

2.1 Introduction

The lack of viable instructional experimental design in the teaching of metaphors and, by far, ESP especially vocabulary instruction is the driving stance towards the choice of this one-time research. In the succeeding paragraphs an explanation of the experimental design will be provided besides the steps pursued to accomplish it. The socio-cultural conditions and the teaching environment under which the study was conducted were also taken into account. First, some preliminary remarks on the teaching-learning situation at the department of Economics in question will be provided. Second, the existing materials used and the adopted ones are to be explicated as an attempt to characterise the background under which the study took place. In pursuit of the endeavor to model empirically-based lesson plans to integrate conceptual-metaphor awareness to academic settings, difficulties were as much as possible overcome due to the lack of laboratory-precise experiments. Subjects were often reluctant to the tests and handing in the required home works. The average level of learners in the Algerian universities is also considered. Business students' willingness and needs in the English class were a matter of consideration indeed.

As an attempt at answering and further testing the above mentioned enquiries, a set of methodological procedures was carried out. First, an empirical investigation within the framework of cognitive- inspired study area was designed. Second, the study aims at testing empirically the claim that conceptual metaphor awareness can contribute to conceptual fluency and increased vocabulary acquisition on the part of learners. Indeed, the study followed the chronological order of empirical investigations. That is, a pretest aiming at identifying individual students' level of proficiency; the treatment manifested through the use of conceptual metaphor awareness raising method; and a post test checking students' ability of vocabulary recall. The researcher, further, explains how the variables have been controlled in this chapter. The data collection instruments used are also explained under each study.

2.2 Preliminary remarks

English for business studies is a thriving field of research in the domain of specialised languages. The implementation of the latter in native-English speaking countries comes up with lesser degrees of difficulty as the learners' code of conduct is the means of daily communication. The opposite is not evident for non-native speakers of English. English is nowadays the lingua-franca of different tongues and the language of science and technology. This fact leaves linguists and language teachers at issue with developments in the field of specialised discourses. The way business international relations are handled by experts and the philosophy underpinning their operation are a matter of concern in the Business English classes. The Algerian university, among others, looks far beyond the national borders to establish cross-continental business relations. Thus, teaching English to students of business and economics at Laghouat University is of paramount importance over the last few years of economic prosperity to keep pace with the thriving fields of business and language instruction in particular.

2.2.1 The English language at the department of economics and business studies

English in the 'licence' degree is considered as an accompanying module after Arabic and French. It is integrated in the new pursued higher educational system introduced to the department in 2006. The latter is known as 'Licence' 'Master' 'Doctorat' (LMD henceforth) system. Over the first three years of studies, students learn the two languages French and English separately. That is, in the first and the second years of the 'Licence' degree, French is taught as part of methodology unit holding a coefficient equal to that of secondary modules. The objectives stated in the curriculum behind teaching French are, enabling students to read and understand business and economics texts; equipping them with the right strategies of research in the field. To achieve such objectives, teachers adapt multiple texts from divergent resources or focus on specific aspects of the language. In the third year, however, English as an accompanying module to French is introduced. The long period of learning English is often a problem encountered by learners. Instead of focusing on specific content-based teaching materials, teachers grapple with the low-level of students' knowledge of

grammar. Through the observation phase of the experimental study, the two teachers provided the researcher with some remarks on the learners' observable difficulties in learning the grammatical constructions of the language. Likewise, the lack of published materials in English in the library, the cognitive load on students is a matter of consideration for teachers. English is taught one session a week, thus students' exposure to the language is limited. One hour and a half at the end of the day affects students' interaction with the language. However, instead of focusing on the oral or the listening skills, the reading skill is emphasised followed by writing expression.

The beneficial effect of integrating English might be achieved in the Masters Degree due to the objectives stated in the curriculum. These academic objectives are, reading and understanding specialised texts, analysing texts in terms of their intended objectives in both scientific and popular discourses; the ability to use vocabulary relevant to business and economics in writing business letters, CVs and reports. Hence, these objectives are attributable to the linguistic aspects of the Business English curriculum at Laghouat University. Furthermore, the pedagogical aims of the course long for learner autonomy and self-directed learning in which the teachers should train learners to use strategies of learning.

The classes are chosen according to specific criteria. The students scoring higher in the last year of 'Licence' degree will pass to the first year 'Master'. After having acquired an average background of English in the third year, students are familiarised with reading economics and business texts and the relevant vocabulary. Important to mention is the teachers' profile, three teachers in the department run the job. They are subject specialists rather than specialised language teachers. Two of them, however, had studied technical English at technical institutes. The third teacher, however, is a subject specialist who had one-year training of English in an academic institution. All the three teachers had an experience of teaching of about three to four years at the department of economics and business studies. The materials used will be highlighted in the next section. Further analysis of the learning-teaching situation can be carried out in another detailed case study which is beyond the limits of this study. The profile of the learners and the teachers is but a description of the situation under which the study was implemented.

2.2.2 The Existing teaching materials

The teaching materials commonly used by the English teachers at the department were analysed to show the relevance of drawing metaphor awareness to learners. Through the observation of the difficulties encountered by students upon reading texts extracted from books or internet articles, the choice of the following study was a selection. The books used include, *Business Vocabulary in Use* (intermediate) by Bill Mascull (2002), *Market Leader* (intermediate), some texts adopted from internet sites or business vocabulary definitions; Money and Banking taken from <http://cdo.bseu.by> and competitive advantage from <http://www.quickmba.com>. The writing skill is also instructed directly through model-completion exercises.

Despite teachers' lack of adequate instructional materials, learners are reluctant to handing in assignments. They often ask for clarification through visual examples or equivalents in French or Arabic. Peer-correction and group-work are encouraged by the teacher within classes. Exercises used range from gap-filling, definition of terms, model-completion exercises to comprehension questions and grammar-based tasks. Although, teachers succeed in explaining the ideology behind economic and business activities, some metaphorical expressions were found difficult to interpret; in particular, management of time and projects in the Western world. 'Clocking in' and 'clocking out' are not familiar in the Algerian companies due to the different perception of time. The following study was carried out to try an explanation to such misunderstanding and to engage learners in the learning process through introducing the strategies accompanying metaphor-awareness.

2.3 The Experimental method**2.3.1 The Pilot study**

Pilot studies are important experimental methods; they are used to test particular data collection techniques or new methods. They are information-based and can provide feedback about the weaknesses and the strengths of a particular study. Hence, the materials chosen for the main study were applied before the main study took place with a nearly similar sample by applying the same method of vocabulary instruction offered

by conceptual metaphor awareness. The main contents that were suggested for the main study were tested through sequentially-planned lessons which led to both content and time-management modifications in the main experiment. The study was carried out using the same materials through which students' achievements in a delayed posttest and a final exam were measured to determine levels of difficulty for the learners in both groups. For the case of convenience, two lessons from www.onestopenglish.com were chosen, TIME IS MONEY and MONEY IS A LIQUID. Vocabulary items in the two lessons were taught in isolation rather than contextually-based texts. That is, new lexical items were taught directly by stressing the metaphorical expressions that intersect the two domains money and water. Words such as 'price freeze' are integrated in a model source domain-focused sentence like 'when they woke up that morning, they found that the lake has frozen overnight'. Even though, students needed more contextual cues to enhance their comprehension through highlighting keywords and signposts in the reading passages in the following study. Thus, the two lessons in the main study were taught as part of texts rather than isolated sentences.

In the second study, however, the materials used led to difficulties in the length of the required test. Therefore, a shorter test was used in the main study instead. Students' interest in the pictorial support, as a warming up, used in the study increased its potential for inclusion in the main study later. Important to mention is the time constraint encountered during the piloting process, besides the nonequivalence between the main participants in the pilot study and those in the main experiment. The students who participated in the pilot study have attained a lower band of vocabulary items compared to the main subjects in the experiment. These constraints were as much as possible overcome to insure reliability of the materials to be used in the main study.

The subjects that participated in the pilot study were third year and fourth year economics students. They took presumably the same courses as the main subjects in the study and studied the same topics. Interestingly, the main themes dealt with coincide with the required objectives stated in the curriculum. They are limited to money, competition, business objectives and ethics. Furthermore, the teaching materials that teachers choose are not determined by a precise syllabus. It is rather dependent upon teachers' choice and learners' needs and interests to decode for exam. Presumably, the shortcomings of the length of the text and the test were considered in the main study which took place in the succeeding weeks.

2.3.2 The Main study

The agreeable tool among researchers to test a particular cause-effect relationship between variables is the experimental method. It is empirically-based and might lead to likely accurate measurable results. The choice of the experimental study, hence, is motivated by the quantitative stance it aims at achieving. It *can be thought of as systematic trial and observation where systematicity is the characteristic of good research* (Goddard&Melville, 2004:32). In the succeeding paragraphs, a reminder of the research questions will be provided first. Then, the definition of variables follows. After that, justification of the use of this method is explained. Finally, data collection techniques will be described explicitly.

Central to the experimental design is reliance on scientific procedures that can be applied in different contexts with different populations. The empirically-based studies conducted in non-native countries are taken as the milestones for the present study. The teaching materials used in the first study are replicated from Sacristan's (2008) experiment with Spanish intermediate Business learners; whereas the second and the third studies are based on the German empirical study conducted by Grundmann (2009). The contextual difference has been taken into consideration accounting for students' differences of linguistic and cultural profiles indeed. Similarities between the subjects' knowledge of English as a foreign language is the main driving factor on which the materials were replicated partly; the reason why the pilot study was conducted before the main study took place. Indeed, the distinguishing characteristics of experimental studies are the principles of *replication, randomisation and local control*; hence justifying the choice of the present study. (Kothari, 2004:39)

The academic year in business and economics studies is divided into two semesters in each semester twenty hours are allotted to English. The two groups chosen for the empirical study consisted of 22 students in each. They are enrolled in accounting courses that were chosen according to specific selection criteria. Among the criteria of selection were the average they took along the four years of their 'Licence' and the professional experience they had during their careers. In other words, students scoring higher in the list of proposed candidates were chosen accounting for their professional

experience in business companies.¹ Through informal consultations with the candidates and the administration managers, data on the learners' profiles was collected. Of particular interest, however, are the sessions where both groups, the control group and the experimental group, were taught English. Each Monday morning, the second and the third sessions consecutively were devoted to English. To control for confounding variables, the two groups were taught by the same regular teacher at alternate sessions. Further, their teacher has some experience in teaching Business English but was instructed a session beforehand on the implementation of the study. The observation phase was implemented before the introduction of the study of about five sessions. Students' interaction with the teacher and the reading texts were observed besides their learning difficulties in business vocabulary acquisition and retention.

The contents provided in the main study will be explained in detail in the lesson plans of the three studies (see appendix A). However, a brief description of the procedures followed in the experiment unfolds in the following lines. The objective of conducting an experimental research is testing two variables which are distributed differently along the two groups, namely the dependent variable and the independent variable. The dependent variable in this study is the acquisition of business vocabulary on which students in both groups will be tested. Whereas, the independent variable in this study is conceptual metaphor awareness raising. The latter was present in the experimental group and absent in the other. Therefore, the study aimed at answering the following research questions under them the relevant hypotheses.

2.3.3 Research questions and hypotheses

1. To what extent can conceptual grounding help Business English learners acquire and use new vocabulary items?
2. What are the effects of conceptual metaphor awareness on students' comprehension of texts?
3. What are the effects of metaphor awareness raising activities on students' mid-term retention of metaphorical language?

¹ It should be noted that almost 20 percent of the subjects have worked or are actually employed in both local and foreign companies.

1. Integrating conceptual grounding into the teaching of vocabulary improves learners' capability of vocabulary recall and use.
2. Conceptual metaphor awareness improves students' reading comprehension.
3. The use of cognitive linguistics-inspired metaphor teaching in Economics Master class at the University of Laghouat increases learners' mid-term retention of metaphorical language.

In pursuit of the accomplishment of the main experimental study, two groups of students were randomly assigned. Indeed, equal comparability between the two groups on the level of English language proficiency through a placement test could not be achieved due to the time constraints. However, the age and the gender factors were controlled as the two groups contained nine female participants in each. The present study follows the logical sequence of experimental designs. In such an experimental design, the participants are randomly assigned and they are tested before and after the treatment. In the following study, however, the pretest served as an information-provider of the students' level of proficiency. As an attempt to reduce the confounding variables, the two groups were randomly chosen among the whole population which consists of 195 students based on the number of subjects, their gender and age factors, thus forming 11 percent of the whole population.

After weeks of observation, the first study was conducted following structured lesson plans that were handed to the teacher three days beforehand. Subjects in the experimental group were notified about their integration in an experimental study a week before to insure co-operation and presence. The first intervention centered on business competition where intersection between business, war and sports is the main conceptual metaphor underlying competition among world's most famous brands. The treatment took two sessions; the first one was devoted to the lesson in question and another session to the week-delayed posttest.

The second study, on the other hand, spanned two other weeks. Business cash flow liquidity was highlighted through complementary intersections between money and water. The text was adopted from *BEC Vantage Intermediate* in a form of an email where vocabulary relevant to business inflows and outflows was emphasised. A writing

assignment was implemented following a focused written expression course a week after the introduction of the second experiment. In the third study, however, another text modeled on business competition was introduced after two months. The driving need to test vocabulary mid-term recall justifies the implementation of the third study. Observation in the second study was achieved through analysis of students' output in the writing assignment. Conversely, the third experiment was tested in the form of meaning-focused exercises in which students were required to explain the meaning of the underlined metaphorical expressions.

During the course of the study, the control group received their regular vocabulary instruction, whereas, the experimental group received training on the underlying conceptual-metaphors in context. Both groups set for the same tests alternatively to exclude participants' exchange of insights about the instructions received. The tests took one hour and a half respectively. That is, whole sessions were devoted to testing due to the delayed complete group presence. Important to mention, further, is the continued presence of the researcher prior to the experiment and during its implementation. Observation records were filled in and were considered as additional information resources of students' interaction with texts and the respective vocabulary. On the whole, the pre-defined study was a first attempt at examining the effects of conceptual metaphor awareness integration in business classes. Although, the absence of typical longitudinal experimental design is noticed, the present study is an initiative for a larger scale experiment that might be designed in subsequent studies.

2.3.4 Participants of the study

2.3.4.1 The Sample

The current empirical study was assigned to the population of first year Masters students at Laghouat University enrolled in the Business and Economics course chosen for the study. However, it should be pointed out that the number of students is 195 divided into six groups. The sample contained 22 students in each group, however, control over sex and age was respected. The following table outlines gender proportions in the experimental study.

Group	Population		Group1		Group2	
	N.	%	N.	%	N.	%
Category						
Male	60	30,76	10	45,45	11	50
Female	135	69,23	12	54,54	11	50
Total	195	100	22	100	22	100

Table 2.1: Gender proportions of the experimental sample

The assumed relatively advanced level of students in the learning process is the main factor behind the choice of the population. Additionally, selection falls on first year MA students neither second year nor third year students because they may have attained exhaustive knowledge in the English language compared to third year or second year students where English language course is not part of the curriculum. Further, Master students share the advantage of formal university-entrance exam and a BA degree. That is, the two groups represent the general population in economics studies in Algerian Universities. Additionally, the sample is representative of the whole population as subjects are exposed to the same teaching materials and taught by the same teacher.

They have studied English for five or six years before entering university. Further still, the majority of the participants in both groups are constantly enrolled in extra English language courses in private institutions. Both groups contain different age proportions, five subjects in each group are full-time workers aged thirty to forty-five. The others, however, ranged between twenty-two and twenty-seven. To wit, personal data was achieved through informal meetings with administration staff and the learners. Information about the level of proficiency was attained in the formal first mid-term examination. The mixed-ability learner groups was noticed as both groups contain high, average and low levels of proficiency which are typical of business classes. The intended identification of the learners' proficiency was pursued in order to arrive at conclusions about the differences of conceptual fluency among the three levels of proficiency indirectly. The age factor was also controlled in the analysis of groups'

achievements in the tests. Participants who are older than the other typical subjects were excluded from the analysis due to their age and experience which might contribute to increased proficiency.

Furthermore, the two groups are assumed to be typical of the EFL/ESP business learners in the Algerian universities. They are all native speakers of Arabic and have studied English for at least five years through formal instruction at middle and secondary schools. The bilingual and diglossic nature of the learning context in Algeria was also accounted for in the study through which further extensions of meaning were provided. A detailed examination of the research procedure will unfold in the following paragraphs.

2.3.5 The Experimental procedure

A set of structured plans for the introduction and the implementation of the studies was a priority in the empirical study. Pre-defined stages took place to insure structured instructional design. In the table below, an outline of three experimental studies is provided.

	1st study	2nd Study	3rd Study
Week	31/01-07/02-2011	14/02-28/02-2011	25/04-02/05-2011
Title	Business Competition	Money	Business Competition
Data	Gap-filling exercise	Gap-filling exercise and a writing assignment	Delayed vocabulary test
No of participants	22 experimental / 22 control	22 experimental/21 control	22 experimental/22 control

Table 2.2 An outline of the three experimental studies

2.3.5.1 The Measuring instruments

The instruments used during the three experimental studies were administered to check vocabulary acquisition and later recall. The tasks implemented after each study constituted of close gap-filling tasks, sentence completion and a writing assignment exercise. The first mid-term examination and the observation grids were also used as information-resources.

2.3.5.2 The Implementation of the first study

The present study followed the regular business and economics courses under the time limits devoted to implementing the curriculum. However, the implementation of the study took six weeks followed by the final exam. That is, it took twelve hours to complete. The lessons chosen for the study were structurally planned according to the standards and the norms of the communicative-cognitive approach to teaching in which conceptual metaphors were the central linguistic and pedagogic elements. In each stage, learners' capacities of recall were considered so as to adapt the materials to the learning situation. For example, the lack of motivation in learning vocabulary due to the redundant word- to- word translation by the teacher following the traditional methods of instruction. Although the main focus of the lessons in question was vocabulary instruction. The main weakness observed in the learners' acquisition and comprehension of economics and business texts and the respective vocabulary thereof were considered as metaphor awareness raising was an additional channel for vocabulary acquisition and discourse comprehension. Hence, a replication of the whole materials used in the German and the Spanish studies was elaborated to cope with learners' level of proficiency and willingness to learn new vocabulary items related to metaphors.

In a formal meeting with their regular teacher, the reading texts were adapted and agreed upon. The tasks, however, were modified due to multiple reasons. Among others, the length of the reading texts was modified due to the lack of time and the integration of other grammar-based tasks into the course. Post-reading activities were also modified. Vocabulary instruction, however, was pursued where the teacher had complete control of the timing of the lesson procedure. Each part of the lesson was

sequentially built under the time allotted to the module. The items to be learnt were also specified so that the cognitive load on the learners in both groups would be equal.

A week in advance, the students received input on business competition. The teacher explained the main elements of competition besides the competitive advantage a company may obtain. Building on students' prerequisites, the choice of the text in the first study was justified. It was, however, open for students to choose the title. After refreshing learners' minds through the warm-up phase, the metaphor group were further asked about their favourite sports and competitors thereof. The aim was to draw students' attention to the intersection between the two domains, business, war, water and sports. The brevity of the text adopted for the study was extended in the meaning-focused oral and written tasks spanning the lesson. The students interacted together to decipher the meaning of the metaphorical expressions by exemplifying from both the source domains, war, water and sports, and the target domain business.

Participants in both groups succeeded to understand the overall meaning of the text; however, the experimental group looked for the meaning of the targeted linguistic metaphors prevalent in the passage as they were formerly instructed about the conceptual metaphors and the linguistics manifestations underlying the text. Among the linguistic manifestations of metaphors presented in the text are:

'*Aggressive comparative advertising has now reached fever pitch*'

'*Market leaders are under constant pressure to slash their prices in a cut-throat struggle for market domination*'

'*extra millions are pouring into R & D*'

Whereas the targeted vocabulary items for both the control and the experimental groups include, comparative advertising, market leader, market domination, market value, fair competition and aggressive comparative advertising.

The post-reading activity also differed from that of the control group. The tasks centered around the identification of vocabulary items relevant to business competition highlighted through the underlying conceptual metaphors. Metaphor awareness was the central dividing point between the two groups indeed in addition to the pictorial support which is an initiative for text comprehension. A week-delayed test for both groups was

implemented which took a whole session to complete. The sentences used in the test were similarly constructed as the input received by the experimental group. As outlined in the table below, the main steps of the lesson were equally planned with the only difference in metaphor awareness raising for the experimental group. The detailed lesson plan, however, is provided in appendix A.

BUSINESS IS WAR. BUSINESS IS WATER. BUSINESS IS SPORT		
Group	Experimental	Control
Learning aim	<ol style="list-style-type: none"> 1. To acquire vocabulary relevant to competition 2. To highlight the source domains war, water and sports 	<ol style="list-style-type: none"> 1. To acquire vocabulary items related to competition
Activity	<p>Pre-reading activity: Brainstorming on competition using pictorial support of the three source domains.</p> <p>Reading comprehension: text adapted from <i>Business Matters</i> 'Competition between world's famous brands'</p> <p>Post-reading activity:</p> <ul style="list-style-type: none"> - Underline the words that belong to war, sport and water in the text. - Match the underlined words with their respective conceptual domain. <p>A week-delayed vocabulary test</p>	<p>Pre-reading activity: Brainstorming on business competition without the use of pictorial support.</p> <p>Reading comprehension: text adapted from <i>Business Matters</i> 'Competition between world's famous brands'</p> <p>Post-reading activity:</p> <ul style="list-style-type: none"> - Underline all the words that have to do with competition in the text. - Cross the odd one out. <p>A week-delayed vocabulary test</p>

Table 2.3: Lesson plan of the 1st study

2.3.5.3 The Integration of the second study

Following the same sequencing of the first study, the second intervention, which further focused on metaphor awareness, took place a week after. It should be pointed out that before the treatment; learners were instructed on the typical inflows and outflows of business cash flow. After a short discussion of cash flow, subjects in the experimental group were required to underline the expressions that belong to the domain of water and liquid in the text; in addition to a follow-up matching exercise with the adequate drawing. The email that Steve wrote to the management consultant contains the original linguistic metaphors adapted from the book plus the expressions added by Grundmann (2009). The expressions ‘we are pouring our money down the drain’, ‘cash leakage’, ‘cash injection’, ‘activate dried up government funds’ were added by the German researcher as extensions of linguistic metaphors that would be challenging for the learners. The lexical items that were meant for both groups, accordingly, are ‘cash flow’, ‘leveling the inflows and the outflows’, ‘liquidating fixed assets’ and ‘down-payment’. Students in the control group, on the other hand, had to complete a table representing Steve and Sue’s problems and solutions. After further explanations by the teacher, a post-reading oral activity was targeted to both groups. Three days before the first mid-term exam, both groups set for another gap-filling test.

The testing procedure in this second study took the form of homework so as to insure students’ cooperation with the material and to check their vocabulary recall. The assignment was due in three weeks after the study. It was noticed, however, that it can be considered as one of the short-comings of the study. Prior to the writing assignment, learners in both groups were taught how to write a business letter and business e-mail. So, the insights gained from both lessons would be integrated in the writing homework assignment.

2.3.5.4 The Third study of the experiment

Another text adopted from the German experiment was chosen. The main theme was dealt with in an attempt to check students’ recall of the already learnt conceptual metaphor, BUSINESS COMPETITION IS SPORTS COMPETITION. Instead of underlining the metaphorical expressions in the first study, learners had to explain the

meaning of the underlined expressions in a post-reading activity. The output received from students' explanations of the items was further elaborated by the teacher orally. Examples were drawn from some of students' experiences in the work-place. In the control group session, the teacher asked students to sort vocabulary under positive and negative aspects of competition. While the experimental group received pictorial support, the control group had no further extensions. Both groups at the end of the lesson were required to write a short report representing major competitors in car market nowadays. A week after, the final test occurred. The latter included the last formal testing of the third experiment which integrated a meaning-focused exercise. The linguistic metaphors found in the adapted text 'Nokia and the Insistent Ringing of Competition' are clarified in the following table:

Linguistic Metaphor	Source domain	Linguistic metaphor	Source domain
enjoyed dominance	War	gained ground	War
having crushed Addidas	War	worked at a steady pace	Competition
original rival	War	captured	war
tiny competitor	Competition	set their sights on	war
to knock it sideways	competition	market leader	competition
competitor	competition	harder to tackle	competition
bombarded	war	regain its lead	competition
dropped the ball	competition	advantage	competition
major player	competition	rival to counter	competition
mine field	war	exploit an advantage	competition
kept their heads down	war	trailed	competition
demographic advantage	competition	unmatched	competition

Table 2.4: the list of linguistic metaphors taught in the third experiment

Worth mentioning is the time factor under which this study was implemented. It was introduced in the second semester to check for vocabulary retention. That is, two months after the first couple of studies. The increased encounter with the word in varied texts based on the same topic might enhance recall of the latter. Thus driving the need to choose the same topic introduced in the first study which fosters comprehension of the underlying competition vocabulary. The course books used in the regular classroom were also used to explain some of the underlying conceptual metaphors as the teaching materials used are not predetermined by a precise syllabus. The oral tasks, however, were meant for extensive discussion in a question-answer sequence rather than as a speaking-focused activity. Since the main focus of the study is on the reading comprehension and the accompanying technical vocabulary.

In addition to the experimental materials used in the three studies, observation grids were used throughout the study where students' interactions with the presented material have been observed. Indeed, the latter led to students' focus on the teacher rather than the material as they might have thought he was the target of observation. Students' performances in the three studies were not run under strict testing rules except the final examination. Prior to the experiment, different observation grids were also implemented to observe learners' difficulties with the language and to further adopt materials suitable to their level.

Authenticity of the texts used in the three studies was likely kept to insure learners' comprehension of specific discourse related to business and economics. It is one of the techniques in line with the tapestry approach to teaching reading. Thus, the lessons were modeled on the latter approach of which the following characteristics are a selection. In the tapestry approach, *meaning is central* and students read both *intensively* and *extensively* to arrive at both the literal and the figurative meaning of the texts in question. However, extensive reading is not insured along the course of the three studies due to students' lack of reading outside the classroom. The approach is meant for students' prior-knowledge integration with the reading text to *produce meaning*. The students are *actively guided* by the teacher and *reading flexibility* is encouraged hence. (Scarecella & Oxford, 1992:112).

Additionally, the equivalents of the main vocabulary items in the texts were included in students' worksheets in French as pre-reading facilitators. Through a follow-up discussion the teacher with the semi-intervention of the researcher explained the cultural underpinnings underlying the conceptual metaphors used in the texts. Before reading the text, subjects in both groups were encouraged to guess the meaning of words in context and as wholes rather than separate entities. That is, meaning-meaning connections were emphasised.

2.4 Ethical considerations

As part of research, the ethical issues and trustworthiness of the researcher and the materials presented to the participants provide a convenient research study. As stated by Wellington (2000), in his eight rules that researchers should consider when conducting research, coercion or harm of the participants of the study must be avoided. First, the subjects should be informed at the onset of the study that any pressure or inconvenience that may harm their participation has to be reported to the researcher. By formally informing the participants about their contribution and participation in the study, *no parties are involved without their prior knowledge or permission or informed consent*. Second, any venture at forcing the participants to answer questions or take part in tests violates the ethical considerations of research. Hence, *no attempt should be made to force people to anything unsafe, or do something unwillingly*. The third rule set by Wellington (2000) is the clear explanation of the purpose of research to the subjects before carrying out any study. That is, sufficient information should be given to the prospective participants to decide whether to participate or to withdraw from the study. Since participants are the principal part of the experiment, their written and oral records should be kept confidential by the researcher. Thus, *confidentiality and anonymity should be maintained at every stage especially in publication* (Wellington, 2000:57). Since the ethical issues in the study are important for the researcher to authenticate the results, the following issues were as much as possible considered.

During the course of the study, the researcher was part of the teaching staff at the department of Economics at Laghouat University. Hence, her contribution in the lessons provided to the students was welcomed by her colleagues. The participants in both groups were formally notified a week before about their contribution to the

experimental research. They were, further, asked during each session to ask questions freely to the researcher and the teacher. The teacher tried to create a stress-free atmosphere so that the subjects can ask about any enquiries. Constraints on the participants' written response were as much as possible avoided. Indeed, the tests introduced were neither part of their regular assessment nor marked by the teacher. During the test sessions, the participants were allowed to withdraw from taking the test if they found it too difficult to answer. Although, the participants' names were mentioned on their worksheets, they were kept confidential. That is, they were used by the researcher to identify the three-levels of proficiency. In reporting the results, the researcher used identification codes to refer to each participant. For the experimental group, the letter (E) has been used followed by numbers; while for the control group, the letter (C) has been used instead (see appendix 'F'). Furthermore, the contents of the lessons went along with the content of the curriculum. The results of the tests, indeed, were agreed upon by both the teacher and the researcher to arrive at objective conclusions.

2.5 Drawbacks of the study

The proceedings of the study were met with some invaluable results and implementations. A number of reasons can be attributed to the drawbacks of the study. These include the time constraint, the testing procedure and the type of the tests used. The present study is only a one-time research, hence, a longitudinal study should be implemented to arrive at valuable results. The tests used in the first and the second studies were repeated which might bias the results of the study. The writing assignment was implemented only once. Thus, it accounted neither for the production of the vocabulary studied nor for the structure of the email presented. The subjects might also have been helped by mentors or peers in the writing assignment which is another confounding factor in the results.

2.6 Conclusion

In the preceding paragraphs, the experimental procedure has been explained along with some remarks on the teaching-learning situation at the department of economics. Although the experiment was short, it is considered as one time research that can be further extended in a large-scale study. It is typical of two group research, an experimental group and another control group testing the effects of metaphor awareness-raising. The lessons were structured following the regular reading business courses and further duplicated from the experimental studies referenced above. However, the learning socio-cultural context and learners' level of language proficiency led to the exclusion and the addition of some tasks.

In line with the tapestry approach to reading, the reading texts were explained through context-bound exercises and strategies. The listed French equivalents and the pictorial support aimed at preparing learners for the texts and to further their meaning production out of their prior knowledge in business and economics. Besides using metaphors as mnemonics to learn the required vocabulary, the cultural differences between the two cultures were highlighted. Intensive reading strategies underpinning metaphor awareness raising were used in an attempt to cater for students' learning differences. Indeed, more importance is attributed to intensive reading or 'narrow reading' which is the main focus of the first and the second studies. The choice of the method centered around reading and vocabulary due to the restriction of learning objectives by curriculum developers. The main objective is to understand both scientific and popular materials published in English to keep pace with global changes in business and economics. In conclusion, the outcomes of the study will further prove the utility of the materials presented or disapprove the aforementioned hypotheses. A discussion of the results obtained with future recommendations will run through the following lines of the third chapter.