the Whole Empirical Work.

The weekly tests	The introduced grammatical structure	Groups' achievements	
		The experimental group mean score	The control group mean score
The first test	The simple present tense	0.5	0.4
The second test	The auxiliary to be in the simple past tense	6.44	5.66
The third test	The simple past tense: regular and irregular verbs	5.32	3.77
The fourth test	The simple past tense: the negative and the interrogative forms	6.53	5.66
The fifth test	The comparative forms of short and long adjectives	5.23	3.20
The sixth test	The future tense: 1- The affirmative form. 2- The negative form. 3- The interrogative form.	7.51	5.75
The seventh test	Must & Must not	7.06	4.75
The eighth test.	The superlative forms of short and long adjectives.	7.82	5.10
The ninth test.	The simple past tense using the adverb ago.	8.60	5.56
The tenth test.	The passive voice.	8.75	6.77



Graph 1. The developmental stages of the whole empirical work

From graph (01), it can be clearly seen that the experimental group achievement outweighed the one of the control group. However, the simultaneity between the two groups' outcomes in terms of ups and downs is obvious. Accordingly, the above recapitulating graph can be divided into two phases. The first phase lasted seven weeks where the instability of both groups' achievements was clearly obvious; the second one lasted the last three weeks where both groups' performances showed an increase. The detailed statistical description of both groups' results is stated in the following:

Test (01): in the first test we dealt with the simple present tense. The experimental group mean score reached (05) out of ten outweighing by that the control group whose mean score was (04).

Test (02): in the second test where the target grammatical structure was the use of

the auxiliary 'To Be' in the simple past tense, figure (01) indicates the development of both groups' achievements. (6.44) was the mean score obtained by the experimental group, and (5.66) was the one reached by the control group.

Test (03): figure (01) reveals a noticeable regression attained by both groups whose target grammatical structure was about the simple past tense: the regular and the irregular verbs. The control group got (3.77) unlike the experimental group who got (5.32).

Test (04): the results obtained in this test shows the significant development achieved by both groups where the experimental mean score shifted to (6.53), whereas the control group progressed by reaching (5.66). They tackled the simple past tense: the negative and the interrogative forms.

Test (05): a careful observation of the above figure shows a surprising decrease of both groups who dealt with the comparative forms of short and long adjectives. The result achieved in this test can be regarded as a turning point for the whole developmental procedure because both groups got their lowest mean scores. (5.23) was the one of the experimental group, and (3.20) was the one of the control group.

Test (06): a significant development of both groups is obvious. (7.51) was the mean score attained by the experimental group, (5.75) was the one achieved by the control group. The grammatical structure was the future tense.

Test (07): in the seventh test a significant difference between the two groups' results was noticed where (4.75) was the mean score reached by the control group. The experimental group, in contrast, although its mean score lowered to reach (7.06) but this decrease was not significant compared to its previous achievement.

Tests (08), (09) & (10): the results obtained in the last three tests show the

remarkable development of both groups. In the eighth test the target grammatical structure was the superlative forms of short and long adjectives. (7.82) was the experimental group mean score, (5.10) was the one of the control group. In the ninth test, (8.60) and (6.56) were the experimental and the control group results respectively. The grammatical structure was the simple past tense using the adverb ago. In the tenth test, (8.75) was the highest mean score reached by the experimental group. (6.77) was the one reached by the control group. They dealt with the passive form.

2.4. Discussion.

The shift from teacher-centred classroom to learner-centred ones has induced learners to become more responsible for their own learning and it leads learners to a kind of effort for becoming more autonomous (Rubin, 1987). Therefore, learners are no longer considered as sponges but they can rely on their own thinking and apply different roles and different mental strategies in order to tackle their learning problems.

The major finding of this study was that cooperative learning-based grammar instruction did affect positively the learners' development of structural knowledge, although many facts had been revealed through the analysis of the learners' outcomes.

The unsatisfactory results achieved by the learners during the first stages can be interpreted by their tendency to the individual work rather than to the collaborative one. On the other hand, it may be referred to the effect of some personality traits such as: introversion, shyness, and the lack of self-confidence. But through time, the learners' results started to advance since they got accustomed to the experimental procedure, and also to the interactive context they were involved in where a dynamic interaction was noticed. In this perspective, Gass and Varonis (1994) claimed that the absence of short term effects does not exclude the possibility of long term effects when the learner has had sufficient time to process and incorporate the feedback.

This phenomenon can be also explained, according to TUCKMAN's Small Group Development Theory (1977), by the fact of overriding the *forming stage* that was dominant during the first interactions where the group members were more concerned with setting their interpersonal relationships by learning about each other and the task at hand. In the following experimental tests, by contrast, they moved directly to the forthcoming stages such as *the storming* where the group members became more comfortable with each other and they engaged each other in arguments and vied for status in the group. And then to *the norming stage* in which the learners assigned their goal and they addressed the different types of communication that would or would not help in the task. In *the performing stage*, the group members reached a conclusion. The final is *adjourning* where the group members projected ends and disbanded (Borchers, 2010).

The type of the role played by the learner during the interaction proved its influential impact on the group performance. For instance, in one of the interactions the interpersonal relationships were characterized prominently by the emergence of conflicts among the interactor learners, which frustrated remarkably the ongoing of the group dynamics. In another one, some of the learners adopted roles such as the dominator role, the blocker role or the aggressor one. Such roles are considered by Borchers as group destructive ones.

As far as the introduced input is concerned, two possible explanations may be stated. The first one is related to the input susceptibility to interaction. In this paradigm, it is interesting to note that the learners performed better in dialogues than in the descriptive or narrative texts, and that was due to the existing approximation between the introduced dialogues and their real-life interactional setting. The second explanation

may be attributed to the extent of the complexity of the introduced grammatical structure.

In the interest of exploring the nature of the interaction by determining its features or characteristics, we found it necessary to adopt the Interaction Analysis method. The latter may be conceived as a specific analytic trajectory that may be used to reach a specific kind of systematic insight in the ways learners do interaction.

3. The Interaction Analysis Method (The Social Dimension)

This method was adopted to examine classroom language interaction in its entire context, and specifically the small group interactive context trying to describe naturally occurring events from the perspective of the participants.

3.1. The Participants

To scrutinize the link between the nature of the interaction and the size of the group involved in it. We formed from the experimental group (whose selection was explained above in the experimental method) three level and size-based groups successively: Firstly, a group of five learners, then we formed the second group which consisted of ten learners, and finally, the third one containing fifteen learners.

3.2. The Investigation Tool

In gathering the data, the three groups' interactions were recorded using the videotape, which is thought to be the most convenient tool to provide the researcher with the required detailed data that can't be obtained through direct observation.

3.3. Data Collection Procedure

The recording of the three size-based groups' interactions was conducted sequentially and consecutively. We started firstly with the group of five students, where the recording was restricted to the reconstruction phase in which the students were supposed to interact, discuss, negotiate and communicate about the target grammatical

structures' forms and uses. Then, we worked with the group of ten students. And finally we followed the same steps with the group of fifteen students. The duration of each small group interaction was five minutes.

3.4. Data Analysis Instruments

Despite the abundance of interaction analysis instruments, it was difficult to decide upon a system that is practical, not cumbersome and more convenient to the assigned objectives. Finally, one fairly simple system in this tradition was selected: Brown Interaction Analysis System (BIAS), which is a descriptive framework that aims to analyse classroom verbal interaction (Brown & Wragg, 1993). This system consists originally of seven categories of verbal behavior occurring between the teacher and his students. Its first three categories relate to the teacher talk and the next two categories specified for student talk. These categories can be summarized as following: *teachers' lecturing, teachers' questioning, and teachers' responding, pupils' responding, pupils' volunteering, silence, unclassifiable (X)*.

For the sake of making it more relevant to the small group interaction context, several adaptations, extensions and simplifications were proceeded on it to reach by the end the adapted BIAS where the basic descriptive categories were represented by nine speech functions: *questioning language use, repairing grammatical forms, asking for explanation, explaining, confirming, proposing, agreeing, disagreeing and silence*. The whole small group interaction had been transcribed by dividing it into transactions, exchanges and moves. The rates of frequency of each speech function at the level of each small group were calculated to be then presented in a histogram, analyzed and interpreted.

3.5. Data Coding and Quantification

For purposes of analysis each small conversation, during the reconstruction phase,

was transcribed through dividing it into transactions, exchanges and moves. A transaction is defined as one or more exchanges on the same topic, usually a clause or a phrase from the text at hand or about it. An exchange consists minimally of two moves, an initiation or opening and a response (Sinclair & Coulthard, 1975). After that, the (BIAS) was implemented where a time-line display sheet was used and marked every three seconds along the duration of the observation of learners' interaction. Once a whole small group interaction had been coded, percentages were calculated for each of the speech functions noted, to be then presented in a histogram, analysed and interpreted.

3.6. Results.

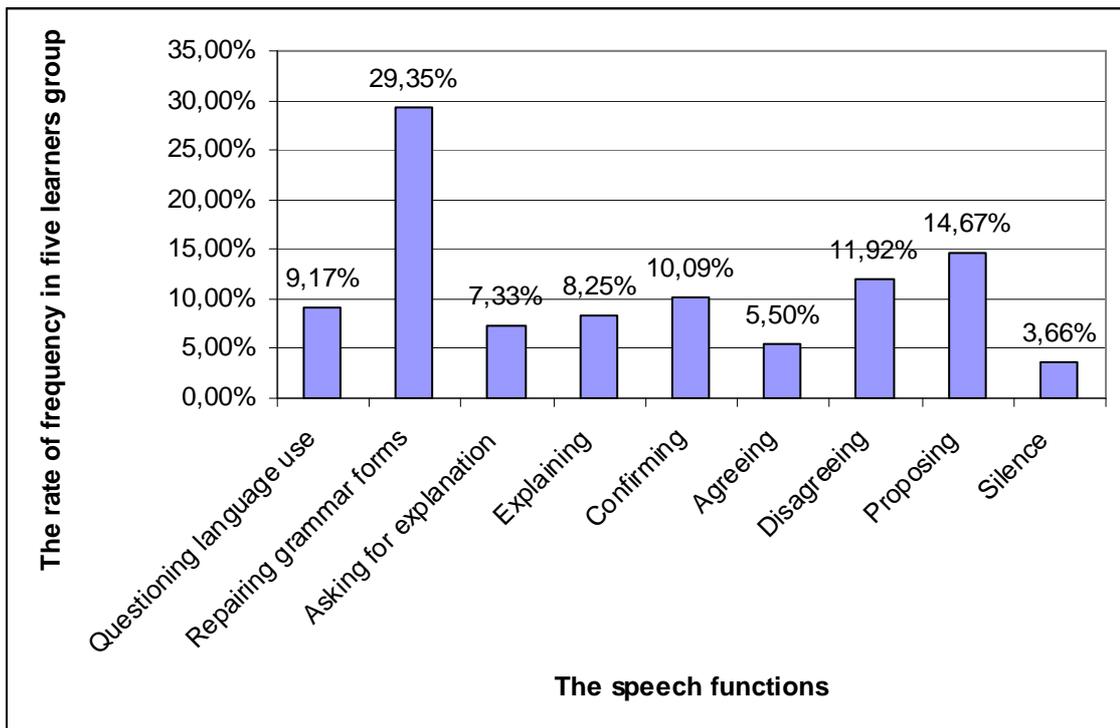
The descriptive statistics of the rates of frequency of the different speech functions existing in the interactions of the three groups are presented in the following:

3.6.1. Five Learners Group Interaction. Table (14) and graph (02) summarize the frequencies of the speech functions that existed in the interaction of five learners. They show that repairing grammar forms outweighs all the speech functions by getting (29.35%). (14.67%) was the frequency attained by the speech function of proposing. Asking for explanation, and explaining gained respectively (7.33%) and (8.25%). The speech function of questioning language use received (9.17%). Agreeing, disagreeing and confirming were also present in the interaction where they got respectively (5.50%), (11.92%) and (10.09%). Silence was represented by (3.66%).

Table 14.

The Frequency of the Speech Functions Found in the Tape of Five Learners Group Interaction.

The speech function	Questioning language use	Repairing grammar forms	Asking for explanation	Explaining	Confirming	Agreeing	Disagreeing	Proposing	Silence
The rate of frequency in ten learners	9.17%	29.35%	7.33%	8.25%	10.09%	5.50%	11.92%	14.67%	3.66%



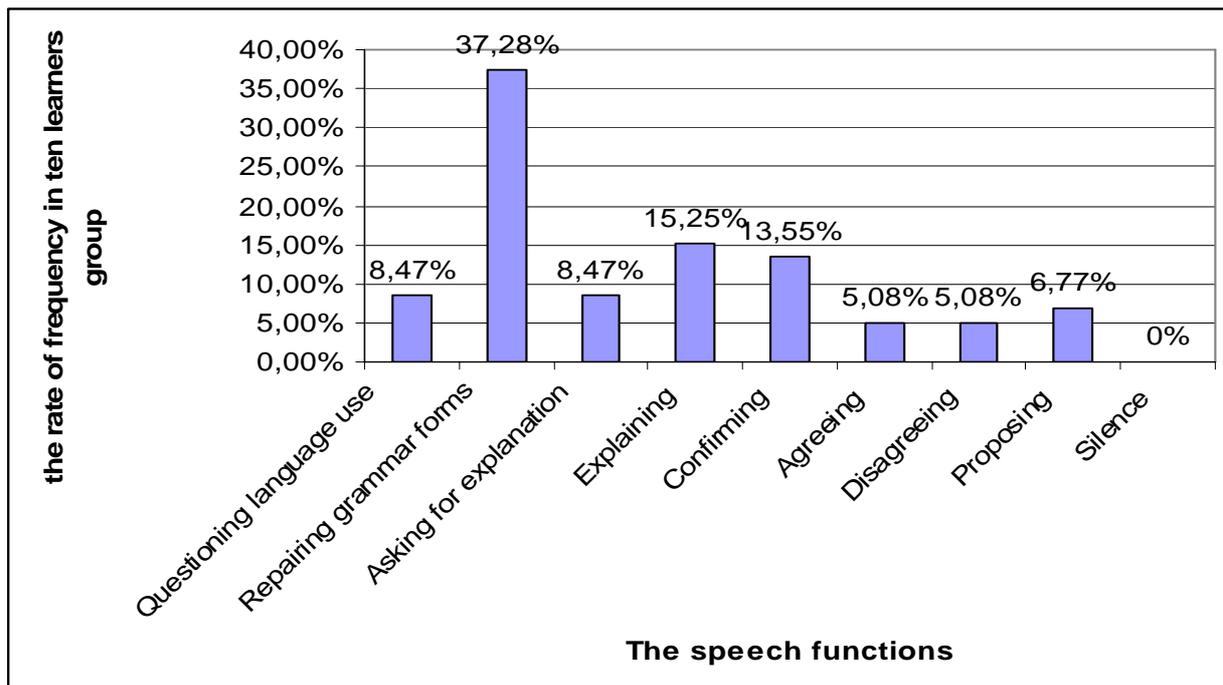
Graph 2. The frequency of the speech functions found in the tape of five learners group.

3.6.2. Ten learners' Group Interaction. From the illustrating table (15) and graph (03), repairing grammatical forms speech function gained the highest percentage (37.28%). Questioning language use and asking for explanation received the percentage (8.47%). Questioning language use and asking for explanation received the percentage (8.47%) which is low compared to that of the explaining speech function which reached (15.25%). The confirming speech function got (13.55%). (6.77%), (5.08%), and (5.08%) represented respectively the proposing, the agreeing, and the disagreeing. The silence speech function did not exist in this interaction.

Table 15.

The Frequency of the Speech Functions Found in the Tape of Ten Learners Group Interaction

The speech functions	Questioning language use	Repairing grammar forms	Asking for explanation	Explaining	Confirming	Agreeing	Disagreeing	Proposing	Silence
The rate of frequency in ten learners group	8.47%	37.28%	8.47%	15.25%	13.55%	5.08%	5.08%	6.77%	0%



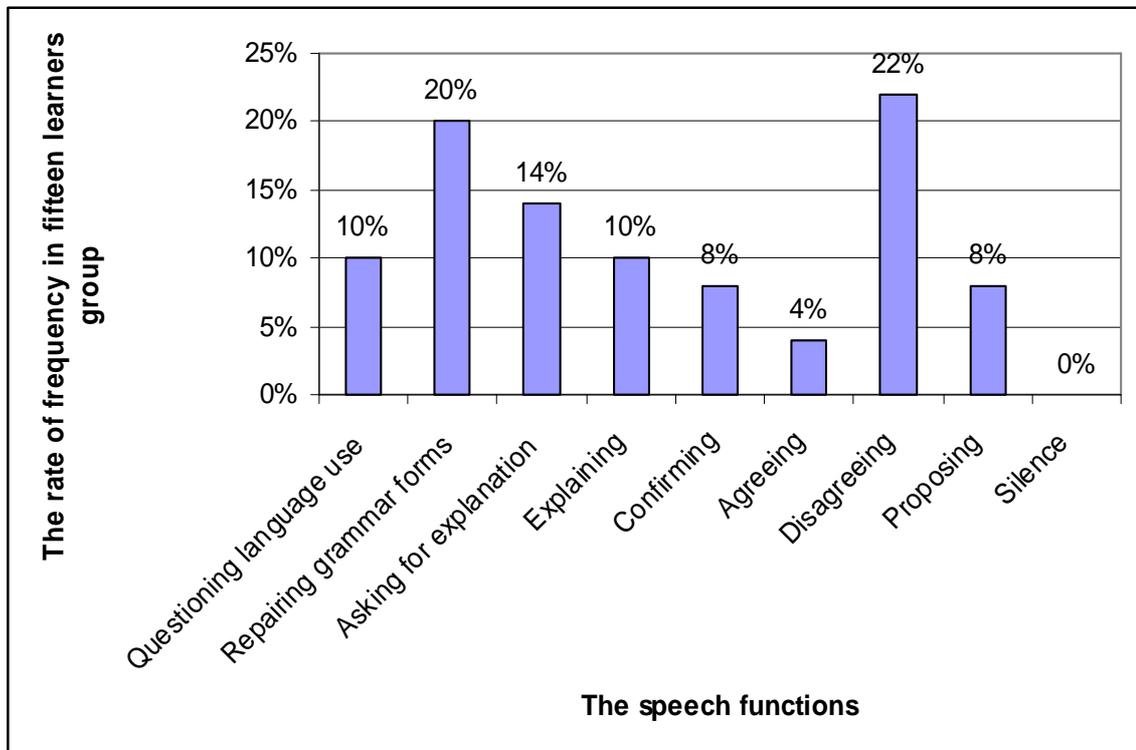
Graph 3. The frequency of the speech functions found in the tape of ten learners group

3.6.3. Fifteen Learners Group Interaction. The occurrence of the speech functions illustrated in table (16) and graph (04) indicates that repairing grammar forms gained (20%). Questioning language use received (10%). Asking for explanation and explaining got respectively (14%), and (10%). The disagreeing speech function received (22%) unlike the proposing speech function which got (4%). (8%) was the rate of occurrence gained by the proposing and the confirming speech functions. As far as the silence speech function is concerned, no sign of its existence.

Table 16.

The Frequency of the Speech Functions Found in the Tape of Fifteen Learners Group Interaction.

The speech functions	Questioning language use	Repairing grammar forms	Asking for explanation	Explaining	Confirming	Agreeing	Disagreeing	Proposing	Silence
The rate of frequency in ten learners group	10%	20%	14%	10%	8%	4%	22%	8%	0%



Graph 4. The frequency of the speech functions found in the tape of fifteen learners group.

3.7. Discussion

In the aim of detecting the effect of the group size on the nature of the interaction, a comparison was purposefully conducted between the three groups' interactions after analyzing each group's interaction qualitatively and quantitatively. In carrying out this comparison we based ourselves on a careful observation of the tapes to get a detailed picture about the dynamics of every small group; and also to interpret the differences existing between the rates of occurrence of each speech function in each group.

As a matter of fact, we found that the larger the group the fewer members have the chance to participate. Thus, it becomes more likely that reticent members fail to contribute though they might well enjoy the relative anonymity a large group affords them. On the other hand, we noticed that the smaller the group the greater the likelihood of close relationships, full participation, and consonance of aims. Moreover, we found that the smaller the group the more responsibility for the text at hand is born by each member of the group, and the more the group work is organized.

As far as the speech functions are concerned, the smaller the group the greater the possibility of questioning language use. Because it was apparent that factors like the learning anxiety, the anonymity, the fear of being laughed at, the reliance upon the other peers were likely to emerge in larger groups. The repairing of grammar forms got the lowest rate of frequency in the group of fifteen learners unlike in the other two groups, where its rates of occurrence were considerable. This fact indicates that the context where the group size ranges from five to ten learners provides the learners with the opportunity of noticing the gap in their knowledge by diagnosing their weaknesses and strengths. Moreover, it contributes to the raising of the learners' consciousness of the language patterns and structures.

The rates of frequency of asking for explanation and the explaining speech

functions were remarkably approximate in the smallest group unlike in the two other groups where the difference between the two speech functions' frequencies was considerable. Such fact confirms that the smaller the group, the more peaceful the group context is, and the greater coherence is between the two speech functions and the regularity in turn-taking distribution.

The proposing speech function was highly practiced by the group of five learners who found this context encouraging for proposing, persuading, arguing, and also for realizing greater responsibility for the group work.

In the perspective of agreement and disagreement, we noticed that the agreement speech function frequency rates were approximate in the three groups. The disagreement, by contrast, existed considerably in the largest group. This result indicates how much affective and peaceful the group context is when its structure is limited. In addition, it shows one important fact that is the kind of disagreement existing in each group. In this realm, it is worthy to mention that the disagreement may result in frequently and regularly conflicts among the interactors. Those conflicts are divided into two types: controversy and conflicts of interests (Johnson & Johnson, 1995). Both types are inevitable results of the committed participation of members of cooperative learning groups.

Controversy exists when group members tend to reach agreement but they have different information, perceptions, opinions, reasoning processes, theories, and conclusions. Conflicts of interests, on the other hand, occur when the actions of one person striving to achieve his goal interfere with and obstruct the actions of another person seeking the same thing (Johnson & Johnson, 1995). Controversies dominated noticeably in the smallest group, however; in the largest group conflicts of interests did. This fact shows that the emergence and the adoption of the aggressor role by the group

members are likely to destroy the group dynamics and the group achievement as well.

Concerning the confirming speech function, the obtained results show that it got the lowest rate of occurrence in the group of ten learners. This ensures the fact that the possibility of confirming and ascertaining answers is greater in the smallest group. Hence, personality traits such as self confidence, the spirit of responsibility, and motivation are likely to be enhanced.

Silence as a speech function did not exist neither in the group of ten learners nor in the one of fifteen learners, but it was practiced remarkably in the group of five learners. Pedagogically speaking, we can say that within a restricted group learners can be provided with a convenient context that can foster their concentration, their deep thinking, their rigor in decision making and consequently their group achievement.

Irrespective of the group size, it is worthwhile to mention that during the reconstruction phase the learners pooled their knowledge of grammar, lexis and discourse in the creation of their own versions. The fact that learners discussed linguistic problems and decisions contributed to activate the explicit linguistic knowledge and might even raise the implicit linguistic knowledge to consciousness. Learners were put in a position of having to voice their linguistic hypotheses. Being voiced, these hypotheses become clearer and more conscious to the learner.

The immersion of learners with disabilities in such small learning community was beneficial for the learner sitting over by the window, for the over-aggressive learner who seeks acceptance through negative behaviours, for the bright but stereotyped learner sitting in the front row, and also for the average learner in the centre of the classroom who needs very little help and is often neglected. Hence, all learners can be accepted and benefit from such interactive context where it is acceptable to be different.

We have also found in this research that the cooperation between the different types of learners on instructional tasks leads to empathy, altruism, and to the ability of viewing situations from a variety of perspectives.

Finally, the failure of some topics to occur appropriately in one group or in another indicates that it may be difficult to predict topics that will occur with absolute certainty. And that the linguistic topics to be discussed will of necessity depend on the interest and knowledge of the group members, on the group size, and possibly on the general level of the group as well as its interpersonal group dynamics.

4. The Introspective Method (The Cognitive Dimension)

Aiming at investigating the effect of the interactive group work on the learners' cognitive processes involvement; we went beyond the social dimension of the group work to reach the cognitive dimension through depicting the existing correlation between the extent of the cognitive processes' involvement and the learners' accurate grammar performance; and through using the learners as a source of information about their mental processes by vocalizing what is going through their minds when solving a problem or performing a task.

4.1. Participants

In order to realize the above mentioned purposes, we used the experimental group (the interactor group) which contained fifteen members, where the three level-based strata: the advanced-proficiency level, the intermediate-proficiency level, and the low-proficiency one, were represented by five members in each subgroup.

4.2. Data Gathering Tools

In gathering the required data we used as data gathering tools: grammar written tests, cognitive tests, and task-based self-reports. Each tool description and implementation will be detailed in the coming sections.

4.3. Data Collection Procedure

The respondents were subjected to two tests: firstly to a test of cognitive processes adapted and compiled, according to the assigned objective that is the abilities underlying grammar learning from psychometric tests devised by Philip J Carter (2005). And secondly, they were subjected to a grammatical test incorporating five sub-tests. Each test procedure will be detailed in the following.

4.3.1. Cognitive Tests. The tests of cognitive processes were compiled and adapted from psychometric tests devised by Philip J Carter (2005) according to the research assigned objective that is some of the abilities underlying grammar learning. These abilities comprised the following sections: working memory, classification (categorization), analogy, comprehension and associative thinking, attention to detail, analytical thinking (deductive thinking and logical reasoning), and creativity. These cognitive tests will be introduced below:

a) Working Memory Test. Working memory is "... the temporary storage and manipulation of information that is assumed to be necessary for a wide range of complex cognitive activities" (Baddeley, 2003, p.189). Miyake and Friedman (1998) suggested that L2 acquisition may have to rely to a greater extent than L1 acquisition on general learning mechanisms and principles, such as, for example, working memory capacity. Because working memory capacity is believed to be more required during L2 use and acquisition, an extra load is imposed on the system, affecting the speed and quality of acquisition. There is substantial evidence that working memory is associated with a myriad of L2 mechanisms, including processing (Miyake and Friedman, 1998; Vos, Gunter, Schriefers, and Friederici, 2001), lexical access (Kroll, Michael, Tokowicz, and Dufour, 2002), comprehension (Harrington and Sawyer, 1992; Walter, 2004), production (speaking: Payne and Ross, 2005; writing: Abu-Rabia, 2003).

In the present study, the learners' working memory test was divided into four sub-tests: 1) *word association test* which tests the learner's ability to remember pairs of words and form associations; 2) *verbal dexterity (anagrams)* test which consists of 20 sets of letters. From each set of letters a seven letter word can be produced. The test is designed to test the learner's power of memory and his verbal dexterity. To solve each anagram, he must first memorize each set of seven letters and then use these seven letters to produce a seven-letter English word. 3) *memorizing instructions test* in which the student was asked to read and memorize the given instructions for 3 minutes, then turn immediately to another page to pinpoint the figure reflecting the for mentioned instructions. 4) *memorizing an address test*. The final score of the working memory test was obtained by calculating the mean of the three sub- tests outcomes.

b) Classification (Categorization) Test. Classification or categorization is a cognitive ability underlying English grammar. This ability reflects the ways in which learners group things or situations into categories. It is also true of language, words or sentence structures (constructions) which share the same form have the same schematic or (core) meaning (Tomassello, 2000). In this test, the learner was given a list of twenty sets including five words each, and was required to choose which of the five words the odd one is out. One point was given to each correct answer.

c) Analogy Test. Analogy, in its most general sense, is this ability to think about relational patterns. As Douglas Hofstadter (1984) argues, analogy lies at the core of human cognition. It is a similitude of relations where it is necessary for the learner to reason the answer from a parallel case.

In this study, the analogy test contains twenty questions that take the form 'A is to B as C is to?' In each question, the learner was asked to identify two words (one from

each set of brackets) that form a connection (analogy) when paired with the words in capitals.

d) Logical Reasoning (Deductive and Analytical Thinking). The definition of 'logical' is analytical or deductive, and this definition can be applied to someone who is capable of reasoning, or using reason, in an orderly, cogent fashion. It is the ability to think logically, break things down and recognize cause and effect. It enables the learner to think through issues and to focus on priorities for action to create an achievable agenda for change. It supports problem-solving, judgment and decision-making (Carter, 2005). In the analytical thinking test, the learner was asked to answer ten questions of varying scope and difficulty. There is no specialized knowledge required in order to solve them, just an ability to think clearly and analytically and follow a common-sense reasoning process step by step through to its conclusion. Two points were devoted to each correct answer.

e) Attention to Detail. Attention is the ability a person has to concentrate on some things while ignoring others. Subsystems of attention include alertness (an overall readiness to deal with incoming stimuli), orientation (the direction of attentional resources to certain types of stimuli), detection (cognitive registration of a particular stimulus) and inhibition (deliberately ignoring some stimuli). In SLA theory, it has been proposed that nothing can be learned from input without it (Carter, 2005). In the attention to detail test, the learner was asked to study a figure for five minutes, and then move to a following page to answer eight questions about some of the details in the given figure. Each correct answer was awarded two points.

f) Comprehension and Associative Thinking. Comprehension is a cognitive ability that reflects the learner's verbal dexterity and his ability to adjust the

possible combinations between the sentence constituents semantically, and syntactically speaking. In this paradigm, the comprehension test was assigned to test the learner's verbal dexterity and comprehension ability, in which he was provided with three passages including 15 words removed and which have been listed at random below each passage, and he had to restore the 15 words correctly into each passage. The three passages correct answers were awarded twenty points divided among them.

g) Creativity. It is defined as the mental processes that lead to solutions, ideas, concepts, and theories that are unique or novel. And it entails: 1) *imagination* that refers to the process of recombining memories of past experiences and images into novel constructions. 2) *perception*, which is the conscious integration of sensory impressions of external objects and events, including how we perceive others and how others perceive us. 3) *memory* which is the mental evocation of past experiences (P. Carter, 2005).

The creativity test consists of 10 puzzles, all designed to exercise powers of learner's thinking and encourage creative thought in seeking out sometimes unexpected solutions. The learner was provided with a time limit of 90 minutes allowed for completing all 10 questions which were awarded two points each.

4.3.2. Written Tests of Grammar. The learners were subjected to five grammar tests which were assigned along with the content of the official curriculum which is divided into units where each unit is devoted to tackle one specific grammatical structure: the first test dealt with *the linking verbs*, where the respondents were supposed to put the provided verbs into their appropriate gap and correct their forms (twenty verb forms altogether). The second test covered the basic form of the passive voice. In the third test: *Was/Were + past participle + ing; and past simple+ being+ past participle* were the target structures. The fourth test was designed to tackle one of the

passive form- based structures: *The verb + to be + past participle*. The final one treated the use of tenses in reported speech. The procedure of the grammar tests went along three phases:

a) *The Written Pre-test*. Within this test, the learners were tested individually for the sake of detecting their individual grammatical achievement, and of exploring the different thinking abilities they adopted while working on the task at hand through expressing themselves freely in the task-based self reports they were provided with.

b) *The Cooperative Work (group work) Test*. In this phase, the learners were divided into proficiency-based small groups of five learners representing the advanced, intermediate, and the low proficiency level. They were provided with a task covering the target grammar structure, and asked to tackle it cooperatively to be evaluated collectively later on (group performance).

c) *The written post-test*. In this test, the learners were asked to rearrange themselves in a way that enabled them to work individually on a task covering the same target grammar structure. In this phase, they were also asked to manifest the different processes they used in the task-based self reports.

After all the results were collected and processed, a comparative analysis was raised between the learners' pre and post-tests outcomes; and between the task-based self reports contents before and after the cooperative work. Additionally, a *correlation analysis* was applied to determine the relationships between the grammatical aspects listed above and the seven selected cognitive processes before and after the cooperative work.

4.3.3. Task-based Self Reporting. In a task- based self-reporting, the learners were asked to are telling what they are doing in order to carry out the task temporally

and more directly linked to the processes used, as they are being used. Using this research technique, we are not observing or hearing the processes themselves but they are being reported contemporaneously such that we are surer that they were the processes that were actually being used. The learners were asked to carry out their reporting prior and after the cooperative work in order to shed light on the differences that might occur between the learners' performances as a result of the group work impact.

4.4. Results and Discussions.

All the obtained results are introduced, analyzed, and discussed in the coming sections.

4.4.1. Test (1): Linking Verbs. Descriptive statistics of the 15 learners' accurate use of the linking verbs before and after the cooperative work are shown in table (17). Statistical analyses for the written pre- test and the post - test were conducted separately. The mean score for the pre-test was (5.17); and for the post-test was (5.53). Both results were noticeably approximate.

Table 17.

Descriptive Statistics for the First Pre-test and Post-test Outcomes

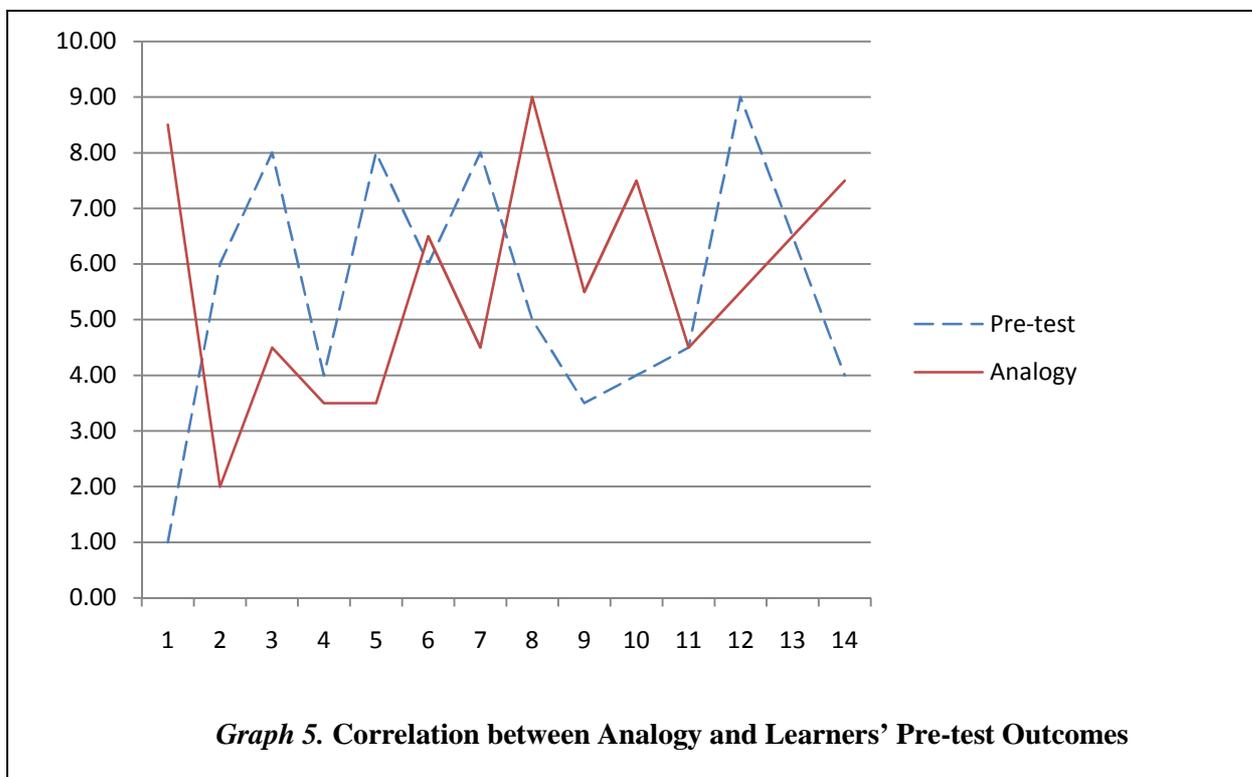
N	The Target Grammar Structure	Linking Verbs	
		M	SD
15	Pre-test	5,178	2,374
		5.535	2,231
15	Post-test		

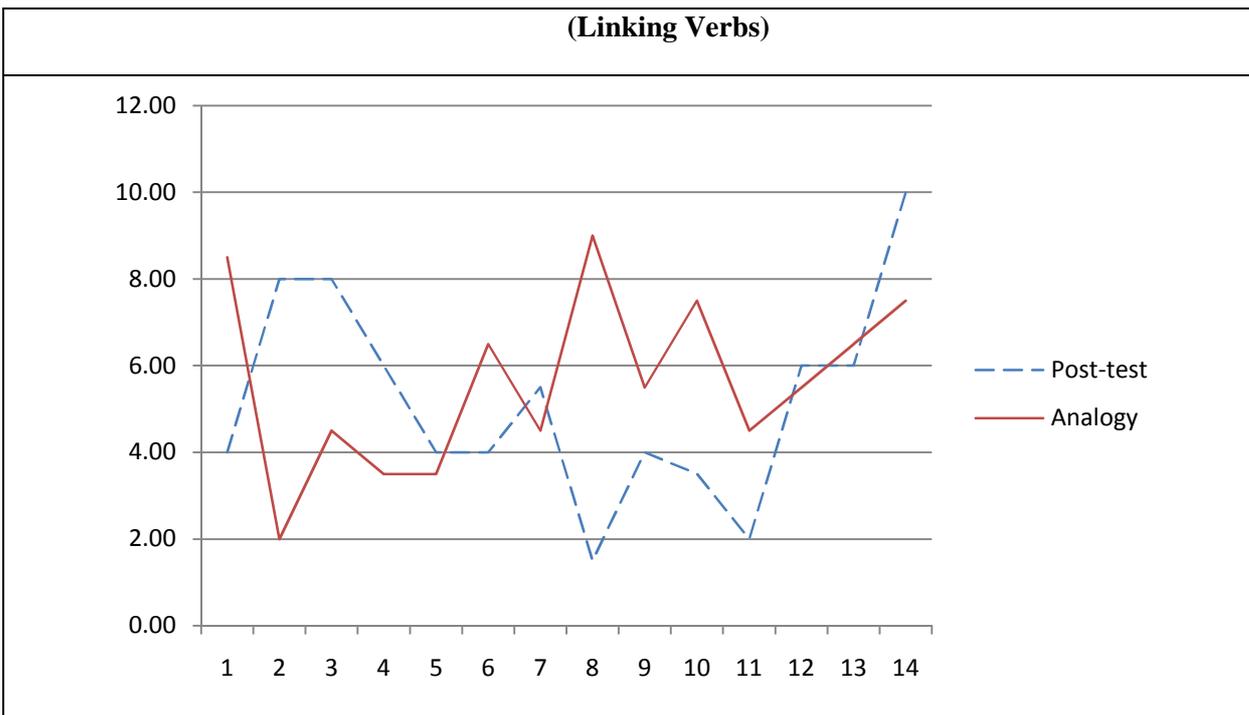
Table 18.

Recapitulating Table of the Correlation between the Learners' Grammar Performance and Some Selected Cognitive Processes (linking verbs)

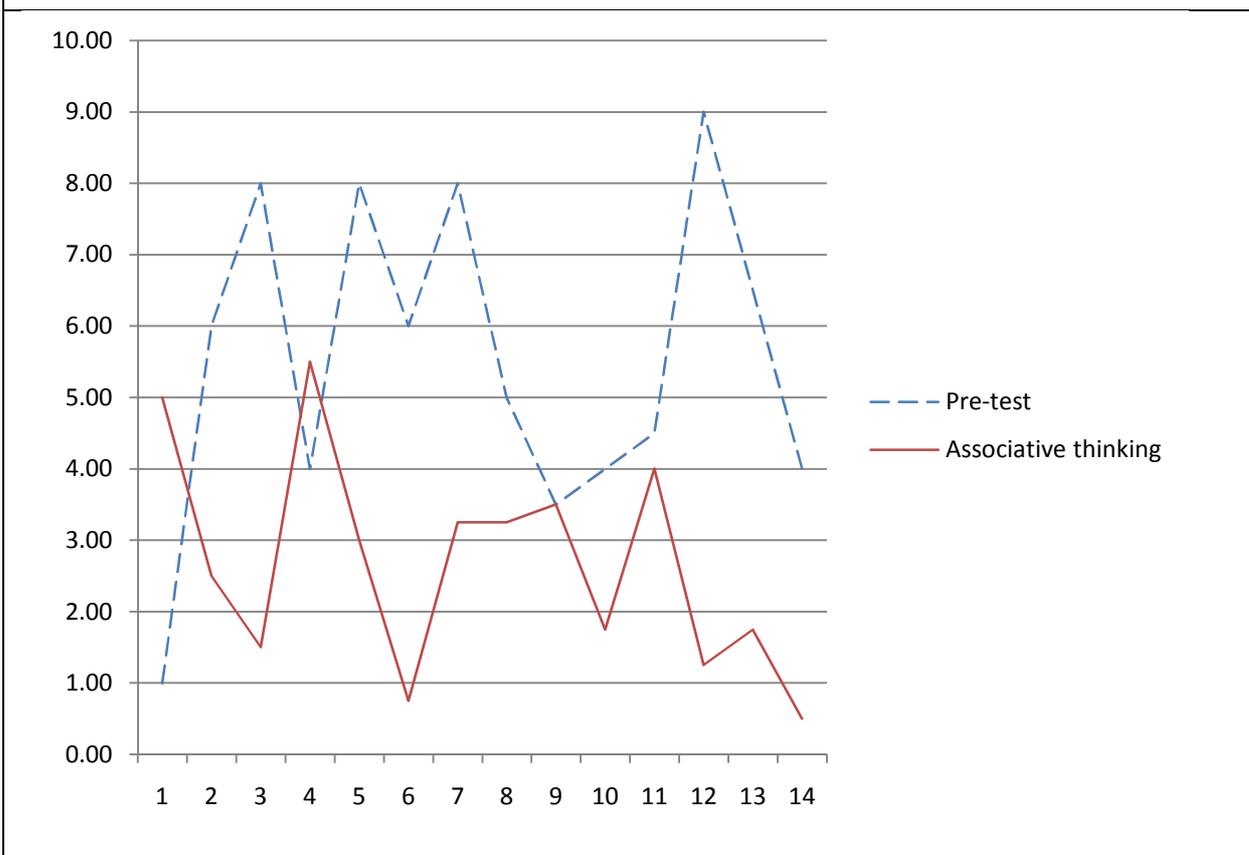
The Target Grammar Structure	The Cognitive Processes													
	Analogy		Associative Thinking		Memorization		Attention to Detail		Classification		Logical Reasoning (deductive and Analytical Thinking)		Creativity	
Linking Verbs	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre - test	Post-test	Pre-test	Post-test
		-0,465	-0,311	-0,474	-0,432	0,005	0,198	-0,694	-0,255	-0,139	-0,437	0,468	-0,041	0,044

Test (1) Graphs: Correlation between Learners' Cognitive Abilities and Their Grammar Performance. (Linking verbs)

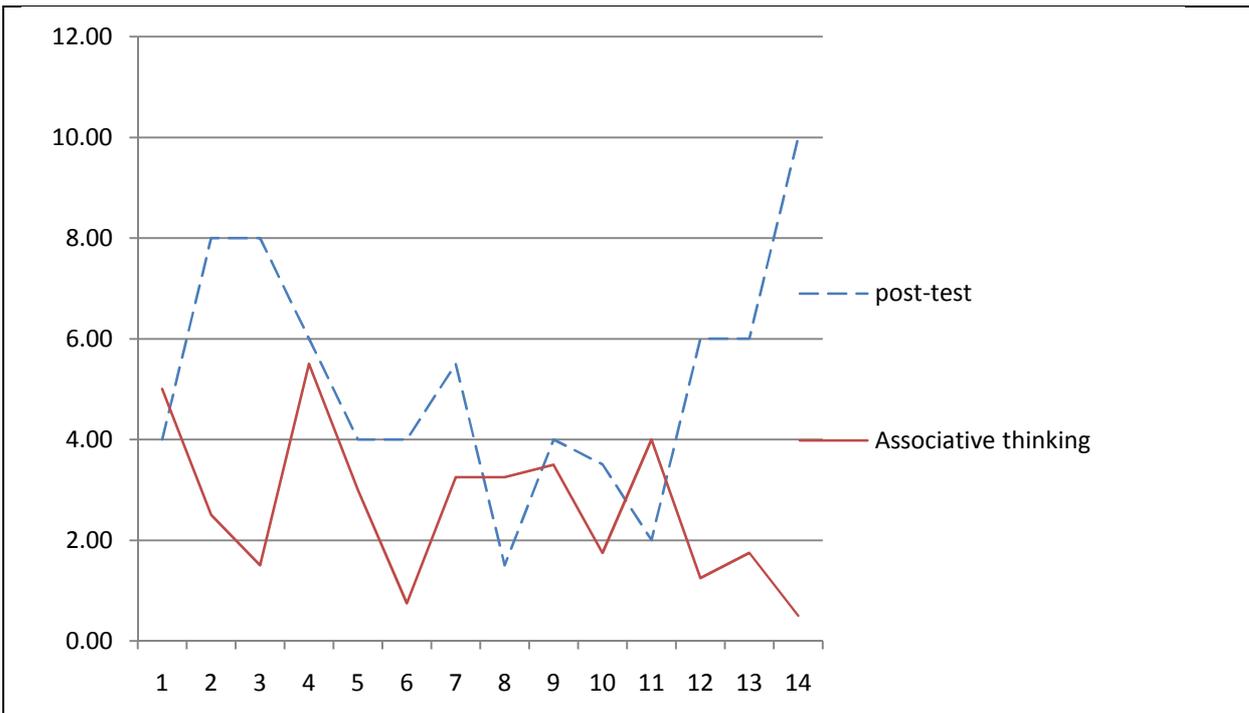




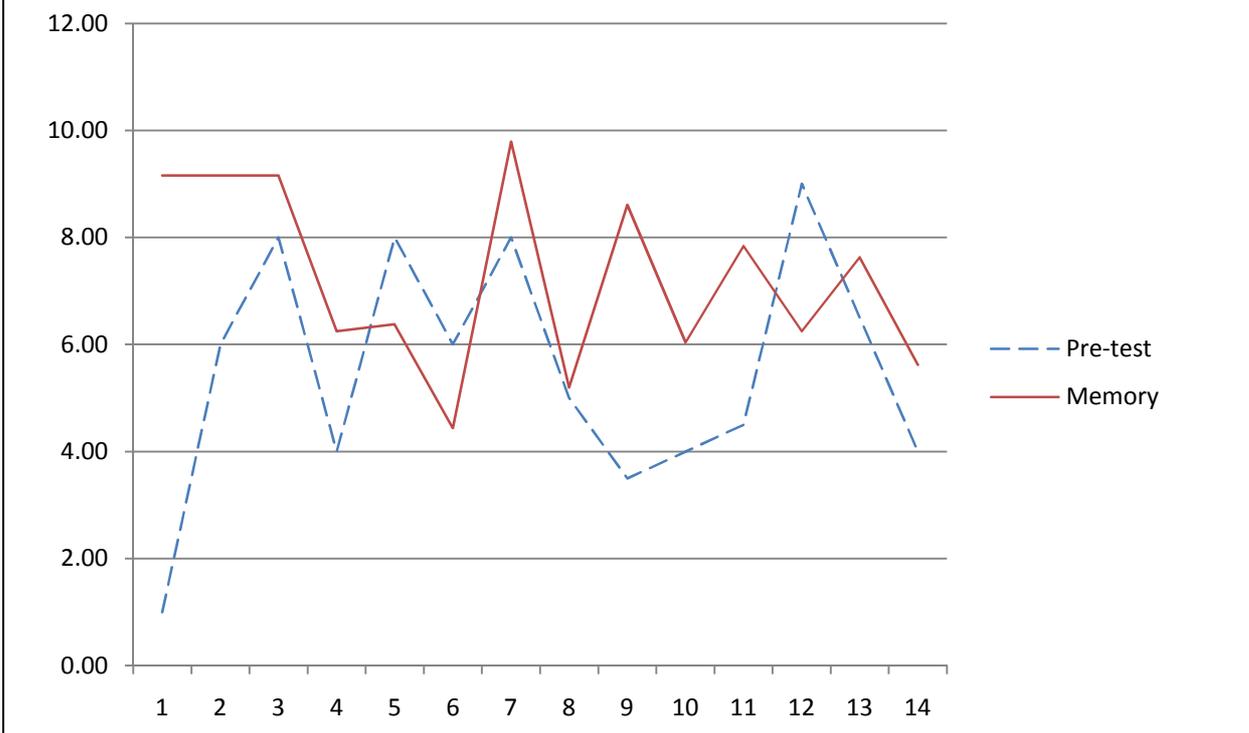
Graph 6. Correlation between Analogy and Learners' Post-test Outcomes (linking verbs)



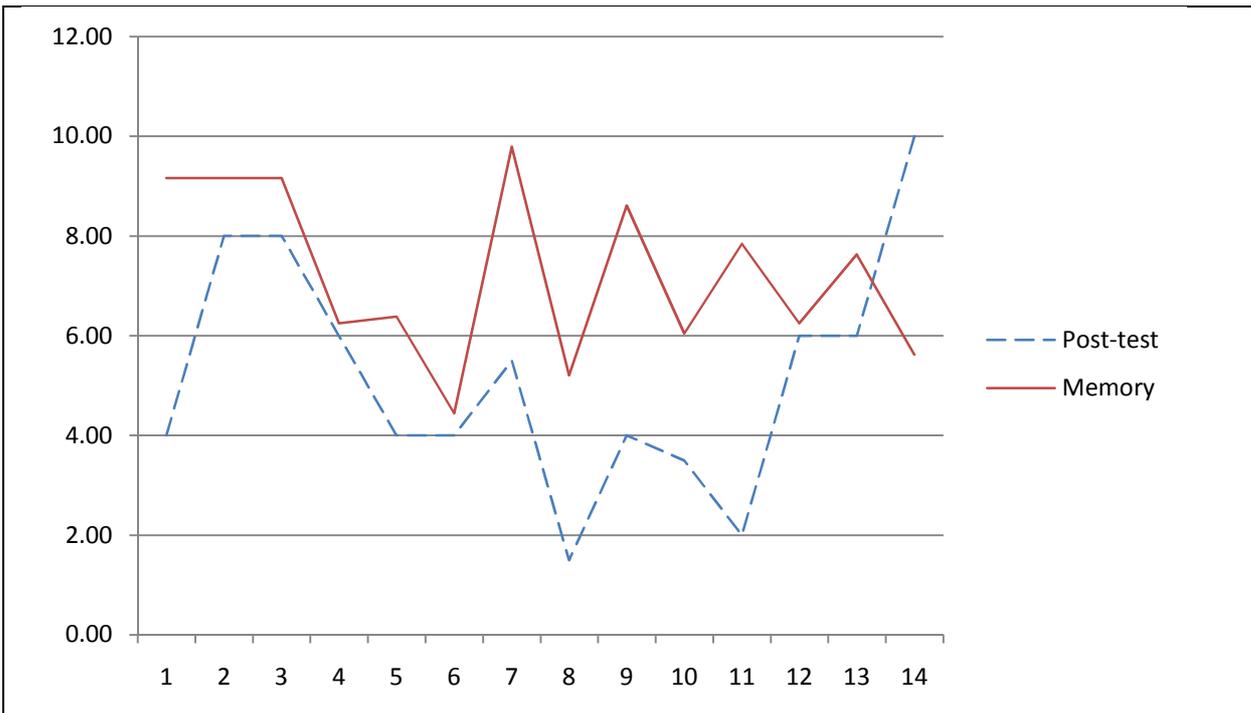
Graph 7. Correlation between Associative Thinking and Learners' Pre-test Outcomes



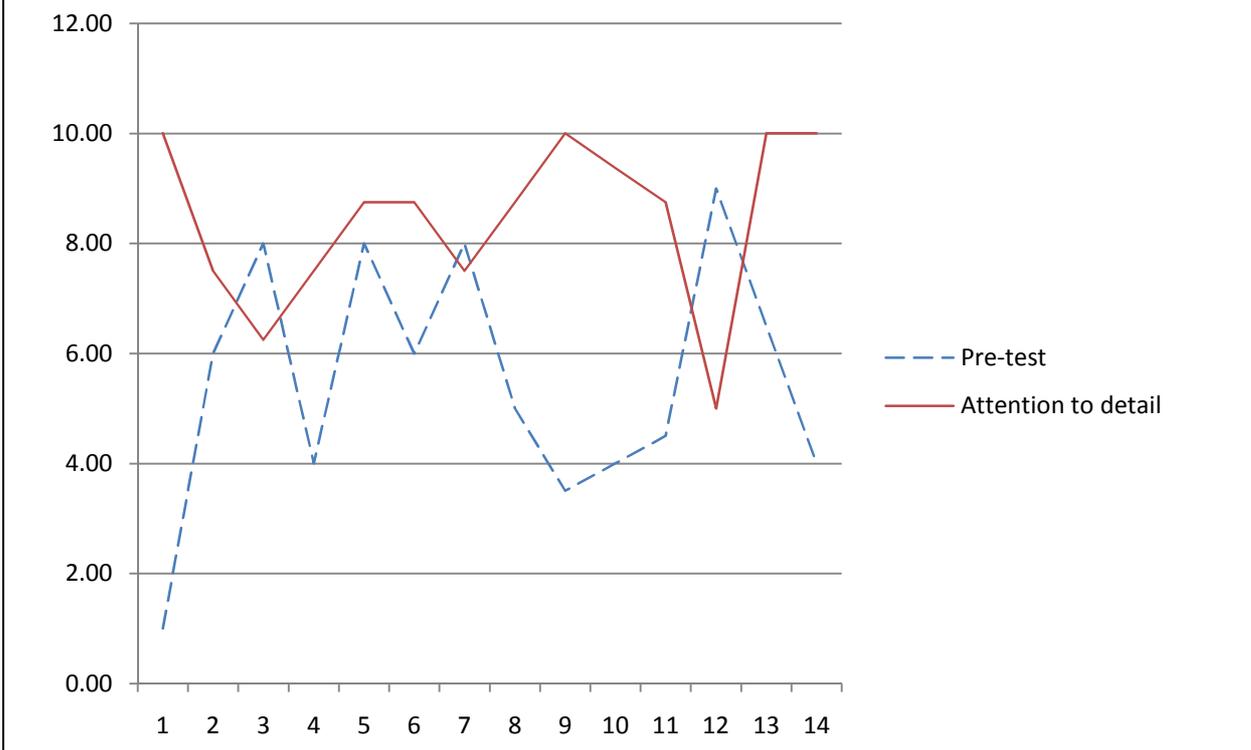
Graph 8. Correlation between Associative Thinking and Learners' Post-test Outcomes



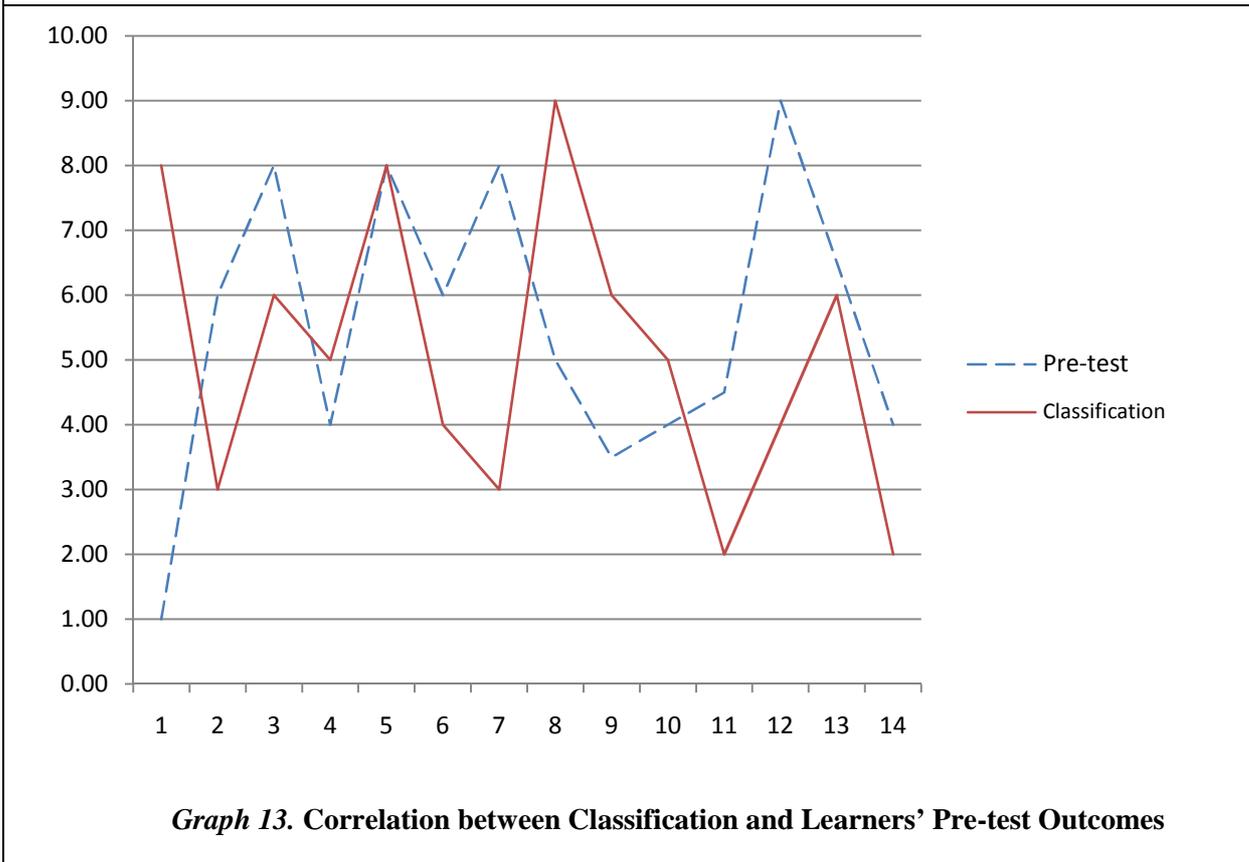
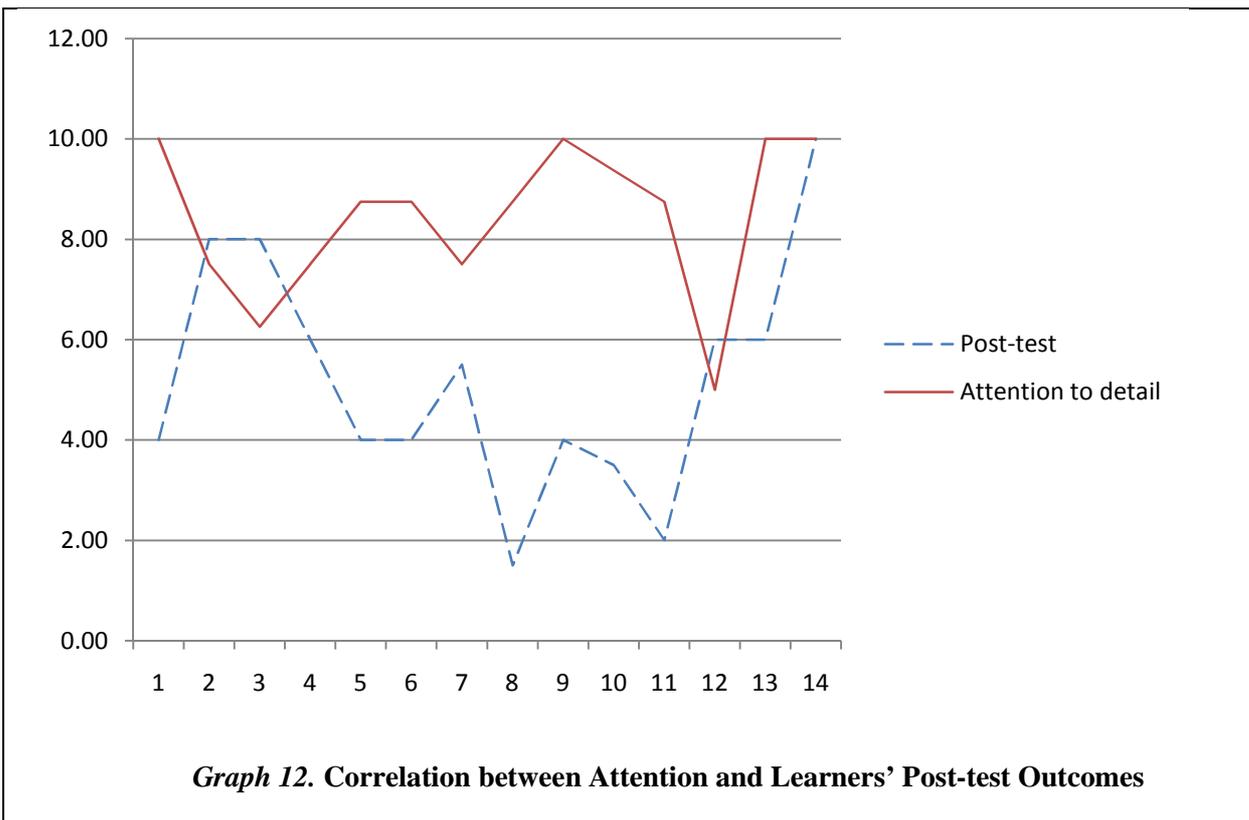
Graph 9. Correlation between Memory and Learners' Pre-test Outcomes

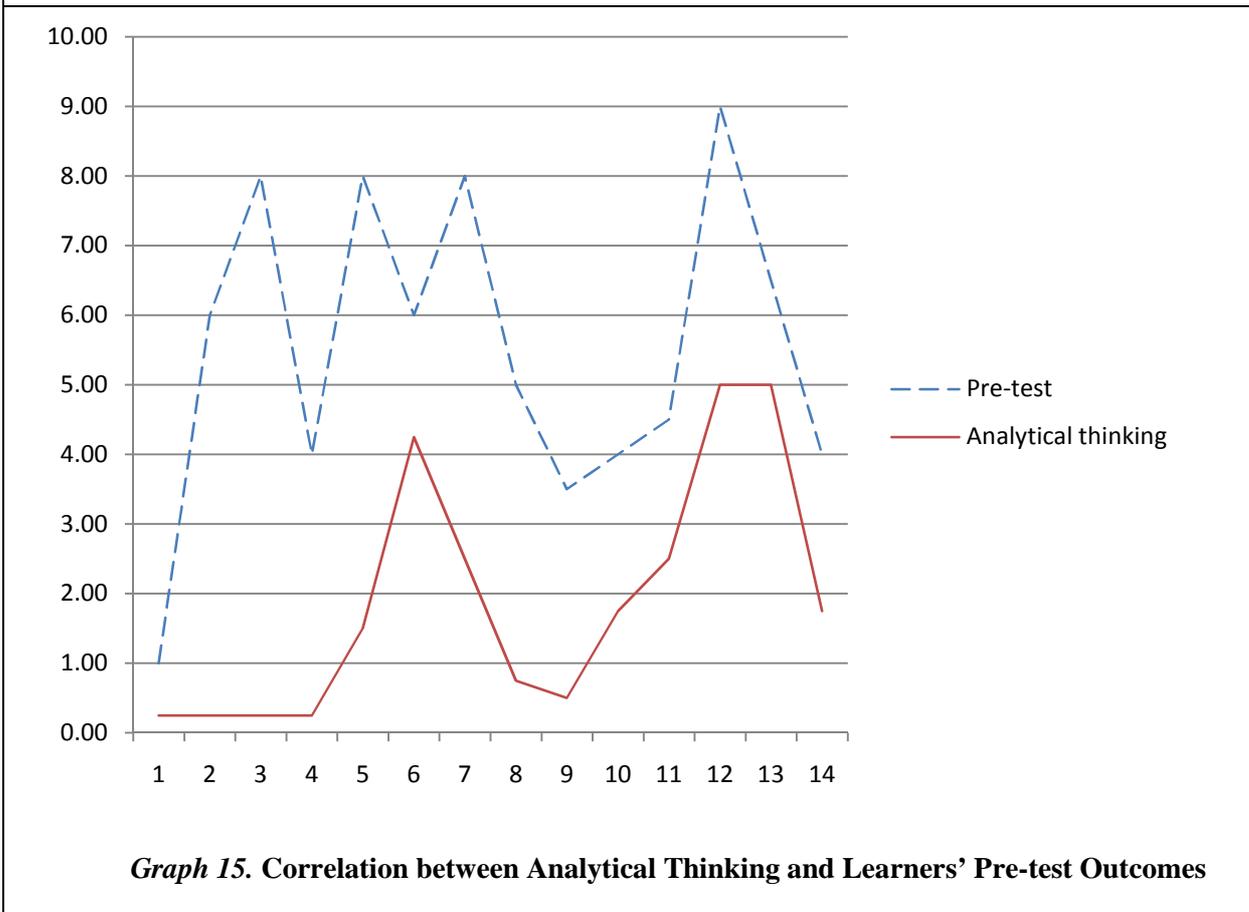
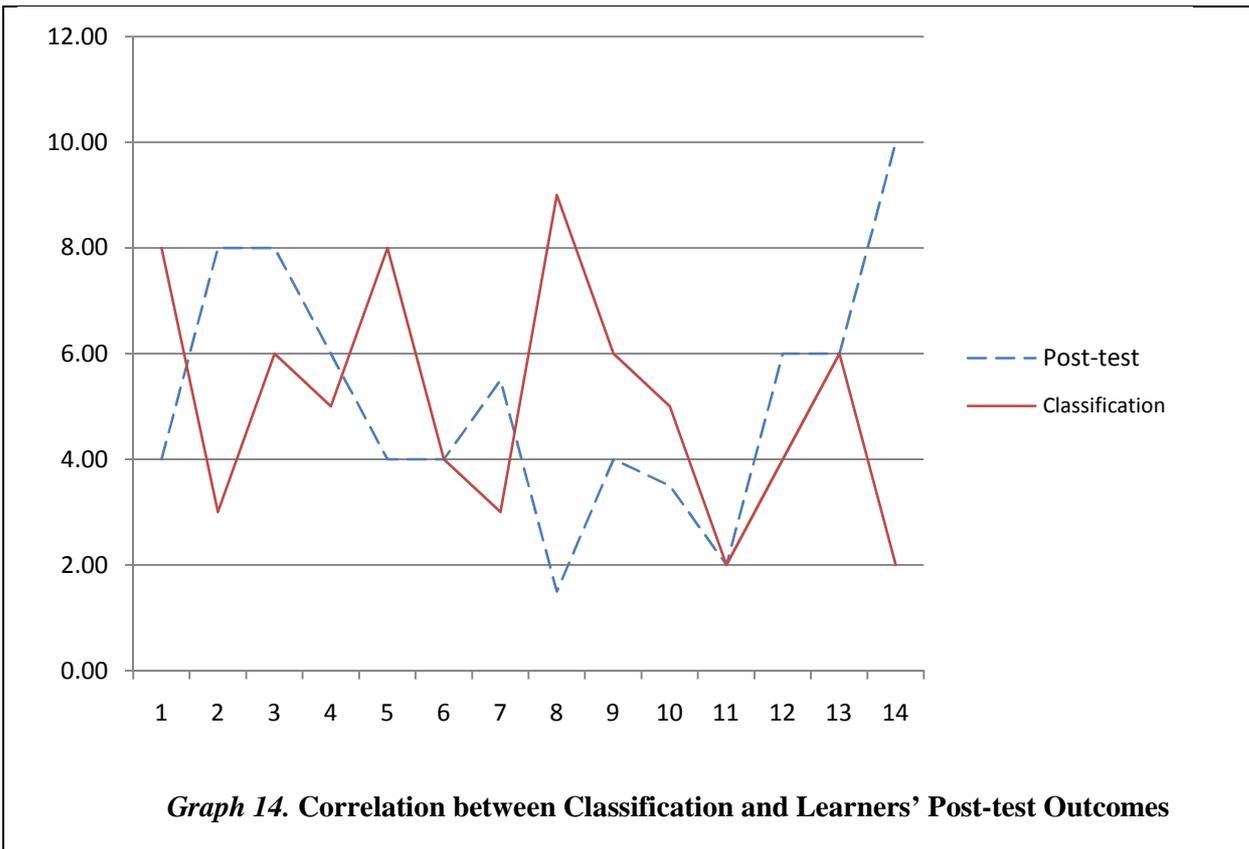


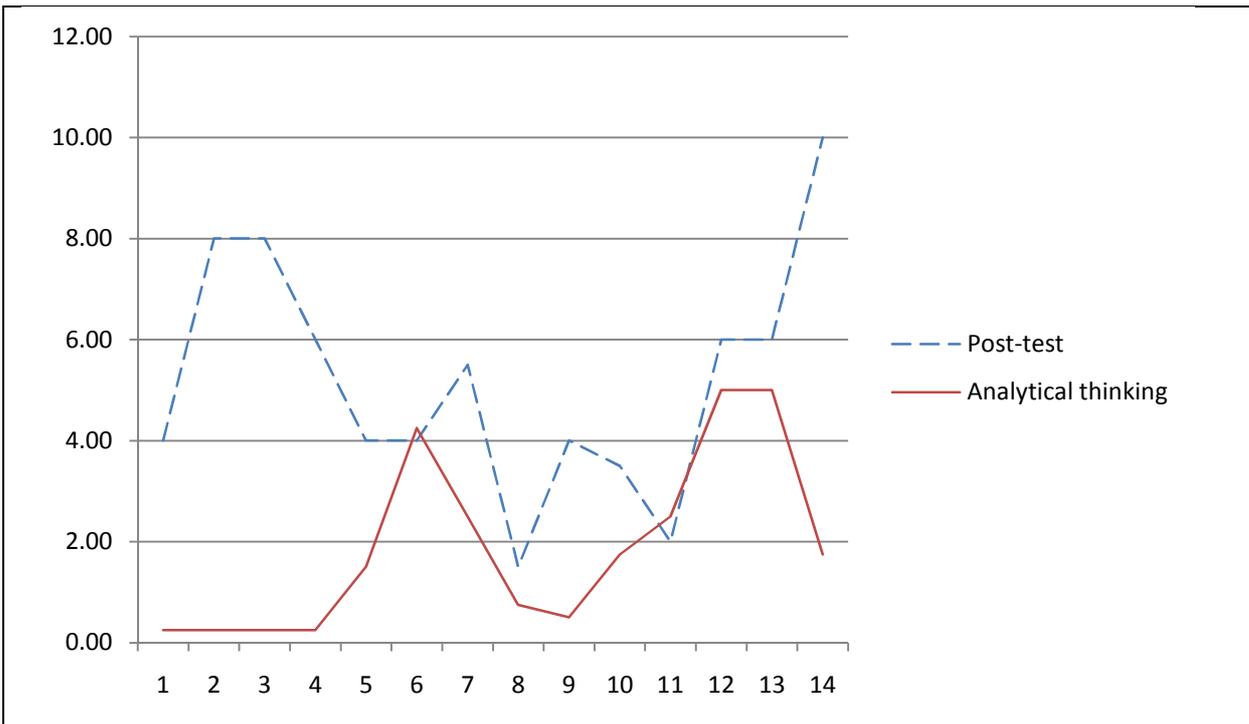
Graph 10. Correlation between Memory and Learners' Post-test Outcomes



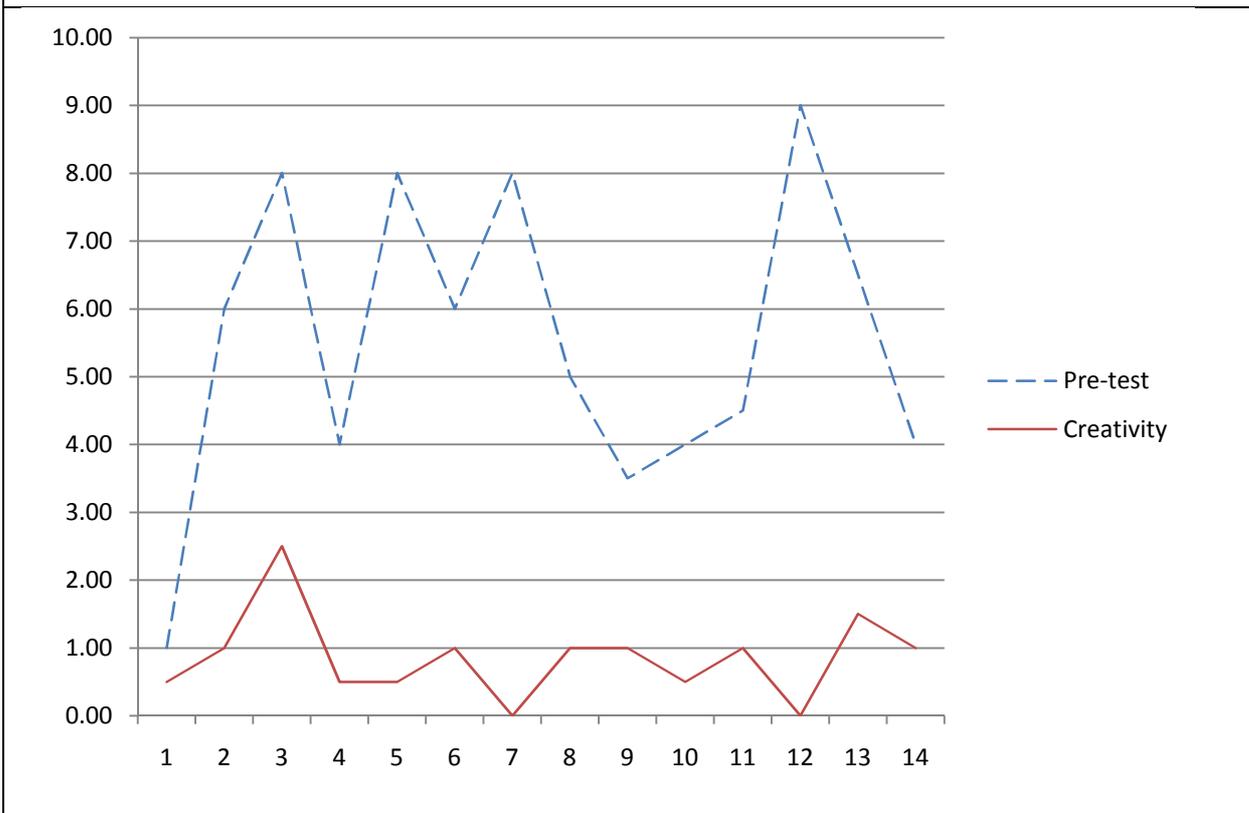
Graph 11. Correlation between Attention and Learners' Pre-test Outcomes



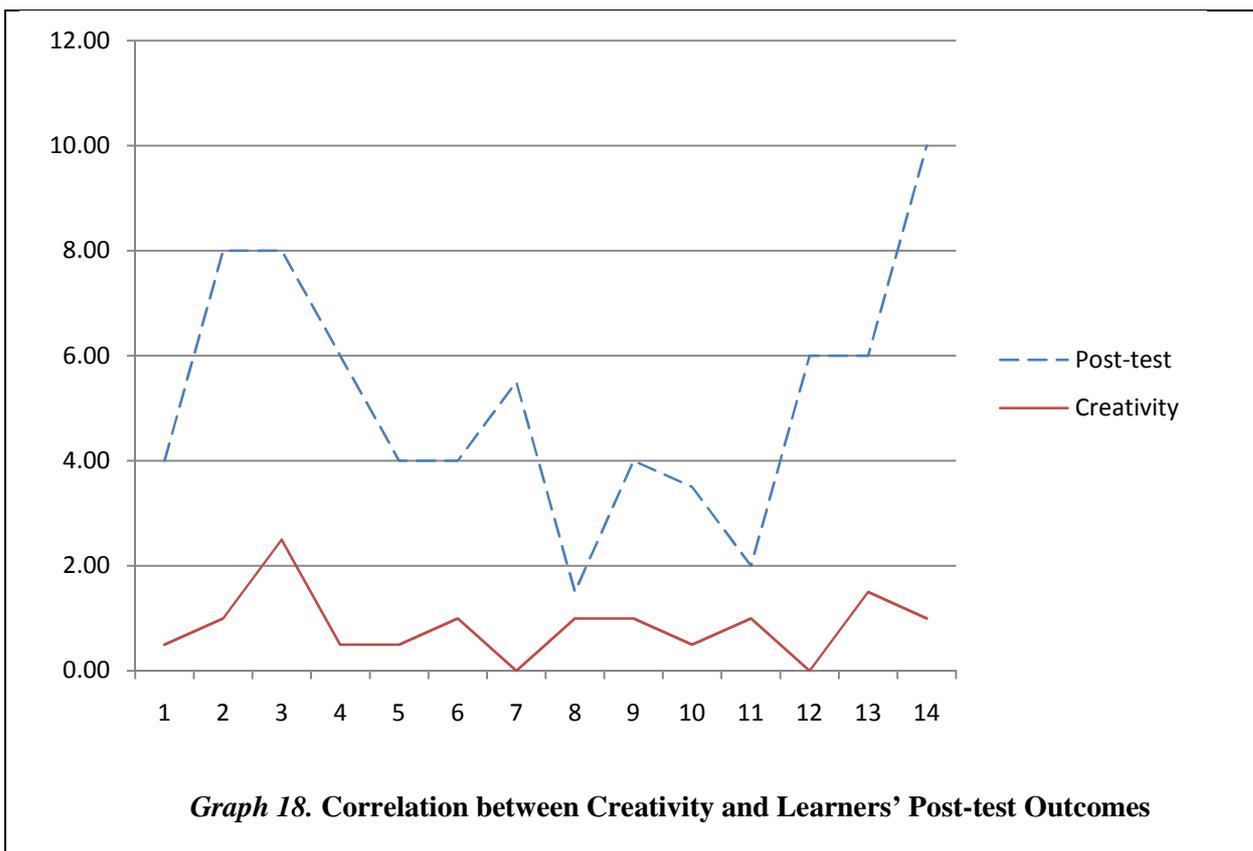




Graph 16. Correlation between Analytical Thinking and Learners' Post-test Outcomes



Graph 17. Correlation between Creativity and Learners' Pre-test Outcomes



5.4.1.1. Analysis. The first set of correlation analyses explored the relationship between the learners' accurate use of the linking verbs and seven cognitive processes that are thought to play an important role in grammar learning before and after the cooperative work. As seen in table (18), the extent of the learners' accurate performance was mostly enhanced by logical reasoning cognitive process in the pre-test (individual work) where the coefficient of correlation was ($r_{pre} = 0.468$) outweighing the one of the post-test (after the cooperative work) which reached ($r_{po} = 0.041$). To a lesser extent, by memory (working memory) in which the correlation equals ($r_{pre} = 0.005$) in the pre-test, but it increased to ($r_{po} = 0.198$) in the post-test. And yet lesser effect was observed in the case of creativity ($r_{po} = 0.261$) in the post-test and ($r_{pre} = 0.04$) in the pre-test. The rest of the correlations did not reflect significant associations between the learners' accuracy and the classification ($r_{pre} = -0.139$; $r_{po} = -0.437$), attention ($r_{pre} = -0.694$; $r_{po} = -0.255$), associative thinking ($r_{pre} = -0.474$; $r_{po} = -0.432$) and analogy ($r_{pre} = -0.465$; $r_{po} = -0.311$) cognitive abilities.

5.4.1.2. Discussion. The analysis of the findings reported in table (18) showed that the cognitive process that was noticeably influenced by the cooperative work, and participated in fostering the learners' accurate use of the linking verbs structures was the memory. This can be explained by the fact of being immersed within the cooperative context that helped learners to activate their working memory after having explained the target grammatical structure, negotiated meaning, clarified ambiguities and exchanged thoughts. The creativity cognitive process was also influenced by the group work, but to a lesser extent. The term 'creativity' refers to mental processes that lead to solutions, ideas, concepts, theories or products that are unique or novel.

And as it entails perception and memory as sub-mental processes, the impact of the cooperative work upon the creativity may be attributed firstly to the direct influence of the group work context on the learners' memory (it was explained previously), and secondly on the perception mental process that is related to the conscious integration of sensory impressions of external objects and events including how the interactor learners perceive each other within the small group context. The highest value of correlation reached in this experimental work was apparent between the logical reasoning mental process and the individual work. The absence of the cooperative work impact upon this latter can be explained by the lack of logical reasoning process susceptibility to be changed easily especially that it consists of a cluster of interrelated sub-mental processes moving from one to another like analyzing, reasoning, and deducing....etc and others that are not recognized yet .

With the other cognitive processes, there was no impact. This finding likely reflects the relative importance of the group work that may have minimized the need for the learners to rely on classification, attention, associative thinking, and analogy cognitive processes. Another possibility is that the task used here to measure the extent of learners' accuracy did not draw heavily on the learners' processing resources; thus, it did not allow us to detect the influence of the examined cognitive processes on learners' accurate performance.

4.4.2. Test (2): The Passive Form Structure. Table (19) shows the learners' performance in the task tackling the basic structure of the passive form prior and after the cooperative work. In this test, the students' mean score for the pre-test and the post-test were respectively (6,482); (5,160).

Table. 19

Descriptive Statistics for the Second Pre-test and Post-test Outcomes

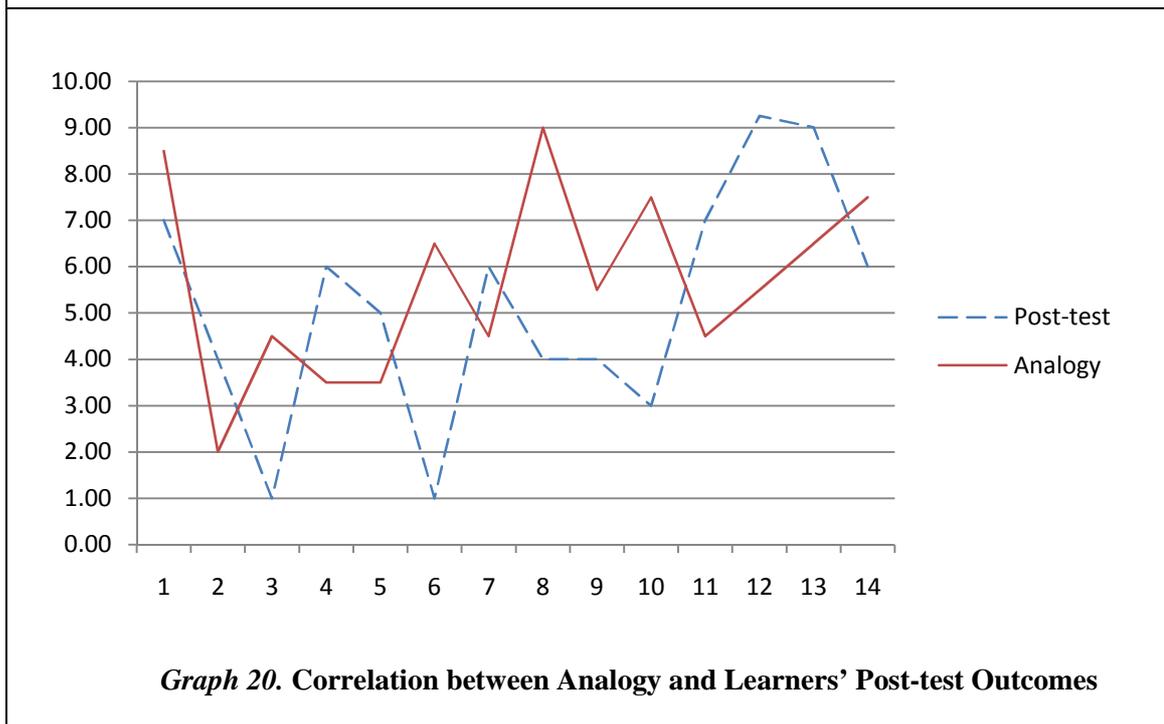
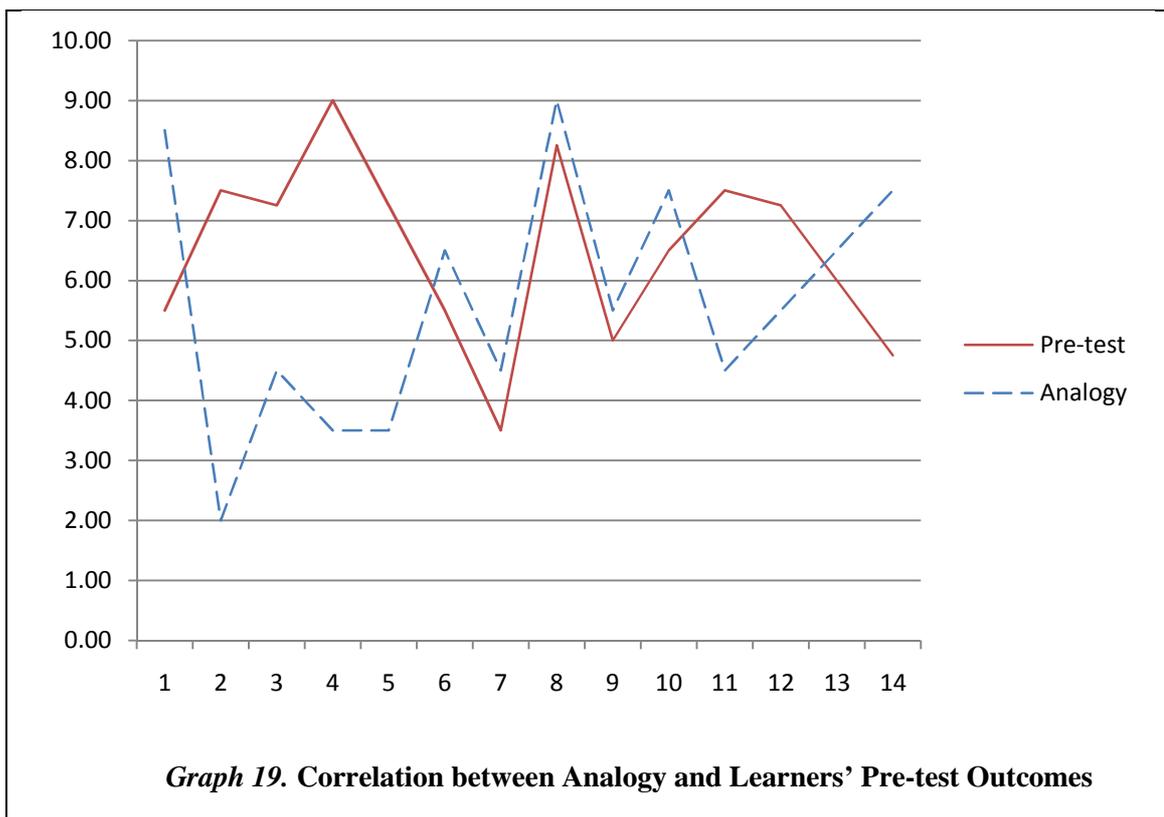
N	The Target Grammar Structure	Passive Form	
		M	SD
15	Pre -test	6,482	1,507
15	Post-test	5,160	2,537

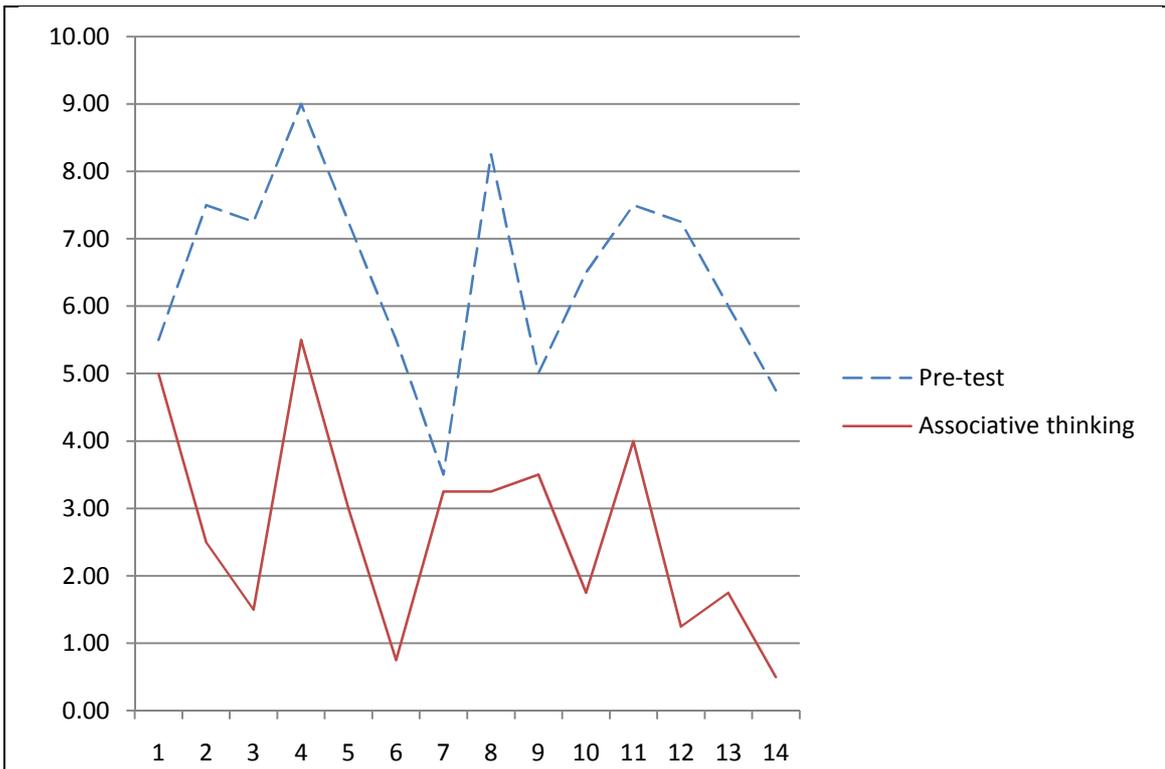
Table. 20

Correlation between the Learners' Grammar Performance and Some Selected Cognitive Processes (Passive Form)

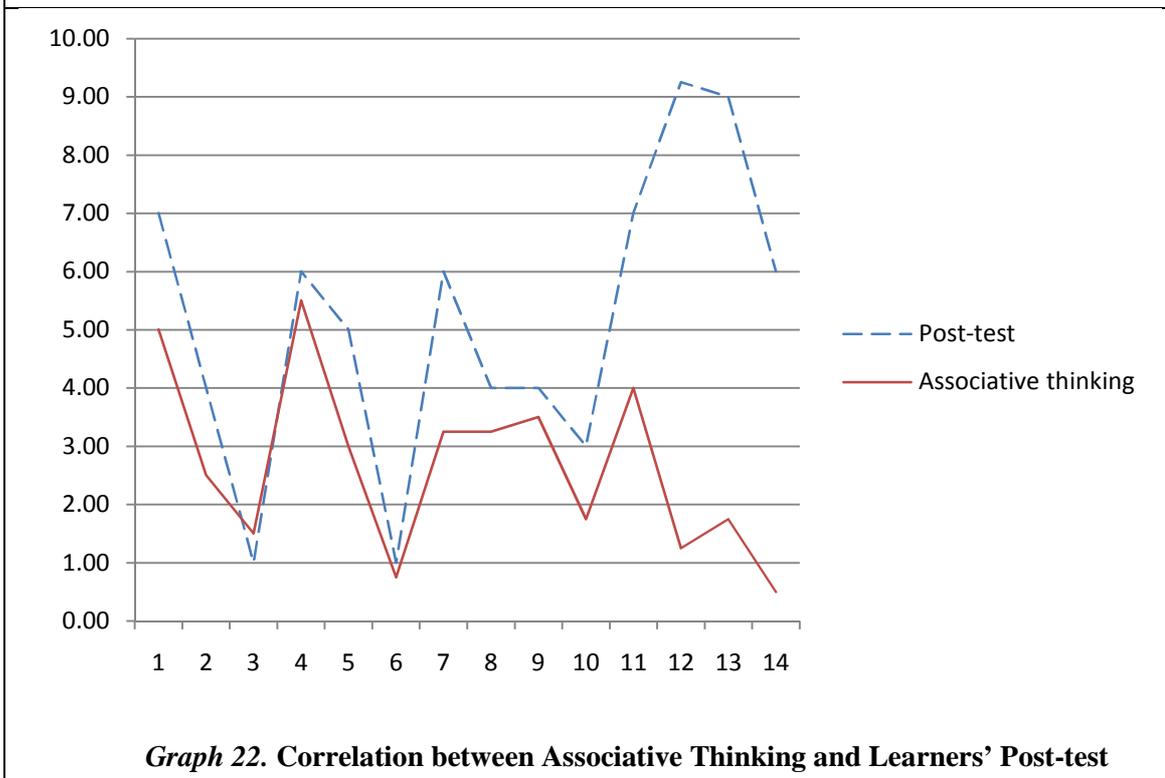
The Target Grammar Structure	The Cognitive Processes													
	Analogy		Associative thinking		Memorization		Attention to detail		Classification		Logical reasoning (deductive and analytical thinking)		Creativity	
Passive Form	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre_-test	Post-test	Pre_test	Post-test	Pre-test	Post-test
		-0,264	0,039	0,28	0,234	-0,285	0,122	-0,378	-0,004	0,262	-0,114	-0,235	0,415	0,158

Test (2) Graphs: Correlation between Learners' Cognitive Abilities and their Grammar Performance. (The Passive Form Structure)

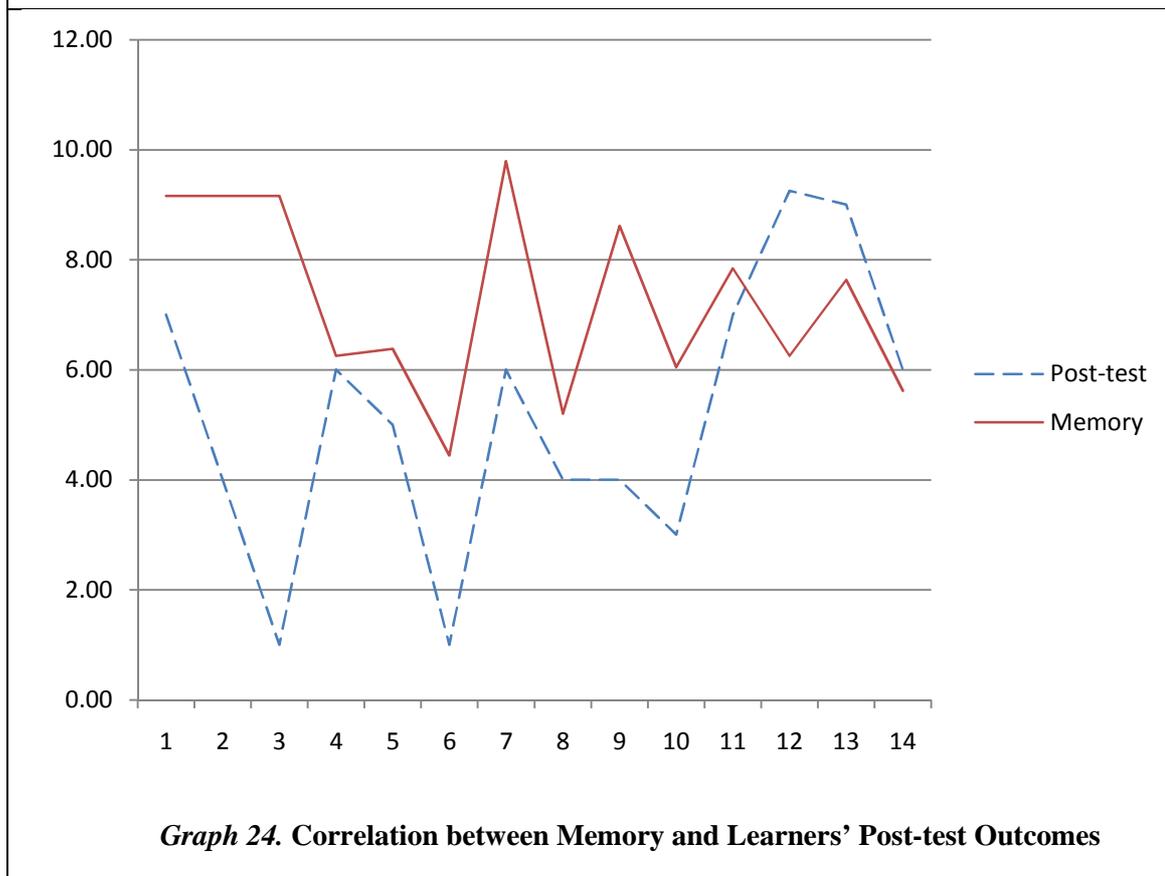
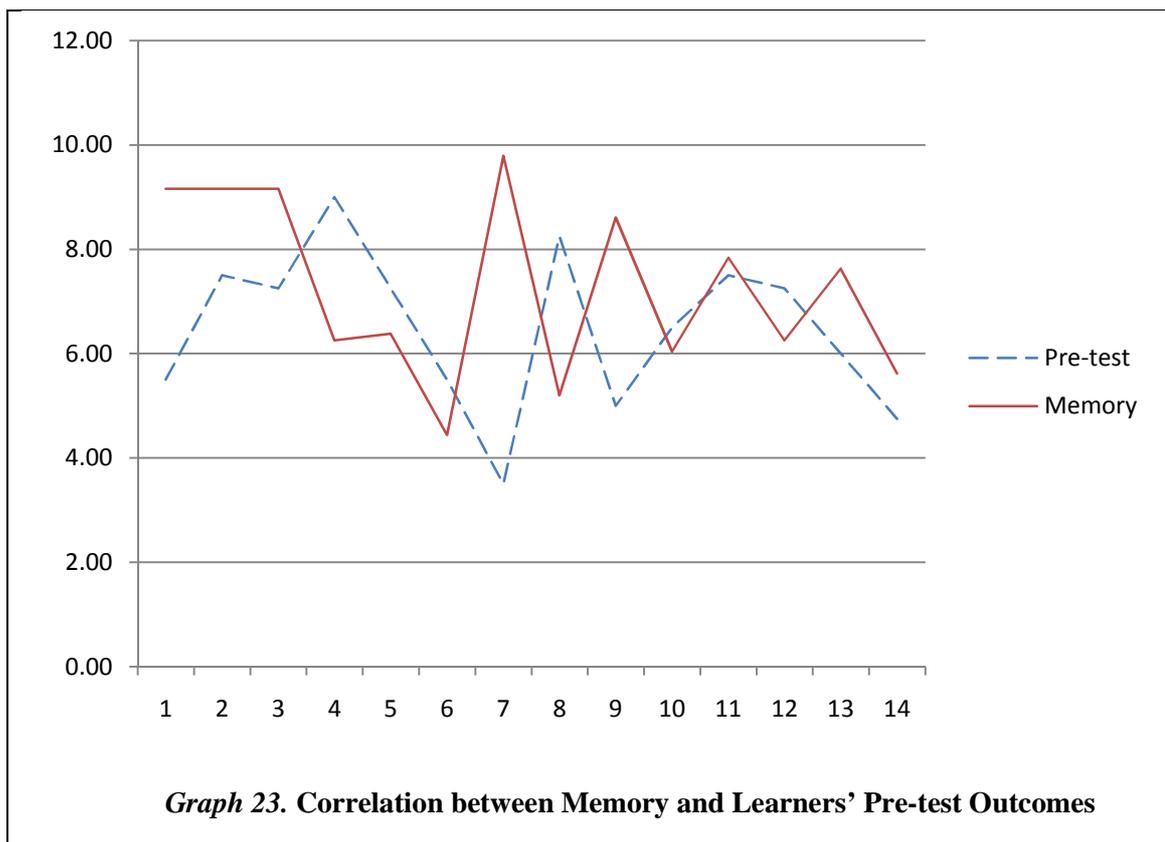


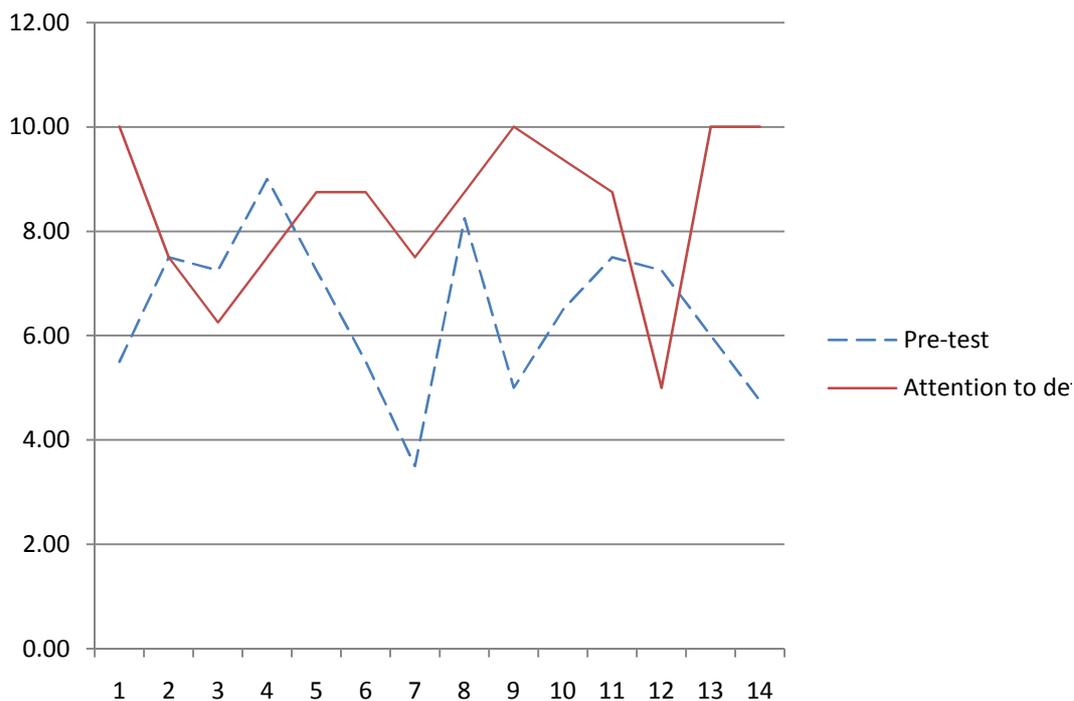


Graph 21. Correlation between Associative Thinking and Learners' Pre-test Outcomes

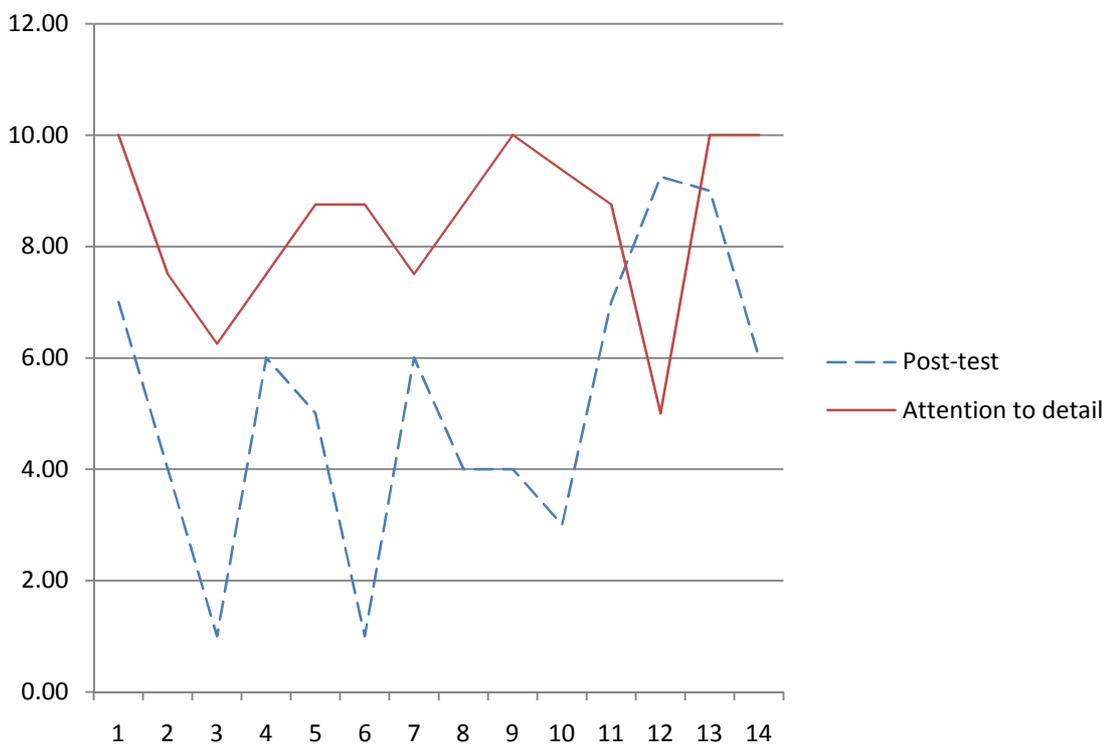


Graph 22. Correlation between Associative Thinking and Learners' Post-test Outcomes

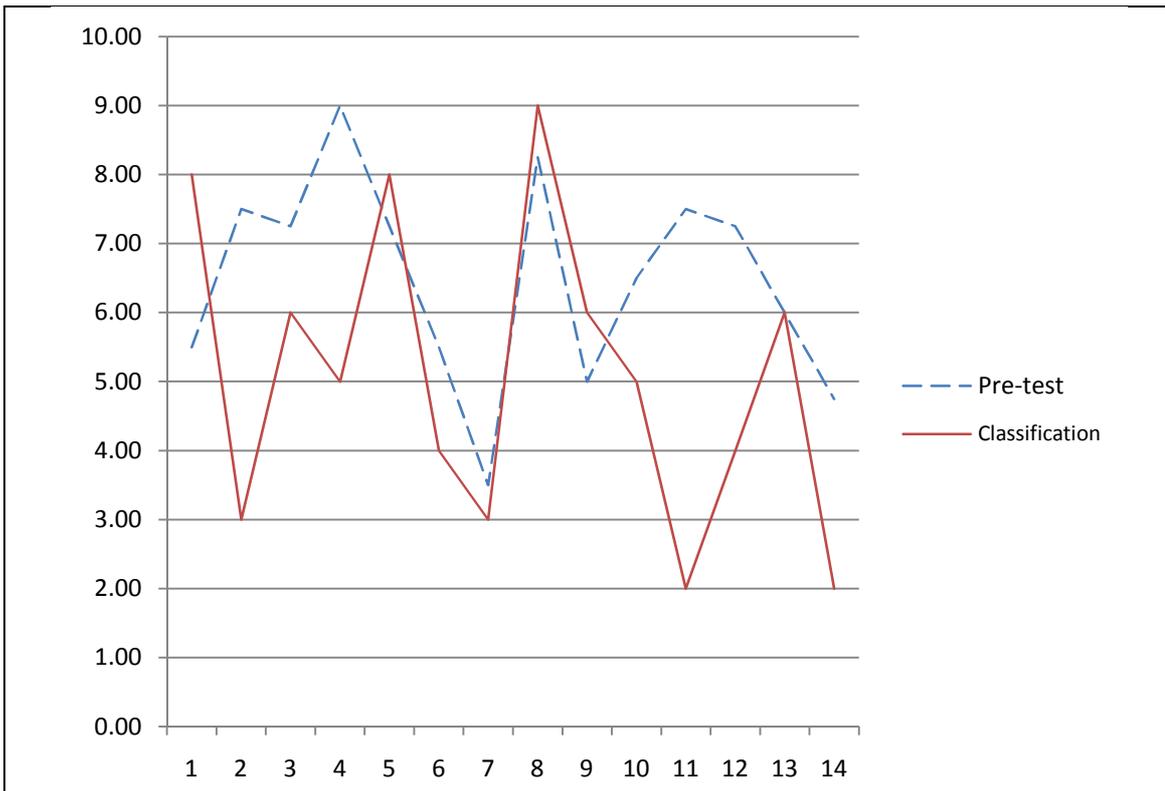




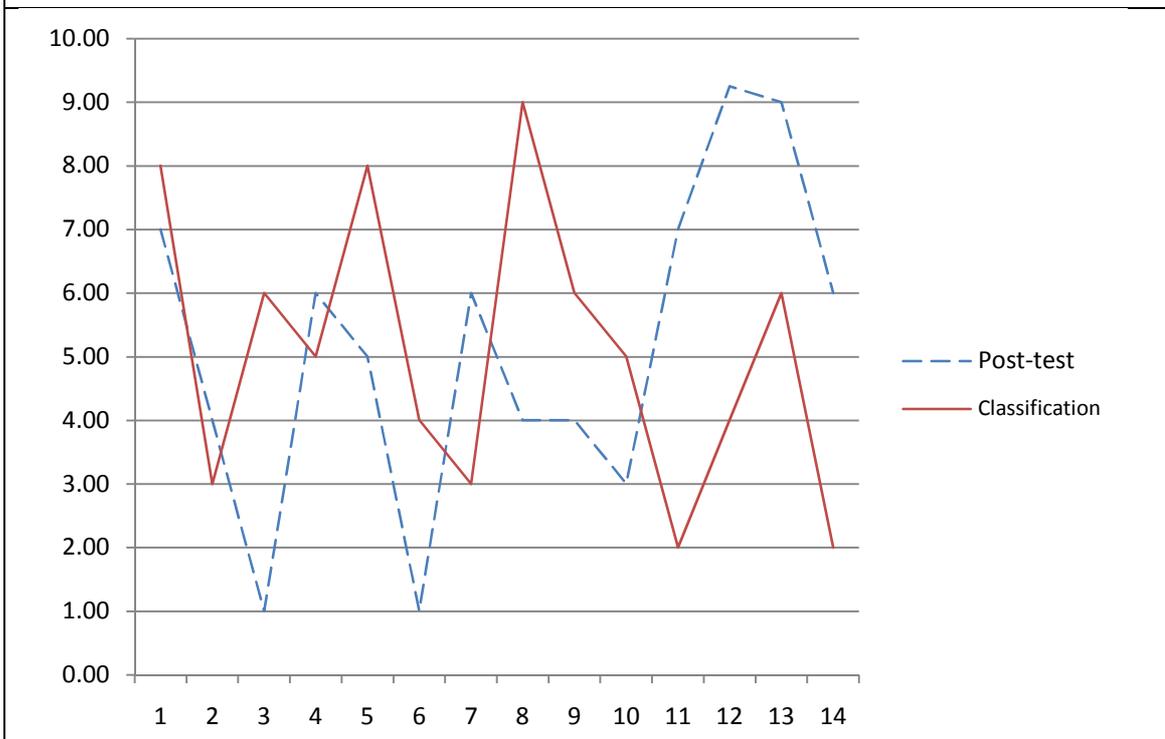
Graph 25. Correlation between Attention and Learners' Pre-test Outcomes



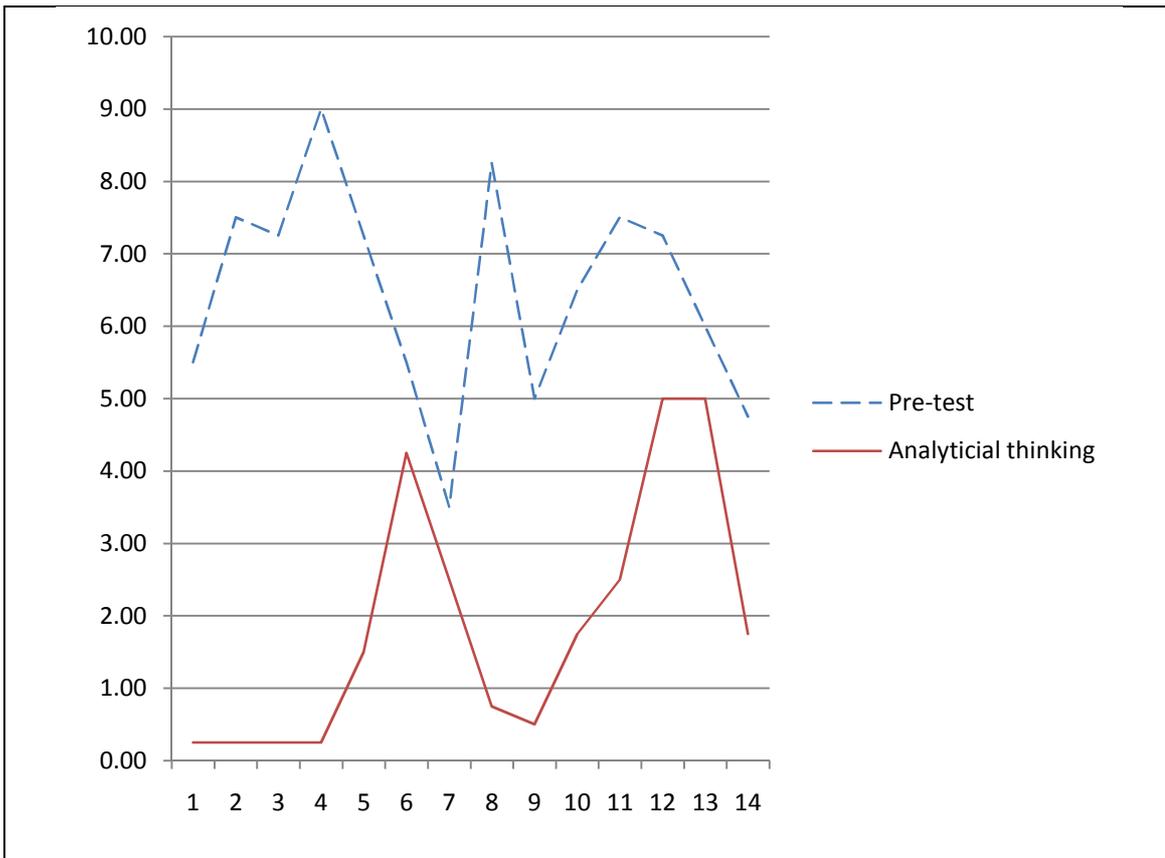
Graph 26. Correlation between Attention and Learners' Post-test Outcomes



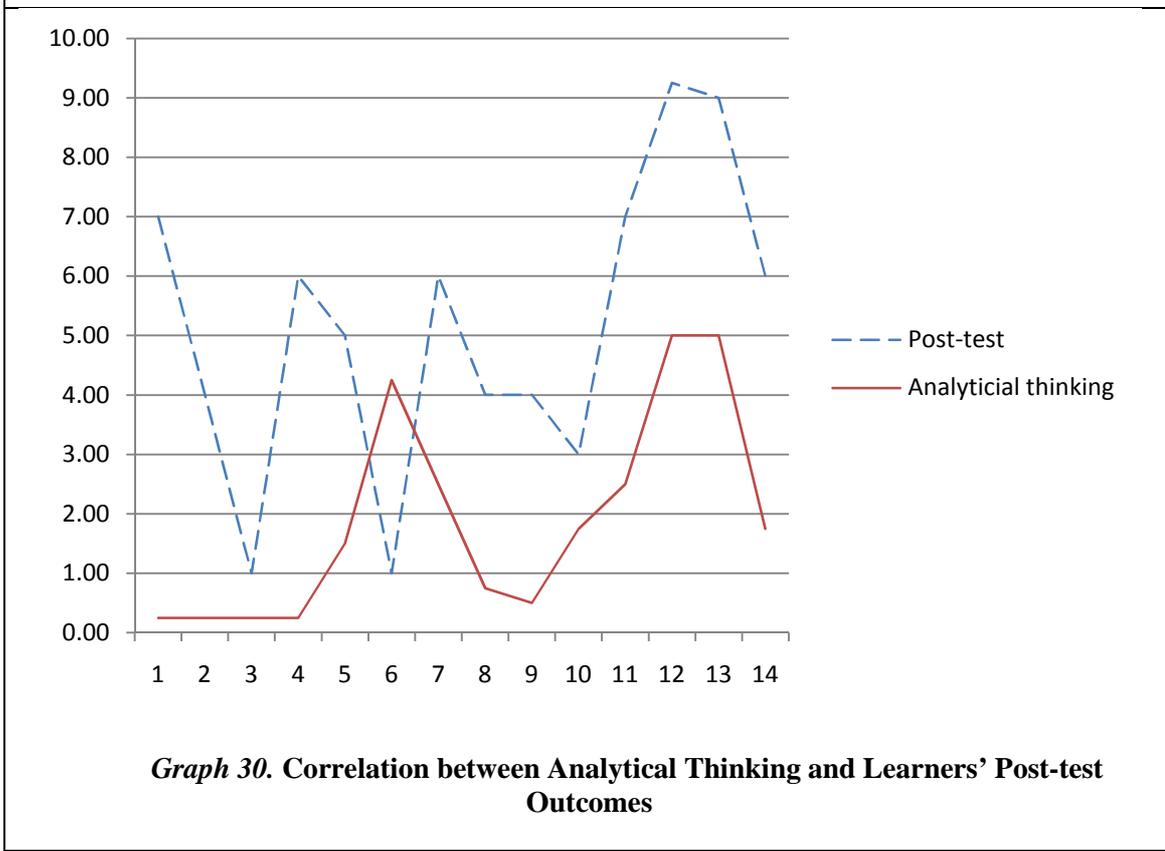
Graph 27. Correlation between Classification and Learners' Pre-test Outcomes



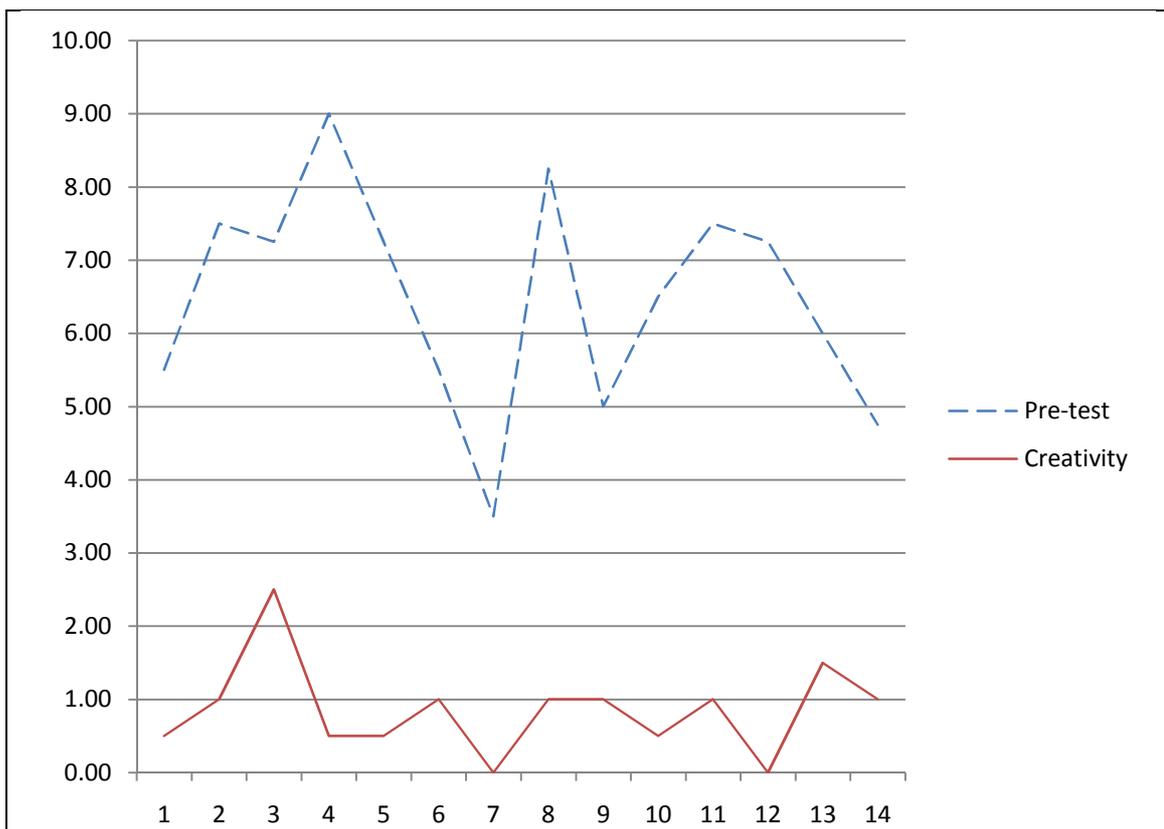
Graph 28. Correlation between Classification and Learners' Post-test Outcomes



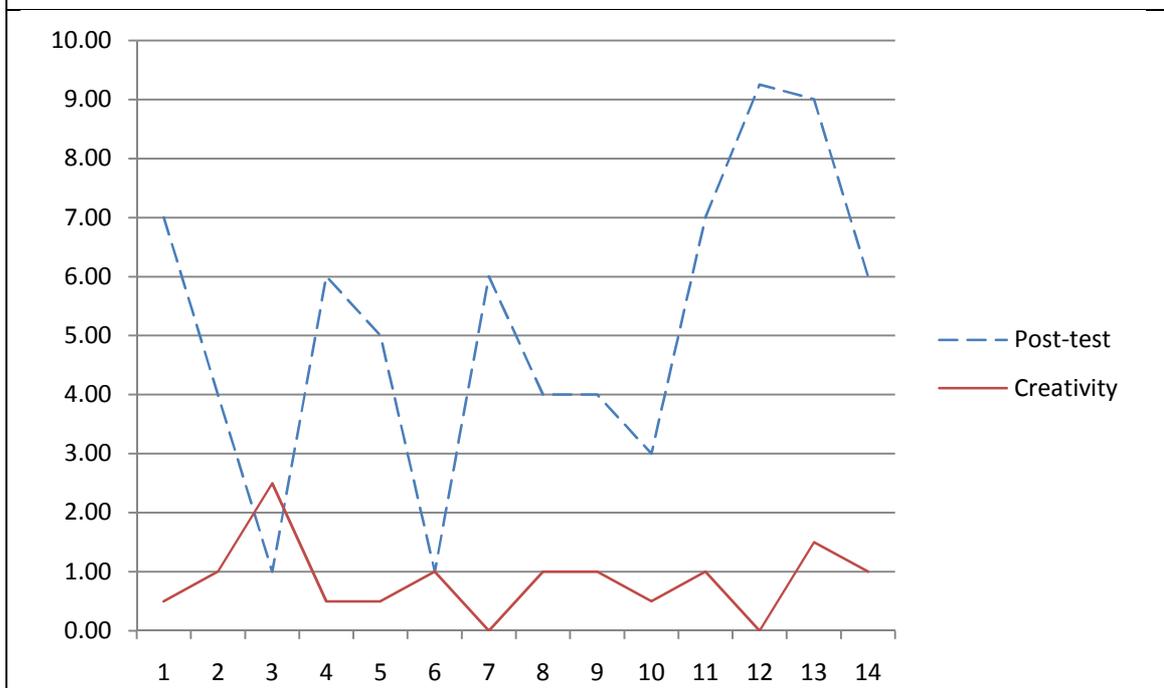
Graph 29. Correlation between Analytical Thinking and Learners' Pre-test Outcomes



Graph 30. Correlation between Analytical Thinking and Learners' Post-test Outcomes



Graph 31. Correlation between Creativity and Learners' Pre-test Outcomes



Graph 32. Correlation between Creativity and Learners' Post-test Outcomes

4.4.2.1. Analysis. The second set of correlation analyses explored the extent of the relationship existed between the students' accuracy in constructing the passive sentences and the seven selected cognitive processes prior and after the cooperative work. In this second test, the results recapitulated in table (20) showed that the most significant effect was related to the logical reasoning cognitive process where the coefficient of correlation reached ($r_{po} = 0,415$) in the post-test unlike in the pre-test ($r_{pre} = -0,235$) which was non-significant. The associative thinking had a lesser effect in which the correlation equaled ($r_{po} = 0,234$) in the post-test that was before the group work ($r_{pre} = 0,28$) in the pre-test. The learners' accuracy was also fostered by the memory cognitive process, but to a lesser extent, where the r value reached ($r_{po} = 0,122$) in the post-test, that was completely non-significant ($r_{pre} = -0,285$) in the pre-test. With the classification cognitive process, the correlation in the pre-test ($r_{pre} = 0,262$) was higher than the one of the post-test ($r_{po} = 0,122$) like the creativity cognitive process with which the r value was ($r_{pre} = 0,158$) in the pre-test and decreased to ($r_{po} = -0,451$) in the post-test. The two last cognitive processes: attention to detail and analogy did not show any effect as the correlation was represented by non significant values.

4.4.2.2. Discussion. The analysis of the above table (20) representing the extent of the correlation existed between the cognitive processes and the learners' accuracy prior and after the cooperative work indicated that logical reasoning was the one which was highly influenced by the group work and participated in enhancing the learner's accurate use of the passive form structure. This finding can be referred to the small learning community emerging from the cooperative context where the learners socially interacted, pooled their knowledge, negotiated meaning,

exchanged thoughts, manifested tips of thinking and reasoning.....etc. As it can be explained by the nature of the target grammatical structure itself that led the learners to rely on the logical reasoning and on the associative thinking cognitive processes whose processing overlapped with the steps needed to be followed in constructing the passive form of an active sentence. For instance, a learner cannot convert an active sentence into a passive one without comprehending first its meaning by identifying the different relations existing among the elements consisting that sentence; and by asking questions such as: what is the predicate? And what is its nature: transitive or non transitive? Who is the subject? And what is the object? Does this sentence accept a passive form? Will the original meaning be kept or not?..etc. The answers to these questions motivated the learner to analyze, to relate the sentence elements, to comprehend, to think logically; and to deduce until reaching the final form of the passive sentence. The working memory was also impacted by the cooperative work, but it had a lesser effect upon the learners' accuracy unlike the logical reasoning and the associative thinking processes. This result may be attributed to the nature of the task at hand mainly, that has minimized the extent of the learners' reliance on memory. The absence of the cooperative work impact was apparent with the classification and with the creativity cognitive processes whose effect was restricted to the individual work. Although the two processes are needed in constructing the passive form, the learners did not rely on them, according to the obtained results. This may be attributed to the inconvenience of the task that did not activate the two processes. The attention to detail, and analogy did not show any significant effect. This may be due to the nature of the group dynamics.

4.4.3. Test (3): Two Passive Form Related Structures: Was/were + Past Participle + ing; Past simple+ Being+ Past Participle. The descriptive statistics representing the learners' outcomes in the test covering the accurate use of the two passive -form related structures: *Was/were + past participle + ing; past simple+ being+ past participle*. The analysis of the results summed up in table (21) indicated that the learners' accurate performance was slightly higher in the post-test by reaching the mean score of (5.54), than it was in the pre-test where their mean score was (4).

Table 21.

Descriptive statistics for the Third Pre-test and Post-test Outcomes

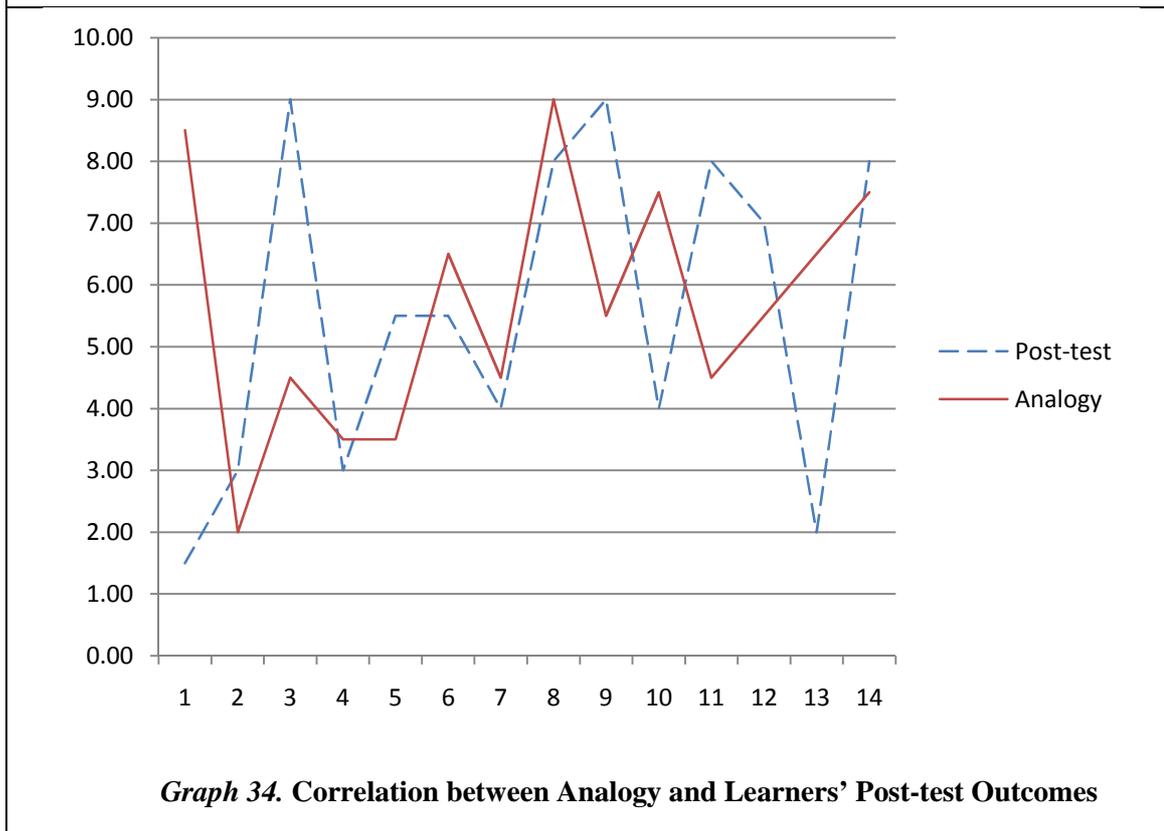
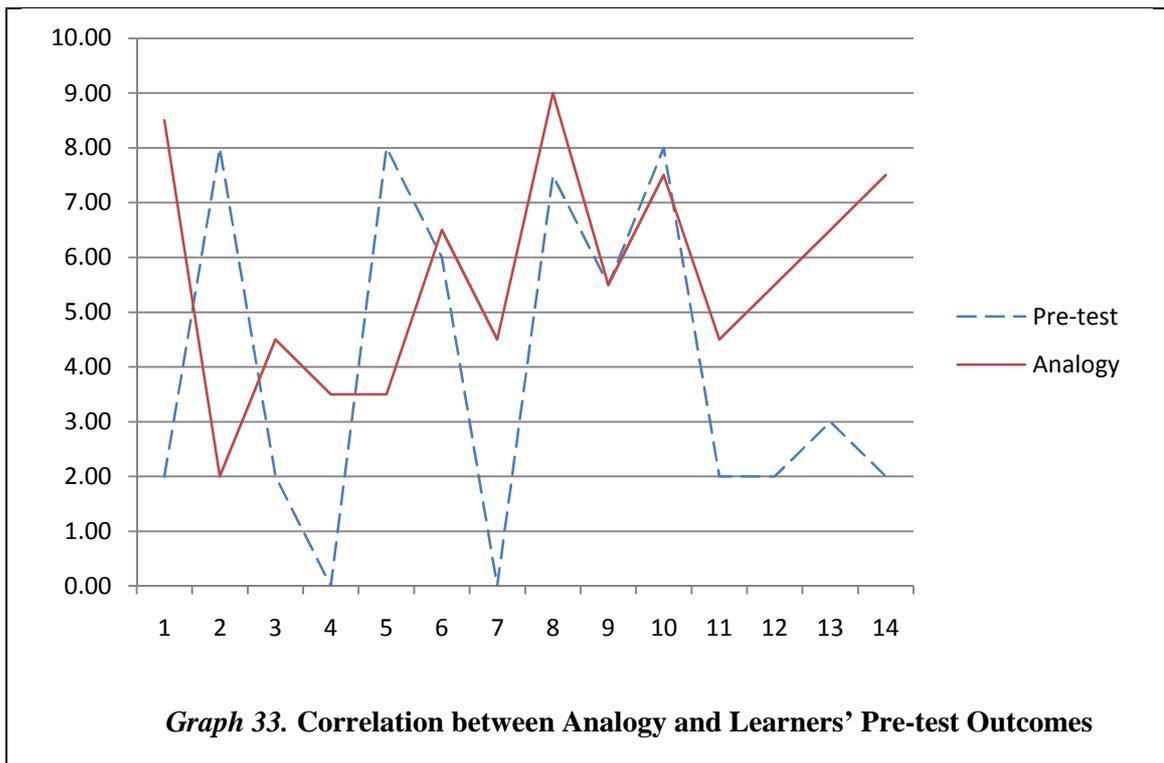
N	The Target Grammar Structure	Was/were +P. participle +ing; P. simple+ Being+ P. participle	
		M	SD
15	Pre -test	4	3,03
		5,54	2,641
15	Post-test	5,54	2,641

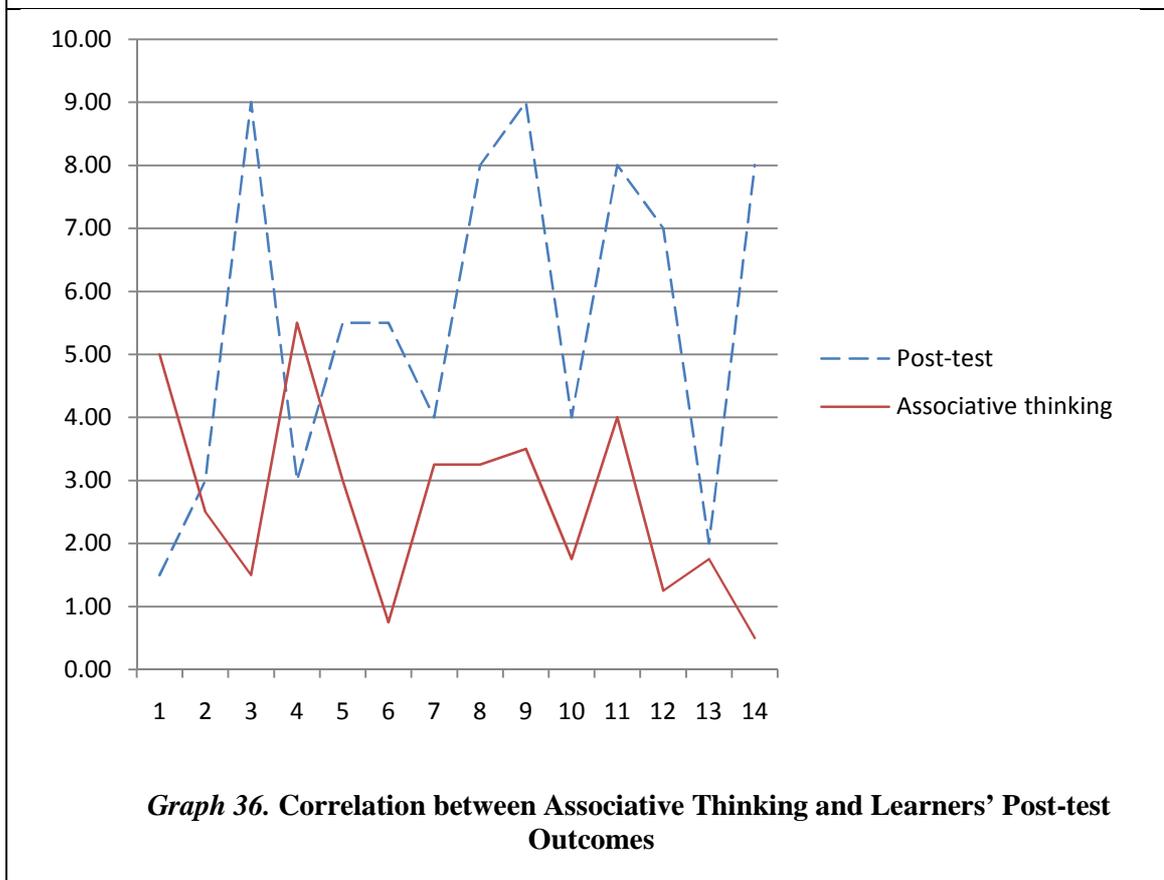
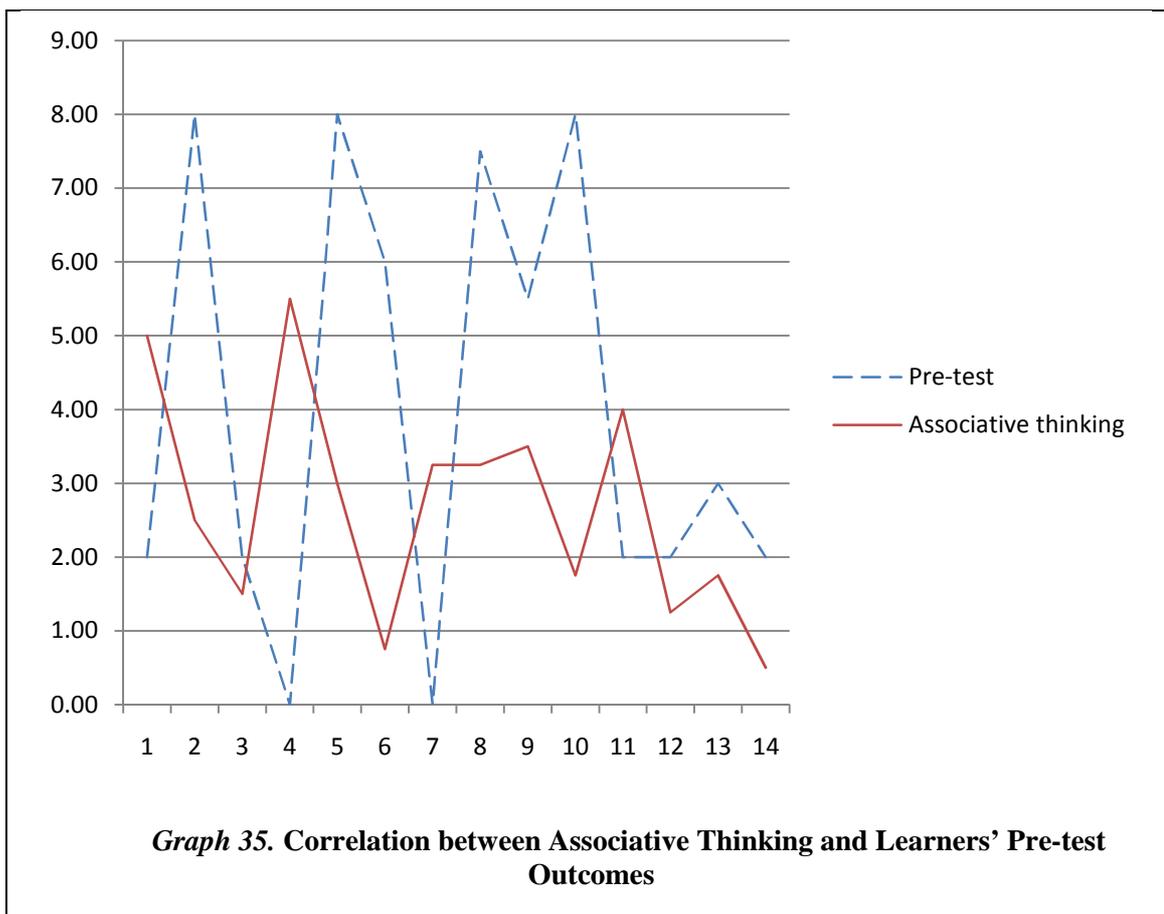
Table 22.

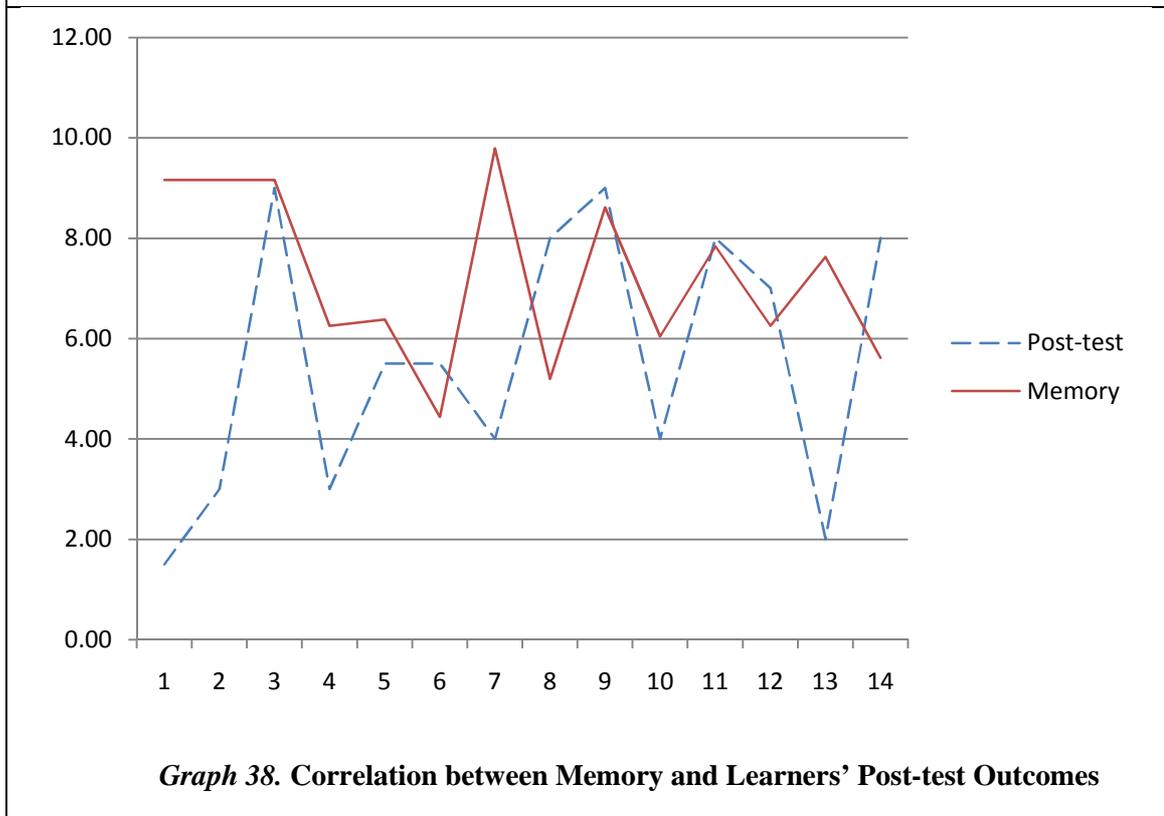
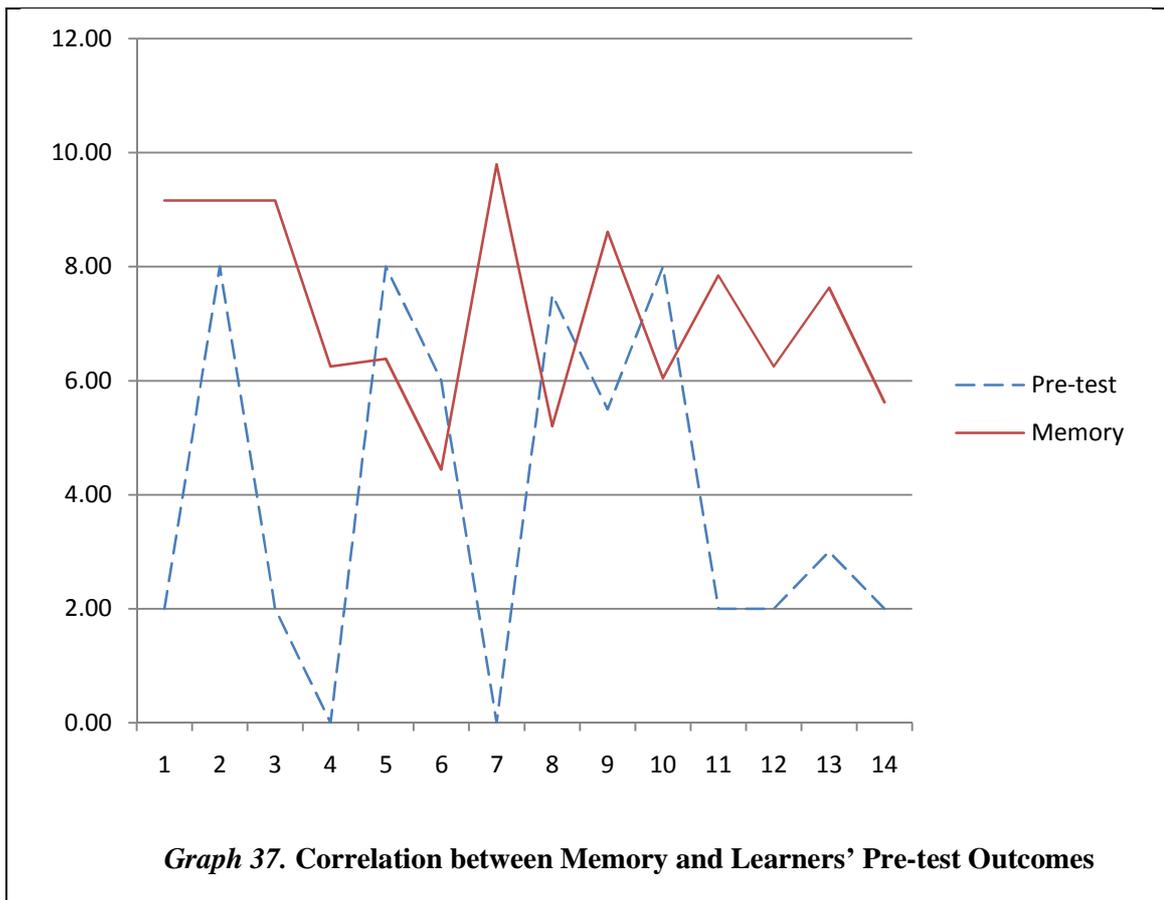
Correlation between the Learners' Grammar Performance and Some Selected Cognitive Processes (Was/Were + Past Participle + Ing; Past Simple + Being+P.Participle)

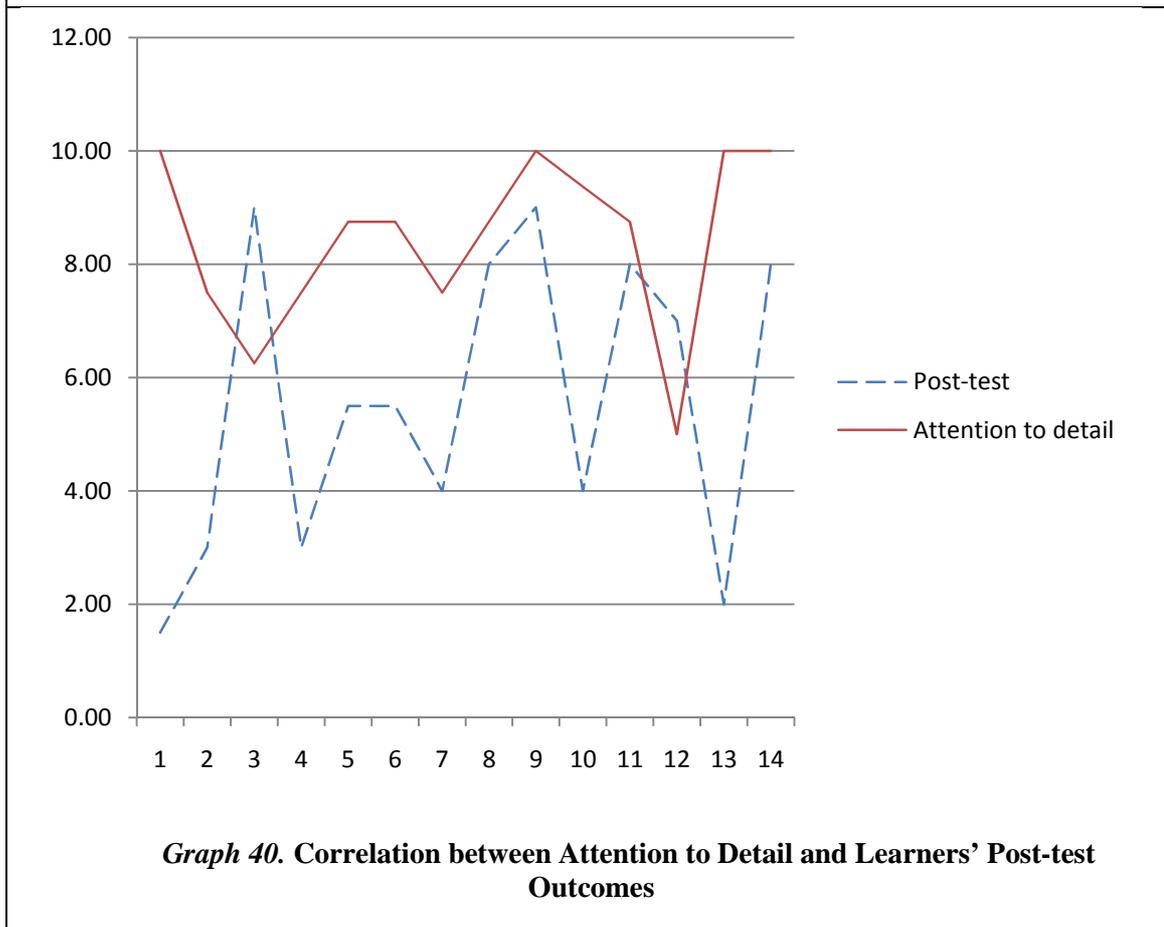
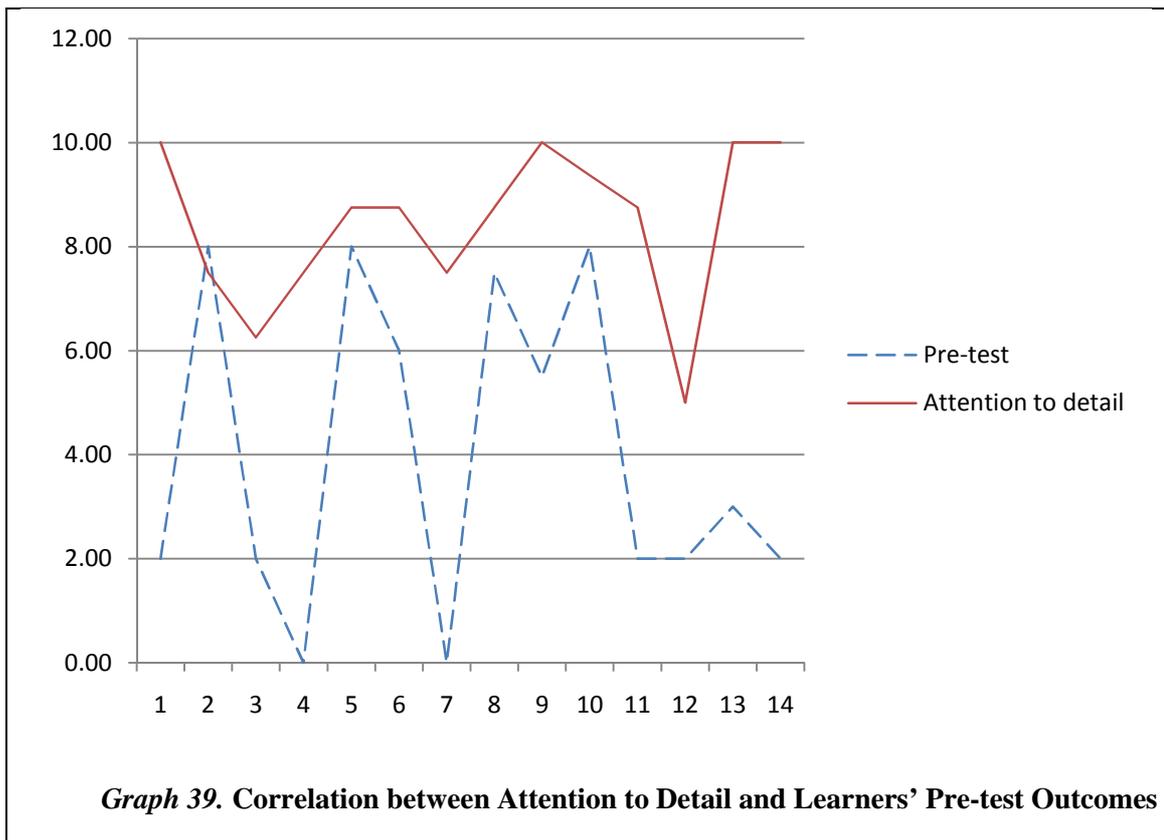
The Target Grammar Structure	The Cognitive Processes													
	Analogy		Associative thinking		Memorization		Attention to detail		Classification		Logical reasoning (deductive and analytical thinking)		Creativity	
Was/Were + Past Participle+Ing; Past Simple + Being + P.Participle	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
		0,065	0,06	-0,235	-0,309	-0,316	-0,185	0,259	-0,169	0,346	-0,091	-0,139	-0,073	0,06

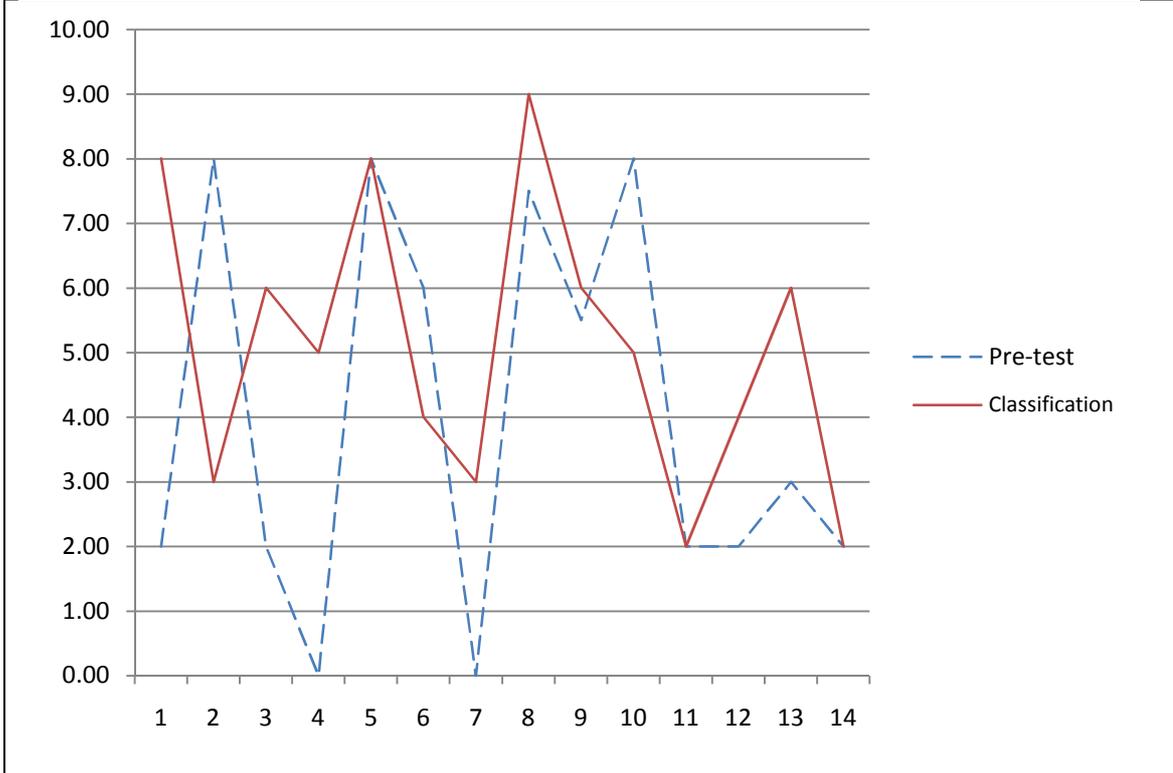
Test (3) Graphs: Correlation between Learners' Cognitive Abilities and their Grammar Performance (Was/Were + Past Participle + Ing; Past Simple+ Being+ Past Participle)



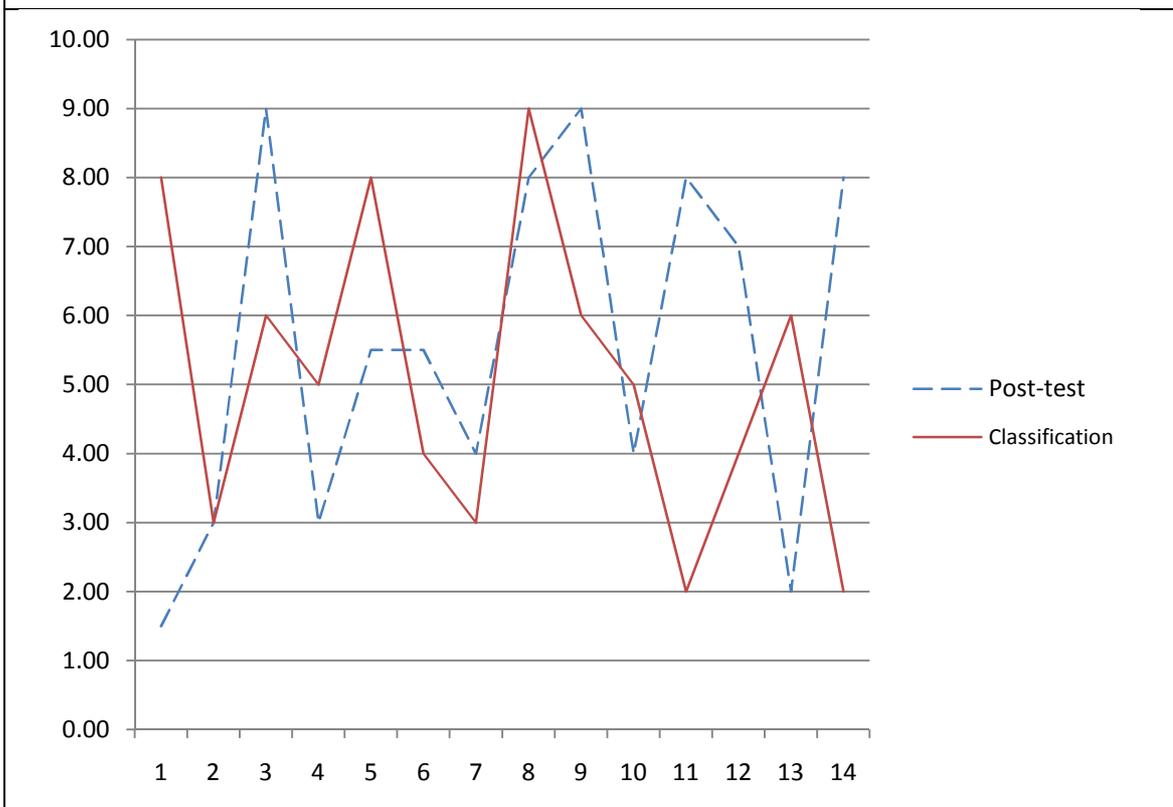




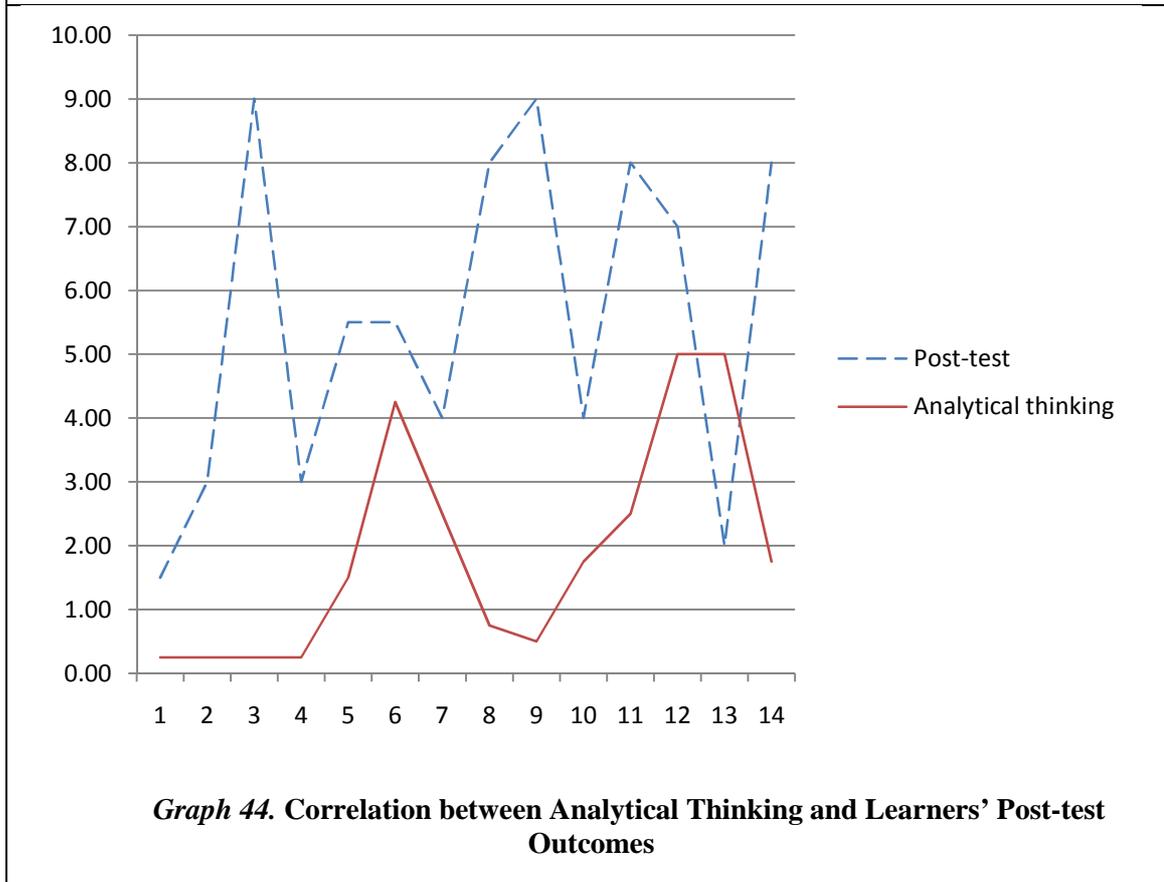
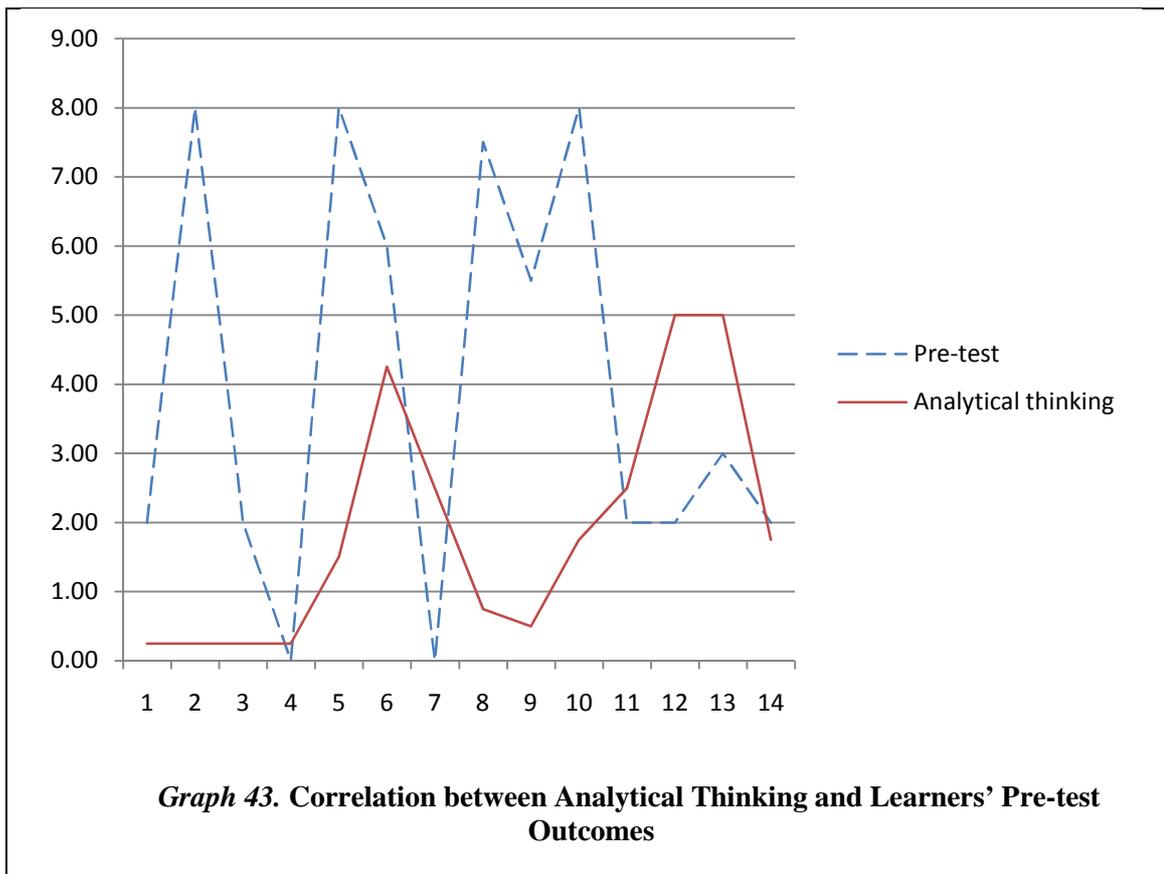


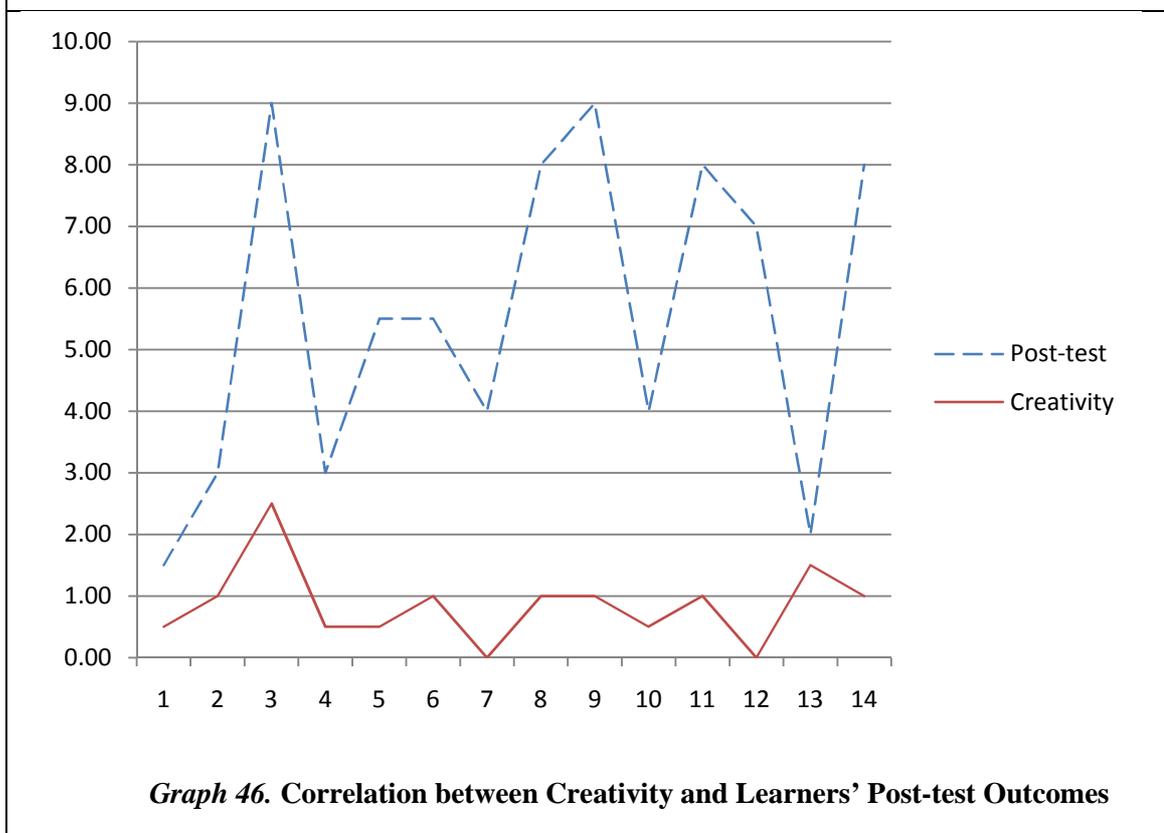
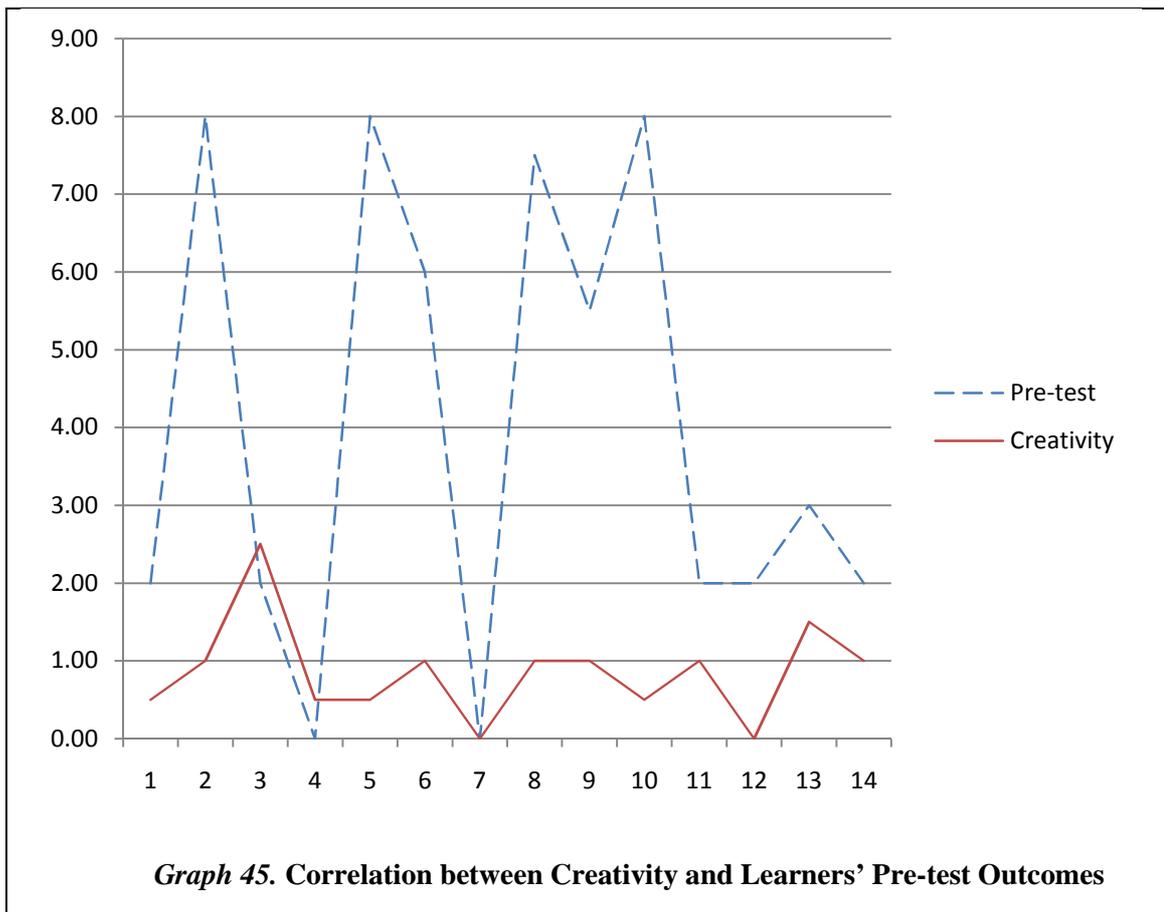


Graph 41. Correlation between Classification and Learners' Pre-test Outcomes



Graph 42. Correlation between Classification and Learners' Post-test Outcomes





4.4.3.1. Analysis. The third set of correlation analysis in table (22) represented the relationship between the learners' accurate performance in using the two passive-form related structures: Was/were + past participle + ing; past simple+ being+ past participle, and the seven selected cognitive processes before and after the cooperative work. In this test, the results indicated that the learners' accuracy was remarkably enhanced by the creativity cognitive process after the group work where the coefficient of correlation increased from ($r_{pre} = 0.06$) in the pre-test to ($r_{po} = 0.34$) in the post-test. With the analogy cognitive process, (0.06) was the value reached by the coefficient of correlation prior and after the cooperative work. The correlation representing the relationship between the classification cognitive process and the extent of the learners' accuracy decreased from ($r_{pre} = 0.346$) in the pre-test to ($r_{po} = -0.091$) in the post-test. With the attention to detail, the r value also decreased from ($r_{pre} = 0.259$) in the pre-test to ($r_{po} = -0.169$) in the post-test. The three remaining cognitive processes: logical reasoning ($r_{pre} = -0.139$; $r_{po} = -0.073$), memory ($r_{pre} = -0.316$; $r_{po} = -0.185$); and associative thinking ($r_{pre} = -0.235$; $r_{po} = -0.309$) did not reflect any significant effect upon the learners' performance neither before the cooperative work nor after it.

4.4.3.2. Discussion. The analysis of the results reflecting the correlation between the extent of the accuracy and the cognitive processes, that may intervene to foster it prior and after the cooperative work, revealed that the group work led the creativity to be the most influential cognitive process. This finding may be explained by two reasons: first, the need to solve the problem at hand made appeal to creativity which incorporates finding solutions, ideas and new thoughts as main sub-mental processes; and second the nature of the two grammatical structures that have been newly instructed in the curriculum. But with the analogy cognitive process that is termed as a similitude of relations, where it is necessary for the student to reason the answer from a parallel case,

the sameness of the learners' outcomes prior and after the cooperative work was apparent. This last finding can be referred to the learners' misuse of that cognitive process, although the nature of the two grammatical structures, which represent other facets to the basic passive form, and the type of the proposed task as well necessitate that analogy to proceed the proposed input. The absence of the cooperative work effect upon classification, and attention to detail was considerable. This may be attributed to the inconvenience of the group work context with the processing of these two mental processes. Logical reasoning, associative thinking, and memory revealed negative associations with the learners' accurate performance prior and after group work. This finding is an indicative of greater demand on processing resources in situations when interactional feedback or other sources of positive evidence are not available for immediate processing.

4.4.4. Test (4): Passive Form Variety: The Verb + To Be + Past .Participle. In the table below (23), the obtained results revealed the mean scores reached by the students in the fourth test dealing with: *the verb + to be + p. participle* structure. (4) was the mean score attained in the pre-test. (5.42) was the one gained in the post-test.

Table 23.

Descriptive Statistics for the Fourth Pre-test and Post-test Outcomes

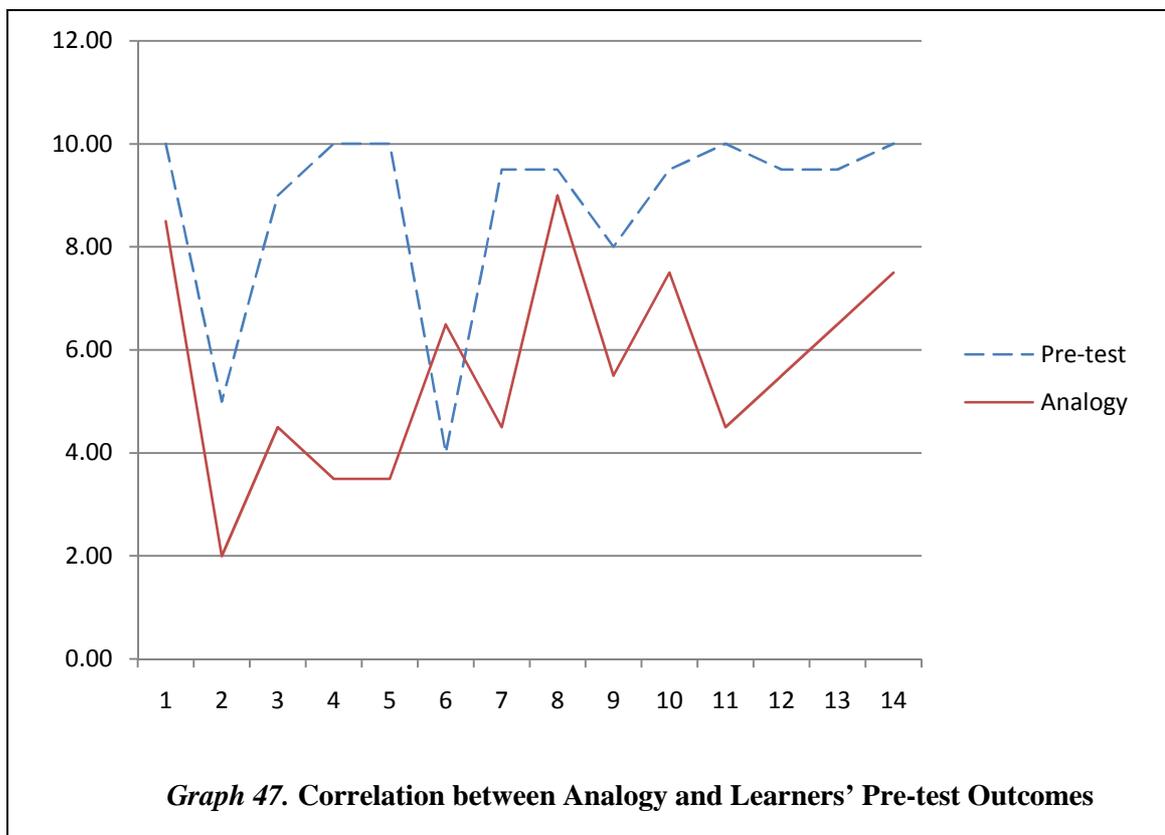
N	The Target Grammar Structure	Passive: Verb+ To be + P. Participle	
		M	SD
15	Pre -test	4	2,218
15	Post-test	5,428	3,452

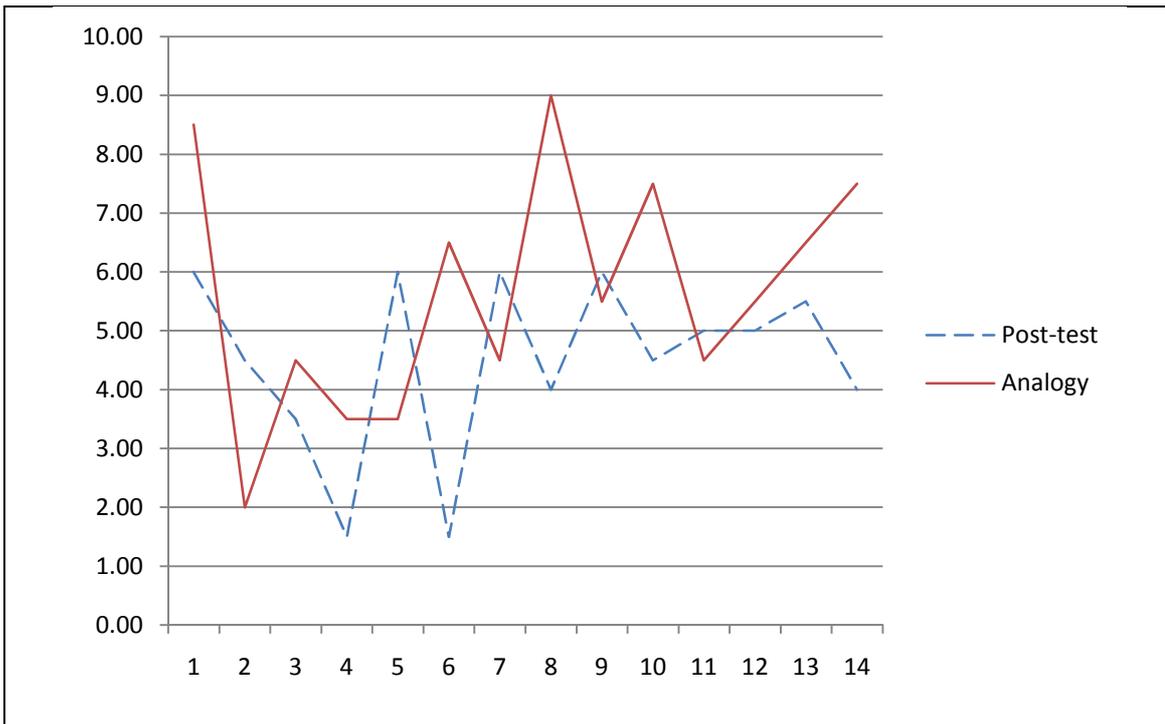
Table 24.

Correlation between the Learners' Grammar Performance and Some Selected Cognitive Processes (Passive: the verb + to be +p. participle)

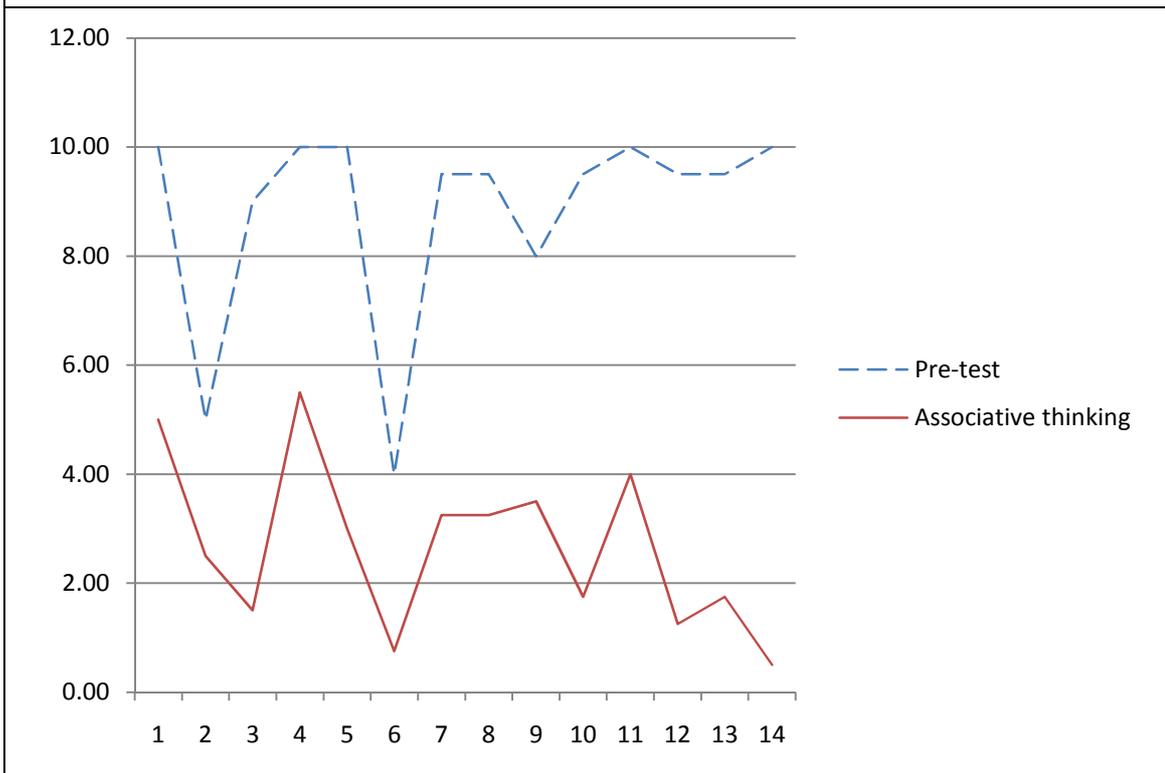
The Target Grammar Structure	The Cognitive Processes													
	Analogy		Associative Thinking		Memorization		Attention to Detail		Classification		Logical Reasoning (deductive and analytical thinking)		Creativity	
Passive: The verb+To be+ P.Participle	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
		-0,220	0,46	-0,203	-0,398	0,384	0,029	-0,369	0,437	-0,031	0,130	-0,188	0,165	0,711

Test (4) Graphs: Correlation between Learners' Cognitive Abilities and their Grammar Performance (The Passive Form Structure: The Verb + To Be + Past .Participle).

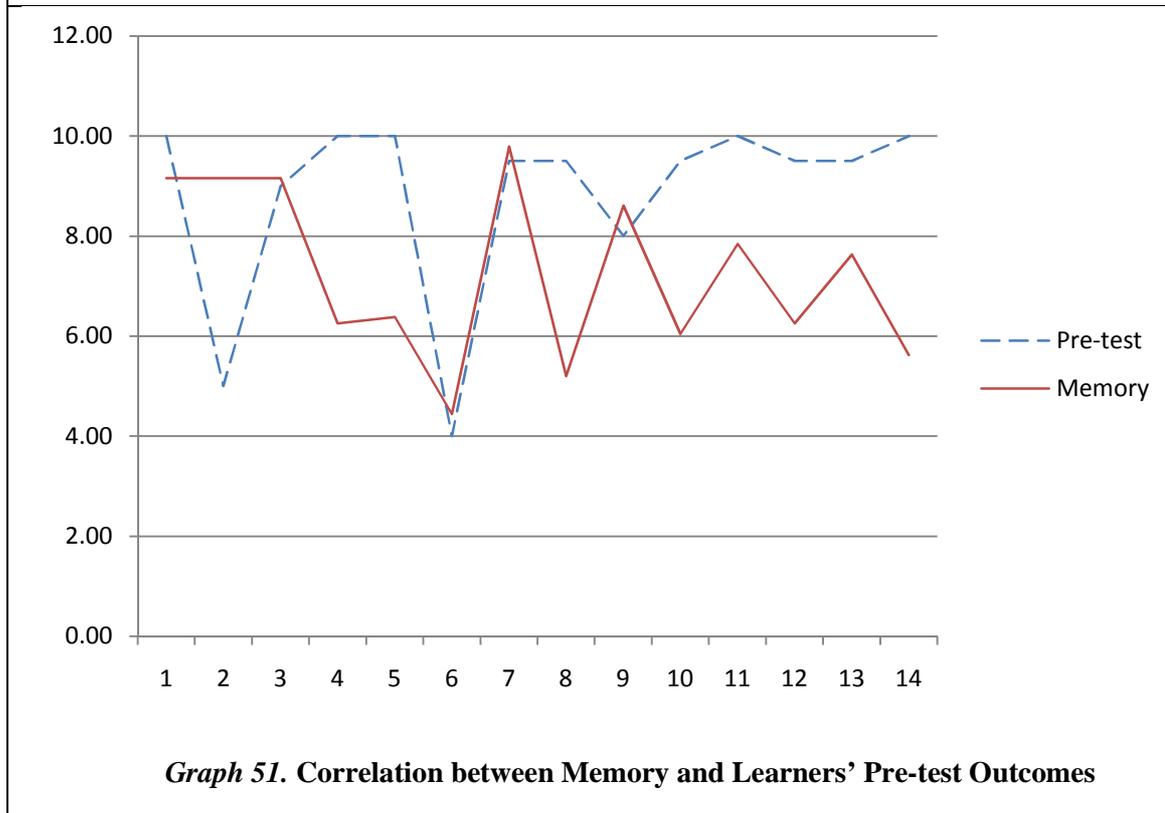
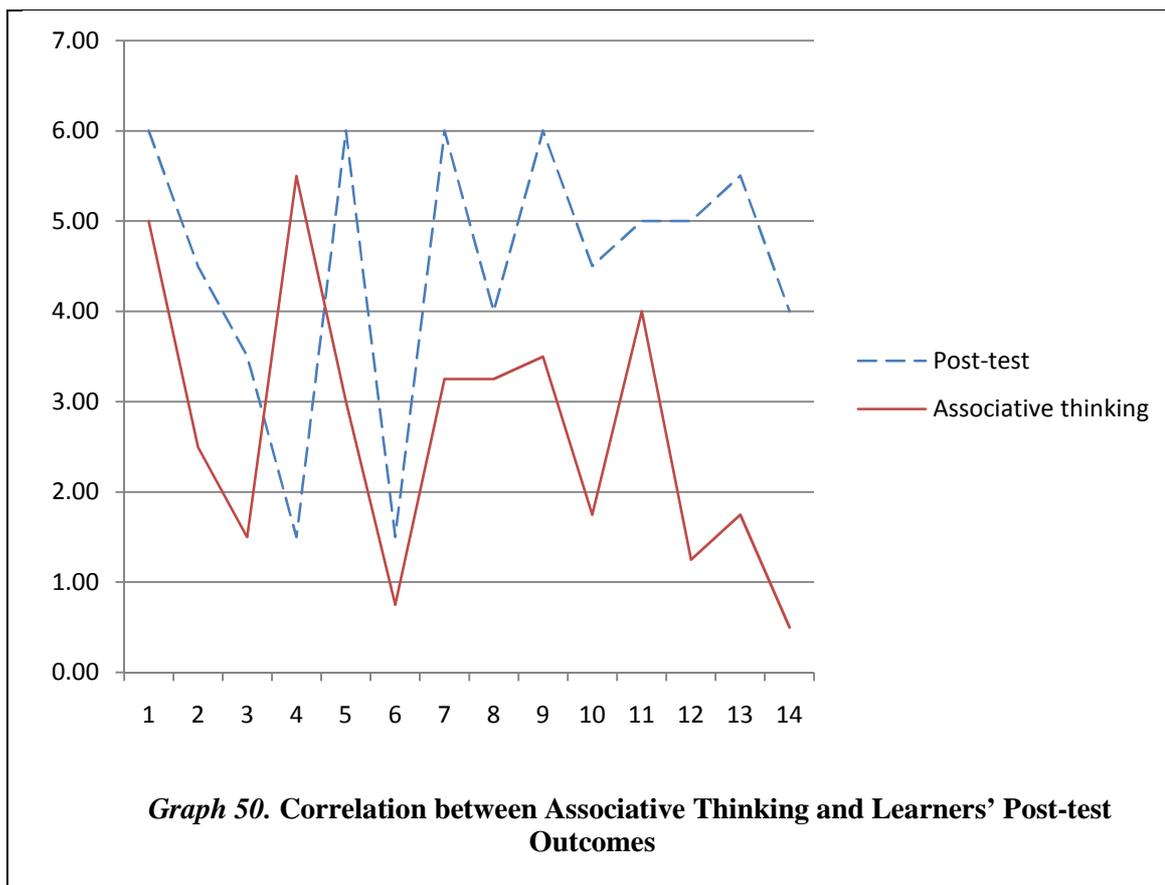


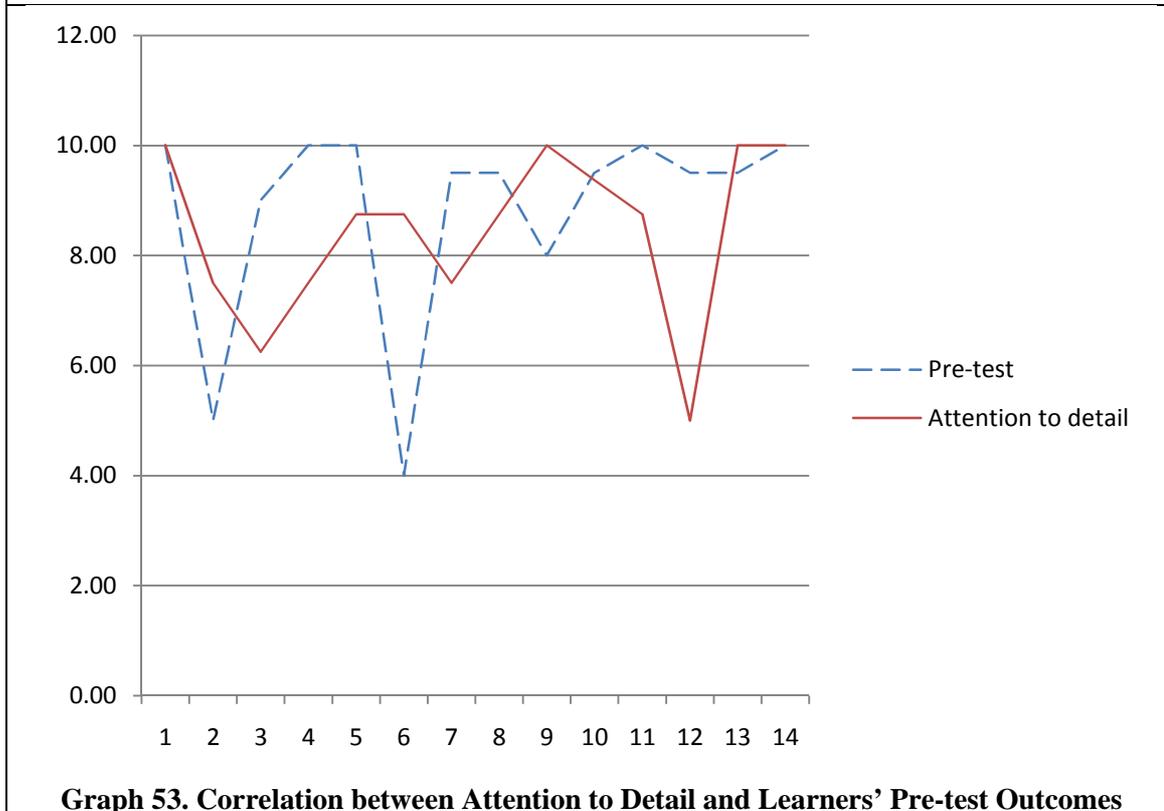
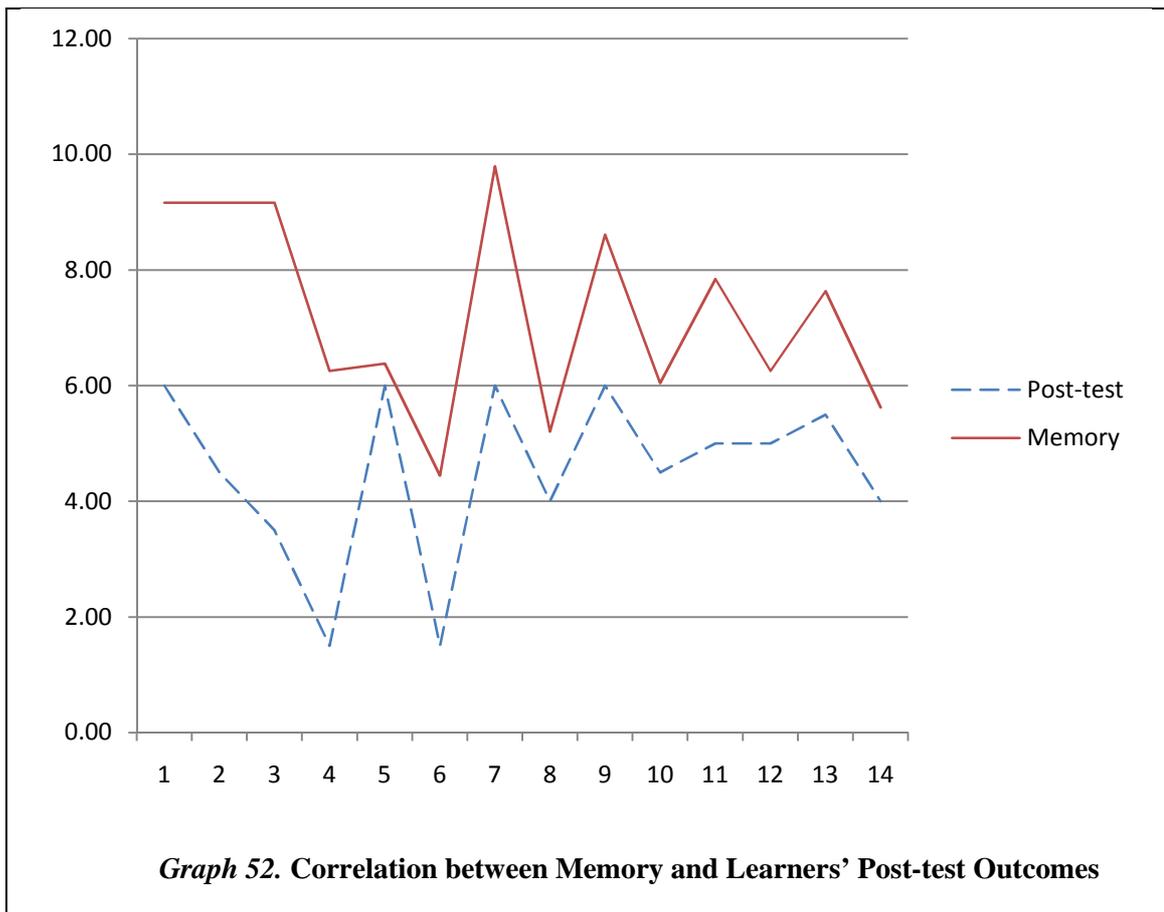


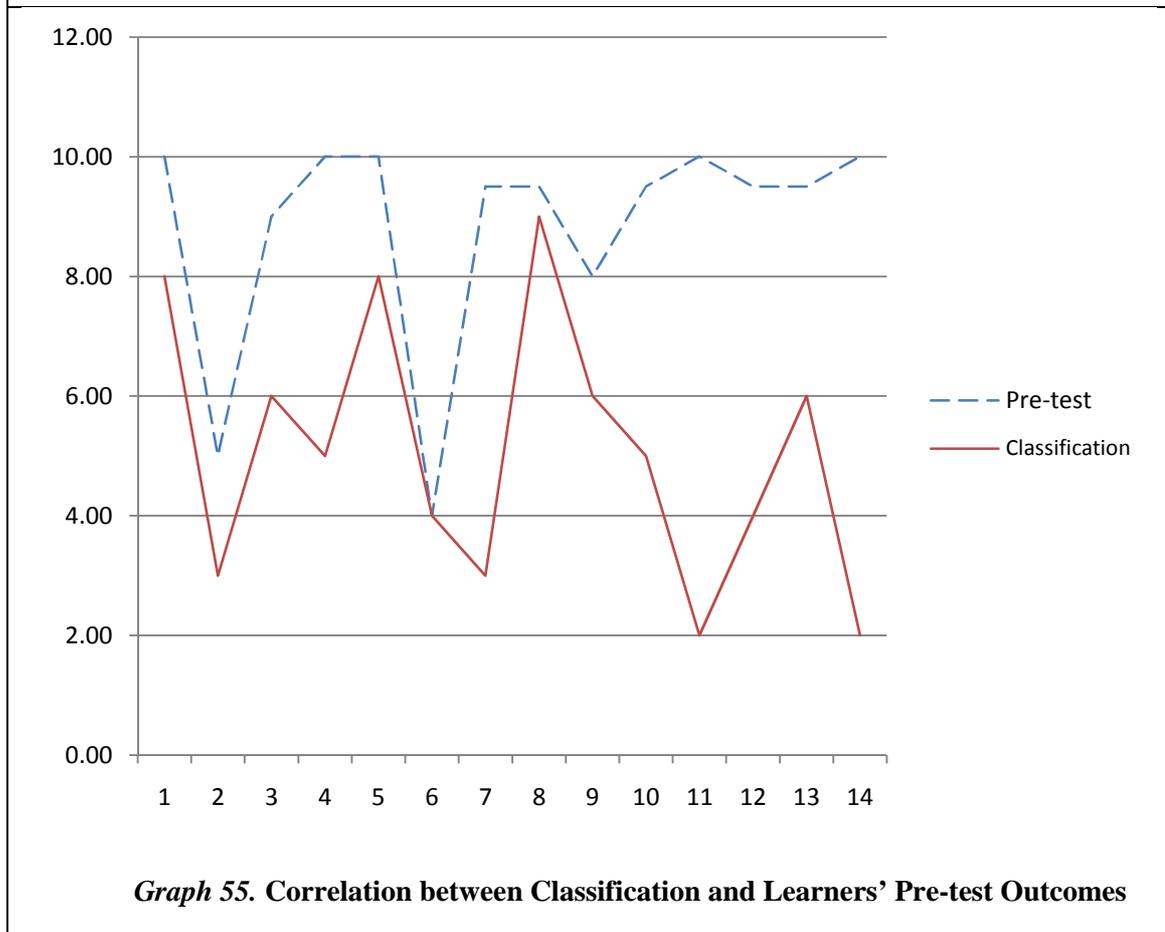
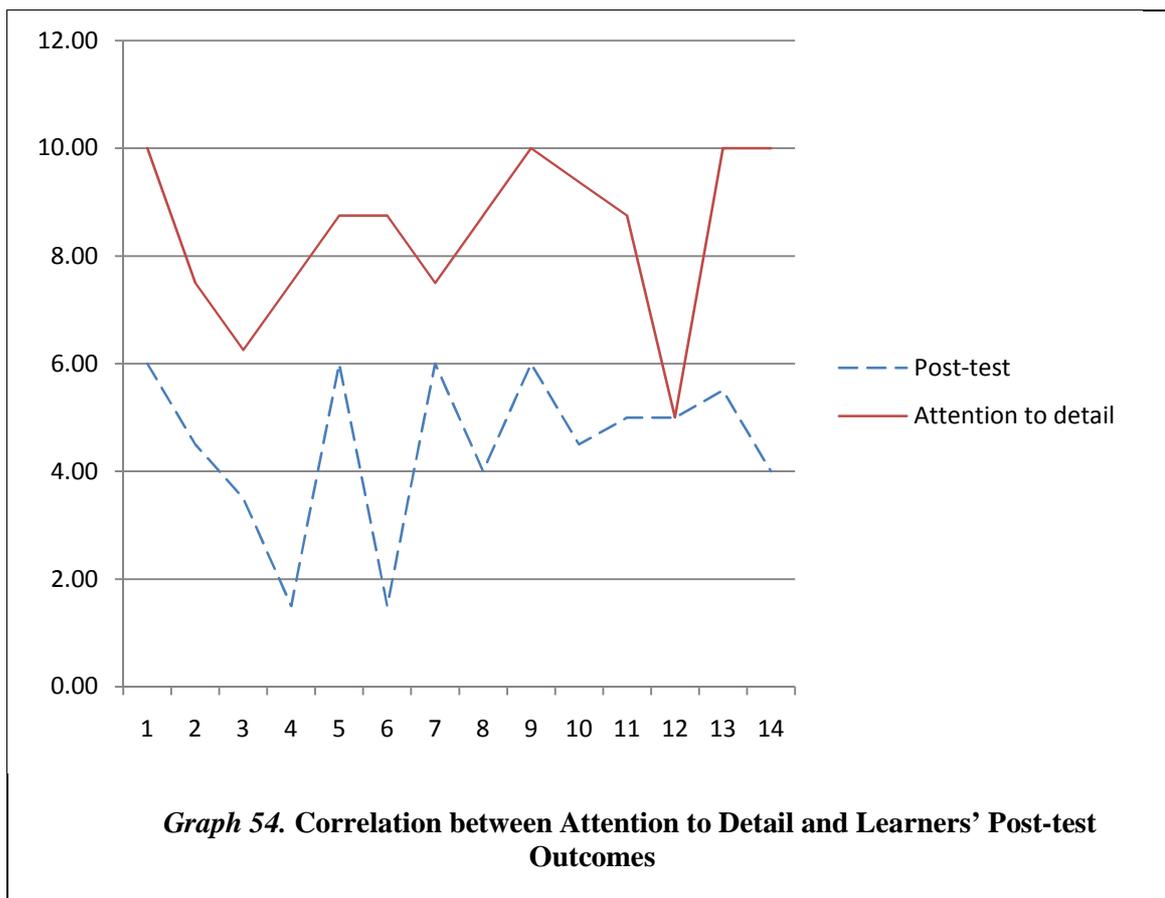
Graph 48. Correlation between Analogy and Learners' Pre-test Outcomes

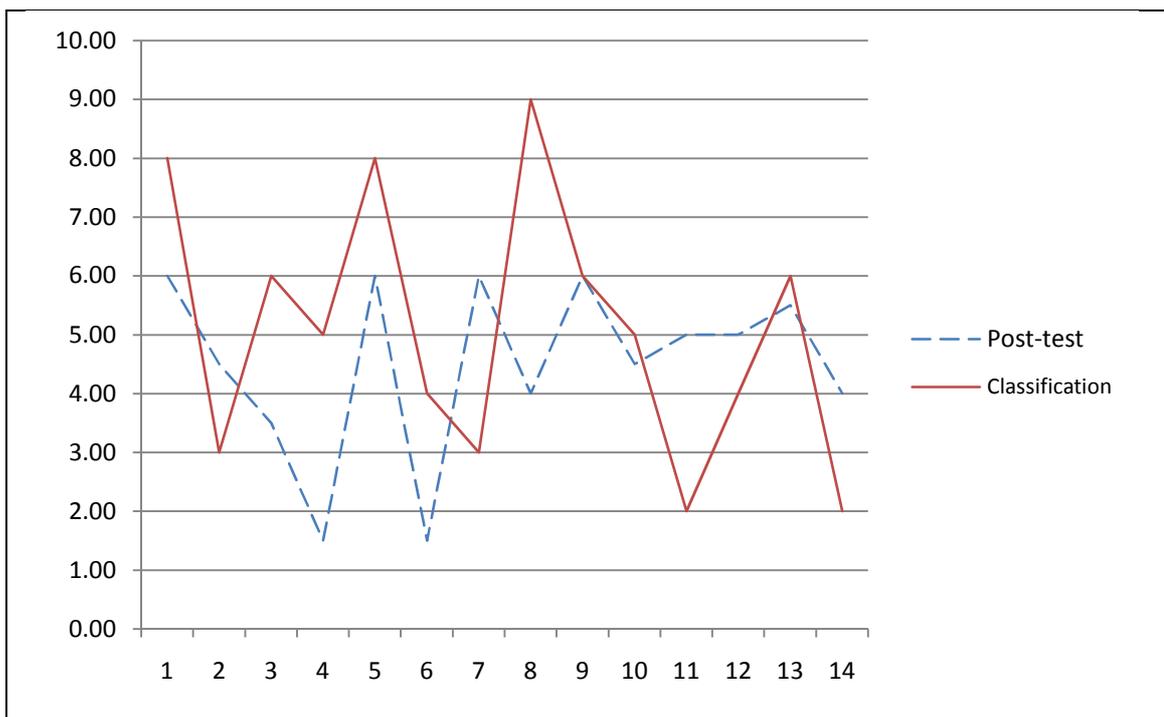


Graph 49. Correlation between Associative Thinking and Learners' Pre-test Outcomes

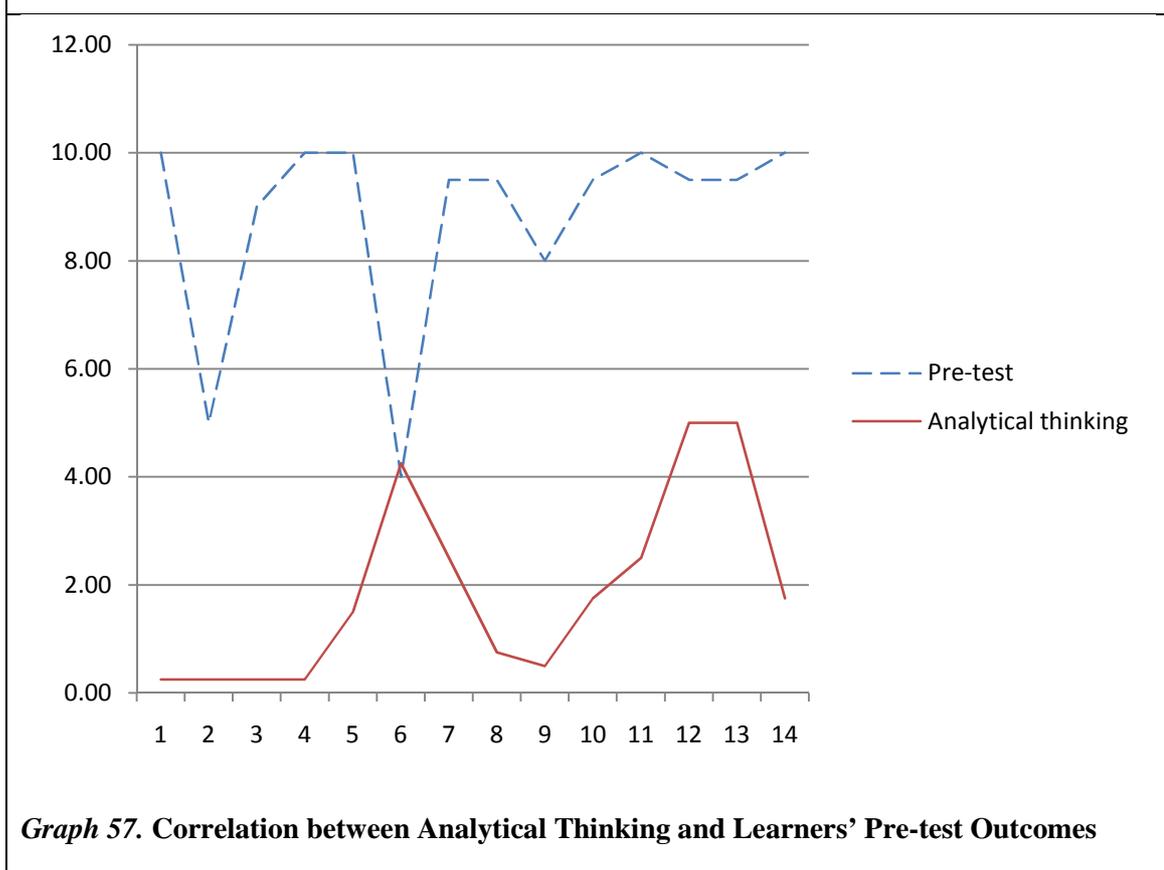




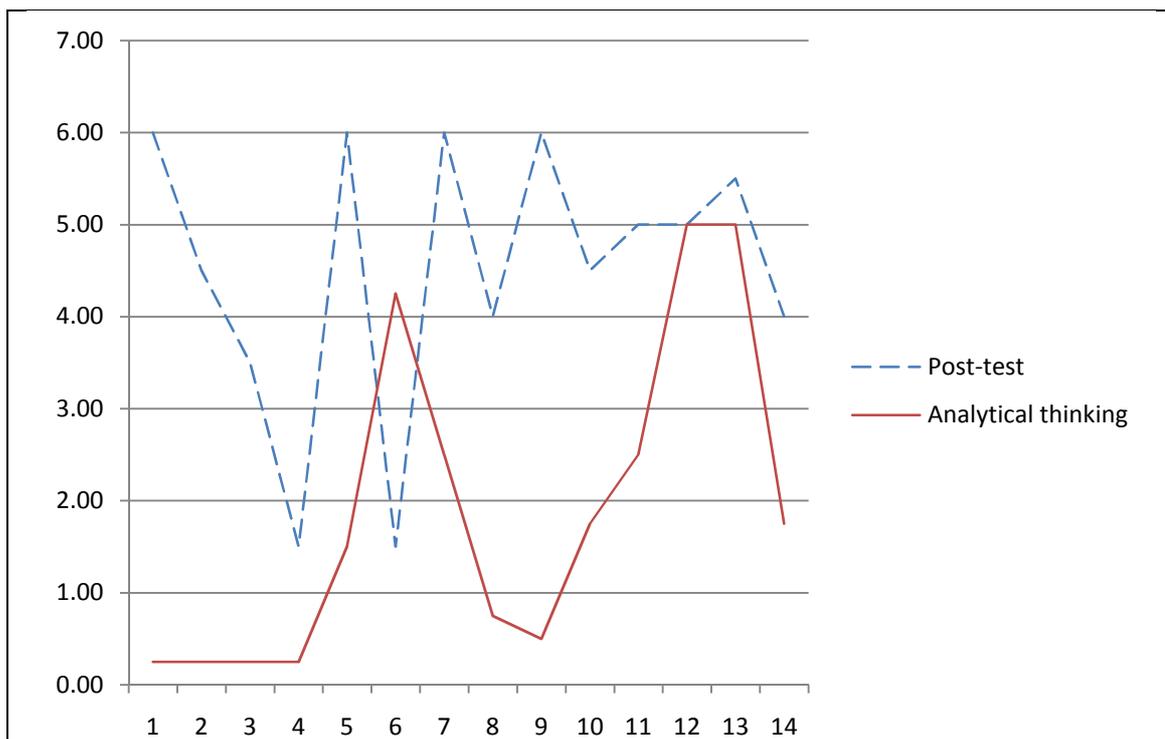




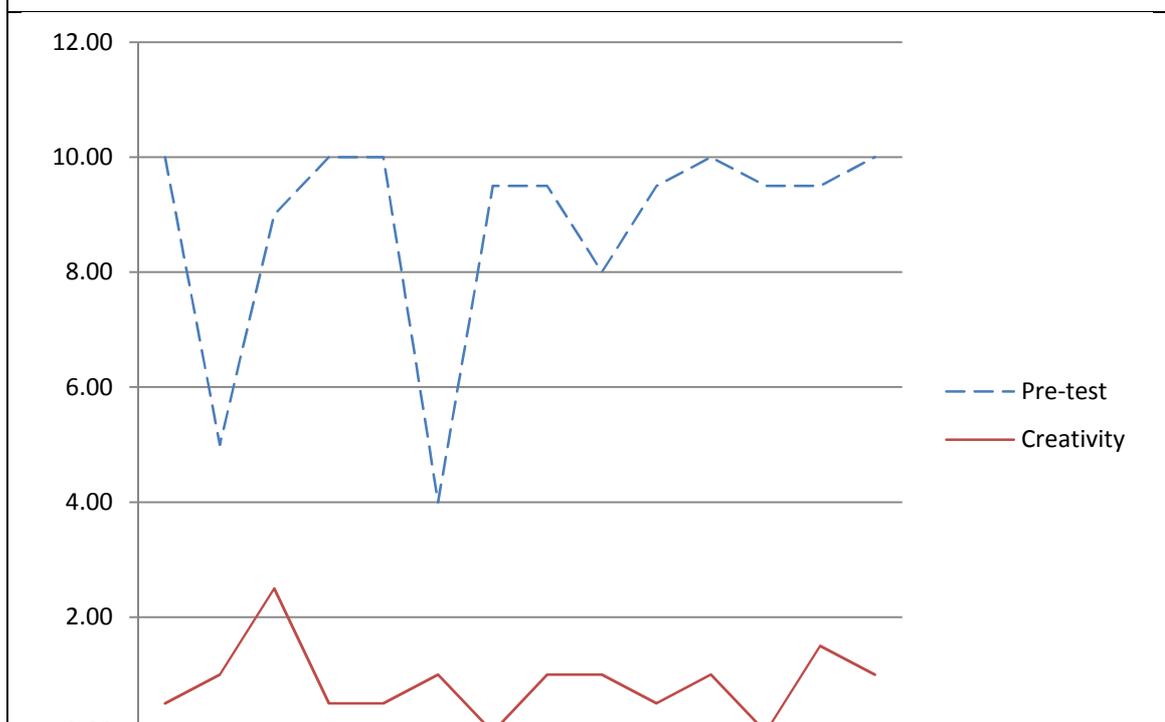
Graph 56. Correlation between Classification and Learners' Post-test Outcomes



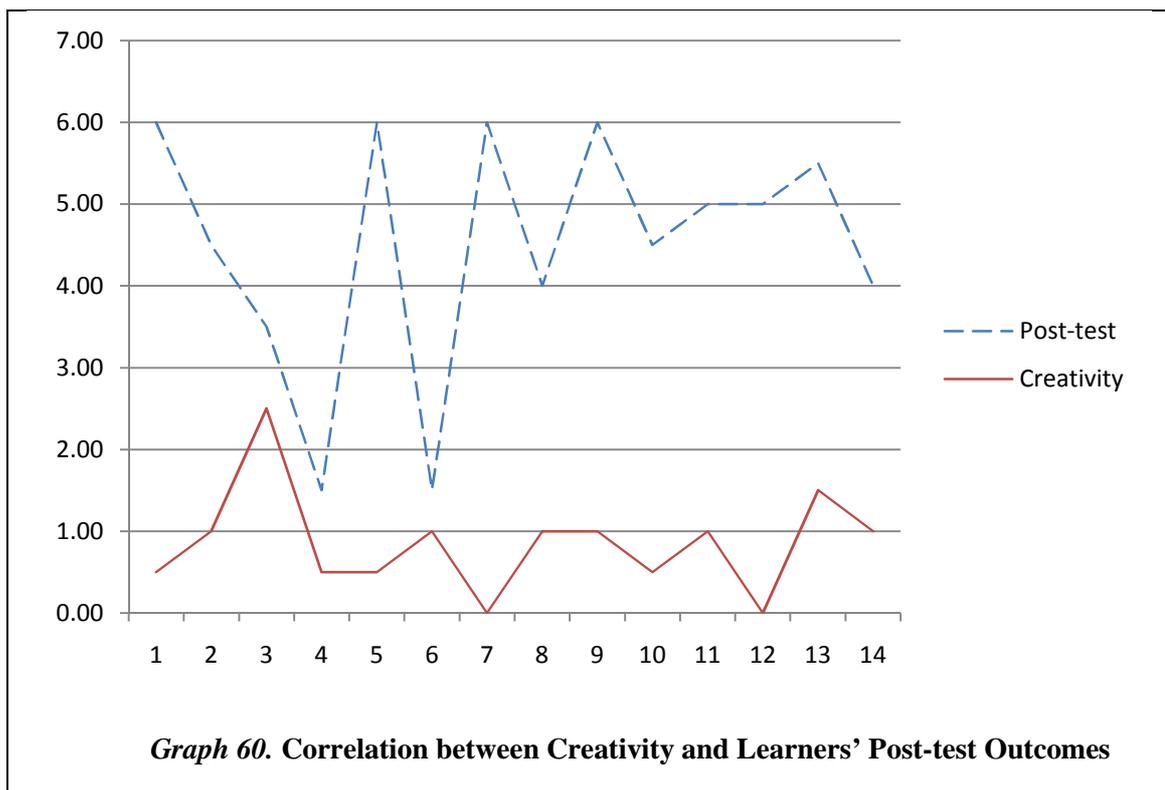
Graph 57. Correlation between Analytical Thinking and Learners' Pre-test Outcomes



Graph 58. Correlation between Analytical Thinking and Learners' Post-test Outcomes



Graph 59. Correlation between Creativity and Learners' Post-test Outcomes



4.4.4.1. Analysis. The fourth set of correlation is summed up in table (24) revealing the associations between the learners' accurate use of the passive form related structure: the verb + to be + p. participle and the seven cognitive processes that might intervene to develop the learners' achievement before and after the cooperative work. The analysis of these associations explored that the learners' accuracy was mostly enhanced by the analogy cognitive process where the coefficient of correlation increased significantly from ($r_{pre} = -0.220$) in the individual work to ($r_{po} = 0.460$) after the group work. A lesser impact was the one represented by the association between grammar performance and the attention to detail where the cooperative work effect was apparent ($r_{po} = 0.437$) outweighing the one in the individual work ($r_{pre} = -0.369$). To a lesser extent, the learners' achievement was fostered by the logical reasoning cognitive process where the association increased from ($r_{pre} = -0.188$) in the pre-test to ($r_{po} = 0.165$) in the post-test. The classification did also participate in enhancing the accurate use of the target structure where the correlation reached ($r_{po} = 0.130$) in post-test after having reached ($r_{pre} = -0.031$). The absence of the group work impact was clear with creativity, ($r_{pre} = 0.711$) in the pre test and ($r_{po} = 0.197$) in the post-test. Even with memory, the coefficient of correlation decreased from ($r_{pre} = 0.384$) to ($r_{po} = 0.029$). Negative and non-significant association was the one representing the associative thinking effect.

4.4.4.2. Discussion. The results of this test shed light on other cognitive processes effect upon the development of grammatical accuracy in written tests before and following the interactional activity. A positive and a significant association was noticed between the analogy and the grammar accuracy after the interactional activity raised among the learners. This finding can be explained by the motivational atmosphere that the interactional context provided to raise the learners' awareness of the importance of that cognitive process in handling such passive form - related structure. Attention to detail, logical reasoning, and classification proved their positive effect on the accurate performance of the learners' after having been immersed within the cooperative context. This can be attributed to the type of the target grammatical structure which represented one of the passive form varieties; and to the insider atmosphere of the group work that confirmed the fertility of the interactional context in raising the learners' consciousness of extending the list of the cognitive abilities. And also in promoting their competence, being influenced by their peers, of acquiring and using appropriately other cognitive processes. With memory and creativity, there was no association with the learners' performance after the group work.

As it is known, the interrelationship between the different cognitive processes is complex and still not well understood. Hence, two interpretations might be given to this latter finding: First, the type of the target structure and the task at hand did not require the learners to rely on their memory and creativity, which itself entails memorization as a sub-mental process. Second, it may happen that the above mentioned four cognitive processes were more susceptible to the group work dynamics effect more than the creativity and the memory. As it may happen that the learners were busier in using these four processes. Finally, the associative thinking cognitive process showed the absence of its effect in fostering the extent of accuracy

in this test. This may be due to either the task design that made it less demanding or due to some frustrating psychological factors resulted from the internal interactive context.

4.4.5. Test (5): Tenses in Reported Speech. The table (25) below recapitulates the learners' achievement in a written test covering the tenses in reported speech prior and after the group work. Before the cooperative work, their mean score was (4.5) and it increased to reach (8.82) after the cooperative work.

Table 25.

Descriptive Statistics for the Fifth Pre-test and Post-test Outcomes

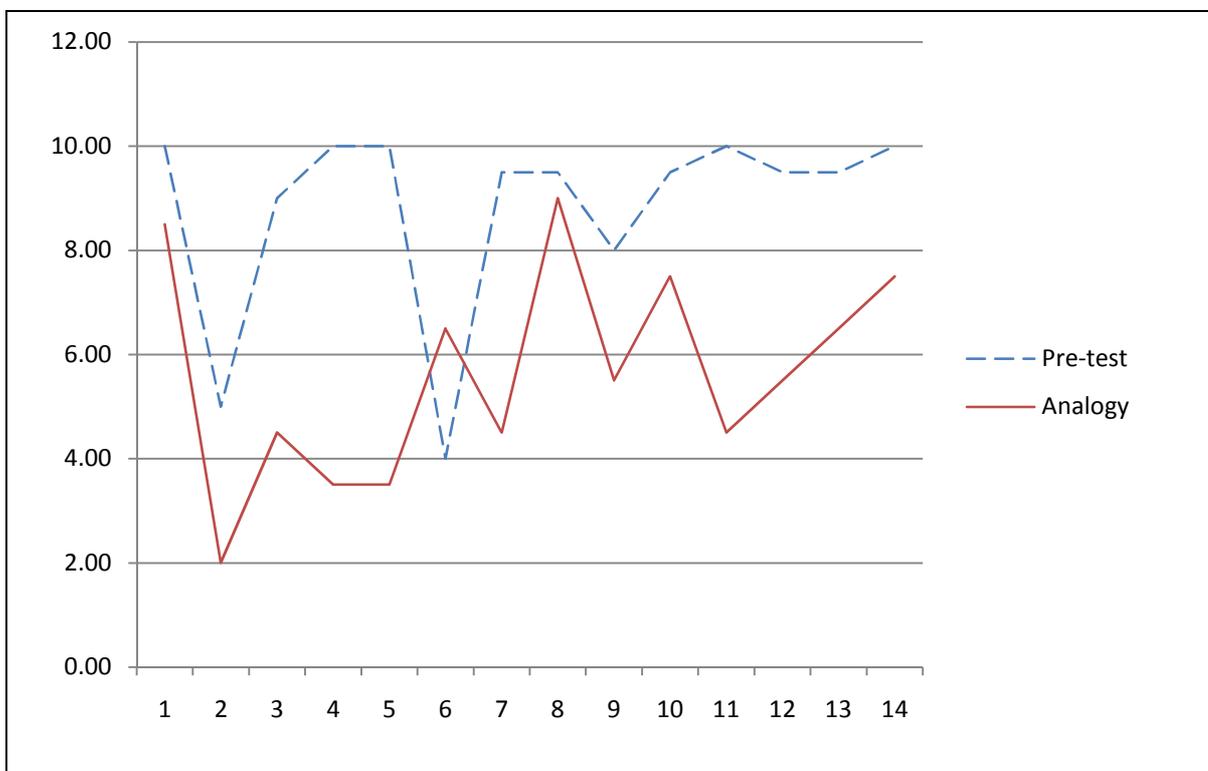
N	The Target Grammar Structure	Passive: The Verb+ To Be + P. Participle	
		M	SD
15	Pre -test	4,5	1,512
15	Post-test	8,821	1,917

Table 26.

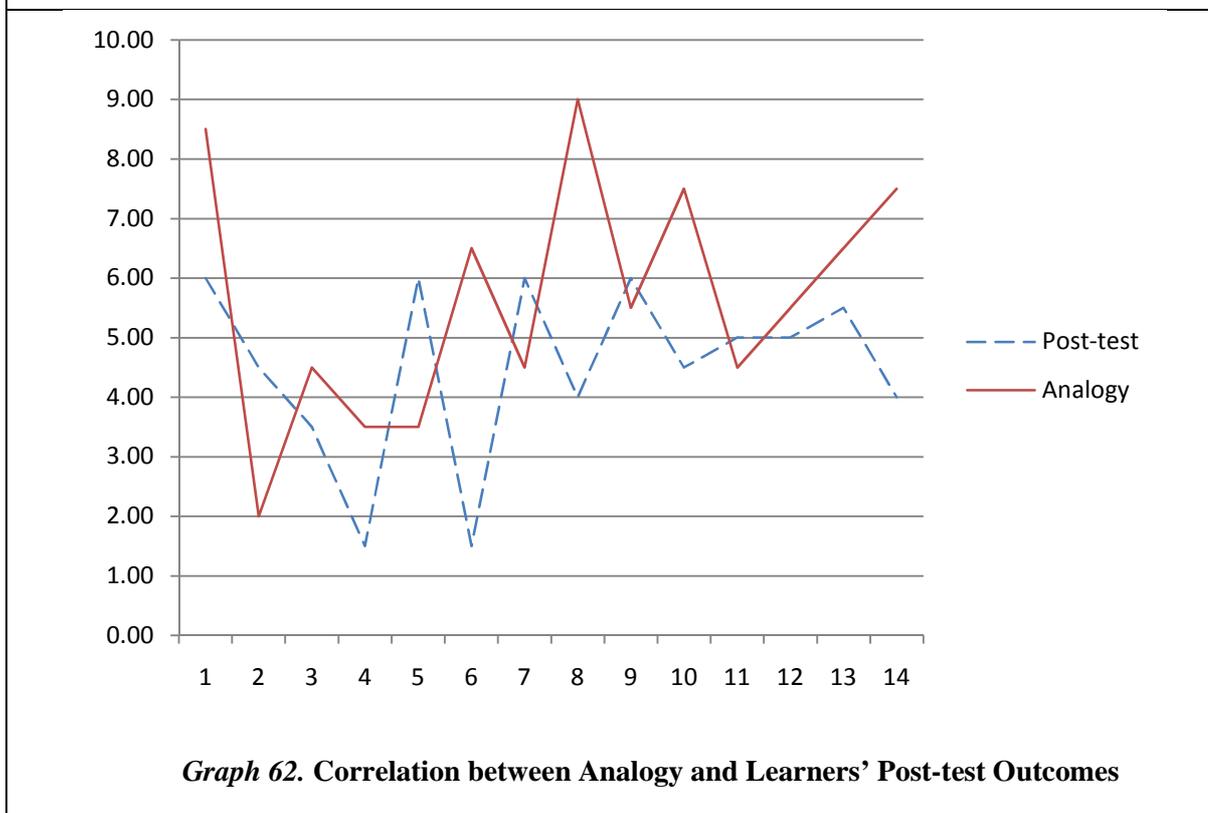
Correlation between the Learners' Grammar Performance and Some Selected Cognitive Processes (Tenses in Reported Speech)

The Target Grammar Structure	The Cognitive Processes													
	Analogy		Associative Thinking		Memorization		Attention to Detail		Classification		Logical Reasoning(deductive and analytical thinking)		Creativity	
Tenses in reported speech	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre_-test	Post-test	Pre_test	Post-test	Pre-test	Post-test
		0.04	0.23	0.145	0.344	0.55	0.078	0.228	0.069	0.181	0.236	0.025	0.213	-0.239

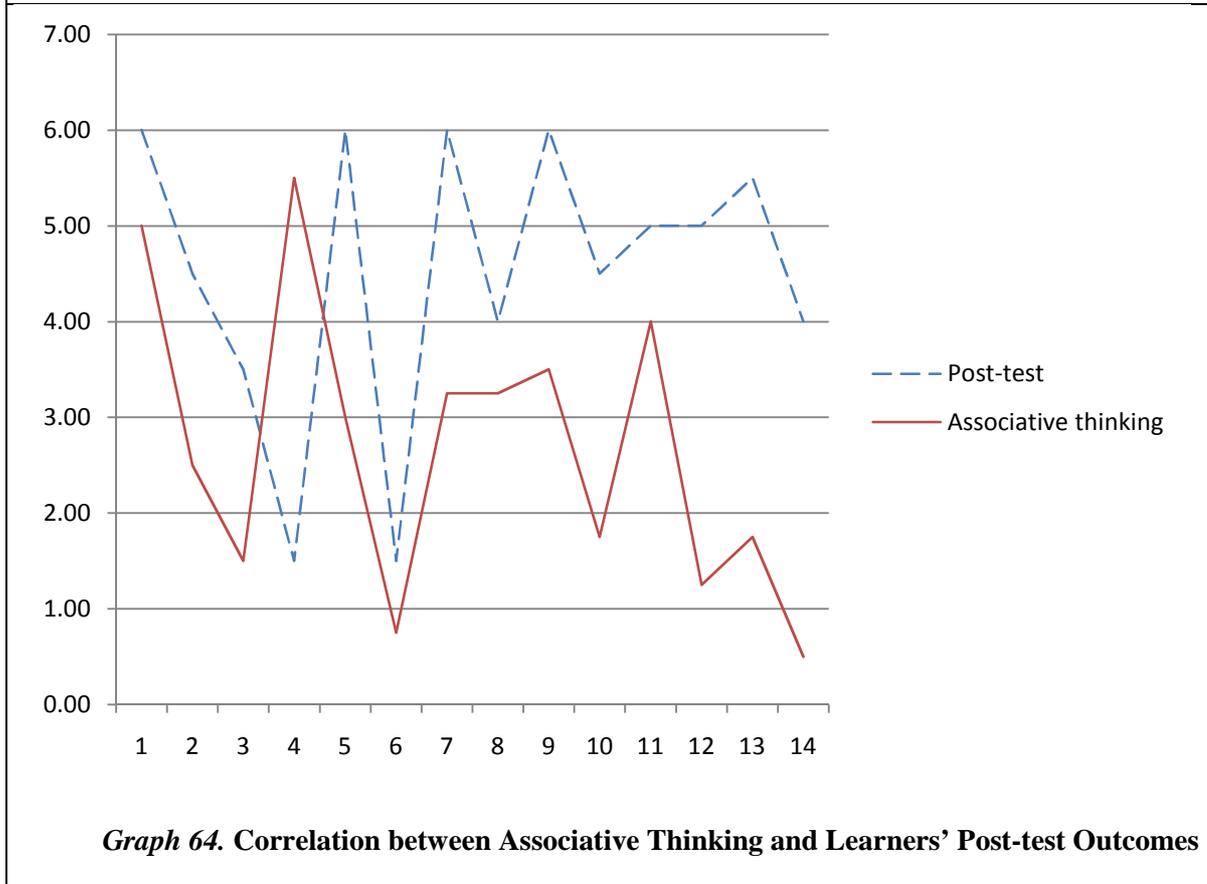
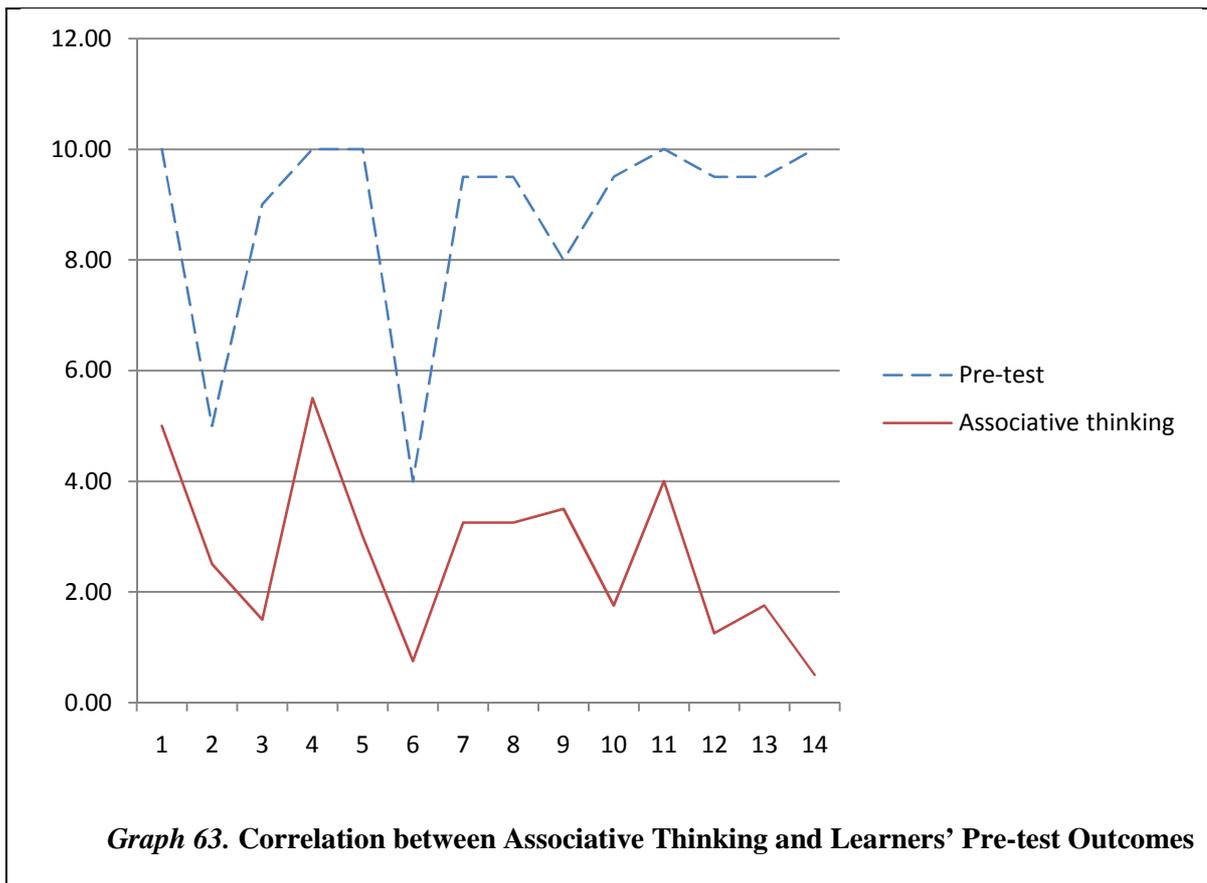
Test (5) Graphs: Correlation between Learners' Cognitive Abilities and their Grammar Performance (Tenses in Reported Speech)

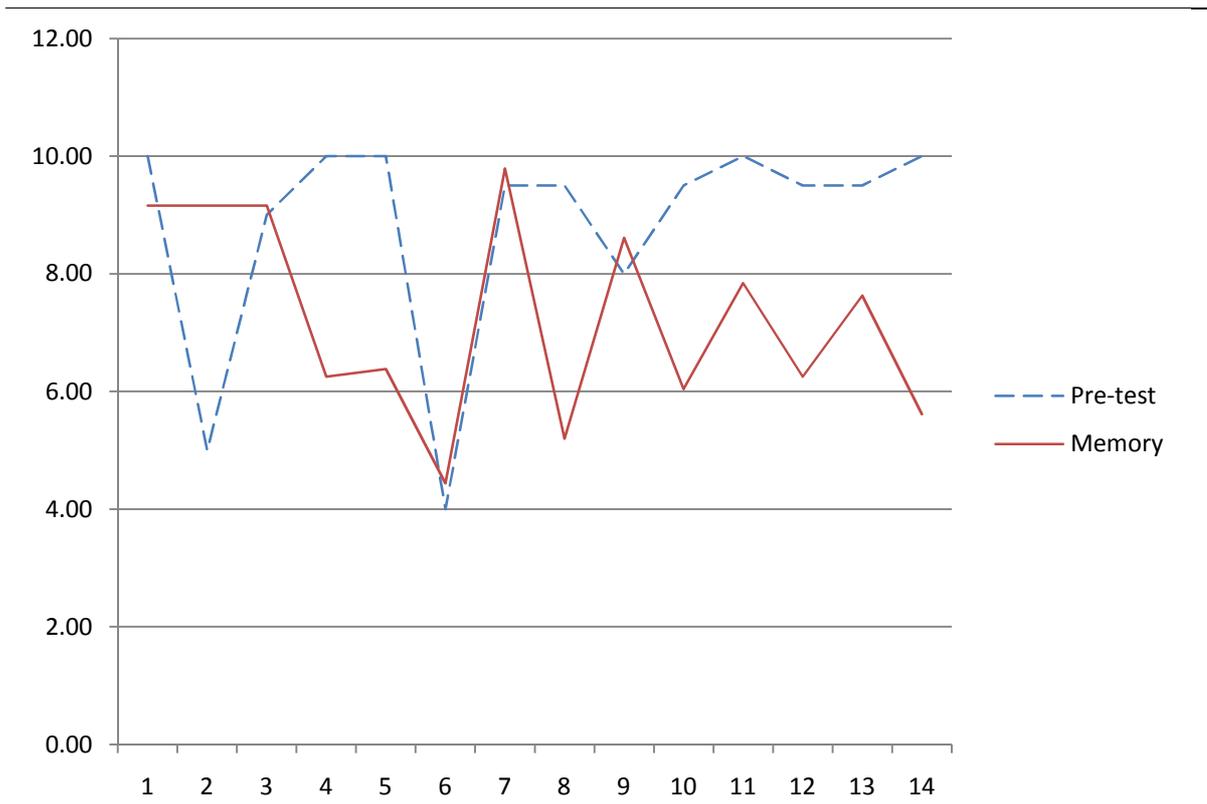


Graph 61. Correlation between Analogy and Learners' Pre-test Outcomes

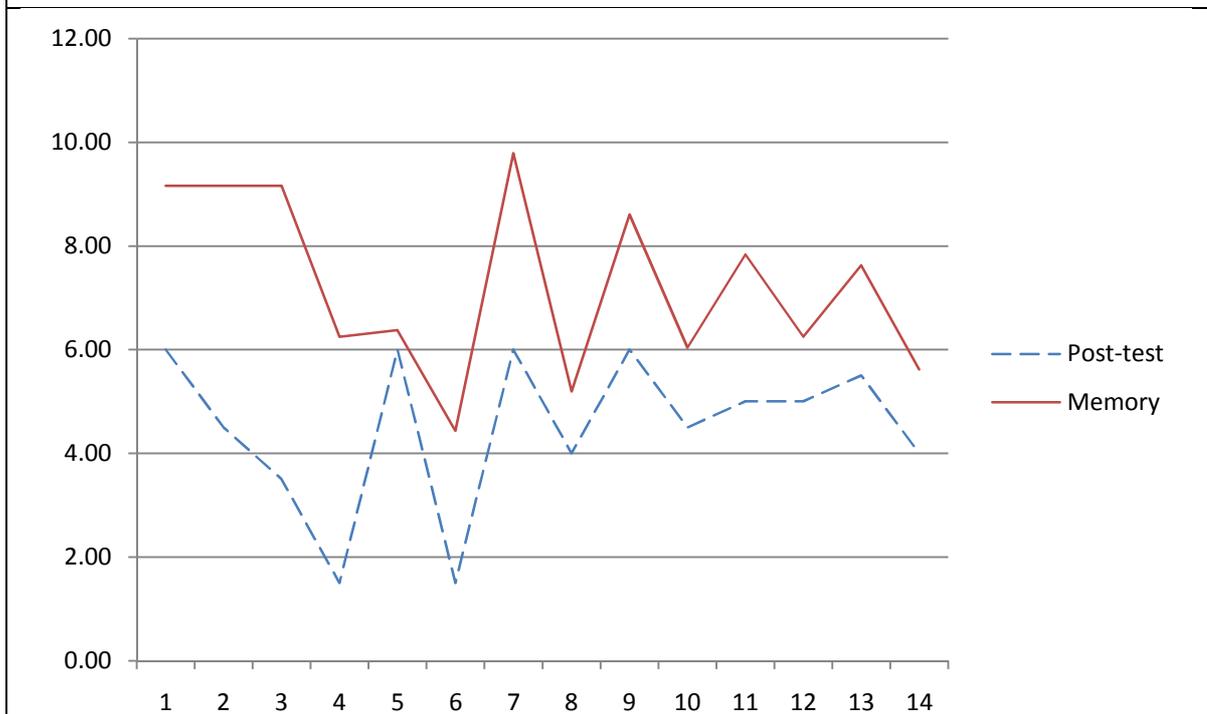


Graph 62. Correlation between Analogy and Learners' Post-test Outcomes

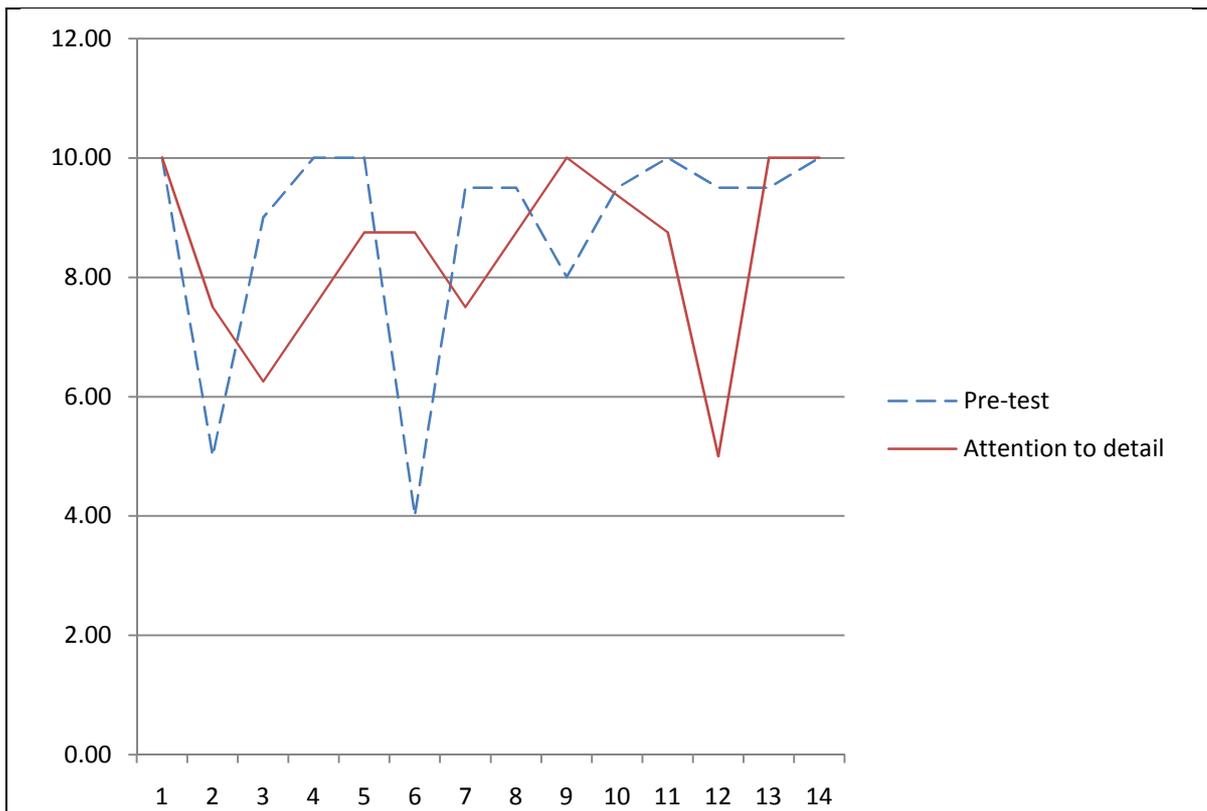




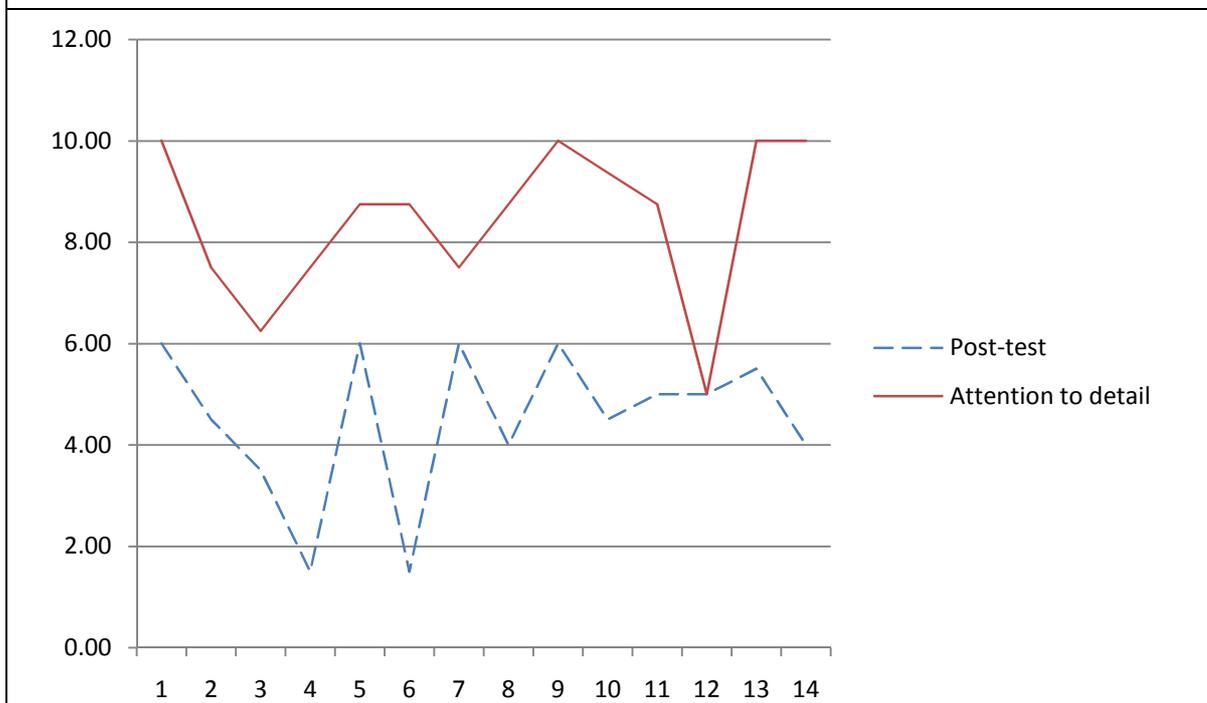
Graph 65. Correlation between memory and learners' pre-test outcomes



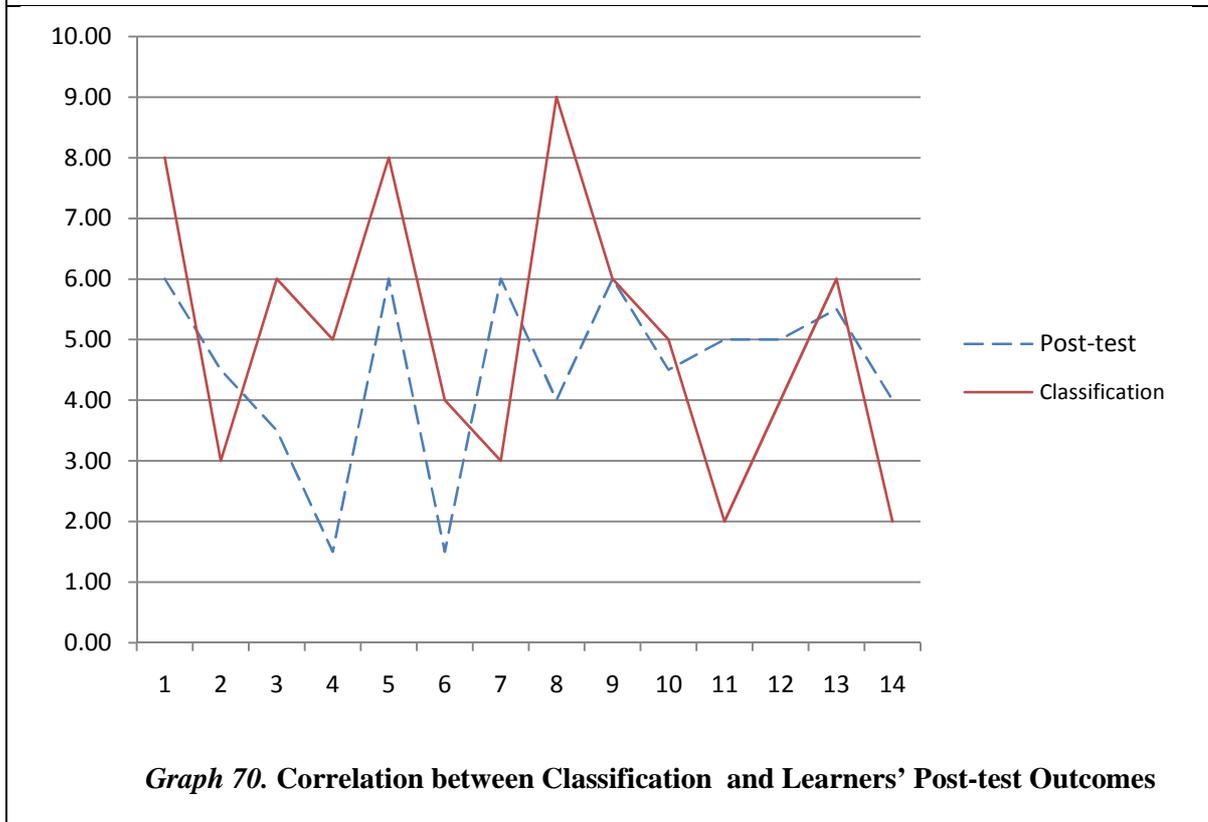
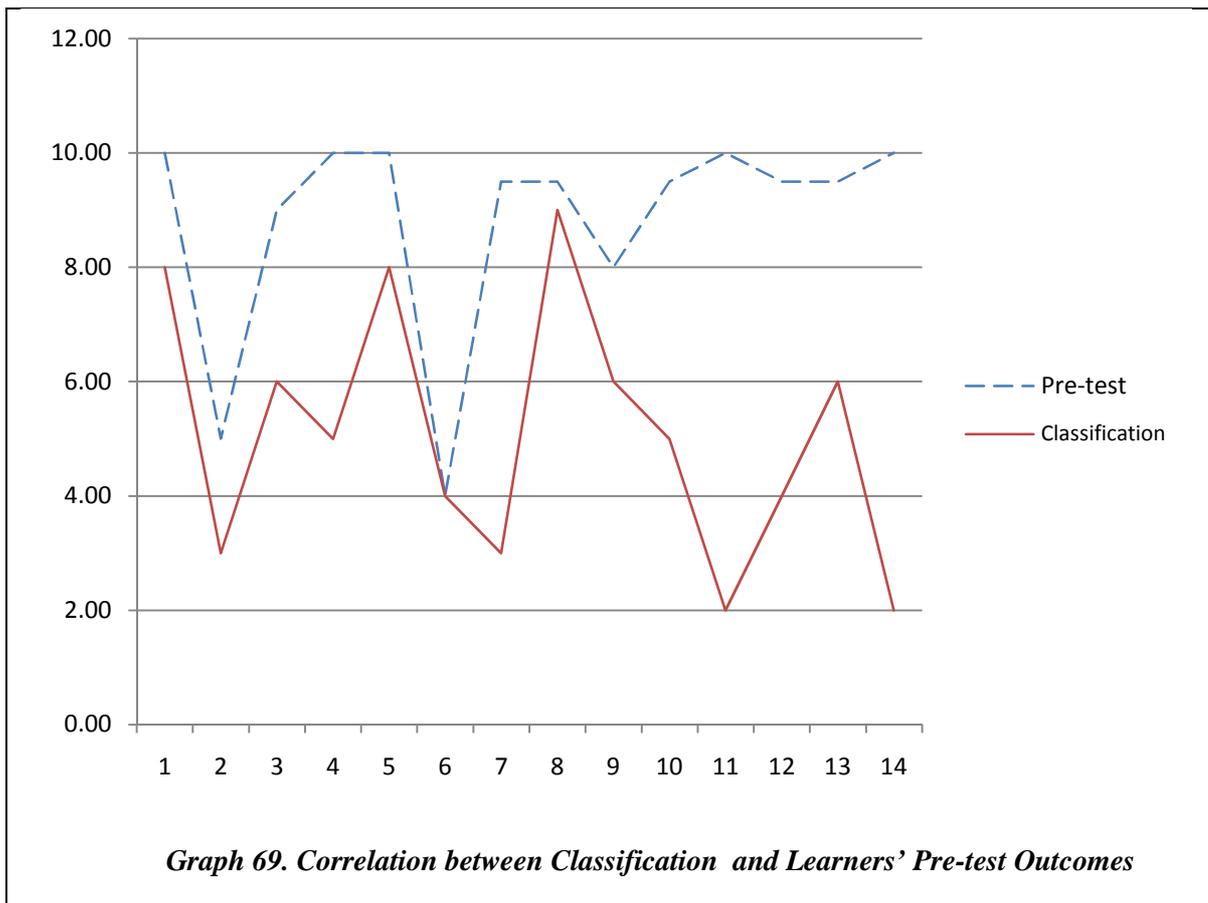
Graph 66. Correlation between Memory and Learners' Post-test Outcomes

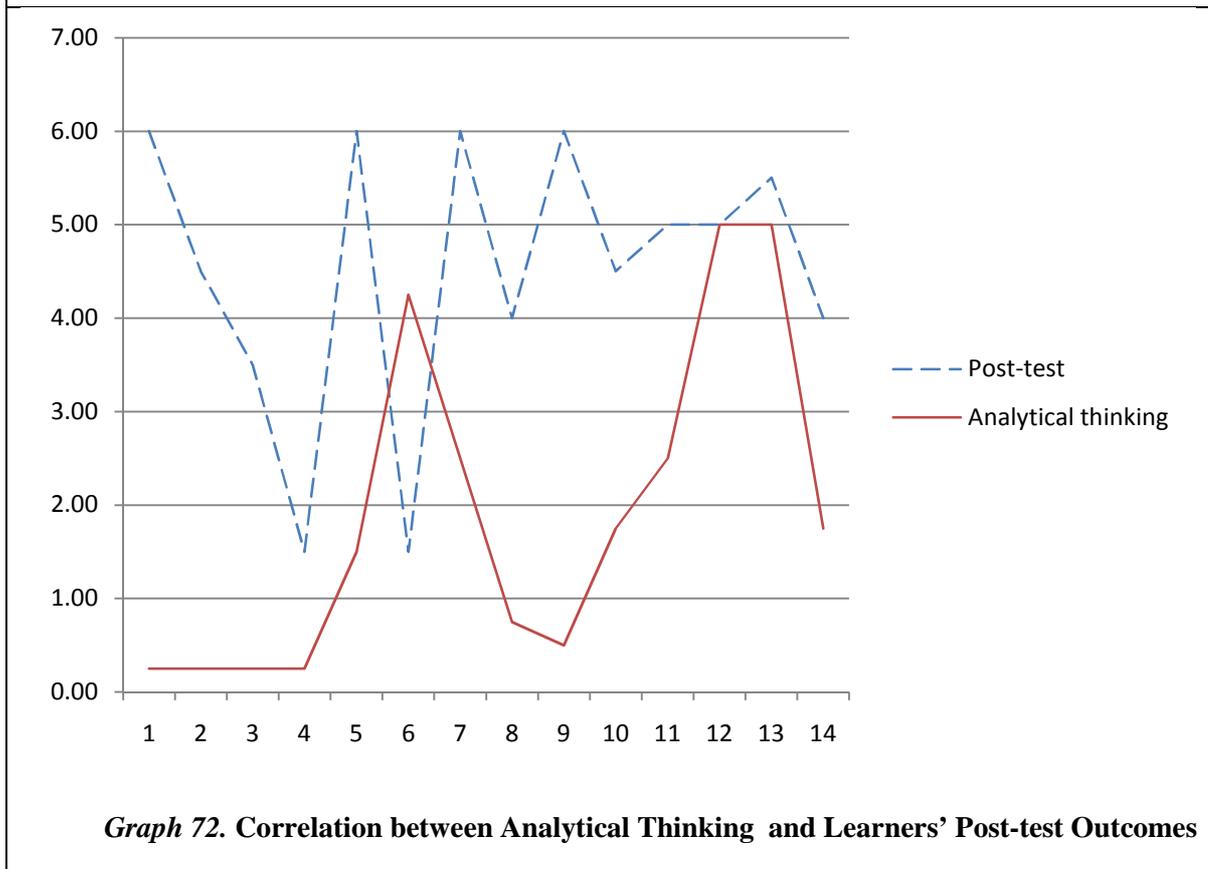
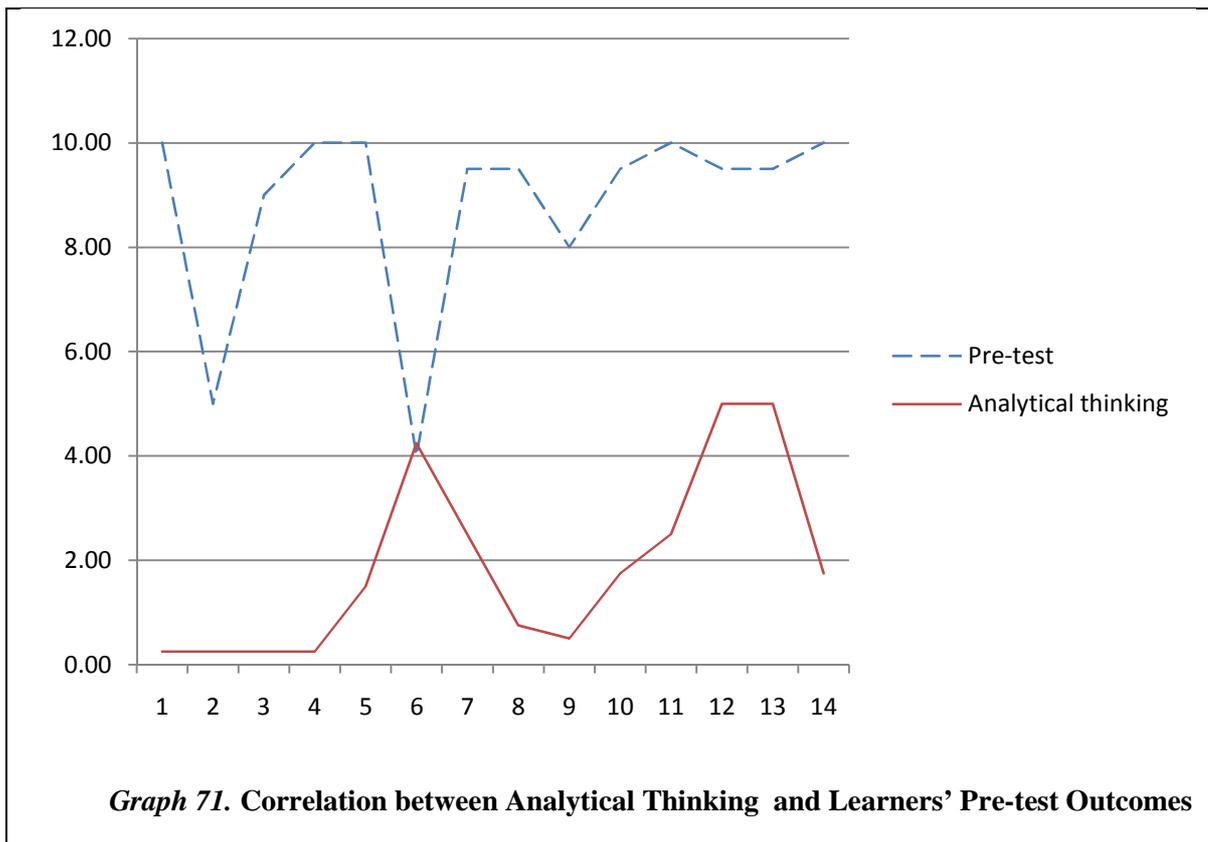


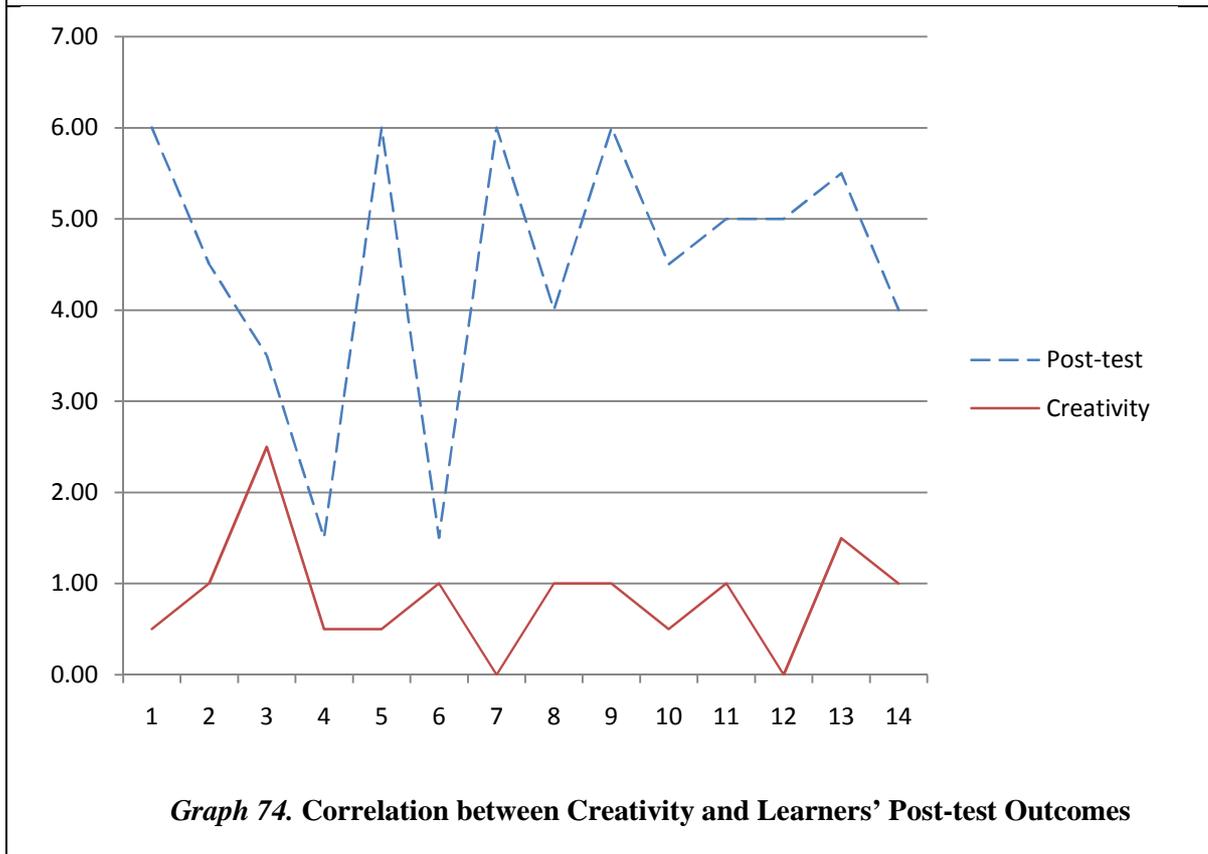
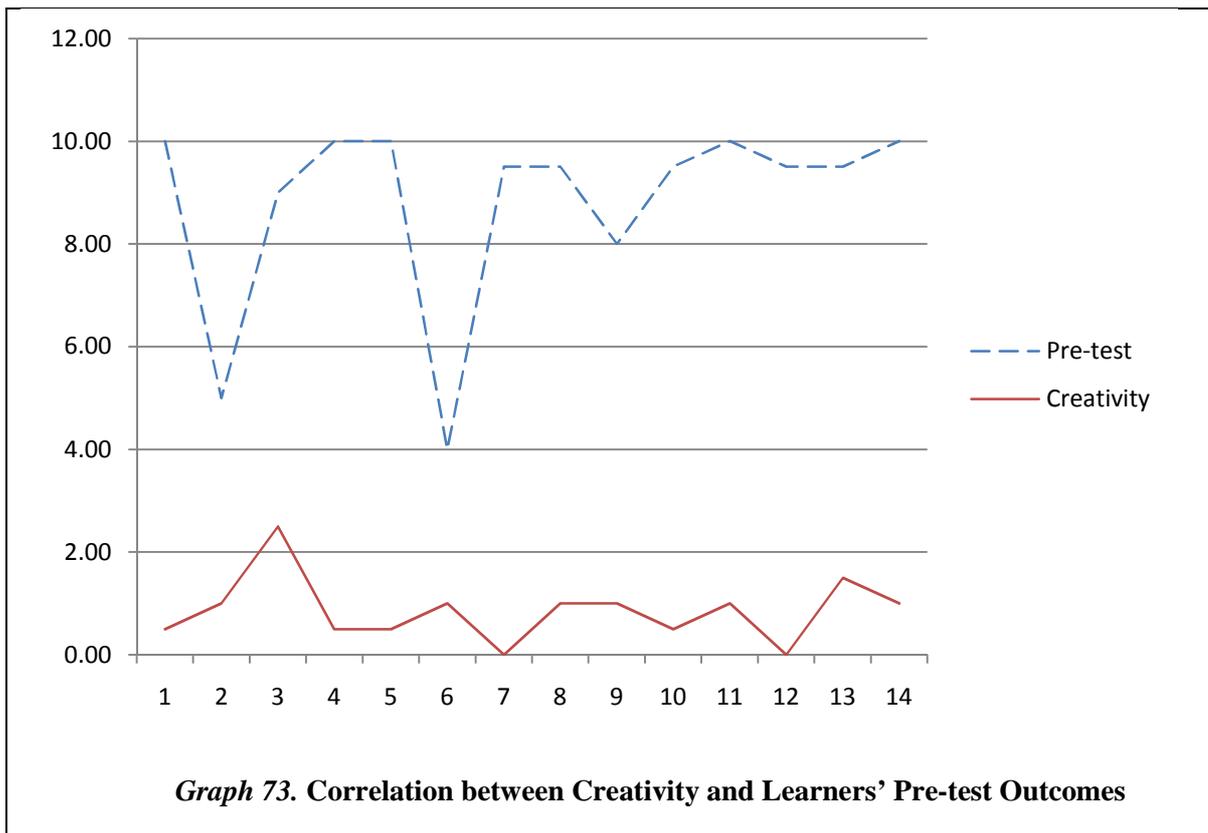
Graph 67. Correlation between Attention to Detail and Learners' Pre-test Outcomes



Graph 68. Correlation between Attention to Detail and Learners' Post-test Outcomes







4.4.5.1. Analysis. The table (26) above contained the fifth test results exploring the different associations between the seven cognitive processes and the learners' accurate use of tenses in reported speech prior and after the interactional activity. In this fifth test, the highest association was the one between the associative thinking cognitive process and the learners' performance after the cooperative work ($r_{po} = 0.344$) which was ($r_{pre} = 0.145$) in the individual work. Classification, analogy, and logical reasoning fostered the learners' performance, with a lesser effect, after the cooperative work where the coefficient of correlation reached ($r_{po} = 0.23$) after it was ($r_{pre} = 0.181$) with the first, and ($r_{pre} = 0.04$) with the second, and ($r_{pre} = 0.025$) with the last one. The absence of the cooperative work effect was apparent with memorization and attention to detail where their associations with the learners' accuracy were represented respectively by ($r_{pre} = 0.55$), ($r_{po} = 0.078$) with the former; and ($r_{pre} = 0.228$), ($r_{po} = 0.069$) with the latter. A negative association was the one correlating the creativity with the learners' performances in both contexts: ($r_{pre} = -0.239$), ($r_{po} = -0.180$).

4.4.5.2. Discussion. The analysis of the correlations between the different cognitive processes and the learners' grammar achievement indicated that the extent of the accuracy was significantly promoted by the associative thinking process after the cooperative work. This finding may be interpreted by the advanced level reached by the learners in using the most appropriate thinking process that copes with the target structure. With the reported speech, the learners needed to raise the possible set of combinations existing among the constituting elements at each sentence level; and the syntactic and semantic combinations existing between the direct sentence and its reported form focusing mainly on the accurate use of the tenses in each one. A lesser effect of analogy, classification, and logical reasoning on learners' accuracy was noticed; but a greater proficiency was touched in selecting and using the appropriate thinking processes. This can be attributed to the learners' acquired experience in handling the target structure and the task at hand being influenced by the cooperative work and the interactive context they were immersed in. In this test, the learners did rely neither on their memory, creativity, nor on their attention to detail cognitive abilities. This may be either due to the type of the task which did not need these processes, or due to the learners' purposeful intention behind reducing the extent of their reliance on these thinking abilities.

5. General Discussion

The analysis of the findings showed support for the involvement of analytical thinking cognitive ability which proved to be of the highest importance in accounting for the learners' grammatical accuracy, mainly on the written post-test. This finding suggested that analytical ability may mediate the benefits of the interactional group work for learners' use of some of the proposed EFL grammatical structures. Analytical ability likely determined learners' capacity to identify and focus on the structural

properties of the proposed structures and the speech addressed to them while interacting with their peers. Thus, the effect of analytical ability may play a greater role in EFL interaction at the time when interactional feedback or other sources of negative or positive evidence are no longer available. In fact, this delayed effect of analytical ability is consistent with recent claim that interactional feedback-driven learning is often delayed (Mackey and philp, 1998; Mackey, 1999).

Other cognitive processes, following the analytical ability such as attention and analogy appeared to determine the effectiveness of interactional context. Attention is the ability to efficiently allocate attention among different aspects of language or different cognitive tasks. Analogy is a similitude of relations where the learner should reason the task at hand from a parallel case. The findings of this study that attention and analogy predicted a large and significant amount of EFL syntactic accuracy in learners' production is indicative of the contribution of both processes to EFL interaction and is consistent with previously documented effects of attention on FL proficiency (Segalwitz and Frenkiel-Fishman, 2005) who showed that FL proficiency is related to the ability to efficiently allocate attention among relational (grammaticized) aspects of the EFL (for example, spatial prepositions), but not among its non-relational (lexical) aspects (for example, nouns). In our current research, high EFL accurate grammar proficiency appeared to be associated with efficiency in shifting attention among grammatical elements of the EFL, and in reformulating grammatically the given sentences and preserving their original meaning mainly with the different structures of the passive form. The findings reported in this study suggested that accurate EFL grammar structures' use is likely contingent on efficient attention and analogy. Within EFL interactive context, attention and analogy may characterize learners' ability to efficiently switch attention among different aspects of language or among different

cognitive tasks, thereby determining learners' success in using and benefiting from the interactional feedback.

In this study, creativity was also involved in enhancing the learners' syntactic performance, but with a lesser extent. Creativity entails three sub-mental processes: imagination, perception, and memory. The findings reflected surprisingly unexpected association between the creativity and the learners' grammatical accuracy. This may be referred to the type of the tasks which did not require an advanced creative proficiency. As it may be attributed to the interactional context which was not motivating for launching learners' imagination for solving the problems at hand, or for perceiving each other. It may be related, also, to the time factor which means the long-term effect of the interactional context on the extent of creativity involvement.

As far as the working memory is concerned, the finding of this research study seemingly contradicts previously reported data. Mackey et al. (2002) reported that learners with larger working memory spans tended to be more likely to notice the error targeted by their interlocutors than learners with smaller spans. By contrast, in this study, measures of the learners' working memory were not associated with the learners' syntactic accuracy on the post-test. Reasons for this discrepancy may be the measures employed initially to measure the learners' memory span. Perhaps a more plausible reason for this discrepancy lies in the relative predictability of interactional feedback which may have consequently made the task used to measure the syntactic accuracy less demanding, thereby minimizing the role of the involvement of learners' memory.

Last but not least, the classification and the associative thinking cognitive abilities, unlike the previous cognitive processes, appeared to show the least involvement in determining the effect of the interactive context on its association with the learners' grammar performance. This involvement was restricted only to one of the

passive form varieties, and to the use of tenses in reported speech. This can be referred to the type of the target structure or to the tasks' design handled in different tests. As it may be interpreted by the advanced level of the learners' proficiency in using the most appropriate thinking process that may cope with the problem at hand. For instance, with the two above mentioned structures the learners needed to familiarize themselves with the different parts of speech included in the proposed sentences (to comprehend their meanings), and to raise the possible set of combinations existing among the constituting elements at each sentence level: the syntactic and the semantic combinations existing either between the active sentence and its passive form or between the direct sentence and its reported form focusing mainly on the accurate use of the tenses in each one.

As far as the task-based self-reports' content is concerned, we noticed that the data recall in this study inevitably contained this sort of under-reporting problem, and interpretation of data necessitated the researcher's inference. Most of the respondents claimed their wide reliance on memory, and associative thinking cognitive abilities. The latter was applied at two levels: the task content level, to better comprehend it, and between the task at hand and what they had as a background on the target structure. The minority of them claimed their reliance on their analytical ability rather than on other cognitive abilities that were expected to be mentioned by the respondents, but they were not. This can be attributed either to their inability to express and describe their internal processes, or to their unawareness of those processes although they were explained and clarified at the beginning of the empirical work by the researcher.

In addition, learners showed wide individual variations in their orientation of attention and subsequent learning. Some learners seemed to take an analytical approach to grammar learning, while some seemed to take a meaning-oriented approach. That is the former reported form-focused comments, while the latter reported meaning-focused

comments. The individual differences contributed to large variations in the effects of learner interpretations on subsequent learning, as evidenced by large standard deviations.

6. Limitations

It is important to recognize that the learner sample in this study was quite small and that the learners were native speakers of Arabic and used French as L2. For that reason it was unclear to what extent these findings on the effectiveness of learner-learner interactional feedback apply to learners from other backgrounds in other learning contexts. Hence, further research is needed to investigate the effectiveness of learners' interactions in other contexts.

The selection of the required sample was a crucial issue because individual differences are a complex matter that needs to be considered carefully especially that the sources of learning are complex and can be seen as stemming from learner-internal factors. In the current study, we focused mainly on learner's grammar proficiency. Factors such as age and background were to a considerable extent controlled unlike gender differences factor which was not emphasized because gender influence on foreign language interaction and how males and females interact and collaborate to achieve a task need to be investigated in a separate and detailed research.

As far as the interactive context is concerned, we noticed through the observation of the recorded tapes that many grammatical forms emerged naturally wrongly and it was not possible to determine whether the learners did not know the correct linguistic forms before the interactions. It is possible that some forms were known and the errors made stemmed not from the interlanguage representations, but rather from the communicative pressure of completing an interactive task with another learner and should be considered mistakes rather than true errors. It is indeed rarely possible

regardless of the type of linguistic data to determine precisely what learners actually do and do not know. Therefore, the obtained results should be interpreted with caution, and should be sustained with other research methods.

As is commonly acknowledged, findings of the kind reported in this research study cannot be generalized to other learners and learning environments without careful considerations. The participants of the study represented only a subset of EFL learners, who were educated adults with experience of formal language, and grammar instruction. Further empirical studies with different populations are clearly warranted to broaden the scope of our research claim that learners' interactive context may affect the processing of their cognitive abilities.

Often times, little correlation was found between the participants' self-reports and test performance. Suggesting that for some individuals' self-report data reported from the task-based self reports used by the researcher, to sustain the collected data from the written pre and post-tests, may not be a reliable predictor of subsequent learning. Another methodological limitation concerned the completeness of self-reports content. That is, it was not practically possible to elicit learners' reports about every task. It is thus possible that the learners' post-tests performance might have been better explained and interpreted by the researcher. Taken together, the results should be carefully interpreted with consideration for the inherent limitations of introspective research.

Given that short-term experiments providing a limited amount of exposure to targeted forms may underestimate the effectiveness of feedback or show a bias in favor of one type of treatment, future research should also increase the amount of interaction time and input exposure (Long, 2006).

This research study is, in fact, only a preliminary attempt to untangle the effectiveness of the interactional context and some of the cognitive processes

underlying grammar learning. It leaves unanswered many questions about, for example, the effect of the interactional context on other aspects of cognitive processes.

7. Implications and Suggestions for Future Research

All teachers base their teaching on theory but very often the theory is not an explicit, research-based theory but rather a more implicit theory derived from teachers' experience of what works and does not work in particular context. The function of an explicit, research-based theory is not to supplant the teacher' own personal theory but rather to provide a basis for evaluating it, and, perhaps, amending it.

The finding that foreign language learners interactions in small groups is effective and feasible is encouraging especially for foreign language settings in which students do not have much chance to either interact in the target language or benefit from the effects of corrective feedback provided in that small learning and interactive context.

Giving foreign language learners opportunities to engage in negotiation of form can also be recommended because it proved its effectiveness in accuracy development. Additionally, it is important to note, however, that the learners in the present study were already form oriented and needed to proceduralize their rule-based knowledge to access it during spontaneous production. In such cases, it may not be a good pedagogical option to have them become too analytical during meaningful interaction. Instead, it seems more important to give learners activities in which they engage in meaningful practice.

Through this research we did not want to suggest that there is no place for teacher discourse control, and no one dares to deny the role of the teacher in the teaching/learning process. But implications arising from this study suggest that teachers, syllabus designers and material developers should take into account several important principles of language learning such as learner autonomy, learner involvement,

cooperation and interaction among learners, focus on form and meaning, self and peer-assessment and this is through including interactive activities that provide students with a sense of achievement and personal accountability and encourage them to think about the process of language learning and how to approach it more effectively through negotiating agreed goals for the group work and the positive effect it may bring on their developmental performance. The goals are likely to vary according to the proposed task, the social and situational context.

The proposed tasks' content must be highly flexible, adaptive to the individual learner and to the social/situational context in which it occurs. Further investigation of what learners actually do with classroom tasks, and how learner activity relates to their development, is needed to show the value of particular task types over others. Such studies will give teachers a better idea of how learners may implement different sorts of tasks, as well as giving researcher and teacher alike a better understanding of the situated processes of foreign language development.

The results reached in this study are hoped to raise researchers' attention to the need of further and well detailed researches to investigate how exactly the small group interaction affects the learner's cognitive skills in grammar learning.

GENERAL CONCLUSION

General Conclusion

This study provided direct empirical support for the claim of the interaction hypothesis: small group interaction did contribute to the development of learners' accurate grammar performance. Clearly, the nature of the interaction and the role of the learner with the type of the introduced structures proved to be important factors that may affect and may be affected through interaction.

This study attempted to identify the types of interaction that learners used while engaging in a cooperative task; and also to reveal the effect of the group size on the interaction ongoing. The Interaction Analysis Method allowed witnessing how the interactor learners approached language learning by using different speech functions such as; questioning language use, repairing grammar forms, asking for explanation, explaining, confirming, agreeing, and disagreeing and silence. As well as the code-switching that had been highlighted in our current research. Moreover, it revealed one crucial issue that is the smaller the group, the more successful, effective and efficient is the interaction (Baghdadi & Keskes, 2014)

According to Baghdadi and Keskes (2014), the clustering effect of small group interaction on the development of learners' grammatical accuracy took place over time. This effect resulted in from two major issues. The first one is the introduced grammar approach that is based on three main principles: a) learners should attend both meaning and form when learning grammar; b) new grammatical features are more likely to be acquired when learners notice and comprehend them in input; and c) learners' awareness of grammatical forms helps them to acquire grammatical features slowly and gradually more than when they engage in extensive production practice. The second issue has to do with the advantages of small group work over whole-class instruction.

Among them: raising the learners' consciousness of specific aspects of language in texts; encouraging the learners to learn from each other by pooling their knowledge; and also enabling them to find out what they do or do not know about English

Additionally, it provides a greater quantity of learner practice opportunities, a more individualized pace of instruction, increased personal investment leading to higher motivation, and a positive affective climate, which reduces stress and enhances linguistic risk-taking. Moreover, small group activities may cause learners' communicative competence to improve in terms of both fluency and communication strategies. And because small group verbal interaction resembles closely a naturally occurring face-to-face interaction outside the classroom, it is assumed to provide the learners with social skills like leadership, decision-making, conflict management, conversation management and use of a wide range of language functions that are likely to be acquired by the learners engaged in small group interactive context (Baghdadi & Keskes, 2014)

After having identified the impact of small group interaction upon the development of learners' grammatical accuracy, and after having explored the speech functions that might account for this development, a third issue emerged appealing for investigating the effect of the interactional context on the cognitive processes underlying grammar learning. This part of this research study attempted to examine the extent of the correlation existing between some selected cognitive processes underlying grammar learning and learners' grammatical accuracy achievement within a cooperative and interactional context.

Situated within a foreign language interaction context, the findings of the conducted research overall showed support for the involvement of the seven selected cognitive processes but with different rates of associations with the learners' accurate

grammatical performance respectively: the analytical ability, attention and analogy, creativity, memory, the classification, and finally the associative thinking cognitive ability. The extent of their involvement depended on many factors: 1) the nature of the interactional context that is the group dynamics which was in some cases frustrating rather than motivating. Additionally, it is worth to mention that while social factors might have influenced the extent to which the cognitive mechanisms are engaged, it can be noted that they did not alter the nature of the processes themselves. 2) The time factor which indicated the long-term effect of the interactional context upon the learners' internal processes and also on the extent of the learners' awareness of their internal cognitive processes and their appropriate use. Moreover, the results also spoke to 3) the impact of task design on learners' learning. Task design, while important, ultimately cannot determine the nature of the cognitive activity engaged in by learners. That is what transpires during learner activity may be quite different from what an analysis of task design might lead one to expect. 4) The type of the target structure itself which may intervene to make one specific cognitive process more or less demanding.

As far as the learners' ZPD (the zone of proximal development) connection with the interactive context is concerned, it is apparent that the nature of effective assistance in the ZPD varies depending upon a variety of factors, including the expertise of the peer, the nature of the task, the goals of the participants, and the developmental levels of the learners. Additionally, it is worth noting that the help provided, within the cooperative work, was responsive to interlocutor bids which quickly established the parameters of the ZPD which specify that development cannot occur if too much assistance is provided or if a task is too easy. Development is impeded both by helping the learner with what she or he is already able to do and by not withdrawing assistance such that the learner develops the idea to work independently. Careful analyses of the

collaborative interaction of language learners are needed to clarify, how assisted performance in the ZPD is realized for a broader range of foreign language learners and also to help teachers benefit from.

Learner uptake involving repair of the original misunderstanding was beneficial because it constitutes the first step in the learner's path toward self-regulation passing by: discussing and communicating about the grammatical structure, pinpointing the misunderstanding, receiving feedback that the learner recognizes as corrective. This feedback causes him to notice the error through the comparison he raises between his own understanding and the feedback provided by the interlocutors "noticing the gap". As a result, he constructs a form-function mapping for the problematic form. But some subsequent low outcomes of the learners did not reflect this truth. This fact confirmed what Loewen claimed in his study (2005) in which he suggested that uptake often occurs following corrective feedback but does not constitute evidence that acquisition has taken place. Thus, the corrective feedback afforded during the interactive work, can be facilitative mainly when the assistance is fine-tuned to the developmental level of the learner. This means it must be graduated, providing no more help than is needed to enable the learner to adjust and scaffold his understanding.

From the sociocultural theory perspective, language learning is seen as interactively base; that is, acquisition occurs *in* rather than as a result of interaction. From this perspective, then, foreign language grammar acquisition cannot be treated as a purely individual-based process but as one shared between the individual and other persons. The interactive context demonstrates what a learner can and cannot do without assistance where learners' interaction enables a teacher to create a context in which learners can participate actively in their own learning and in which he can fine-tune the learners' awareness of their cognitive processes and their appropriate use.

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Appendices

Appendix (A)

The students' results in the first week

The experimental group students	The ratings	The control group students	The ratings
E1	05	C1	01.5
E2	05	C2	00
E3	02.5	C3	06
E4	02.5	C4	08
E5	08	C5	05
E6	03.5	C6	02
E7	00	C7	03.5
E8	05.5	C8	04
E9	03	C9	00
E10	05.5	C10	04.5
E11	06	C11	07
E12	09.5	C12	04
E13	05.5	C13	06
E14	04.5	C14	05
E15	08.5	C15	02.5

The students' results in the second week

The experimental group students	The ratings	The control group students	The ratings
E1	04	C1	03
E2	04	C2	0.5
E3	01	C3	0.5.5
E4	03	C4	07
E5	09	C5	06.5
E6	08	C6	04
E7	02	C7	05.5
E8	05	C8	03
E9	04.5	C9	0.5
E10	06.5	C10	03
E11	07	C11	04.5
E12	06.5	C12	06
E13	09	C13	08
E14	09	C14	06.5
E15	09	C15	02.5

The students' results in third week

The experimental group students	The ratings	The control group students	The ratings
E1	03.33	C1	01.66
E2	03.33	C2	00
E3	01.66	C3	03.33
E4	05	C4	05
E5	08.33	C5	07.5
E6	06.66	C6	06.66
E7	05	C7	03.33
E8	04.16	C8	0.83
E9	04.16	C9	00
E10	06.66	C10	06.66
E11	06.66	C11	01.66
E12	08.33	C12	03.33
E13	08.33	C13	06.66
E14	08.33	C14	05.83
E15	00	C15	04.16

The students' results in the fourth week

The experimental group students	The ratings	The control group students	The ratings
E1	05	C1	05
E2	04	C2	01.25
E3	0	C3	08.75
E4	00	C4	10
E5	10	C5	05
E6	10	C6	00
E7	05	C7	08.75
E8	05	C8	06.25
E9	05	C9	01.25
E10	10	C10	10
E11	10	C11	10
E12	07.5	C12	10
E13	10	C13	07.5
E14	10	C14	00
E15	04.16	C15	01.25

The students' results in the fifth week

The experimental group students	The ratings	The control group students	The ratings
E1	03.5	C1	00
E2	07.75	C2	00
E3	06.25	C3	09
E4	04.75	C4	09.25
E5	09	C5	08.25
E6	05.25	C6	00
E7	07.5	C7	01
E8	09	C8	01.25
E9	06.5	C9	00
E10	07.5	C10	08.5
E11	08	C11	09
E12	04.5	C12	07.5
E13	09.25	C13	09.25
E14	09.75	C14	00
E15	07.5	C15	08.25

The students' results in the sixth week

The experimental group students	The ratings	The control group students	The ratings
E1	03.5	C1	00
E2	07.75	C2	00
E3	06.25	C3	09
E4	04.75	C4	09.25
E5	09	C5	08.25
E6	05.25	C6	00
E7	07.5	C7	01
E8	09	C8	01.25
E9	06.5	C9	00
E10	07.5	C10	08.5
E11	08	C11	09
E12	04.5	C12	07.5
E13	09.25	C13	09.25
E14	09.75	C14	00
E15	07.5	C15	08.25

The students' results in the seventh week

The experimental group students	The ratings	The control group students	The ratings
E1	09	C1	03.75
E2	07	C2	07.25
E3	05.5	C3	07.75
E4	08.25	C4	03.25
E5	07	C5	06.5
E6	07.75	C6	04.00
E7	07.75	C7	00
E8	05.5	C8	05.5
E9	06.74	C9	10
E10	08.75	C10	05.25
E11	06.75	C11	09.5
E12	10	C12	07
E13	05.5	C13	01.75
E14	10	C14	0.5
E15	09.5	C15	01.25

The students' results in the eighth week

The experimental group students	The ratings	The control group students	The ratings
E1	09	C1	03.75
E2	07	C2	07.25
E3	05.5	C3	07.75
E4	05.5	C4	03.25
E5	08.25	C5	06.5
E6	07	C6	04
E7	07.75	C7	00
E8	07.75	C8	05.5
E9	05.5	C9	10
E10	06.75	C10	05.25
E11	08.75	C11	09.5
E12	06.75	C12	07
E13	10	C13	01.75
E14	10	C14	0.5
E15	09.5	C15	01.25

The students' results in the ninth week

The experimental group students	The ratings	The control group students	The ratings
E1	09	C1	05.75
E2	09	C2	07.25
E3	07.5	C3	07.75
E4	07.5	C4	05.25
E5	07	C5	06.5
E6	09.25	C6	07
E7	07.75	C7	08
E8	07.75	C8	05.5
E9	08.5	C9	10
E10	08.75	C10	05.25
E11	09.75	C11	09.5
E12	08.75	C12	07
E13	10	C13	01.75
E14	10	C14	06.5
E15	09.5	C15	05.25

The students' results in the tenth week

The experimental group students	The ratings	The control group students	The ratings
E1	09	C1	07.75
E2	09	C2	07.25
E3	07.5	C3	05.75
E4	07.5	C4	05.25
E5	09.25	C5	08
E6	08.75	C6	07
E7	07.75	C7	06.5
E8	08	C8	05.5
E9	08.5	C9	10
E10	08.75	C10	05.25
E11	09.75	C11	09.5
E12	08.75	C12	07
E13	09.5	C13	04.75
E14	10	C14	06.5
E15	10	C15	05.25

Appendix (B)

The speech functions	Time-line Frequencies																
Questioning language use																	
Repairing Grammatical Forms																	
Asking for Explanation																	
Explaining																	
Confirming																	
Proposing																	
Agreeing																	
Disagreeing																	
Silence																	

Appendix (C)

Test (1): Classification test

In this test you are given a list of five words and are required to choose which of the five words is the odd one out. This may be for a variety of reasons, as in the following examples:

(a) calm, quiet, relaxed, serene, unruffled

Answer: 'quiet' is the odd one out, as the rest mean the same thing. However, your being quiet does not necessarily mean that you are calm, relaxed serene or unruffled. You could be extremely upset and agitated but still remain quiet.

(b) abode, dwelling, house, residence, street

Answer: 'street' is the odd one out, as the rest are specific places in which we live. 'Street' is a general term which may contain many houses, gardens, trees, road surfaces, etc.

You have 30 minutes in which to solve the 20 questions.

1. erect, upright, perpendicular, level, vertical
2. unequalled, paramount, exceptional, unsurpassed, finest
3. case, coffer, crate, chest, covering
4. cajole, deceive, beguile, inveigle, persuade
5. visit, summon, invite, assemble, convene
6. synagogue, mosque, pagoda, steeple, cathedral
7. hogwash, buffoonery, gibberish, gobbledegook, mumbo-jumbo
8. satisfactory, perfect, acceptable, fine, suitable
9. quadrangular, cubic, rectangular, spheroid, square
10. discontinue, forgo, relinquish, surrender, abandon
11. parched, desiccated, scorched, barren, dehydrated

12. pamphlet, certificate, catalogue, brochure, leaflet
13. burrow, till, cultivate, furrow, harrow
14. simian, ape, feline, monkey, primate
15. design, hew, chisel, sculpt, fashion
16. imaginary, strange, visionary, illusory, unreal
17. fete, holiday, gala, jamboree, carnival
18. obliquely, laterally, sideways, crabwise, orbicular
19. submit, distribute, tender, proffer, offer
20. sporadic, periodic, erratic, occasional, recurrent

Appendix (D)

Test (2). Comprehension (associative thinking)

Each of the three passages below has had 15 words removed which have been listed at random below each passage. In order to test your verbal skills and comprehension ability, you must restore the 15 words correctly into each passage. You have 30 minutes in which to reconstruct the three passages.

1 Just as the _____ (1) _____ (2) was half-way through _____ (3) his most _____ (4) and difficult _____ (5), the _____ (6) thing that could have happened did, and all hell was let loose as Ben _____ (7) a cat through the dining room _____ (8). Apart from almost barking the house down and _____ (9) drowning out the second half of the question, Ben _____ (10) across the dining room in a _____ (11) blur before throwing _____ (12) against the _____ (13) door with a _____ (14) _____ (15).

window question himself sickening hapless
involved worst saw shot crash
asking interviewer totally brown kitchen

2.

We all have the potential to be _____ (1), however, because of the _____ (2) of modern _____ (3) and the need for _____ (4), many of us never have the _____ (5) or

opportunity, or indeed are given the _____ (6), to
 _____ (7) our _____ (8) talents, even though most
 of us have _____ (9) _____ (10) to
 _____ (11) this _____ (12) in the form of
 _____ (13) which has been fed into, collated and _____
 (14) by the _____ (15) over many years.

Sufficient pressures brain realise encouragement
 ammunition data living latent time
 processed creative potential specialization explore

3 _____ (1) is the _____ (2) of new
 _____ (3), and _____ (4) is the
 _____ (5) of this knowledge. The _____ (6) of
 learning and memory,
 therefore, is the _____ (7) of all our knowledge and
 _____ (8) and is
 what _____ (9) us to _____ (10) the
 _____ (11), _____ (12) in the
 _____ (13) and _____ (14) for the
 _____ (15).

abilities plan acquisition basis consider
 learning retention combination past memory
 future enables knowledge present exist

Appendix (E)

Test (3): Analogy test

In each of the following, identify two words (one from each set of brackets) that form a connection (analogy) when paired with the words in capitals, e.g:

CHAPTER (book, verse, read)

ACT (stage, audience, play)

Answer: book and play; a chapter is a division of a book and an act is a division of a play.

You have 30 minutes in which to solve the 20 questions.

1. PLUM (eat, grow, fruit)
WILLOW (leaves, tree, crop)
2. RIFLE (bullet, gun, fire)
CATAPULT (project, fling, weapon)
3. FOX (tail, hunt, fur)
PEACOCK (fly, plumage, breed)
4. EVENING (morning, night, day)
AUTUMN (day, winter, season)
5. STELLATE (sword, star, triangle)
TOROID (funnel, ring, crescent)
6. TASTE (food, swallow, tongue)
WALK (run, legs, move)
7. CHEMISTRY (laboratory, reaction, substances)
FAUNA (plants, animals, countryside)
8. TRAVEL (journey, map, list)
ATTEND (meeting, programme, boardroom)
9. FOREWORD (read, progress, book)
OVERTURE (music, opera, composer)

10. RESIGN (politician, leave, parliament)
ABDICATE (rule, king, realm)
11. CASTOR (sugar, furniture, wheel)
ROWEL (bicycle, hub, spur)
12. MOBSTER (gangster, criminal, prohibition)
BRIGAND (fugitive, bandit, desperado)
13. CLAVIER (piano, compose, instrument)
TAMBOUR (music, beat, drum)
14. QUADRUPED (four, year, animal)
QUATRAIN (verse, eight, ship)
15. LARGO (loud, solemn, slow)
PIANO (lively, soft, fast)
16. GLUTTONY (food, weight, sin)
CHARITY (philanthropy, kindness, virtue)
17. VESTRY (church, hospital, refuge)
DISPENSARY (monastery, laboratory, hospital)
18. MODIFY (correct, regulate, change)
REDRESS (adjust, align, rectify)
19. MOAT (ditch, portcullis, crater)
TURRET (rampart, watchtower, defence)
20. SAVANNAH (inlet, highland, grass)
SIERRA (ravine, mountain, rock)

Appendix (F)

Test (4): logical reasoning (deductive & analytical thinking)

Test 1 consists of 10 questions of varying scope and difficulty. There is no specialised knowledge of mathematics or vocabulary required in order to solve these questions, just the ability to think clearly and analytically.

You have 50 minutes in which to solve the 10 questions.

- 1 elk
 mink
 mouse
 gibbon
 panther

Which creature comes next? Is it:
 squirrel, tortoise, tigress, wildebeest, platypus or aardvark?

- 2 January
 February
 April
 July
 November
 April
 ?

What comes next?

3.

A	C	B	E	C	G	?	?
G	E	K	H	O	K	?	?

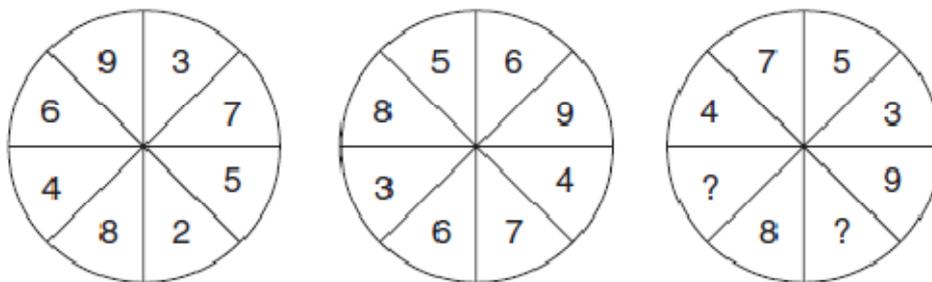
What letters should appear in the fourth square?

4.

3	4	7	2	1	6
9	2	8	5	7	4
6	9	7	3	8	5
6	1	2	7	4	3
4	7	5	8	2	9
?	?	?	?	?	?

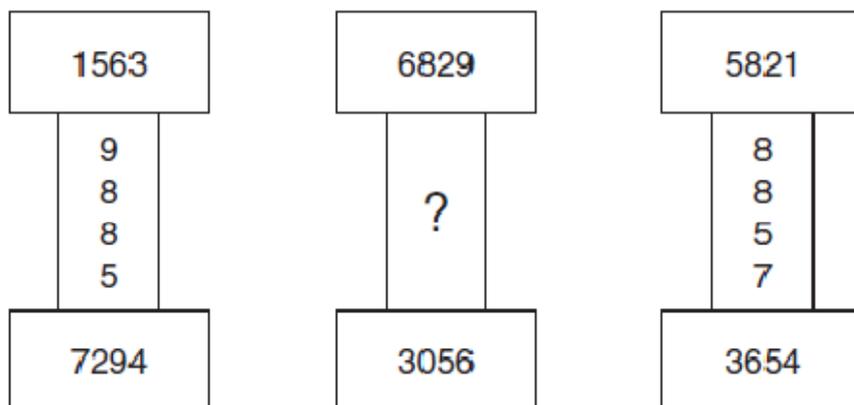
What numbers should appear on the bottom row?

5.



What numbers should replace the question marks?

6.



What number should replace the question mark?

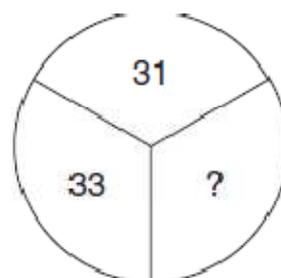
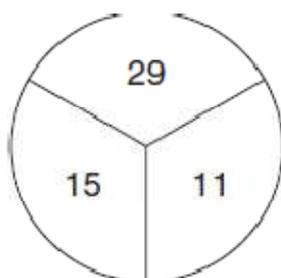
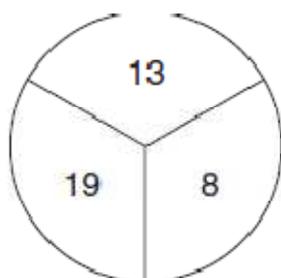
7.

7896432 is to 9872346
and 9247183 is to 4293817
therefore 8629471 is to ?

8. From the information already provided, find the link between the numbers in each row, and then fill in the missing numbers:

3859 1 1 1 4 . .
4978 4 6
7579

9.



What number should replace the question mark?

10.

3829718 is to 87283
and 642735 is to 5346
therefore 6917 is to ?

Appendix (G)

Test (5): Memory Test

Test (a): Word association

This exercise tests your ability to remember pairs of words and form associations. Study the 12 pairs of words below for 10 minutes and use your imagination to link each pair of words, as shown below, in as many ways as possible. Then turn to page 195.

- SAUSAGE BAGPIPES SLIPPER
- TRACTOR ARROW PARROT
- BLACKBOARD POTATO TELEVISION
- PARASOL COMPUTER CANDLE
- ROBOT NAIL CHAIR
- MANDOLIN SNAKE BALLOON
- PIPE PENCIL DICTIONARY
- BRIDGE TREE MOUSTACHE

Test (a) : Association

Question

- ARROW
- CHAIR
- COMPUTER
- SAUSAGE
- PENCIL
- BALLOON
- ROBOT
- PARROT
- BAGPIPES
- TELEVISION
- BRIDGE
- SNAKE
- DICTIONARY
- BLACKBOARD
- POTATO
- SLIPPER
- TREE
- MOUSTACHE
- PARASOL
- NAIL

- CANDLE
- TRACTOR
- PIPE
- MANDOLIN

Put a letter A against one pair, the letter B against a second pair, etc., through to the letter L, until you have matched what you think are the original 12 pairs of words.

Test (b): ‘Anagrams ’

This test consists of 20 sets of letters. From each set of letters a seven letter word can be produced. The test is designed to test and develop both your powers of memory and your verbal dexterity. To solve each anagram, you must first memorize each set of seven letters and then use these seven letters to produce a seven-letter English word.

Example: WOKEDRY=KEYWORD

Look at each set of seven letters in turn for just 5 seconds, then look away and try to solve the anagram within 2 minutes without committing anything to paper.

1. IANBATS
2. PHILDON
3. PAINOUT
4. DIMMARE
5. TALLFEE
6. OURPETS
7. NOBREAD
8. CENTCOP
9. DOEPIES
10. TENRAVE
11. OARPANG
12. SHYAREA
13. METHERO
14. TAILMOP
15. RAGMICE
16. TIEZINC
17. TAUTODE
18. COYOMEN
19. ANULTRA
20. VIAROTA

- **Test (c): Instructions**

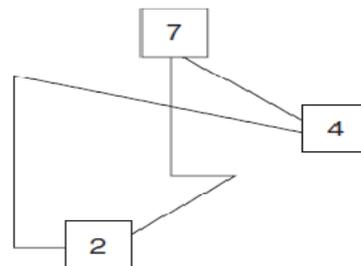
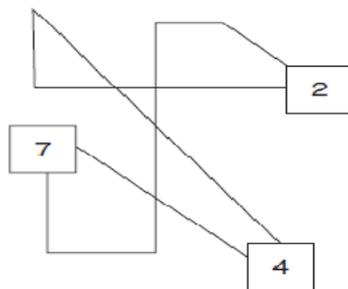
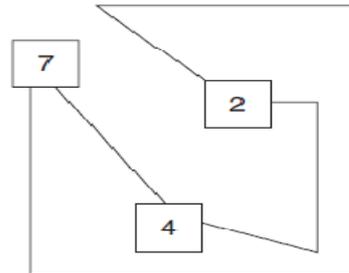
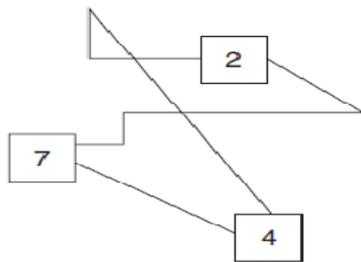
Read and memorize these instructions for 3 minutes, then turn immediately to the following page:

- Start at four.
- Go from four to seven.
- Then down.
- Then right.
- Then up.
- Then right.
- Then to two.
- Then left.
- Then up.
- Then back to four.

Test (c): Instructions

Question

Which of the following sets of instructions have you just looked at above?



Test (d): Memorizing an address

Study the address for 2 minutes, then turn to page 204.

- David Michael Christensen
- 7th Floor
- Norwalk House
- 354 Osprey Drive West off Threddlethorpe Lane
- Netherlee
- Keyingham
- JU14 9LK

Test (d): Memorizing an address

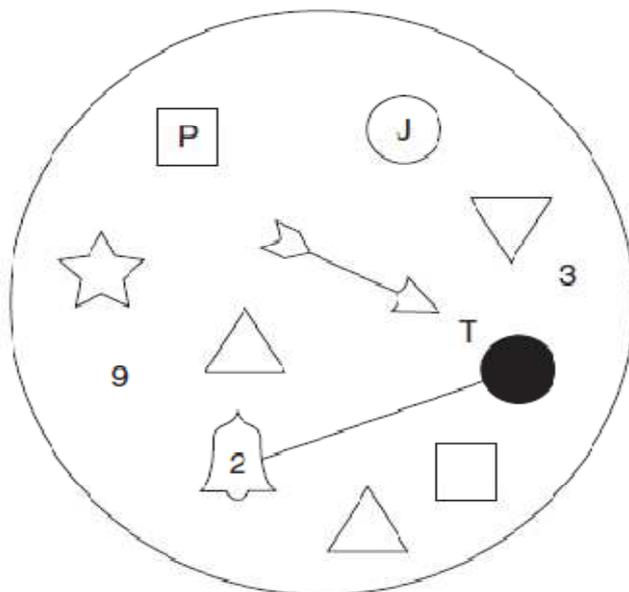
Question: Fill in the 10 blank spaces to complete the address as accurately as possible:

- David Christensen
- ...th Floor
- House
- Osprey Drive
- off Lane
- lee
- ingham
- JU...9....

Appendix (H)

Test(6) : Attention to detail

Study the figure below for 5 minutes, then turn straight to the following page



Appendix (I)

Test (7): Creativity test

This test consists of 10 puzzles; all designed to exercise powers of creative thinking in solving problems and encourage creative thought in seeking out sometimes unexpected solutions. There is a time limit of 90 minutes allowed for completing all 10 questions.

1 R N Y D E P N D ?
 A E R E V O A I ?
 C P T R E L C D ?

What letters should replace the question marks?

2 onerously, honeymoon, pioneered, wagonette

What word below continues the above sequence?

prisoners, aborigine, cautioned, erroneous, astronomy

(Hint: page 205)

3

1	0	7
2	3	6
3	4	3
5	7	9
?	?	?

What numbers should replace the question marks?

4

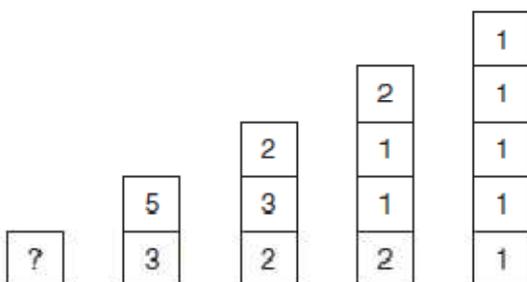
N	T
P	R

G	I
K	M

F	H
?	L

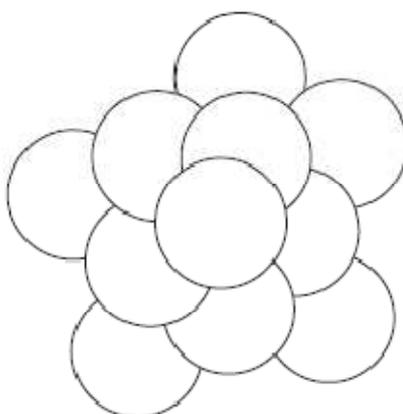
What letter should replace the question mark?

5



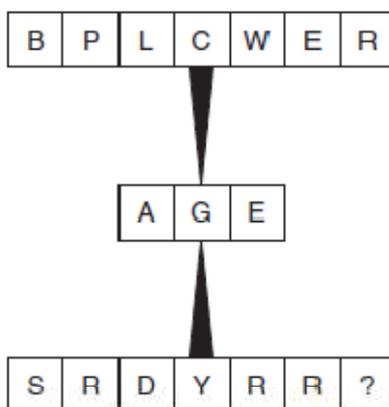
What number should replace the question mark?

6



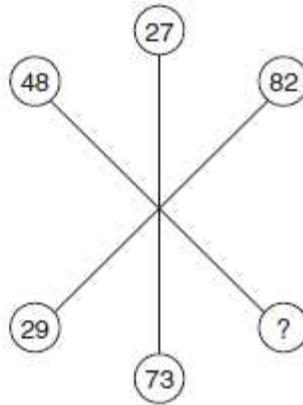
How many circles appear above?

7



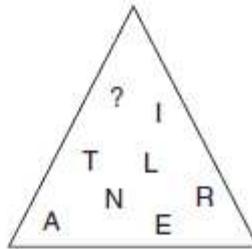
What letter should replace the question mark?

8



What number should replace the question mark?

9



What letter should replace the question mark?

- 10 WAVE = 13
 TAXI = 8
 HALT = 10
 FAIL = ?
 LINK = 9

What value is FAIL?

Appendix (J)

Test (01): the pre-test

Full name:.....

The target grammatical pattern: the linking verbs (be, appear, seem, become, get)

The task:

Complete the sentences with an appropriate form of the verbs in brackets and one of the following words or phrases.

Bust, to like, tired, red, berserk, blind, to know, dead.

- 1) I was at a zoo once when an elephant.....and attacked its keeper.(*go/turn*)
- 2) Cutting that wood looks like hard work. I'll take over from you when you(*get/go*)
- 3) The doctor told me that without immediate treatment I might.....(*go/turn*)
- 4) After the spider bit her ankle.....and started to swell up.(*go/get*)
- 5) He is actually quite friendly when you.....him.(*become/get*)

Test (01): the test (the cooperative work)

The target grammatical pattern: the linking verbs (be, appear, seem, become, get)

The task:

Where necessary, suggest corrections in the underlined parts of this text.

The morning we were going on holiday everything seemed to (1) turn wrong. The taxi was due at 8.00 to take us to the airport. When I looked in on Tom at 7.00 he (2) seemed awake, so I went downstairs to make breakfast. When I opened the fridge I found that the milk (3) had gone off, so there was no breakfast for us. Then Tom (4) seemed taking a long time to come down, so at 7.30 I went back upstairs and he is still (5) hadn't become dressed.

Test (01): the post-test

Full name:.....

The target grammatical pattern: the linking verbs (be, appear, seem, become, get)

The task:

Where necessary, suggest corrections in the underlined parts of this text.

He said he wasn't feeling well, but I just shouted, "You can't (6) get ill when we're going on holiday!" After that the keys to the luggage (7) got missing, but Tom eventually found them in his jacket pocket. By 8.30 the taxi hadn't arrived and I was starting (8) to become worried. It was (9) getting obvious that we were going to miss our plane if we didn't leave soon. But just then the taxi arrived and we made it to the airport with minutes to spare. Surprisingly, after such a bad start, it (10) turned out to be an excellent holiday.

The answer:

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Test (02): the pre-test

Full name:.....

The target grammatical pattern: forming passive sentences

The task:

Where possible, rewrite each of the following sentences in two different ways, using a different subject each time. Some sentences may be rewritten only one way.

a) The police showed the victim a picture of the suspect.

.....

.....

b) They reported the incident to the police.

.....

.....

c) People suggested to us full compensation if the scheme fell through.

.....

.....

d) They didn't guarantee every participant a free lunch.

.....

.....

e) We will give the new members of the staff all the help they need.

.....

.....

.....

Test (03): the pre-test

Full name:.....

The target grammatical pattern: *was/ were + past participle + ing; past simple + being + past participle.*

The task:

Complete these sentences using one of these pairs of verbs. Use either *was/ were + past participle + ing* or *past simple + being + past participle.*

- Avoid-take deny-involve face-expel find-wander
keep-wait
Leave-hold observe-hide remember-bite resent-give send-tumble

- a) When the police first questioned him, Wayne.....in the robbery.
- b) Theyprisoner by pretending to be dead.
- c) Two teenagers yesterday.....from school after they were found with over a hundred stolen mobile phones.
- d) The woman was taken to hospital when shelost and alone in the forest.
- e) The mana suspicious package under a seat in the train.

Test (04): the pre-test

Full name:.....

The target grammatical pattern: *the verb + to be +past participle.*

The task: make passive sentences beginning with the underlined words. Ensure that the sentence you have written has a corresponding meaning to the original one.

1. Critics have come to recognize Galdos as one of Spain's greatest novelists.

.....

.....

2. Alan arranged to take Kathy to the station.

.....

.....

3. The team captain hopes to select Kevin.

.....

.....

4. Harris has agreed to interview the finance minister.

.....

.....

5. The north coast continues to attract holidaymakers.

.....

Test (04): the post- test

Full name:.....

The target grammatical pattern: *the verb + to be +past participle.*

The task:

Finish each of the following sentences in such a way that it is as similar as possible to the sentence before it.

Example: He didn't remember that he had been ordered to appear before the judge.
He had no recollection of *being ordered to appear before the judge.*

- a She vaguely remembers that she was knocked down by a motorbike.
She has vague memories of
- b It's never very nice when people laugh at you.
Being
- c Stewart was criticised for his extravagance and was more careful after that.
Having
- d I really wish I hadn't been pushed into giving a speech.
I really regret
- e Because I was told it was quicker, I naturally took the mountain road.
Having

Test (05): the post-test

Full name:.....

The target grammatical pattern: *Tenses in reported speech.*

The task:

Finish each of the following sentences in such a way that it is as similar as possible to the sentence printed before it.

- f** 'Do you think you might be able to get the money by this evening?' the shop owner enquired.
The shop owner asked me
- g** 'I'd rather you didn't tell anyone about it yet,' my wife said.
My wife asked me
- h** 'Don't worry, I'm not really going to take all your money,' laughed the man.
The man reassured me he had
- i** 'I'm afraid I am not in a position to lend you any money at the moment,' said the manager, 'though I would if I could.'
The manager said that
- j** 'But you really must come and stay with us for the weekend,' said Philip.
Philip insisted

Test (05): the test (the cooperative work)

Full name:.....

The target grammatical pattern: *Tenses in reported speech.*

The task:

- 2** Finish each of the following sentences in such a way that it is as similar as possible to the sentence printed before it.

EXAMPLE: 'Yes, that's right. I've booked a room for two nights,' said the man on the telephone.

The man on the telephone confirmed *that he had booked a room for two nights.*

- a** 'I'm sorry I shouted at you,' Ruth said to Rita.
Ruth apologised
- b** 'Look Tim, you really shouldn't get so angry with people,' said the receptionist.
The receptionist told
- c** 'I'm really grateful for all the help you've given me over the last few days,' the boy told his parents.
The boy told his parents he
- d** 'If you will agree to help me on this, I'll see what I can do about your working hours,' my previous boss told me.
My previous boss promised
- e** 'If you can't get here today, what about tomorrow?' my mother asked me on my birthday.
My mother wondered

Appendix (K)

A Sample of Students' Achievement in Cognitive Tests

08.5
20

Logical Reasoning (Deductive & Analytical Thinking) Test

Full name: Abdelhafid Meryem

Test 1 consists of 10 questions of varying scope and difficulty. There is no specialised knowledge of mathematics or vocabulary required in order to solve these questions, just the ability to think clearly and analytically.
You have 50 minutes in which to solve the 10 questions.

1

1. elk, mink, mouse, gibbon, panther
Which creature comes next? Is it: Arise wildebeest tortoise
squirrel, tortoise, tigress, wildebeest, platypus or aardvark?

2

2. January, February, April, July, November, April, October.....?
What comes next?

3

A	C	B	E	C	G	<u>D</u>	<u>W</u>	<u>I</u>
G	E	K	H	O	K	<u>S</u>	<u>N</u>	

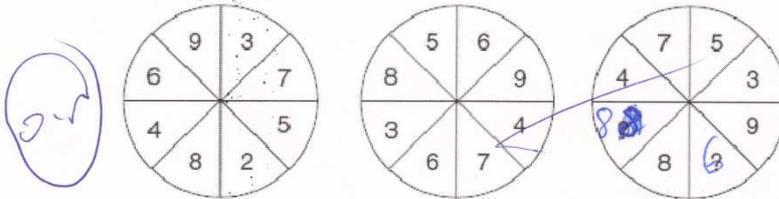
What letters should appear in the fourth square?

4.

3	4	7	2	1	6
9	2	8	5	7	4
6	9	7	3	8	5
6	1	2	7	4	3
4	7	5	8	2	9
<u>9</u>	<u>3</u>	<u>4</u>	<u>6</u>	<u>5</u>	<u>8</u>

What numbers should appear on the bottom row?

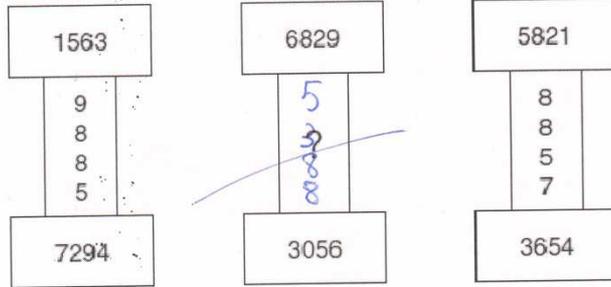
5.



Abdelhafid Merzouq

What numbers should replace the question marks?

6.



What number should replace the question mark?

7.

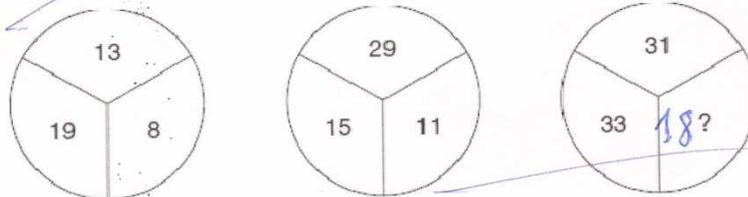
(Handwritten mark)

7896432 is to 9872346
and 9247183 is to 4293817
therefore 8629471 is to *2631749*

8. From the information already provided, find the link between the numbers in each row, and then fill in the missing numbers:

3859 1 1 1 4 3 5
4978 *2 2 3 4 6*
7579 *2 2 4 4 5*

9.



What number should replace the question mark?

10.

(Handwritten mark)

3829718 is to 87283
and 642735 is to 5346
therefore 6917 is to ? *76*

Test (5): Verbal dexterity and memory test 'anagrams'

Full name: KORALIN ZAHRA

This test consists of 20 sets of letters. From each set of letters a seven letter word can be produced. The test is designed to test and develop both your powers of memory and your verbal dexterity. To solve each anagram, you must first memorize each set of seven letters and then use these seven letters to produce a seven-letter English word.

Example: WOKEDRY=KEYWORD

Look at each set of seven letters in turn for just 5 seconds, then look away and try to solve the anagram within 2 minutes without committing anything to paper.

1. IANBATS
2. PHILDON
3. PAINOUT
4. DIMMARE
5. TALLFEE
6. OURPETS
7. NOBREAD
8. CENTCOP
9. DOEPIES
10. TENRAVE
11. OARPANG
12. SHYAREA
13. METHERO
14. TAILMOP
15. RAGMICE
16. TIEZINC
17. TAUTODE
18. COYOMEN
19. ANULTRA
20. VIAROTA

- 1- IABNTS
- 2- DOLPHIN
- 3- Painot Noupat
- 4- DIMMARE
- 5- TAFELLE
- 6- OUR PETS.
- 7- Broaden.
- 8- Concept
- 9- ~~Broaden~~ Episode
- 10- VEEERAN.

- 11- ORPANG
- 12- SHYAVE
- 13- METAPHOR
- 14- MORTAL
- 15- RAGMICE
- 16- TIEZINC
- 17- TAUTODE
- 18- COOY MEN
- 19- ANULTRA
- 20- VIA ROTA

~

1. IABNTS
2. PHILDON
3. PAINOUT
4. DIMMARE
5. TALLEB
6. OURPETS
7. NORREAD
8. CENTOP
9. DOPTES
10. TENRAVE
11. ORPANG
12. SHYABA
13. METHERO
14. TAILMOR
15. RAGMICE
16. TIEZINC
17. TAUTODE
18. COYOMEN
19. ANULTRA
20. VIAROTA

Test (1): Memorising an address

Full name: *Hadi Laroussi Salim*

Question: Fill in the 10 blank spaces to complete the address as accurately as possible:

- David *M. Michael* Christensen
- *7*.th Floor
- *N. Cornwall* House
- *359* Osprey Drive
- off Lane
- ... *N. Elphinstone*
- *Keyingham* → *Keyingham*
- *JM9 1K*

06

08

Test (4) **Word Association Memory Test**

Full name: *Arab Hamza*

Test (4): Word association

This exercise tests your ability to remember pairs of words and form associations. Study the 12 pairs of words below for 10 minutes and use your imagination to link each pair of words, as shown below, in as many ways as possible.

1) SAUSAGE
TRACTOR

2) BAGPIPES
ARROW

3) SLIPPER
PARROT

4) BLACKBOARD
PARASOL

5) POTATO
COMPUTER

6) TELEVISION
CANDLE

7) ROBOT
MANDOLIN

8) NAIL
SNAKE

9) CHAIR
BALLOON

10) PIPE
BRIDGE

11) PENCIL
TREE

12) DICTIONARY
MOUSTACHE

08 ✓

Analogy Test

Family name: Fekra

Name: Souad

Age: 21

G: 03

Test(3): Analogy test

In each of the following, identify two words (one from each set of brackets) that form a connection (analogy) when paired with the words in capitals, e.g:

CHAPTER (book, verse, read)

ACT (stage, audience, play)

Answer: book and play; a chapter is a division of a book and an act is a division of a play.

You have 30 minutes in which to solve the 20 questions.

1. PLUM (eat, grow, fruit) ⇒ plum & willow; (fruit is a division of plum & willow has a relation with crop)
2. RIFLE (bullet, gun, fire) ⇒ Rifle and catapult; (fire has a relation with Rifle and project is a division of catapult)
3. FOX (tail, hunt, fur) ⇒ Fox & peacock; (hunt is a division of Fox & peacock has a relation with plumage)
4. EVENING (morning, night, day) ⇒ evening and autumn; (night is a division of evening and autumn is a division of season)
5. STELLATE (sword, star, triangle) ⇒ stellate is Toroid; (star is a division of stellate and crescent has a relation with Toroid)
6. TASTE (food, swallow, tongue) ⇒ Taste is walk; (Taste is has a relation with food, and walk has a relation with legs)
7. CHEMISTRY (laboratory, reaction, substances) ⇒ chemistry and fauna; (laboratory is a division of chemistry & fauna is a division of plants)
8. TRAVEL (journey, map, list) ⇒ travel & attend (journey is a division of travel & meeting has a relation with attend)
9. FOREWORD (read, progress, book) ⇒ foreword and overture (progress is a division of foreword and open music has a relation with overture)
10. RESIGN (politician, leave, parliament) ⇒ Resign & abdicate; (leave is a division of resign and realm is a division of abdicate)
11. CASTOR (sugar, furniture, wheel) ⇒ castor is Rowell; (castor sugar has a relation with castor & bicycle is a division of Rowell)

- ROWEL (bicycle, hub, spur)
12. MOBSTER (gangster, criminal, prohibition) ⇒ mobster & brigand; (gangster is a division of mobster & bandit) has a relation with brigand
- BRIGAND (fugitive, bandit, desperado)
13. CLAVIER (piano, compose, instrument) ⇒ clavier & tambour; (piano is a division of clavier and drum is a division of tambour)
- TAMBOUR (music, beat, drum)
14. QUADRUPED (four, year, animal) ⇒ quadruped & quatrain (∵ four is a division of quadruped & eight is a division of quatrain)
- QUATRAIN (verse, eight, ship)
15. LARGO (loud, solemn, slow) ⇒ largo & piano; (loud is a division of largo and soft is a division of piano)
- PIANO (lively, soft, fast)
16. GLUTTONY (food, weight, sin) ⇒ gluttony & charity; (food is a division of gluttony and kindness is a division of charity)
- CHARITY (philanthropy, kindness, virtue)
17. VESTRY (church, hospital, refuge) ⇒ vestry & dispensary; (hospital is a division of vestry & monastery is a division of dispensary)
- DISPENSARY (monastery, laboratory, hospital)
18. MODIFY (correct, regulate, change) ⇒ modify & redress; (change is a division of modify and rectify is a division of redress)
- REDRESS (adjust, align, rectify)
19. MOAT (ditch, portcullis, crater) ⇒ moat & turret; (portcullis is a division of moat and watchtower is a division of turret)
- TURRET (rampart, watchtower, defence)
20. SAVANNAH (inlet, highland, grass) ⇒ savannah & sierra; (highland is a division of savannah and narrow is a division of sierra)
- SIERRA (ravine, mountain, rock)

Fekarcha xmane

Test (4) : Association

Question.

- PA • ARROW *Bagpipes*.....
- PB • CHAIR *Balloon*.....
- PC • COMPUTER *potato*.....
- PD • SAUSAGE *Tractor*.....
- PE • PENCIL *Tree*.....
- PF • BALLOON *Tractor*.....
- PG • ROBOT *Mandolin*.....
- PH • PARROT *slipper*.....
- PI • BAGPIPES *slipper*.....
- PJ • TELEVISION *candle*.....
- PK • BRIDGE *pipe*.....
- PL • SNAKE *nail*.....
- DICTIONARY *moustache*.....
- BLACKBOARD *parasol*.....
- POTATO *Tractor*.....
- SLIPPER *Tractor*.....
- TREE *Tractor*.....
- MOUSTACHE *Tractor*.....
- PARASOL *Tractor*.....
- NAIL *Tractor*.....
- CANDLE *Tractor*.....
- TRACTOR *Tractor*.....
- PIPE *Tractor*.....
- MANDOLIN *Tractor*.....

$\frac{12}{12}$

Put a letter A against one pair, the letter B against a second pair, etc., through to the letter L, until you have matched what you think are the original 12 pairs of words.

06
25

Comprehension (associative thinking) test

Full name: T. Amati Sabina

Each of the three passages below has had 15 words removed which have been listed at random below each passage. In order to test your verbal skills and comprehension ability, you must restore the 15 words correctly into each passage. You have 30 minutes in which to reconstruct the three passages.



1. Just as the interviewer (1) totally (2) was half-way through asking (3) his most happiest (4) and difficult question (5), the worst (6) thing that could have happened did, and all hell was let loose as Ben shot (7) a cat through the dining room window (8). Apart from almost barking the house down and saw (9) drowning out the second half of the question, Ben misplaced (10) across the dining room in a kitchen (11) blur before throwing himself (12) against the brown (13) door with a sickening (14) crash (15).

window question himself sickening hapless
involved worst saw shot crash
asking interviewer totally brown kitchen



2. We all have the potential to be processed (1), however, because of the pressures (2) of modern living (3) and the need for specialization (4), many of us never have the ammunition (5) or opportunity, or indeed are given the time (6), to explore (7) our creative (8) talents, even though most of us have sufficient (9) data (10) to realise (11) this data (12) in the form of potential (13) which has been fed into, collated and latent (14) by the brain (15) over many years.

Sufficient pressures brain realise encouragement
ammunition data living latent time
processed creative potential specialization explore

3. _____ (1) is the _____ (2) of new _____ (3), and _____ (4) is the _____ (5) of this knowledge. The _____ (6) of learning and memory, therefore, is the _____ (7) of all our knowledge and _____ (8) and is what _____ (9) us to _____ (10) the _____ (11), _____ (12) in the _____ (13) and _____ (14) for the _____ (15).

abilities plan acquisition basis consider
learning retention combination past memory
future enables knowledge present exist

Appendix (L)

A Sample of Students' Achievement in Grammar Written Tests

07/5
no

Test (01): the pre-test

Full name: Barkat chakrazed

The target grammatical pattern: the linking verbs (be, appear, seem, become, get)

The task:

Complete the sentences with an appropriate form of the verbs in brackets and one of the following words or phrases.

Bust, to like, tired, red, berserk, blind, to know, dead.

- 1) I was at a zoo once when an elephant ~~was~~ ^{turn} berserk and attacked its keeper. (go/turn) 1
- 2) Cutting that wood looks like hard work. I'll take over from you when you ~~get~~ ^{get} tired. (get/go) 9
- 3) The doctor told me that without immediate treatment I might ~~turn~~ ^{turn} blind. (go/turn) 2
- 4) After the spider bit her ankle ~~she~~ ^{she} red and started to swell up. (go/get) 1, 1
- 5) He is actually quite friendly when you ~~get~~ ^{get} to know him. (become/get) 9

Task-based self-report

Name: Beytullah Khadidji

After you have done the task, answer the following questions:

- Try to explain your thoughts and actions about the task before you started writing.

Before I started writing, I had read all the words and I did try to understand everything about my task and activity, (e.g. understand the meaning of verbs and words, and try to remember the grammatical rules of my task).

- Try to explain in detail what you did exactly while solving the problem at hand. What was your thinking process?

My thinking process was use dictionary to understand the meaning of each difficult word, and try to understand remember the rules of linking verbs how I use them. (then exactly place of each one), and after this using them with appropriate verbs in order to complete each stc.

- Say in which thinking process you spent more time. (You explain why?)

I spent more time in choosing the appropriate form of each verb, i.e. (the tense) because it is something difficult to know the appropriate verb and its tense especially with irregular verbs.

- In what ways did you check your answers? (You explain why?)

with comprehension and conjugate each verb.

Test (01): the test (the cooperative work)

Group n°: 02

The target grammatical pattern: the linking verbs (be, appear, seem, become, get)

The reconstructed text:

The morning we were going on holiday, everything seemed to go wrong. The taxi was due at 8:00 so I had to take it to airport. When I looked in on Tame at 7:20 o'clock he seemed to be awake, so I went downstairs to make breakfast. When I opened the fridge I found that the milk had gone off, so there was no breakfast for us. The time seemed to be a long time to come down. So at 7:30 I went back upstairs and he still hadn't gotten dressed.

- 1- ARAB Wokiba ✓
- 2- Tanati saking ✓
- 3- Bentoumi Dalila ✓
- 4- Belkadi Fella
- 5- Bouabane Razika ✓

08
m

Test (01): the post-test

Full name: KADI Fatma

The target grammatical pattern: the linking verbs (be, appear, seem, become, get)

The task:

Where necessary, suggest corrections in the underlined parts of this text.

He said he wasn't feeling well, but I just shouted, "You can't (6) get ill when we're going on holiday!" After that the keys to the luggage (7) got missing, but Tom eventually found them in his jacket pocket. By 8.30 the taxi hadn't arrived and I was starting (8) to become worried. It was (9) getting obvious that we were going to miss our plane if we didn't leave soon. But just then the taxi arrived and we made it to the airport with minutes to spare. Surprisingly, after such a bad start, it (10) turned out to be an excellent holiday.

The answer:

- 6. get ill (2)
- 7. got to be missing (2)
- 8. to get worried (2)
- 9. becoming obvious (2)
- 10. turned out (2)

Task-based self-report

Name: KADI Fatima

After you have done the task, answer the following questions:

- Try to explain your thoughts and actions about the task before you started writing.

Before starting writing, I read the question carefully, then the paragraph. Then I tried to remember the rule that I may need. I tried to remember what we have discussed about those rules during the cooperative task and apply them to solve the task.

- Try to explain in detail what you did exactly while solving the problem at hand. What was your thinking process?

Firstly, I read the question and the paragraph. I understood the task, then I wrote the patterns that I need on extra paper. I took each verb from the passage and try to analyse them and combine them with what I have already remembered rules. Then I write my answers.

- Say in which thinking process you spent more time. (You explain why?)

The process in which I spent more time is to remember the rules, but it is not like the first task which is done individually. This time, it takes less.

- In what ways did you check your answers? (You explain why?)

I read the answer, and check each one apart.

Test (02): the test (the cooperative work)

Group: 01.....

The target grammatical pattern: forming passive sentences

The task:

4 Finish each of the following sentences in such a way that it is as similar as possible to the sentence before it.

a Leaving that dress in the sun has made it fade.

That dress being left in the sun was made to fade.....

b We watched the men sail the boat into the harbour.

We watched the boat being sailed into the harbour.....

c I dropped the glass and cracked it.

The glass cracked when was dropped by me.....

d I added flour to the sauce and thickened it.

The sauce was thickened when the flour was added to it.

e They're selling a lot of copies of that new single.

That new single is being sold a lot of copies.....

1)- Bentaleb Khachouja

2) BARKAT chahrazed.

3) Arab Hanaa.

4) Abdelhafid Maryem.

5) KORICHI ZAHRA

06
m

Test (02): the post-test

Full name: ABAB WELBA

The target grammatical pattern: forming passive sentences

The task:

- a) People used to sell the tourists fake antiques.
The tourists fake antiques used to be sold by people.
- b) Why didn't offer the customers a refund.
Why did the customers not being offered a refund.
- c) People suggested to us that the Internet would be a good source of information.
We were suggested that the internet would be a good source of information.
- d) The incident earned him the reputation of being unreliable.
He was earned the reputation of being unreliable by the incident.
- e) The referee declared the boxing match a draw.
The boxing match was declared a draw by the referee.

Task-based self-report

Name: ARAB WAHIBA

After you have done the task, answer the following questions:

- > Try to explain your thoughts and actions about the task before you started writing.

I was having the same feeling about each task I do it. I was nervous, worried, confused, and think whether the task would be easy and I can do it or not. However, in the mean time I was preparing my self to this task as usual. But fear never level me alone.

- > Try to explain in detail what you did exactly while solving the problem at hand. What was your thinking process?

When I start doing my task, first off all, I had my exam sheet. I was too quiet, my heart was beating, at an event happen to me during exam. So I took my pen and I start writing on my ruff paper my suggestions. I was writing and stopping in the mean time. Sometime I was thinking out of the topic, since I was tired after I finish writing my answers, I rewrited them again on my exam sheet in very organized way, and I was thinking and hoping that my paper would be one of the best one for my teacher.

- > Say in which thinking process you spent more time. (You explain why?)

The thinking process in which I spent more time is chaos in analysing the sentence whether it need this answer or other one.

- > In what ways did you check your answers? (You explain why?)

After I finish, I revise my answer as usual by checking my spelling mistakes, grammar and see whether the answers are organized or not and I read my answers twice to be sure that I did all what I can do.

Test (03): the pre-test

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Full name: KADI Fatma

The target grammatical pattern: *was/ were + past participle + ing*; *past simple + being + past participle*.

The task:

Complete these sentences using one of these pairs of verbs. Use either **was/ were + past participle + ing** or **past simple + being + past participle**.

Avoid-take deny-involve face-expel find-wander keep-wait
Leave-hold observe-hide remember-bite resent-give send-tumble

- ① a) When the police first questioned him, Wayne ~~denied~~ denied being involved in the robbery.
- ② b) They prisoner by pretending to be dead.
- ③ c) ~~Two~~ teenagers yesterday ~~faculting expelled~~ faculting expelled from school after they were found with over a hundred stolen mobile phones.
- d) The woman was taken to hospital when she ~~was kept waiting~~ was kept waiting lost and alone in the forest.
- e) The man ~~was observed~~ was observed a suspicious package under a seat in the train.
hiding

Task-based self-report

Name: KADI Fatma

After you have done the task, answer the following questions:

- Try to explain your thoughts and actions about the task before you started writing.

Before I started, I read the task in order to understand it. I read the sentence then I tried to remember the rules which are related to the task.

- Try to explain in detail what you did exactly while solving the problem at hand. What was your thinking process?

Firstly, I read the task and the sentence and analyze them. I read the two patterns that have already presented with the task. I read the parts of verb and tried to associate them with sentence and then I tried to choose the appropriate pattern from the two and applied them in the sentences.

- Say in which thinking process you spent more time. (You explain why?)

I spent more time in the choosing the appropriate pattern, because they seem to be the same.

- In what ways did you check your answers? (You explain why?)

I checked my answers by reading them one by one to correct the errors and complete the missing or forgotten answers.

Test (03): the test (the cooperative work)

Full name:.....

The target grammatical pattern: *was/ were + past participle + ing; past simple + being + past participle.*

- a) She vaguely remembers that she was knocked down by a motorbike.
.....
- b) It's never very nice when people laugh at you.
.....
- c) Stewart was criticized for his extravagance and was more careful after that.
.....
- d) Because I was told it was quicker, I naturally took the mountain road.
.....
- e) He didn't remember that he had been ordered to appear before the judge.
.....

04
ms

Post

Test (03): the pre-test

Full name: KORICHA ZAHRA

The target grammatical pattern: *was/ were + past participle + ing; past simple + being + past participle.*

The task:

Complete these sentences using one of these pairs of verbs. Use either *was/ were + past participle + ing* or *past simple + being + past participle.*

- | | | | | |
|------------|--------------|---------------|-------------|-------------|
| Avoid-take | deny-involve | face-expel | find-wander | keep-wait |
| Leave-hold | observe-hide | remember-bite | resent-give | send-tumble |

- a) Inger was waiting for over three hours when she went to answer the phone.
- b) When I woke up in hospital, I wasn't being by the snake but nothing after that.
- c) Adam had worked in the company for 30 years and he rather resented being given orders by people who had been there only weeks.
- d) When the bike hit her, Ann avoided being taken to the ground.
- e) I was left holding the baby while Karen went to answer the phone.

Task-based self-report

Name: Karichin ZAURA.

After you have done the task, answer the following questions:

- Try to explain your thoughts and actions about the task before you started writing.
before I started answer the questions, I read it several time and I started to think about the correct meaning of words, concepts and analyzing each word.
- Try to explain in detail what you did exactly while solving the problem at hand. What was your thinking process?
when I started answering this exercise I found it easy than before. so first I read the exercise then I read the pair of words, I tried to think about the meaning and make discussion with my mind. I tried also to analyze each words and tried to know the context of each sentence (what meant by this... etc.) then I started writing the answer in draft paper, the most appropriate one and later I copy it in the answer sheet and finally I revise it.
- Say in which thinking process you spent more time. (You explain why?)
I spent much time in knowing the meaning of words and the application of it each pair in the appropriate context.
- In what ways did you check your answers? (You explain why?)
the method that I followed is, read the exercise and reread it twice then I try to know the meaning of the word according to my mind then I write the answer and try to check it if it's correct or not by revision.

10
10

Test (04): the pre-test

Full name: Bouabdane Razika G:ô's

The target grammatical pattern: *the verb + to be +past participle.*

The task: make passive sentences beginning with the underlined words. Ensure that the sentence you have written has a corresponding meaning to the original one.

1. Critics have come to recognize Galdos as one of Spain's greatest novelists.
Galdos comes to be recognized as one of Spain's greatest novelists by critics.
2. Alan arranged to take Kathy to the station.
Kathy arranged to be taken to the station by Alan.
3. The team captain hopes to select Kevin.
Kevin hopes to be selected by the team captain.
4. Harris has agreed to interview the finance minister.
The finance minister agrees to be interviewed by Harris.
5. The north coast continues to attract holidaymakers.
Holidaymakers continue to be attracted by the north coast.

Task-based self-report

Name: Bouabane Razika G: "03"

After you have done the task, answer the following questions:

- Try to explain your thoughts and actions about the task before you started writing.

Before I start writing the answers, I try to read and reread carefully ~~the~~ what the teacher wants i.e. I try to understand the question of the task. After that I try to read the sentences one by one in order to get the meaning of it. Then I write the answers.

- Try to explain in detail what you did exactly while solving the problem at hand. What was your thinking process?

While when I begin my answers I write sentence by sentence because I can not do all the sentence in the same. I prefer to read the sentence and find the subject, verb, object in order to be more easier to formulate it in passive. So and I prefer to start by the easiest one because if I start with the difficult one, I will spend more time. So, it's better to write one by one.

- Say in which thinking process you spent more time. (You explain why?)

I spent more time in looking up to meaning of the sentences in the passive form, if the sentences have the same meaning as the active ones.

- In what ways did you check your answers? (You explain why?)

I check my answers when I finish all my answers. But we have sometimes problem in checking the answer. Sometimes I when I reread the answer I change the answer of some stages.

Test (04): the test (the cooperative work)

Group: *04*.....

The target grammatical pattern: *the verb + to be + past participle.*

The task:

Finish each of the following sentences in such a way that it is as similar as possible to the sentence before it.

- a They made me tell them everything I knew.
I was made to tell them every thing I knew.....
- b Nobody ever let me study the piano at school.
I was ever let to study the piano at school.....
- c It is often said that Shakespeare never revised anything he wrote.
Shakespeare is often been said to never revise anything he wrote
- d There were once thought to be canals on Mars.
It was once thought to be canals on Mars.....
- e From what we understand, there was an attack last night in the vicinity of the beach.
There is an understand that there an attack to be last night in the vicinity of the beach.

- Amzandja Sabrina .

- Ferbach Ileana

- KADI Fatma .

- Saadi Anfel

- Ghaleb Menel .

Test (04): the post- test

Group: Ben Toumi Dalila

06

The target grammatical pattern: *the verb + to be + past participle.*

The task:

Finish each of the following sentences in such a way that it is as similar as possible to the sentence before it.

Example: He didn't remember that he had been ordered to appear before the judge.
He had no recollection of *being ordered to appear before the judge.*

- a She vaguely remembers that she was knocked down by a motorbike.
② She has vague memories of *being knocked down by a motorbike.*
- b It's never very nice when people laugh at you.
② Being *laughed at* was never ~~very nice~~ to be very nice.
- c Stewart was criticised for his extravagance and was more careful after that.
Having *criticism for his extravagance*, Stewart *was* being careful after that.
- d I really wish I hadn't been pushed into giving a speech.
② I really regret *being pushed to give a speech.*
- e Because I was told it was quicker, I naturally took the mountain road.
Having *the mountain road was told to be quicker.*

Task-based self-report

Name: Bentoumi Dalila

After you have done the task, answer the following questions:

- Try to explain your thoughts and actions about the task before you started writing.

First I started by reading the task question and the sentences, I tried to decode them because I found them some how difficult.

- Try to explain in detail what you did exactly while solving the problem at hand. What was your thinking process?

First I have read the task with it's sentences, I understand the meaning of the sentences but how I form the ~~was~~ passive in the pattern giving it was difficult for me. I tried to solve it one by one by making many possibilities for each one then I picked the best one which seemed to me that it was logical. I solved my task but I'm not sure at all if it is correct.

- Say in which thinking process you spent more time. (You explain why?)

I spent much time in forming the passive in the pattern giving because it was very difficult.

- In what ways did you check your answers? (You explain why?)

I checked my spelling mistakes as well as the verbs because I was not sure if they are correct.

09
26

Test (05): the pre-test

Full name: Sarah Aghal

The target grammatical pattern: *Tenses in reported speech.*

The task: *what are the likely original statements which these report?*

- a) They said they would be at the station by ten.
They said: "We will be at the station by ten"
- b) She said she had to wash her hair this evening.
She said: "I have to wash my hair this evening"
- c) He tried to convince me that Goa was in Africa.
He said: "Goa is in Africa"
- d) She claimed she spent her childhood in Australia.
She claimed: "I spent my childhood in Australia"
- e) She said she'd given up studying English and was going to get married instead.
She said: "I have give up studying English and am going to get married"

Task-based self-report

Name: Saadi Anfal

After you have done the task, answer the following questions:

- Try to explain your thoughts and actions about the task before you started writing.

I ~~was~~ before I started writing I was calm I hadn't done something important. Sitting on my chair waiting to see the question. That's all.

- Try to explain in detail what you did exactly while solving the problem at hand. What was your thinking process?

When I ~~see~~ saw the question I started to understand it well. Then I ~~started~~ started to gather my information then I just started to answer.

- Say in which thinking process you spent more time. (You explain why?)

Well, here I was thinking about the exam that we will do after the holidays.

- In what ways did you check your answers? (You explain why?)

I have read all the sentences then I started to answer. I didn't write anything I know.

Test (05): the test (the cooperative work)

Full name: O. R.

The target grammatical pattern: *Tenses in reported speech.*

The task:

- 2 Finish each of the following sentences in such a way that it is as similar as possible to the sentence printed before it.

EXAMPLE: 'Yes, that's right. I've booked a room for two nights,' said the man on the telephone.
The man on the telephone confirmed **that he had booked a room for two nights.**

- a 'I'm sorry I shouted at you,' Ruth said to Rita.
Ruth apologised **that he had shouted at her.**
- b 'Look Tim, you really shouldn't get so angry with people,' said the receptionist.
The receptionist told **Tim that he shouldn't get angry with people.**
- c 'I'm really grateful for all the help you've given me over the last few days,' the boy told his parents.
The boy told his parents he **was really grateful for all the help they had given him.**
- d 'If you will agree to help me on this, I'll see what I can do about your working hours,' my previous boss told me.
My previous boss promised **he would see what he could do about my working hours if I would agree to help him on that.**
- e 'If you can't get here today, what about tomorrow?' my mother asked me on my birthday.
My mother wondered **whether I could get there this day or the next one.**

- 1- Bentoumi Dalila
- 2- Akab wahiba
- 3- Touati Sakina
- 4- Bel Kadi fella
- 5- Bouabane Razika
- 6- Ablawui Showaib

04. ✓
RS

Test (05): the post-test

Full name: Abdelhakim Mezzem

The target grammatical pattern: *Tenses in reported speech.*

The task:

Finish each of the following sentences in such a way that it is as similar as possible to the sentence printed before it.

- f 'Do you think you might be able to get the money by this evening?' the shop owner enquired.
1. ✓ The shop owner asked me if I could get the money by that evening
- g 'I'd rather you didn't tell anyone about it yet,' my wife said.
2 My wife asked me not to tell anyone about it yet
- h 'Don't worry, I'm not really going to take all your money,' laughed the man.
The man reassured me he had not take all my money
- i 'I'm afraid I am not in a position to lend you any money at the moment,' said the manager, 'though I would if I could.'
The manager said that he would lend me the money if he could
- j 'But you really must come and stay with us for the weekend,' said Philip.
3 Philip insisted that I should have come and stayed with them the weekend

Task-based self-report

Name: Abdelhakim M. Salem

After you have done the task, answer the following questions:

- Try to explain your thoughts and actions about the task before you started writing.

Before I started writing, I thought of the grammatical rules and their use in the statements given.

- Try to explain in detail what you did exactly while solving the problem at hand. What was your thinking process?

I began by reading the sentences putting in mind the rules applied and the difficulties faced on the writing process. I read the sentences written by what the committee has in a seminar because the reported speech has to be equivalent with that of the original sentences, of course I could modify the sentences as long as I am keeping the meaning.

- Say in which thinking process you spent more time. (You explain why?)

I spent more time reformulating the sentences putting in mind the grammatical and meaning difficulties in order to keep the original comprehension.

- In what ways did you check your answers? (You explain why?)

I read the sentences written by work checking the exactness of the rules and the appropriate expressions used in the answers.