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Investigating Problem Faced by Mathematic Students During English Courses

A Case study of master one LMD Students at Mohamed Khider University of Biskra

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Declaration

I hereby declare that my master thesis entitled “Problem Faced by Mathematic Students in English courses -Lack of Vocabulary- “the use of Master 1 students at Biskra University, contains no material that has been submitted previously, in a whole or in a part, it is the result of my own investigation. Except where otherwise stated, this thesis is my proper own work.

Dedication

I dedicate this work to my precious parents whom I owe everything in my life, to the light of my life my lovely mother who showed me with the indefatigable care, sincere prayers, endless love and unparalleled tenderness who that was pushing further to complete this research.

To my father who helped me to chase my dreams and taught me that in life “There is no gain without pain”.

To my beloved sisters who were around any time I need

To all my friends whom I shared the unforgettable moments Faten, fijyous, Bouthaina Hanane, Chiva, Zaki, Islam and Amine

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Abstract

As we came to a new millennium, the need of English exceeded all shapes of science and society as a whole. Increasingly, Algerian students and teachers should tend to have highly academic and professional requirements to fulfil specific communicative social and technical needs targeting improving language skills; like for students ESP (English for specific purposes) courses have a significant contribution to their study field. Now, English language has become the powerful means of communications in terms of education, sociology, economics and technology. This research work was an investigational work about the gap in learning English for science students in their English courses. It was the case of first year master students in mathematics department. First, data were collected through a students' questionnaire that is composed of 14 questions and one sub question and also a classroom observation. In order to check and examine a number of hypothesis, the attendance in English sessions with students. The analysis revealed that mathematics students need to improve their level of English whether in their specialty or enhancing their communicative skills. Accordingly, educational system in Algeria revealed in their lack of vocabulary by which the interference in student's between French and English while performing English.

List of Abbreviations and Acronyms

ESL: English as a Second Language

EFL: English as a Foreign Language

ESP: English for Specific Purposes

LMD: License Master Doctorate

ALP: Academic Language Proficiency

BICS: Basic Interpersonal Communicative Skills

FSP: French for Specific Purposes

EAP: English for Academic Purposes

GE: General English

ME: Mathematical English

EST: English for Specific Topics

VLS: Vocabulary Learning Strategies

EMP: English for Mathematical Purposes

L1: A student's first language

L2: A student's second language

L3: A student's third language

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General introduction

Since the last decades English language has turned into an important tool of communication rather than a tool of phonological and grammatical purposes in even scientific areas due to the role of technology and the considerable changes in the real life. The globalization of English, emerge and development of new career, the wide range of contextual usage of that language has led to the tendency of English for specific purposes (ESP). Mathematics students face a central problem in learning English which can be appeared in their performance of English in which this work is about the lack of vocabulary due to the poor background of whether the teacher or the student.

1. Statement of the problem

LMD system in Algeria is dedicated in the implementation of French language in all the streams and specialties at University. Mathematics courses are based on French. As the other different branches of study, Mathematics students have English courses under the umbrella of « ESP ».

The main problem which mathematic student face while learning English as a foreign language is the lack of vocabulary. Though they are supposed to study different topics targeted on their specialty, the study of Grammar and Phonology such as tenses and reported speech that they were studying in middle and high school. This phenomenon became like a habit in all license and even master's levels. The Design of ESP courses need a specialists in ESP teaching not a linguist or a person who was studying Literatures a specialty. Providing the learners at the beginning of each level by their terminologies which have a relationship with Mathematics specialty.

2. Significance of the study

This study is an investigation of the phenomenon of the lack of vocabulary in English courses in .The importance of the relationship between language and other domains as the communication tool and a right use of that language in academic disciplines. Even to deal with the easy classroom activities that are the application of some theories and mathematic laws will be for the benefits of the students. The way that they are using in teaching ESP courses will not achieve the student to use English as a lingua franca .Providing the students of mathematics stream with lists of mathematic vocabulary that they are supposed

to deal with the whole year, trying to divide the sessions into tradition and activities in the classroom.

3. Aims of the study

As with any study, this study will have a set of limitations and constraints to hinder its progress, nonetheless; it also provides some benefits. To begin with, some of the limitations that might be encountered are as follows:

- The number of the problems of any ESP teacher in any scientific branch will be reduced.
- Encouragement of the student even the ones who do not like English to learn more about it and use it in different contexts.
- Reduce the probabilities of changing the syllabus into English instead of French.

4. Research questions

Our research seeks to answer the question below:

What are the academic features and strategies such as the use of oral presentations, providing students with lists of terminologies specialized on mathematics at the end of each session that would be strongly helpful to enhance mathematics students' level vocabularies in English language?

5. Research hypothesis

Based on the above research question, we propose the following research hypotheses:

The daily preparations of mathematic terminologies and vocabularies that are related to the topic of each session which is beneficial method to make the students aware at least about the course itself.

The use of oral presentation enhances student's performance of English in their speciality.

6. Research Methodology

Because the intentions of this study is a description and a focus on the effect of lack of English vocabulary to mathematics students which appears on their level in English. The design of the study needs to take into account all variables that are

concerned with the different facets of teaching and learning where such a phenomenon may occur.

A mixed method approach which is both qualitative and quantitative data driven would allow the refinement and checking in context of these methods. As a result, the research methodology in the present study relies on questionnaire and classroom observation. These methods are seen to complement one another and could be relatively integrated in practice.

In order to verify the results and check for the validity of these results, the commonly known statistical method SPSS (Statistical Package for Social Sciences) is employed as an additional validating instrument in this study.

6.1. Population/Sample

In this study the data that will be gathered are from master one students of mathematics department at Biskra University .The whole number is almost 130 students but the number that we deal with is 20 students who are under the classroom observations and give answers to the questionnaire. The small number of students who attend English sessions is the main raison behind the small number of participants.

6.2. Data tools

This work is mainly based on two tools a questionnaire for students and classroom observation. The submission of the questionnaire is intended to gather general background of student's relationship with English language, ESP and its relationship with English courses for mathematic students and vocabulary position in English session.

7. The structure of the study

This work is divided into two parts the theoretical one and the field work in which we study a problem faced by a category of students by using different data tools in order to gather a significant results. The theoretical part is classified to four parts: a general introduction in which the introduction about the problem faced, a general background about this work. Research questions, hypothesis, aims of the study and methodology of the study were also a part of the background represented in the general introduction.

The field work was about a submitted questionnaire to the students which contains a number of questions that are study the relationship between lack of vocabulary and the

methodology followed to teach English to mathematic students who do not accept the old methods anymore. A classroom observation was also conducted in the field work in order to check the reliability and visibility of the hypothesis mentioned before.

Chapter one

Literature review

Introduction

Since the great development that English language reached till now the need of it in all research, study and work is raising day after the other. Mathematics is one of those scientific branches which rely on English language in their researches and studies and even on building new theories since English is a lingua franca. Lack of vocabulary is an essential dilemma that EFL learners in their English courses because of their interference of French language which causes that problem of the lack of vocabulary.

I.1.English for specific purposes and mathematical English

English for specific purposes is a broad branch that include a variety of sub branches that is interrelated to science, economics, technology and even sociology .The need of English and its spread all around the world made it the most used language between individuals in different domains.

I.1.1. English for specific purposes

After the exceeded development in English the need of it was increasing at the same time that achieved even scientific, technology, medicine and business domains unlike the past it was determined only by literacy and language rules. There was a variety of definitions by some scholars who had different views concerning ESP term.

I.1.1.ESP Definition:

There was a conduction of Dudley-St-John (1991, p.307) that ESP contains all languages courses in one specialized language with their practices. In another word, from what they tried to improve is that ESP cannot be separated from the other languages specialties such as General English or teaching English for foreign learners, it has a strong relationship with them. For example, a subject of medicine or mathematics is taught in English it does not mean that only ESP is considered because it contains teaching. ESP has a wild branch in language as well as the skills related to the subject matter to learn by students and tourism with ”..EGAP...ESAP” (Dudley-Evans 1997, p.9).

For instance, the emphasis on enhancing speaking skill in students who are preparing for graduate work in a hotel reception or it might promote the development of writing skills in students who are studying English for the sake to become translators in business

administration .It is equally important to mention that it is possible for ESP to be differentiated from EFL and ESL by its specialized language used and activities (Hadley, 2006, p.3).

A claim by Dudley-Evans and St John (1988) that needs analysis, text analysis and the drilling of the learners to be effectively capable in tasks prescribed using their academic situations. Another point of view said that the fact that ESP courses are not based only on the content itself, but they unquestionably based on the importance of expressing facts and thoughts of a specific subjects in which the student will be strongly capable to read the specialized subjects, speak and discuss them fluently(EL-Mnyawi,1984).

The notion of ESP is regarded since its appearance as a new tendency to the emphasize on the serviceability of learning English. It is a determinate repertoire of activities by certain category of learners who do some selections from the whole language in order to conserve requirement within a well-defined context, task or vocation (Mackay and Munford, 1978:4).

”Tell me what you need English for and I will tell you the English that you need” due to the directed guiding of ESP’s principals, the need of English in a specific area can determine the type of English required by the user of English language (Burton Leather 1976).On the whole ESP definitions mainly the focus is in the use of English by a category of learners in the field of their domains whether in work or studies. ESP basis is mainly courses to teach English language depending on their needs and abilities of practicing language instructions, grammar, and content and vocabulary rules.

A claim by Hutchinson and waters (1987) that ESP courses are a result of learner’s need of English language in particular domains for particular purposes accordingly to their job’s description. It was meant by this definition that the need of a new disciplines and methodologies in order to use and learn English in accordance to the characteristics of learner’s professions

I.1.1.1Needs analysis

This term appeared in the 1920’s in the west Bengali, India. Brown (1995, p.36) provided an academic definition of needs analysis that’s is can be a combination of a number of different definitions that is needs analysis is a systematic gathering and analyzing the needed data in order to define a credible curriculum that is satisfies the language learning and teaching requirement of whether the students or teachers.

Also, it was defined as an important step to a specific purposes of language teaching that is more interested in the nature of scientific discourse. Equally important, needs analysis are the first step in ESP courses in which the teachers is an identifier, collector, analyzer and an investigator of information about the learners. In this phase the essential requirement of learners of how and what to do with foreign languages to the learners are target-centered in the whole operation of teaching ESP.

The term ESP course is mainly refers to operation of finding out what and how the learners will deal with courses, their abilities towards such type of courses and what do they require to learn. Additionally, needs analysis basically cannot be achieved without regarding many conditions such as learners' domain of studying of working, their level in English language, methodology that the teacher will follow and work with in the process of giving authentic teaching and the interests.

I.1.1.2. Course Design

Teaching a material in any domain requires a preparation and a study about the core of the way of teaching a particular course. Designing the course is the first step before the process of teaching the language by following certain instructions and strategies in order to obtain wished results for learners in their careers and for teachers.

A definition by Hutchinson & Waters about ESP was “an integrated series of teaching-learning language experiences, whose ultimate aim is to lead the learners to a particular state of knowledge”, so it is the operation and methodology of gathering data and creating good quality of learning through experiences and setting up course for the sake of making learners assimilate a specific knowledge. It is indicated that whether for ESP or GE any establishment of any course in any curriculum should be constructed under a number of essential steps as follows: the outcomes of needs analysis, settle down the objectives, conceptualizing the content, selecting material development, organizing syllabus and evaluating.

I.1.2.Types and Target of ESP

Like any fields of study or work ESP has a number of types and targets that differ from each other in some points as follows:

I.1.2.1. Types:

Because of the need of the lingua franca in science, education, technology and business, English for specific purposes appeared in different uses. It has developed rapidly to become a main part of English language teaching. ESP allowed new opportunities to the learners to learn language genuinely by working and using it in a context that they comprehend. ESP was divided into three types (Carter 1983):

A) English as a restricted language: such as the language that is used by air traffic controllers. It is specialized by determination of the situation in which the speakers are not permitted to communicate or use that language in new situation or in a context that is not the same outside the job environment (David Carter 1983).

B)EAOP :”People can work and study simultaneously;it is also likely that in many cases the language learnt for intermediate use in a study environment will be used later when the student takes up or returns into a job” (Hutchinson & Waters ,1987, p.16)that is to saying the intermediate use of English language in the occupations of learners is the same language they learnt, because EAP and EOP end the same objective which is the employment that is why Carter’s implied that they are the same. Although both EAP has the same purposes, the way of achieving that’s the purpose differentiates from one to another in terms of focus (Ummin’s 1979).

C) EST: It was identified by Carter (1983) in which he noted that it is when the emphasis shifts from purpose to topic. In this type it is needed for the linguistic requirements and future needs of learners to be determined before ESP material design. Besides, it is uniquely related to anticipated future English needs on the learners such as attending conferences or working in foreign institutions.

I.1.2.2. Target of ESP

ESP courses are obviously emphasis on learning English language for a determined goal. Since 1960's in which the appearance of English for specific purposes and the start of its flourishing, it was mainly created in order to serve the needs of English language learners in their domains such as economics and technology. A claim by Hadley (2006) &cf.Rohbinson(1991) that the course of ESP should be designed before the process of teaching, objectives should be directed and focuses on the language with all its structures such as lexis and grammar. Furthermore, ESP courses should not be determined only on the phase of learning, it should serve their requirements and even their careers (Chantrupanth, 1993, p.9).

Hence, from what all was stated above, ESP mainly based on the learners and their needs which can be realized over the success on designing courses .ESP improves learners' performance of the language in a particular situations or occupations due to the naturally practice of it, ESP creates variety of opportunities for learners to prepare themselves for scientific, technological, educational and internship careers.

I.1.3.Major characteristics of ESP:

After dividing ESP characteristics by Carter (1983) the other researchers have not disagreed with this division that is as follows:

A) Authentic material: it is an appropriate choice for the intermediate learners of ESP courses. It refers to the use of materials that are not developed or written to teach from the same field of study of the learners or their vocations. These materials may include books and videos(Dudley-Evans, 1997).Also, the use of authentic materials in teaching ESP courses a requirement in each course design (Gatehouse, 2001, p.4).

B) Purpose-Related Orientation: It refers to the simulation of communicative tasks needed of the target setting. It is having the ability to practice and use more generalized set of academic skills. The orientations of the designed courses should be in accordance to the learner's requirements (Gatehouse, 2001cf.carter 1983).

C) Self direction: The third characteristic of ESP course in which the learners are transformed into ESP practitioners and users of knowledge that they were

assimilating(Carter,1983, p.134).In another words, the application of ESP courses will be in real in this characteristics. Besides, having the choice to decide when to study and learn the target language, what to study and the way of studying (Gethouse,2001, p.5).one aim in these characteristics is to teach learners systematical strategies by teaching high-ability learners in health science (Carter,1983).

I.1.4. Material development

In each step of teaching the language whether ESP or another course, material development is a necessity to evaluate and support the course itself. Also Harsono(2007) states that materials refers to any tool or means that is used by teachers in order to help them and give a credibility and authenticity to make them able to teach any language learners. Material development according to Nuan (1991) are that methodology of dealing with selection, adaptation and creation of teaching material in which it focused on evaluation and adaptation of published materials. For him the development of teaching material by teacher should be in accordance with the exists syllabus0Material development are extremely a core in teaching the language with all its structures in grammar, lexis and vocabulary.

It is clearly stated that the selection or the evaluation of using them is based on a set of criteria and a number of principals such as exposing the learners to the target language in authentic use of materials and providing them with different opportunities to use it for the sake of achieving communicative purposes and competences. What is more is that materials should make the learners more attentive with all features of input (Tomlinson 1998:5-22).

Another principle of material development is that the certainty of the existence of spoken and written texts which provide extensive experience of language being used in order to achieve outcomes in a variety of texts types in relation to topics, themes, events and locations to be meaningful to the target learners (Tomlinson, 2008).

Moreover, the use of a type of activities and practices that enhance the visualization of learners and help them to use the inner speech before, during and after language use. These activities can obviously be reflected on their mental activities during an activity then to repeat the same use of mental strategies in similar tasks (Tom.B,2008).Another principal of material

development in ESP courses is the design of such type of output activities during the course that help learners to enhance and develop their skills and even new skills such as communicative competences, giving them opportunities to communicate appropriately and fluently (Tomson, B. Clorthcoming, 2010).

Material development has an essential role in the process of teaching and even learning. An appointment by Cannings worth (1995) that they are the source of practice, communication and interaction in classroom whether between learners or between the teacher and the learner, also the origin for presenting spoken and written materials, a reference source for learners on language structures such as vocabulary and pronunciation, a credible support for those teachers who have no experience in order to gain confidence. Too, Dudley-Evans and St-John (1998) claimed that teaching materials are a source for motivation and support for the learners to gain more references and simulation, they also considers material development as a source for language learning with all types of structures.

I.1.5. Relationship between ESP and ESL

After all what have been mentioned above about ESP, we can declare that ESP is the use of a particular skill by the learner to learn and gain more appreciated and effective information (Gulzar & Sutana, 2009, p.123).

Accordingly, there is a difference between ESP and ESL that is found in the purpose of the learners in learning English. ESP learners are adults who have already knowledge about English and the language to communicate a set of professional skills and to perform specifically job-related functions. There is mainly a diversion not only on the nature of the learners but also in the aim of institutions.

In ESL programs the four skills listening, reading, speaking and writing are the basis to determine the instructions that teacher directly will follow in order to achieve comprehension for the students, the four skills are stressed, equally in the process of learning. ESL teaching requires special methodologies and specific syllabus in which the teacher can adapt the actual educational skills in order to make ESL courses fit learners needs (Lorenzo Fiorito, 2005).

In addition, ESL courses are not determined only on academic occupational situations, they help students to learn more about the local culture, values and society. We can say that they play a big role on the improving of communicative competences and abilities such as the understanding of depreciating between seriousness and jokes, enhance English comprehension that is vital to succeed in today's international world due to the fact of English that it became a lingua franca (ESL directory Blog). Teachers of ESL students should be trained in a number of particular techniques and tools to help their students in the process of learning because ESL students speak a variety of languages.

I.2. Mathematical English

Mathematics has known is the mother of sciences that includes even languages which are the tool of knowledge. The use of English in mathematics spreader even daily life of many societies in a number of developed countries.

I.2.1. ME definition:

Mathematics is the science that came from a Greek origins, and study shapes, numbers, structures and problem solving by using logic. The domination of English language as a lingua franca due to emigration and technological development. In the past learning English was only on studying language with its linguistics features, whereas in the last decades it exceeded science, technology, tourism and business fields. Adapting English as a medium of instructions for science and mathematics is a deemed necessary to ensure that intermediate learners in scientific fields are able to keep abreast with the technological development that is mostly recorded in English language, so provides them with variety of opportunities for students to use English for increasing their proficiency in the language (Ministry Of Education, 2002a; Malaysia).

Teaching mathematics in English provides the natural and genuine contexts in which genuine language and situations are present by using oral speech that English literacy of the learners will be improved (Kessler & Quinn, 1987). According to Pandian (2002) claim, teachers of mathematical English should be affective to all sides of the core tasks of teaching, influencer in the process of teaching especially behavior of students.

By using English as a means of courses development, the awareness of the teacher about the nature of mathematical discourse, availability of language support systems and the reaction of those teachers towards the use of English as a tool of needs analysis for learners. In another point of view subjects such as mathematics use an academic language with its own register, syntax, semantic properties and discourse features that make it different from GE.

Indeed, that type of language is less contextualized and need high cognitive levels of understanding .Cummins (1986) suggested that there are two levels of proficiency in language: BICS and ALP, according to him ALP is an important requirement for the learners in order to effectively perform the target mathematic language. In regarding content classes, textbooks are the main tool to study the target content and the success of any student on understanding textbooks is depending on the content and language (Mohan, 1990).

I.2.2.Relationship between ME and GE:

General English is that language in which the focus on subjects associated to literature, culture and linguistic features that can be realized by the use of the four skills. Some researchers call it the traditional English of teaching the language because of the general use of grammar, vocabulary and linguistic rules which are the basis of learning that language. Teaching GE have several teaching models according to Liu Yumei & Xiao Bang (2007) presentation-practice-production “ppp”,ESA model(J.Hamer, 1998) “engage-study-activate ”ESA, PPT model (Ur, 1996),for him the process of teaching foreign language can be divided into presentation, practice and testing.

Thinking is a conceptual reaction of human’s brain about natural relation and the intrinsic rues of the external world. Mathematical thinking is comprehending mathematical objects and subjects by any human being, besides the deduction of solving real problems process using mathematical means and theories. Methods and ways of thinking includes logical thinking, culture and language. Indeed, language and thinking have an intimate interactions and intrinsic connections(E.Sapir[1] and B.L Whorf [1]).While the reality that mathematic cannot be in isolation to thinking which represents it by theories and tools, language is a main tool to think and constitute elements of thinking.

The differences in thinking manners is one main reason behind difference in language. This differences caused new ways of thinking due to social history, culture and environment that resulted significance in languages. By considering mathematics languages as a pure language we intrinsic the relationship between mathematics and English.

The majority of linguists in the twentieth centuries we emphasizing on the structures of the language as a basis with regarding that they cannot be found from within the language itself, also can only be looked for in logic. Well-known logicians such as G.Frege [5] and Reichenbach claimed that “natural language and artificial language of logicians have no fundamental difference from theoretical viewpoint” which means that general language such as general English when we compare it from different sides we will not find differences with logic from the view of theory.

All language who that lack logic are meaningless. Thus, mathematical logic and thinking are mainly considerable are helpful in the investigation and study of GE. Richard Feynman said “If there were no mathematical language, the universe could not be described”, since mathematics the mother of sciences and the twin of logic, mathematical language is the basis of the universe for him. One principal of understanding pointed that the satisfaction of superficial observations is not nessecary enough to comprehend something, analyzing the origins and the nature of sentences in order to understand the hidden meaning requires decomposition and deep exploration on sentences and patterns. In mathematics analyzing problems patterns and dividing them into a familiar sections lead us to the tools and methods that can be clearly a solution to those problems.

From what was saying in the last few lines, a common feature between mathematical English and general English language ca be distinguished via the decompositions of patterns of patterns we can solve whether mathematical problems or language problems. In addition, there is a main differences between English and mathematical English is that mathematical English is determined by a restricted language of numbers ,charts ,graphs and designs while GE uses linguistic features and has an association to meaning and understanding.

I.2.3.The strategies followed to design an MEP course

Course design is that process of preparing the course by teacher through following certain instructions, preparing a plan, determination the level of target students and their needs and abilities, an following certain steps to receive a successful knowledge for them. Designing an EMP course is not that different from designing any ESP course regarding the target field of course. Algerian Universities in scientific and economic departments the teaching of ESP courses are not really ESP courses, we can call them a grammar or general English courses due to the way they teach students. Subjects such as reported speeches, active and passive voices and theories about adverbs are dominated in Algerian scientific department in ESP course instead of teaching them matters in their specialties using English language, others use French language in order to transmit their ESP courses which make it seems to be FSP not ESP.

Indeed, adult's learners need to know why and how they should learn something because they need self-direction, learn experientially, learn things about their specialties they need, approach learning like problem solving (Knowles, Holton&Swanson, 2005). Certainly, a teacher of EMP should be aware about at least the way mathematics teacher follow to teach their modules in order to follow it too, aware about mainly the basis vocabulary related to the students who is going to teach, texts-books that will be used should be related to mathematics. To sum up, the usage of symbols, numbers and geometry tools will be an appropriate method. The main goal of the teacher in this process is to make learners share mathematical language.

I.2.4.The characteristics of mathematic language in ESP course:

Mathematics as any field in the world has it special rules and instructions. Obviously that the common use of mathematics is on numbers, symbols and patterns which make its language that is used by students called a symbolic language. It is clear that mathematics is a reasoning and thinking logically branch of study and research, this artificial world like some people know it in solving problems by following usual methods and tools , observing, classifying, inducting, analogy of migration, and etc.

English language has certain classification concerning sentences and other language structures, also mathematical English has its specific classification such as that classification which is based on the limit concept, according to function characteristics, the classification of equilaterals. The structure of the sentence is an algebraic system in which there is a strong relationship between syntactic constituents of semantics, it is a requirement to follow additions principals in mathematical operations, Montague's homomorphic mapping has been accepted an essential concept by most of linguistics (Montague).

The purpose of modern theoretical linguists is to provide a unified grammar operating system for language which also add a theoretical model of universal grammar which is appropriate for all concrete human language. Therefore, mathematical language as an artificial universal language it has a lot of common character to develop and improve some languages like French and English which make it spontaneously become the powerful language to explain and explore natural human language, there is a feasibility between English and mathematical English.

The two features of mathematics that make it has a significance to be compared to English language are the great abstraction and extension application. According to J.Boudoui [9].F.Desaussure [1], language cannot be separated from mathematics due to the strong relationship between the two. Considering language as a system of pure abstractive relation by L.Hjemsler [11] makes mathematical English a part of English language.

1.2.5.Target audience of mathematical English courses:

In this work the study was mainly focused on mathematical English that is not used appropriately in ESP courses. Master one student of Mohammed khieder Biskra University were the sample of this research. So Mathematical English audience are those students who study English language as a foreign language in their specialties at university.

The study of ME was an example about a sub-section of ESP and its characteristics in Algerian universities.Teaching ESP courses is not the same as teaching ESL courses in GE, they are specified courses for a group of people.

The most point of teaching English for scientific learners and its interests. The coming descriptive sub-section will be the core of this work.

Vocabulary are those words and terms that are used by individuals in order to be fluent in a target language. Fluency in a target language cannot be achieved without regarding and giving an importance to vocabulary of that language by speakers. Communicative competences are conditioned by vocabulary mastery. Lack of English vocabulary by Algerian scientific branches students is an essential problem for those learners of ESP courses due to the misunderstanding of their real content and teaching material development that help both teachers and learners of ME.

I.3.ME and VOCABULARY

Mathematical English is that language that is used to express and use mathematical terms, operations and the explanations of theories. The use of English requires mastering English language rules, grammar and vocabulary.

I.3.1.Definition of vocabulary

Like other languages in all around the world, English has its own structures such as grammar, lexis and vocabulary, and each structure has a specific role in learning and teaching language. Indeed, vocabulary is a basic in each performance in English whether written or spoken one. It is the words that symbolize the word for all language words, the whole vocabulary of a language (Bancroft, Sunderman, &Schmitt, 2011, p.571).

Vocabulary does not refer only to a single word and its meanings, it refers also to lexis that includes lexical chunks, phrases of two or more words like: good afternoon. This involves more than one word but have a clear formulaic usage, They named formulaic sequences (Alali&Schmitt, 2012).In general we can define vocabulary as the words of any language not only English, single items, phrases or shrinks of several words that carry specialized meaning, the way individual words do. They are central in every language teaching due to their essential role in the process of understanding the ideas between learners.

According to Wilkins (1972), when there is no grammar very little of meaning can be conveyed; however, the absence of vocabulary, there is absolutely nothing that can be conveyed. In the study of any other language not only English managing communication cannot be successful at any situation of using language or expressing thoughts. For students in order to develop their fluency, mastering the language and expressing English are helpful and effective for them to acquire productive vocabulary knowledge. Vocabulary is that group of words that individual knows as the collocation of different words that are known by a person to use it in a specific context (Lines, 2005:121).

A claim by Hatch and Brown (1995, p.1) in which vocabulary is a number of lists of words belong to a specific language, collection of words that are used by speakers of particular language. Considering vocabulary as the core of the language performance in the five skills by which the speech is made, we cannot separate it from language because of the closeness of the relationship between the two. Vocabulary are those specialized words and expressions that are belong and indigenous to a certain domain, subject trade or sub-culture that often defined or translated (Roget, 1980:1036).

I.3.1.1.Vocabulary teaching

Teaching vocabulary requires a well awareness and a good knowledge about them. Because of the emerge in language varieties, the development of ESP courses widely appear in different fields not only linguistics. The need of a new lexis and new vocabularies to be used in medicines, technology, and mathematics, broad need of English by foreign learners and the most important which is English as a lingua franca. Teaching vocabulary is a crucial concept in the process of learning the language as it is basis are words (Alqahtani, 2015).

As the recent studies indicated that teaching vocabulary may be an issue because of lack of confidence of teachers about the selection of appropriate practice in teaching vocabulary and lack of having ideas from where to start to form an instructional concentration on word learning (Bern &Blachowincz, 2008).

It is obvious that it is impossible (almost) to learn particular language without words, though communication between human beings since it is based on words and expressions. It is clearly stated that teachers and students are aware about the role of teaching vocabulary and it is a central factor in teaching language. (Walters, 2004). When teaching and learning take place, a number of problems would appear to the teacher. The process of teaching as a teacher-centered such as the way they will follow to teach or methods in the process of teaching.

Obviously, Presenting new lexical items and vocabulary to the learners should be in process of certain techniques that should be followed by the teacher. Remembering the new learnt vocabularies, practicing them in a variety of activities and revising them for the sake of not forgetting them by students is the central goal of any English teacher. The techniques followed by the teacher depends on a number of factors like contents type of activities and time availability (Takac&Singleton, 2008).

An appointment by Pinter (2006) that “teachers are suggested to employ planned vocabulary presentation as various as possible “Which means that one of the roles in teaching vocabulary is the implementation of prepared vocabulary to present them to the target students in different techniques. Introducing a new word or item by showing the real object often can be a helpful technique to memorize it thought visualization and also bringing things and objects to the classroom can be used as a beneficial technique by teachers.

There are several techniques that are proposed by experts in language teaching. These technique can be helpful for students and teacher to reach designed objectives.

I.3.1.2.Vocabulary mastery

Having the great skill to express ideas and knowledge required in certain subjects in different contexts and the complete skill to which from one idea to another by being aware of vocabulary used in a master of vocabulary (Hornby,

1995; as cited in Alqahtani, 2015).The secret behind being able to master vocabulary easily needs more interest and motivation on language words and items.

Moreover, it has an essential role in the form of speaking, reading, written and listening that make it required components of language (Susanto& Fazlinda,2016).Vocabulary mastery is a matter of having the great skill to use the new terms of a particular language in order to individual achievement and possession (Alqahtani,2015).

I.3.2.Vocabulary types:

Vocabulary is divided into various sorts by scholars and each depends on the perspective of the view that the learner sees it. A division by Gruneberg and Sykes (1991) in which they classified them into active and passive. Active vocabulary is that type in which words and items are taught and expected to be used by students.

Meanwhile, passive vocabulary refers to that type that the items and words in which the students recognize them but they would not be able to perform and produce them. Also, vocabulary were divided into receptive and productive. First one refers to those words that learners can understand them well and able to pronounce without mistakes then using them in their needs of speaking and writing skills (Hutchinson and Brown, 1995).With regarding that receptive vocabularies are required to have the appropriate time to speak due to the ability to speak or write.

Another classification of vocabulary by some scholars that they are divided into:

a) Academic vocabulary: those terms and words that appear in academic texts and tests, they are not related to any particular course or content area, students impose them during any type of class teaching.

b) Content vocabulary: refers to the contrary of academic vocabulary, they are specific to a particular field or subject area rarely being found outside. They are used in the concept development of specific lessons through the use of different definitions, examples and checking for understanding questions.

c)Support vocabulary: refers to any remaining terms that ESL and other students require to have an idea about to understand some sentences or phrases that are used in certain lessons, they are not critical for the success of a lesson, they do not need a long time to spend on teaching them.

In contrast to the two divisions, there is another division of vocabulary types that is depending on the four skills as follows:

- 1) **Listening vocabulary:** those words used while speaking individual that are known as active vocabulary. In addition, the words we hear and understand while communicating with others, this type touches even children. A claim by Stahl (1999) and Tompkin (2005) that children are not exposed to listening vocabulary but if they sign models at home or school, they will be exposed to “visual” listening vocabularies.
- 2) **Speaking vocabulary:** those terms and words that are used by individuals while speaking or communicating. Since human being speaking skill is limited by certain factors depending on the personality of speaker, for example adults use a 5,000 to 10,000 words in all their conversations.
- 3) **Reading vocabulary:** In the process of reading any material in any domain we need different vocabulary whether new or old ones, when we read we understand words even those we do not use in our speaking vocabulary. Sometimes reading is one of the main reasons of growing vocabulary background of an individual
- 4) **Writing vocabulary:** refers to those words and expressions we need to retrieve and recall to use for a specific material to express ourselves. To express ourselves we find it easier in speaking than in writing because of interaction and body language. Writing vocabulary are generally influenced by words that we are able to spell.

I.3.3. Relationship between vocabulary and ME

As stated before teachers of vocabulary are suggested to make plans before starting the process of teaching. Furthermore, they are obliged to be aware about material and methodologies of teaching, have enough knowledge about vocabulary that they will deal with, also the nature and level of target students

because they will be supposed to face new words and terms and they need to have knowledge about vocabulary, types and level of use.

Mathematics as a scientific field its learners in order to be taught English they should have ESP courses which are designed for only mathematic students. Mathematical English in which the use of technical vocabulary is highly recommended. Textbook or another materials that are used by teacher of ESP in mathematical course use many techniques in order to be understood by learners, the lack of terminologies in the mind of a learner causes an interference with mother tongue and English language.

Learning technical words is on strategy which is used by learner in order to understand vocabulary of a particular material. Mathematics as a branch in which logic and thinking is used even in daily life communication between individuals in different tools such as newspapers, graphs and percentages that include and conveys important information (National Council of Teachers for School Mathematic, 2000).

NCTM stated that Instructional programs from pre-kindergarten through grade 12 should enable all students to communicate their mathematical thinking coherently and clearly to peers, and others, use the language of mathematics to express mathematical ideas that means all learners till the age of 12 should be able to communicate and think in mathematical way in order to be aware of using mathematical language to express mathematical thoughts. Mathematical English does not develop itself, it requires learning vocabulary related to the mathematical need of the learner.

Providing essential vocabulary rules that help students to rehearse, repeat and drill their skills, providing open-ended practices to exercise the skill in a wider applicability range would improve fluency and vocabulary mastery for them (Dekeyer ,2007).

I.3.4. the importance of teaching ME vocabulary to mathematics students

Teaching vocabulary of a specific field of study is one of the basics while preparing the plan of the course. Like any language in the world English language has its specific grammar and vocabulary that should be applied by

users of that language even in different domains from literature such as mathematics. There are a number of strategies and methods that any learner need to follow in order to receive the correct rules of vocabulary.

I.3.4.1.Vocabulary learning strategies (VLS)

In language learning the teachers and students need some strategies whether related to teachers or students. Vocabulary learning requires also techniques and strategies in order to be well mastered by learners. There are some strategies suggested by some experts of language teaching, those strategies are needed by language learners to acquire new English words and terms they are classified by different researchers (Stoffer, 1995; Nation, 2001; and GU 2003).

Vocabulary can be defined as the process of sub-task by learners of language (GU, 2003).It is obvious that scholars and linguists have been doing many studies looking for an appropriate and effect way for learners of the language to acquire new vocabulary items quickly and pleasantly. Advanced learners are aware of their preferences and learning styles.

Vocabulary learning requires techniques and strategies to follow by learners in order to be prepared for new items and words in a particular field of study and research. A number of researchers suggested some strategies depending on their notions in vocabularies. Those strategies are as follow: Schmitt (1957) suggested two main groups of strategies:

- a) **Discovery strategies:** refers to those strategies in which any vocabulary learning students should follow to discover learning of words an items
- b) **Consolidation strategies:** the word and terms consolidated once it has been encountered

Another classification by Schmitt (1997)of vocabulary learning strategies into five sub-categories:

- a) **Determination strategies:** it refers to those strategies that are individual in learning.

b) Social strategies: are those strategies in which society and environment play a role in communication process through interaction with others.

c) Memory strategies: based on cognitive capacities of learners and the use of mental capacities in processing the association of the existing background and knowledge with new words and items.

d) Cognitive strategies: the use of dictionaries, using linguistic items. Strategies that are more mechanical means and does not engage the learner with mental processing. It has an effective role on manipulation and transformation of target language of learners.

e) Metacognitive strategies: strategies that has a relationship with monitoring, decision-making and evaluation of one's progress.

Because of the utility of VLS the level of vocabulary of learners, their environment of motivation, culture and vocabulary proficiency raised (Schmitt, 2000).

Accordingly, cultural background and communication with other people from other different nations are an important feature that should be considered the core for vocabulary due to the differences of opinions about vocabulary strategies (Schmitt, 1997).

Taxonomy of VLS is quite different from Schmitt classification. He suggested that VLS are divided into three main strategies:

a) Planning: refers to the process of choosing what to emphasize on. Choosing words, the choice of word's aspects on knowledge to focus on, the choice of the appropriateness of the used strategies and when to switch to another strategy and the planning for repetition due to its efficiency on motivating and enhancing new words assimilation.

b) Sources: looking for information about new words, items and discovering their origins, and their use and the family that they belong to. Also, analyzing words parts and using context helps the learner to investigate the different parts of the word, consulting a reference source in L1 and L2 and comparing similarities and differences between L1 and L2 terms.

c) Process: in which the establishment of knowledge in the target language is the main focus in this strategy. Noticing such as remarking that some words

may be an item to be learn, using word cards, written and verbal repetition. Retrieving and recalling previous learnt words in order to combine them with the new ones in a new context. Generating in using previous terms in a new contexts across the four skills.

I.3.4.2. Importance of vocabulary learning strategies

Vocabulary strategies has benefits and positive outcomes on learners' knowledge and mastery of the language. Besides, all learning strategies that include vocabulary strategies, improve learners control on their own learning, so they can take more responsibility in their research and studies (Nation ,2001;Scharle & Szabò, 2000).VLS enhance and fosters autonomous, independence and self-direction of the learner (Oxford and Nyikos , 1989:291).

Hosing words to study and having the independence in using them are mainly easy for recalling words (Ranali, 2003:9).It was Oxford &Nyikos (1989:291) who said that VLS are readily teachable the time that teacher takes in explaining and introducing different techniques of vocabulary learning and practicing them by learners cannot be a waste of time.

Correspondingly, VLS cannot be implemented by students themselves since they face new words and items, they should be a well trained in order to be aware of dealing with them (Cameron, 2001).Students should be independent and responsible about their learning and give more attention to individual's requirements because of after elementary level it is difficult for teachers to choose the appropriate items for all of them so that more of wasted time (Gairns and Redman, 1986).

The opinion of Schmitt (2000) is that acquiring necessary strategies of learning the learners will increasingly need the help to learn items on their own. The provision of systematic teaching and vocabulary instruction improve learner's mastery of certain techniques and strategies to acquire terms and words even in non-academiccontext (Loxford & Scarcella, 1994).The best way to learn vocabulary in such domain is the useof learning strategies independently of a teacher because strategy training is a part of vocabulary development program (Nation, 1990; 2001).

It is possible to view mathematical English as a simple, constituent and more organizing than English since it has a limited number of verbs that refers to mathematical operations such as addition, Multiplication, subtraction and division ,and it has a limited number of nouns even though it needs to the syntax and sentence constructions (Woodin , 1995).

I.3.4.3. Importance of teaching EMP vocabularies

Meanwhile even the creation of the universe and human being was According to Jenkis (2002) the best way to prepare learners of the language for international communication is that the fundamental aim of their second language should inspire learners for intelligibility for native speakers' receivers. basically relied on mathematical language due to the use of measuring, symbolizing and even grammar (Galilew Galilei).For instance in sentences and expressions construction there is an organization that is depending on the target meaning of the speaker or the writer the way we understand and construct those utterances and sentences basically depends on logic that is the mathematics core.

As well as that, Jamison (2000) uses linguistic words and terms in describing mathematics as a language like other languages, he claimed that the complete treatment of mathematical English same as other languages would absolutely help their learners to improve their understanding to it.

Mathematical English is not a natural language, it is an artificial constructed and formal language by using our daily life language in teaching mathematics (Gough ,2007).Among all the world language, it should be counted as a language like other languages because it can be described as a powerful universal language (Making Mathematics count ,2004).

I.3.5. the interference between English and French vocabulary

In Algeria, for example, French, a socially-valued language, is often associated with modernity and technological advancement and it is still taught today as a second language at different levels, while at the university, it remains the language used for instruction in a number of streams, scientific, medical and technological, in particular. In their daily conversations, most Algerians code switch between Arabic and French.

The lack of vocabulary causes many problems in students' communications and interactions with people who talk English or their teachers especially spelling mistakes that interfere with French vocabularies, they pronounce them in a French way behind student' pronunciation. Additionally, the lack of vocabulary can be a strong reason behind student's failure in their specialties despite their high level in their fields of study and even their careers. As noted by Eckman (1981:18) for example: "The extent of influence that a learner's native language has upon the acquisition of a second language is a topic which has continually engaged researchers in the area of second language acquisition" in other words, he was illustrating about the affection of mother tongue on the acquisition of second language in which he insists on the role of mother tongue on the second language acquisition.

A claim by Hyltanstem (1987 :67)that L2 errors are mostly affected and related to specific elements in L1 learning which brings proliferation of studies on a subject .Cenoz (2000) pointed that there are at least four possibilities in order to acquire L3 in a series of steps one after the other.

Algerian students considered normally bilingual learners of the language, like Baker (2006) described bilingualism to the education in more than one language often encompassing more than two languages. Another view on bilingualism is that it has a negative side that is so dangerous on students level of education so their psychological problems such as confusion (Laurie, 1890; Jespersen, 1922; Saer, 1923; Smith, 1923).

Learning a third language besides L1 and L2 have an increased a sensitivity to language like a system that may help this performance better with formal language than monolinguals learning a foreign language for the first time. Gallardo Del Puerto (2007) reported that 'Bilinguals who speak a language typologically similar to the target language tend to achieve a significantly better acquisition of the third language than bilinguals who do not have a language typologically close to the L3 in their linguistic background 'that is to say individuals who tend to use the language in a topological way that has same characteristics with the target language can absolutely reach a successful acquisition of the third target language such as English in Algerian universities than those who tend to have no topological of the language that is close to L3. The influence of French on English is seen at different levels.

Since the great introduction that was originated from French language, the French was a model of borrowing words and new terms in order to construct many English terms. Mc Mahon (1994:201) stated that:

The unifying factor underlying all borrowings is probably that of projected gain; the borrower must stand to benefit in some way from the transfer or linguistic material. This gain may be social, since speakers often borrow material from a prestigious group or it may be more centrally linguistics, in that a speaker may find a replacement in her second language for a word which has become obsolete or lost its expressive force. However, the most common and obvious motive for borrowing is sheer necessity. Speakers may have to refer to some unfamiliar object or concept for which they have no word in their own language

Nowadays, this influence still exist in Algerian community through its use even in daily life by different categories of population. Teaching English become a necessity in Algerian institutions due to the important role of it in essential field of study and vocations. Harmer (2001:01) said “a language widely adopted for communication between speakers whose native languages are different from each other’s and where one or both speakers are using it as a second language”That is to say the reason behind the spread of any foreign language among the mother tongue of a certain population is mainly based on adopting it for its sake of communication between groups of people who have different mother tongues who are using same foreign language.

Conclusion

In this chapter a theoretical part of the relationship between ESP and ME in different descriptions. We did focused also on the problem of the lack of vocabulary for Algerian students especially those from scientific fields due to the influence of French on the learning of English language by those students that is a big problem that affect their future considering English as a second foreign language in the country.

Chapter two

Results and discussions

Introduction:

In order to figure out the fusibility and reliability of the problem faced by mathematics students and to test the hypothesis presented at the beginning of the theoretical part in this work, we used a students' questionnaire that was submitted to a number of students of master one.

II.1. Analysis of the Students' Questionnaire and Classroom Observation

This questionnaire was delivered to master one students who are one category of Algerian students which suffer from the interference of both languages French and English.

II.1.2. Description of students' questionnaire

This questionnaire contains fifteen questions that deals with the problem of lack of vocabulary in different skills depending on each student. The present questionnaire was administered to 14% of the concerned population that is master one students of the mathematic department at Biskra University; it was distributed to twenty participants who were chosen randomly. Out of the entire number, twenty copies were answered and rendered back.

II.1.3. Piloting student's questionnaire

The present questionnaire is composed of fifteen question that are varied between open ended questions and close ended questions. It was divided into three main sections: section one is about general background that seek to questions about general information about the student and his/background towards English. Section two: was about the actual situation in which the students are studying those English (ESP) courses and some information about the way that their teacher is using in classroom. Sectionthree: was about vocabulary and their difficulties behind their English performance.

II.1.4.Results and analysis of students' questionnaire

Analyzing questionnaire from data gathered was essentially relied on the SPSS statistics.

II.5.2.Section one: General background

Question one: Gender of the participant

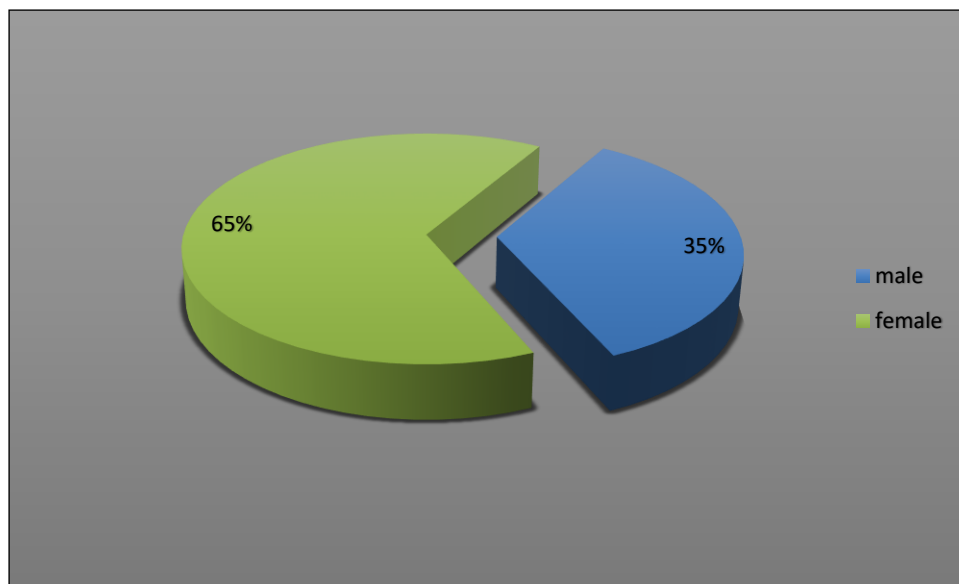


Figure .1: Students gender of M1 in math's department

In Figure 2.1 the graph represents the category that have been dealt with during the questionnaire distribution. The whole number was twenty students due to the huge number of absentees noticed after two sessions this number was the almost fixed number of students who attend English courses. It is obvious from the pie chart that more than the half of the student are females by 65% while males represented 35% which is related to some reasons maybe after baccalaureate exam, low level of males in mathematic or the session of English is more important for females than males.

Question two: Students' study stream in high school

The target of this question is being aware about the studied branch which the students chose to study their high school stage.

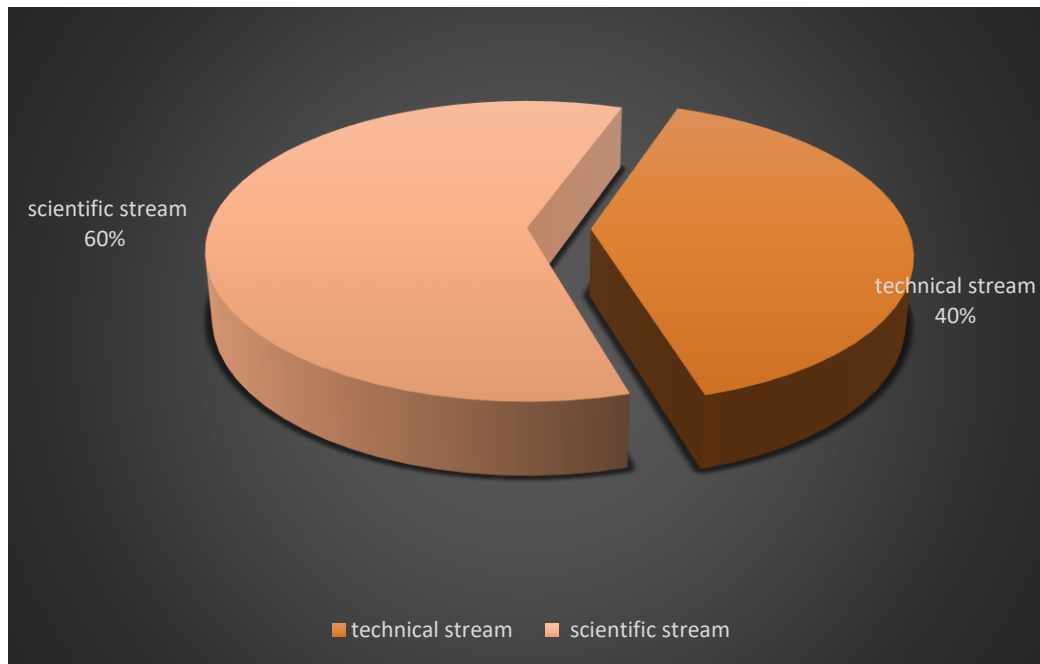


Figure .2: Students' type of baccalaureate

From the obtained results after responding on this second question, it is clear that mathematic students of master one are divided into two categories some of them had to study in scientific stream in high school, they represent 60% from the whole number of sample. The other part of the sample are those from technical stream by 40%.In Algerian universities these two streams are the only that allow the student who graduate from high school to attend Mathematics an computing department others are not allowed to study in that department such as literally stream students.

Usually technical stream students choose technical branches such as mechanics, electronics and others but it is not the case in our situation of this study maybe it is a problem of grades at the end of baccalaureate exam.

Question three: self-evaluation of the student about his/her level of English

The aim of this question is to take the time that that the student spent in learning English language into consideration and do not neglect student's general background about it.

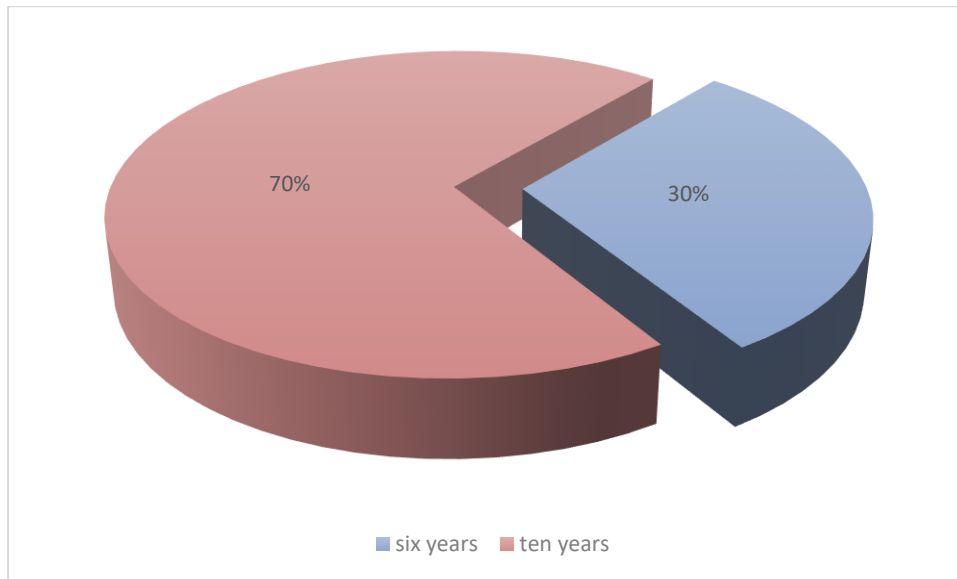


Figure.3: Students' duration in learning English

The pie chart is a representation of the duration that the study of English took place in each student's study path. The question was about studying English from the first year of starting, however; the students were definitely reading the question in different ways that's why we find two different answers, 70% of them selected seven years which means more than the half of the participants stopped studying English just after graduation from baccalaureate exam. That is to say, there is no English language in their field of study after choosing mathematics which means the neglecting of the lingua franca. The others who represented 30% of the sample are those who chose ten years there is they might whether they misunderstood the question or they are satisfied by the way which are being taught in their English courses.

Question four: Student's self-evaluation of English level

This question is one part of the student's self-awareness about his/her cognitive abilities and level of English with all its aspects. Self-measurement of capacities is the key by which the student be aware about improving English level.

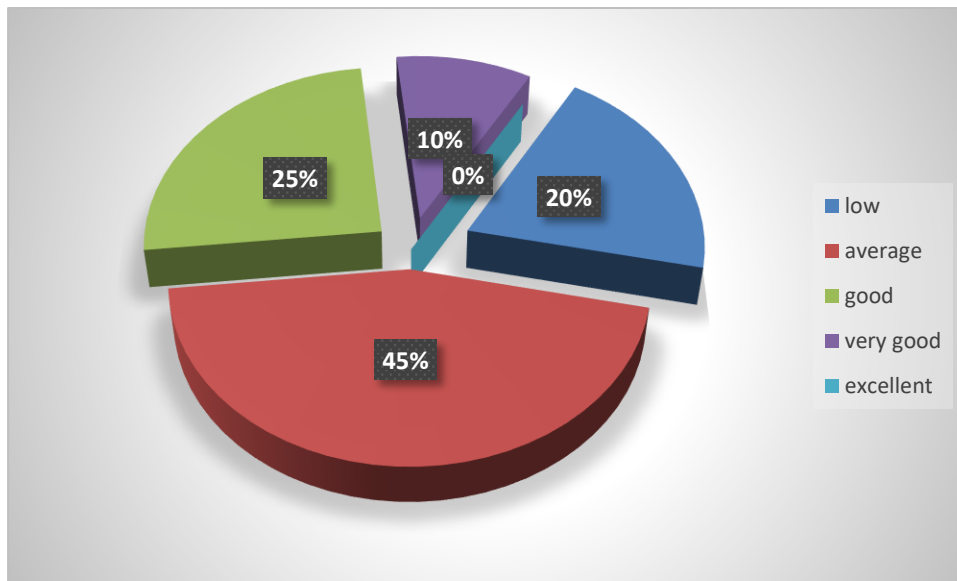


Figure .4: Student's self-evaluation of their English level

For the concerned question in this section self-evaluation of the student if on important aspect by which the gaps in their knowledge in performing English will be more clear and even to make it easy to deal with. Four ranked levels were stated as options for the student in order to select the one that is accordingly fits his/her level. A noticed percentage of the students that is form almost half of the student (45%) who concenter their level in English as average which means even after being taught it for three year in their license stage they could not enhance their abilities and skills or improve that level which stopped its growing on high school maybe this is because

of neglecting that language since it is not a scientific matter as much as mathematics.

The second percentage by (25%) which represented students who consider their level as good. Maybe this is due other practices and activities they do in their daily life I which they use English. The third category that represented (20%) are those who put their level in the low one which is the lowest rank on the list of levels.

It depends on each students from what did they rely on. The fourth level is very good which took (10%) which classified the smallest percentage from the whole number of the sample studied while there is no student who could choose the excellent rank.

Question five: How much do the students in their branch of study

Since the sample is students from mathematics department in Algeria it is clear that they are studying by using French that is why we wanted to discover the relationship between their studies and English.

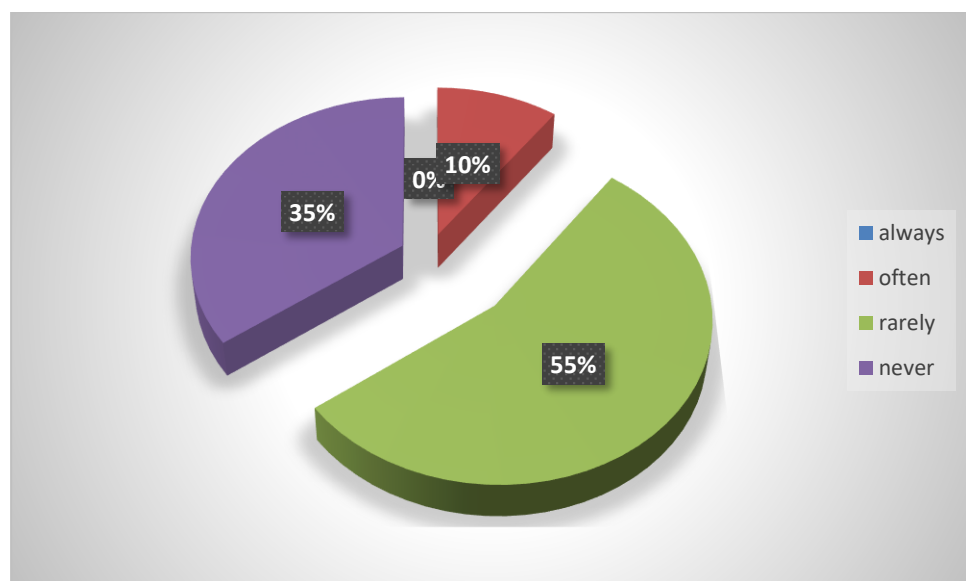


Figure .5: Student's classification of using English in math

From the results obtained above on the pie chart it is possible to say that the possibility of using English in mathematics classes always is 0% which is the lowest percentage. More than the half of the students by 55% ticked that for their studies they almost do not use it at all which means the absence of lingua franca in teaching science's mother which is mathematics whether in studying by their own or by their teacher.

Also mathematics is the branch that cannot be separated from other sciences or language but the adaptation that is happening to it because of the huge number of theories and research by researchers prevue that. Another answer by some of sample's students took 35% from the whole number of participants in which students use English they never use it in their branch of study which is a problem though in PhD preparations and studies and master dissertations they use it. The rest of the participants answered that they often use English in mathematics (10%), maybe it is due to their researches or dealing with English activities such as YouTube or google but not in the classroom.

Separating mathematics from technology and development language means killing it slowly even without attention. Students in all university's levels and branches should be at least classified at the good level by which they can improve their educational and even ordinary life since even daily life needs mathematics.

II.5.2. Section two: ESP courses

This section is an opening to the problem that we will deal with in the whole study.

Question six: Whether the student face a problem in performing English

In this stage the core is to look for the basic of English performance from the perspective of each student.

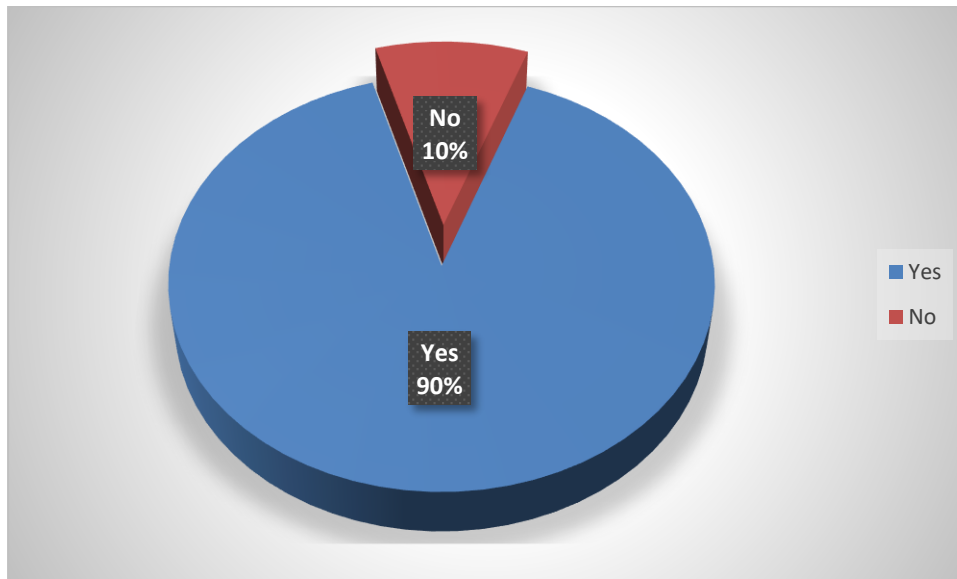


Figure .6: The existence of a problem in performing English

The majority of the students have given ' Yes ' answer the highest priority by 90% .The neglecting of the essential role of language itself on science and technology by isolated many branches such as mathematics created a dilemma among the branch development. The high requirement of English was expressed in student's responses. It is obvious that students are aware about the importance of being competence in the world wild language by the reinstruction of the curriculum itself since the problem has roots and does not start from master level. The rest which refer to 10% from the whole sample ,those maybe they are among who support English products such as movies and songs since the others are almost 100%.

Question six, second part: The skill that the problem faced belongs to

Performing any language needs a particular skills and competence which depends from one student to another. Each

student from those who responded by yes a skill to which the problem is belong to.

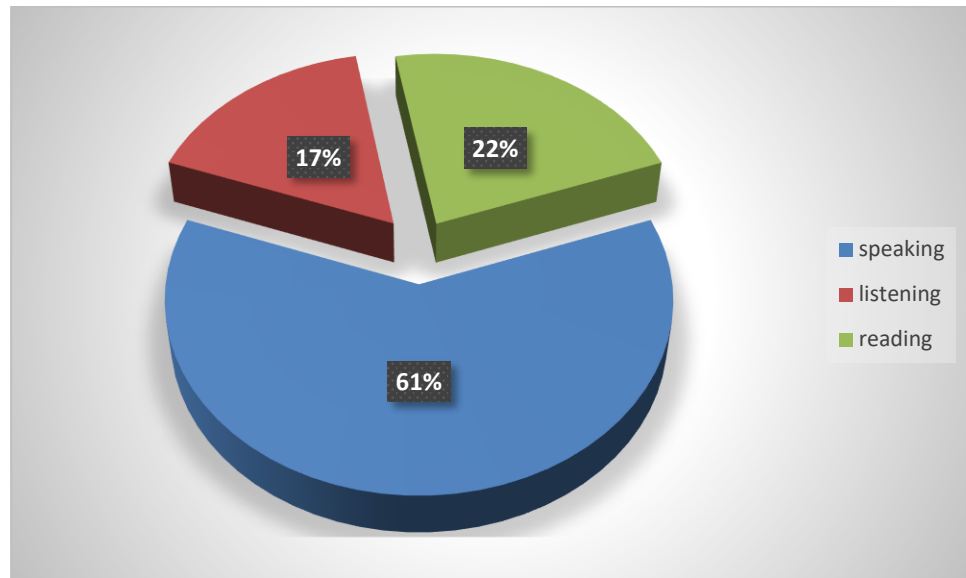


Figure .7: To which skill does the problem belong to

More than half of the students' whole number are facing a problem in speaking English or performing it (61%). It is clear that speaking is the tool that leads individuals to be understood or to understand others. Being competent in mathematics requires being fluent and master in using the language used to express knowledge which is English in this situation. ESP courses are designed to help the learner not to make him on the same level and used in one matter. Needs analysis took a big part in ESP courses because nothing matters more than what the learner needs to gain whether from an experience or activities. Another students considered reading is their problem in expressing their ideas and thoughts (20%). The rest from those who answered by yes are 15% from the whole number of the sample. Facing difficulties in listening to English speech differs from a student to another depending on the material they listen to.

Question seven: Aspect that the problem faced belong to

This question was designed in order to know the level of aspects to which the students can decide the nature of the problem faced in English performance.

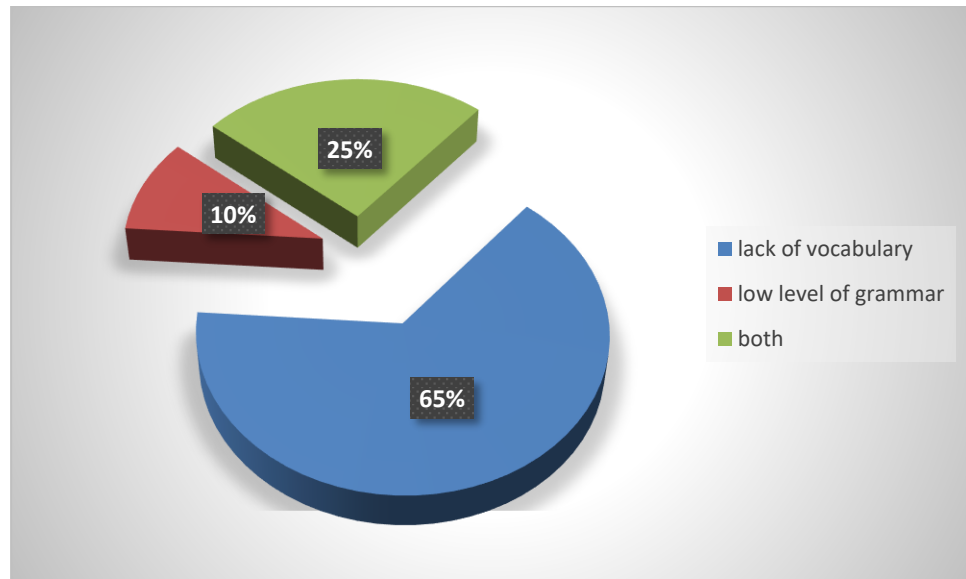


Figure.8: To which aspect the problem faced belong to

Since the basic aspect of any language is vocabulary because there is no expression of any situation without words and items. As it is remarkable that the majority of students suffer from English use due to their lack of vocabulary in which they cannot express themselves or communicate in mathematics and always finding difficulties to make a mixture between lingua franca and science's mother (65%). A few of participants compose 25% considered their low level of grammar is the issue that made them incompetent in English. Expressing thoughts and ideas by using any language requires good practice of grammar rules by which all messages types can be understood.

The fewest took 10% those are who see that their problem in performing English in different situations especially in their studies is due both their lack of vocabulary and their low level of

grammar. This is the worst problem because lack of vocabulary and grammar causes the no balance in language knowledge.

Mathematics is a matter of relationships, shapes and operations, if the students have no background in grammar or vocabulary, there will be more difficulties in the future which even ma destroy some rules.

Question eight: The number of sessions that students have per week

In order to be aware about the time students spend on learning English as a separated module, this question was given in the list of ESP section.

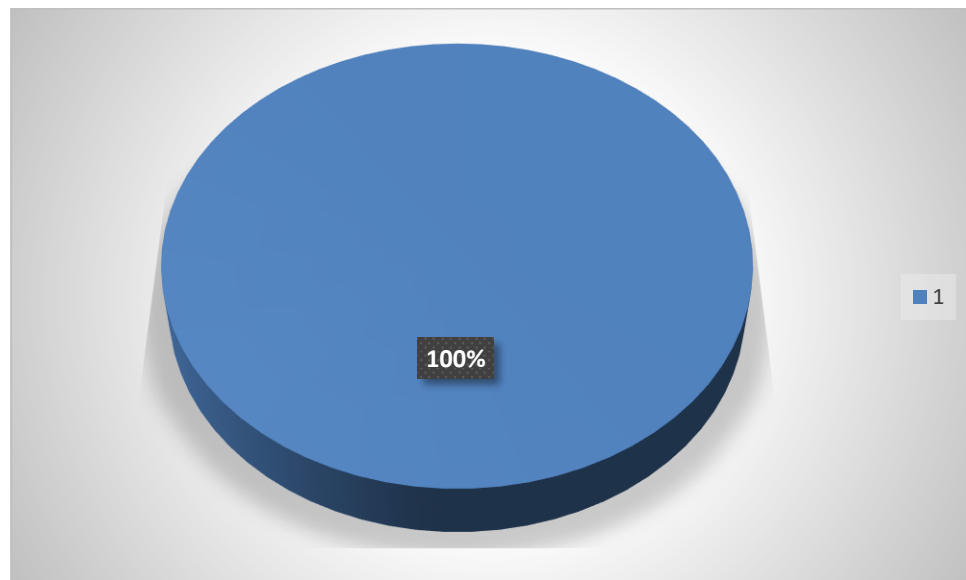


Figure .9: number of ESP sessions per week

The questionnaire was delivered to a group of students who study at the same class and the same level of study that's why the results obtained formed 100%.

Question nine: Student's satisfaction about the way the student are taught in ESP courses.

It was aimed to have an idea about students' reactions about their session of English.

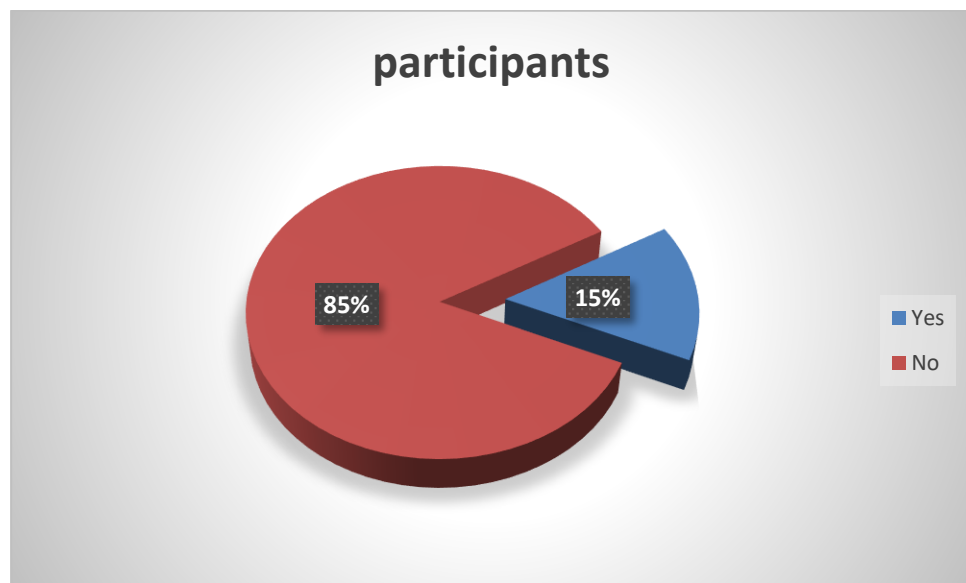


Figure .10: student's satisfaction about the lectures

There is no doubt on noticing that almost the majority of the participant are not satisfied about the way by which their teacher is teaching them English (85%). Traditional method of teaching student a foreign language while they study an important branch such as mathematics does not fit student needs at all. It rely on teaching them grammar rules that they were studying in middle and high school nothing more ,that caused a phenomenon of neglecting English and do not give it an attention as much as the other module ,also considering it a supplementary module to compensate grades no more.

Students of present and future needs a language by which they do not face problems in expressing their ideas and thoughts not a rule to take it by heart then a grade .The rest who

represented 15% of the sample were satisfied about the way their teacher is teaching them which means depending on their reasons it is satisfied.

Question ten: Whether ESP teacher follow a method to teach the students

Preparing the lesson and being aware of students 'needs is the most important factor for any ESP course in order to be successful at the end of the session.

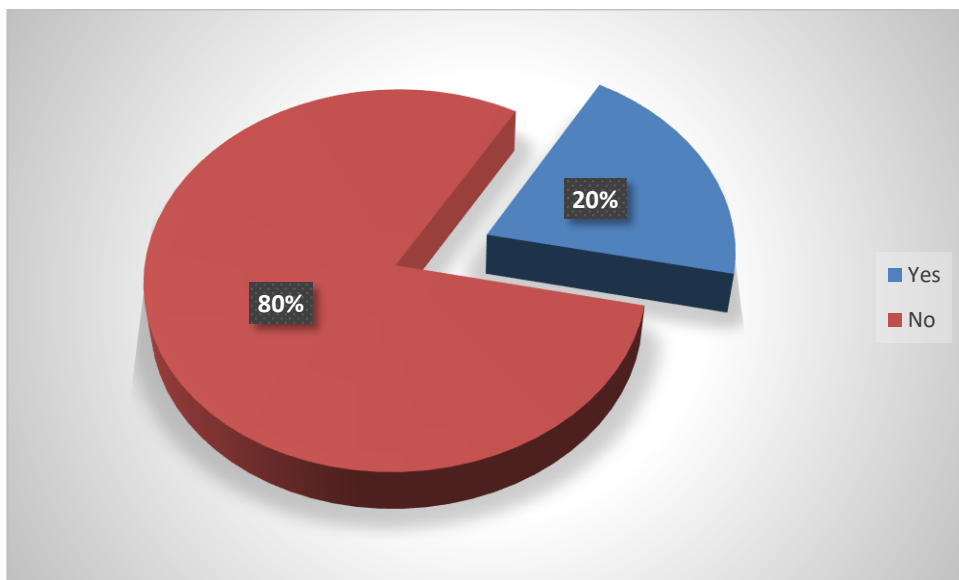


Figure .11: Teacher's method of teaching

If there is no plan for each course, there will be no successful results obtained. Every session should be planned before starting the lecture, its aims also should be prepared in order to follow certain steps .A large number of participants (80%) agreed on that their teacher does not follow a certain method or instruction in order to teach them the lecture which prevue the saying before that considering English as a supplementary module made it just for high grades that's why in ESP courses they teach them grammar rules that they have already studied at the middle and high school stage.

II.5.3. Section two: Vocabulary

In this section is purely vocabulary matters by which the set of this study goals being precisely selected.

Question eleven: By which course's type do students prefer to be taught?

Once teacher is aware about what to teach students in ESP course it makes both students and teacher satisfaction.

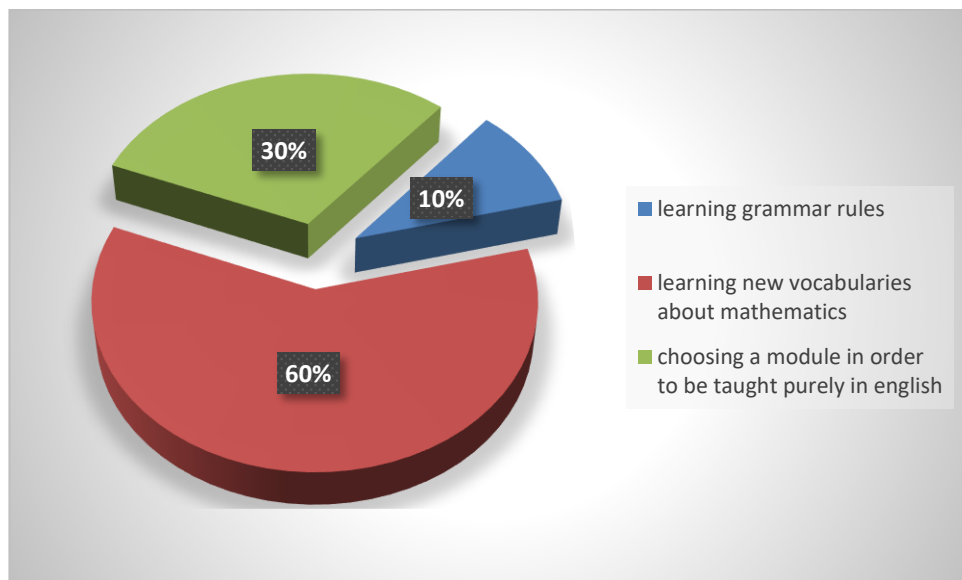


Figure .12: The best course type according to the student

According to the results, there is noticeable tendency toward learning new vocabularies about mathematics (60%) more than the half of participant encourage this method. The need of mathematical vocabulary made a considerable number of obstacles in their studies, for example due to technology the majority of science sources became in English which created a problem for students who their level in English is low. That is to say vocabularies are the keys to learn a new language in order to be able to practice. All modules of mathematics are taught by French besides Arabic help. A group of the participant suggested that why the way of teaching a foreign language cannot be beneficial in another manner such as the option they selected in the questionnaire which is choosing a mathematic module

and all students agree on studying it by a teacher who can perform mathematic with English touch (30%).

As stated in a part of the analysis that the traditional method became a habit not a way of teaching a foreign language to mathematics students which is proved by students response by 10% from the whole number. ESP courses are based on two main factors needs analysis and vocabulary instead of wasting time on repeating previous studied grammar rules.

Question twelve: How often does teacher use French?

The interference between both French and English is happening to any Algerian whether a student or a teacher due to the affection of French colonization which touched all sides even education. This question was aimed to consider the use of French by teacher as a factor that affect students course.

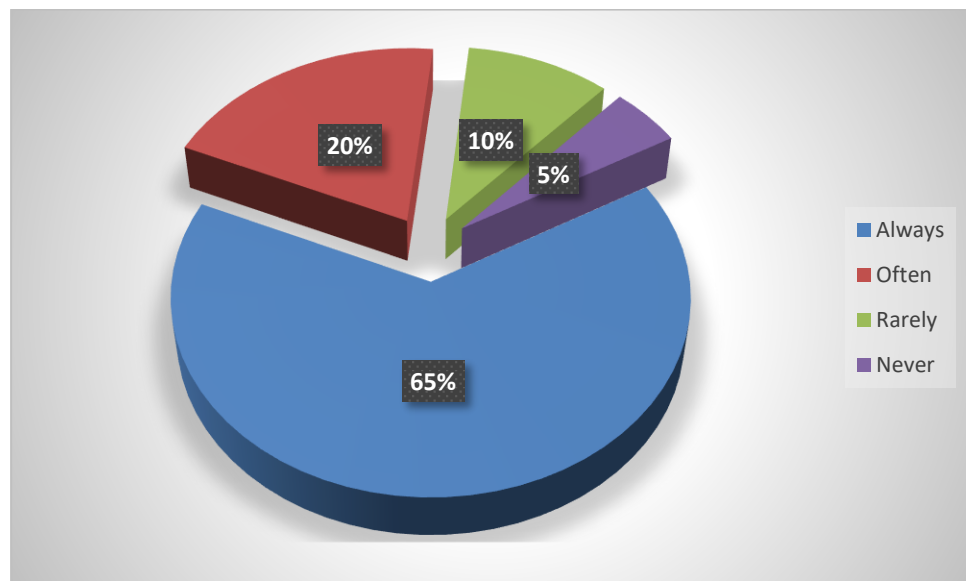


Figure .13Teacher's use of French

In this graph students was given a question about how often does their English teacher use French during the session and choose according to each student's attention one of the four options. It is surprised that we found 65% from the whole number answer by always which indicated and confirmed the idea of still relying on traditional method of teaching them a foreign language session. The result showed that teacher's use of knowledge and language has more affection on

student's background. Also in this graph the importance of teacher to be aware about the role that he plays in the class as a prompter, resource, participant, assessor and tutor.

The second results showed that 20% applied by their teacher use French but from time to time. The rest as it was expected 10% said it is rarely that the teacher use French during the lesson while the others by 5% see that the teacher never use French. The results obtained was expected in all the sides since Algerian university does not give enough importance to foreign languages as much as science because there will be not a high level of students since technology language is ignored.

Question thirteen: from the student's point of view to what extend does teaching mathematic should be rely on

Students are the most important factor in the process of learning ESP beside the importance of teacher of course. That is why their opinion is important in dealing with the problem of the interference that is happening to all of them.

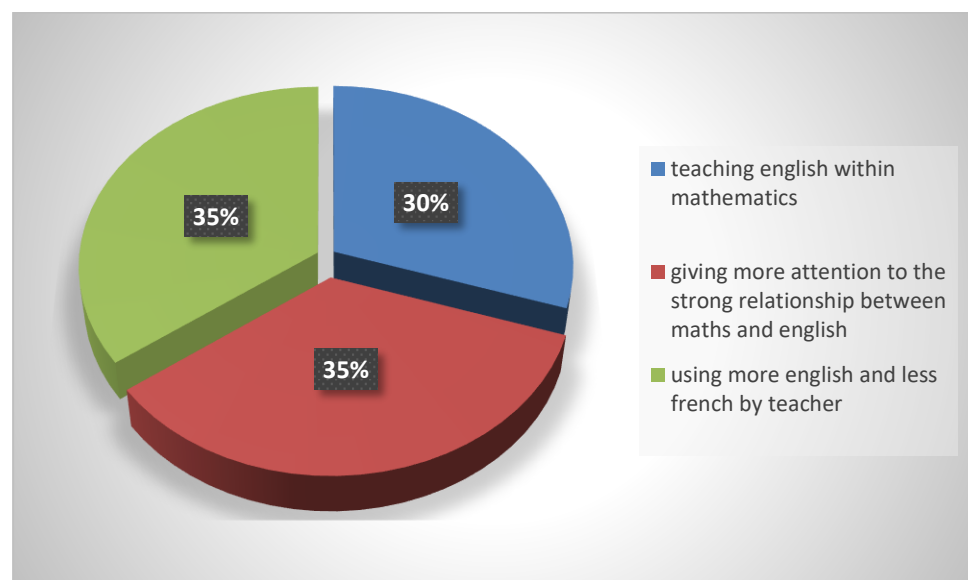


Figure .14: Student's opinion

As it is shown here that the three ways that can be appropriate for the students in order to improve their level in English have almost same percentage of response. It is not possible to teach an ESP by using one method which is the traditional one

to students who have already studied such type of courses in order to build their basics in English. They don't need this previous knowledge, they need English mathematics. The balance found after this question by 35% and 30% proved the non-satisfaction of students about their program in English sessions.

Question fourteen: How often does the student make vocabulary mistakes?

The student here have the choice to rank the times of making grammar mistakes.

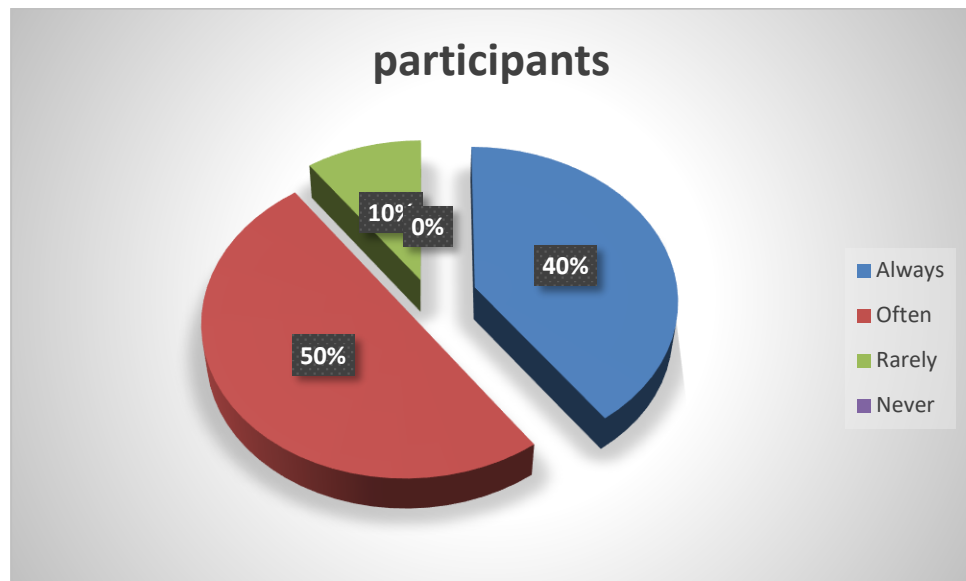


Figure.15: Student's ranking of times of making vocabulary mistakes

Results from what does Figure 2.15 shows that 50% from the whole number of participants are often make vocabulary mistakes whether in studies or daily life. It is an indication to the reality of the dilemma that Algerian student are facing during their studies which forbid them to be in balance with technological and science high level. This huge number of students shows their awareness is happening to ESP courses in their branch of study.

The existence of those who responded by always make it worst than before especially it representation by 40% which means lack of vocabulary is the obstacle for master one students who are normally in high degree of study. A few of the students are rarely making vocabulary mistakes (10%), though it is a small percentage it can give hope to by which the encouragement of changing that old

habit not way of teaching students in mathematic department and apply one of those methods sated above in question thirteen.

II.6. Analysis of classroom observation

Classroom observation is considered to be one of the major recommended research tools that offer more valid data. It has been chosen in order to provide the opportunity to obtain real data; in addition, to get access to the real performance of EFL teachers rather than ask them directly through recorded interviews or written questionnaires. It provides the opportunity to observe the influence of teachers' expressiveness on EFL students, so then it assists to examine the obtained results in the previous students' questionnaire.

II.7. Discussion and analysis of the classroom observation results

II.7.1. The first session

Date: 19/11/2018 , 04:30pm	The observer: The candidate
Course: English session	Objectives: data about the session content and student's interaction

This course is intended to be the session of having some knowledge about what will be dealt with in the next sessions. When it was time the teacher started writing down on the board the lesson while the students were entering the class group after the other. At first a table of some English verbs was drawn and students was asked to conjugate them in past and past participle. There was two exercises first one contains filling the gaps and putting the verb in the infinitive form, second one was about reported speech.

What was remarkable that the teacher does not follow an outline or a program by which students can be currently interacted to the course and make them involved the course itself they were bored and when she was asking about answers the fewest were paying attention . Another matter that was observed for one hour and a half is the absence of student's participation yet to correct some spelling mistakes that were written on the board.

The lack of motivation was a prevue to which the teacher was threatening students by ameliorating or disamiliorat students' grades which became a fashion not only by this teacher but another teachers also.

Students in this session did not reveal positive reaction to the lecture practices; they appeared passive because they were writing down the target answers without interacting with the teacher. There were some questions by only two students about more clarifications concerned regular and irregular verbs. In order to let some opportunity to the students to be involved to the lesson's activities, she was answering by herself just immediately after spelling the questions.

There was no relying to handouts or slides, she was only relying on her own paper which contains the two activities stated above. She was making some grammar mistake such as written and spelling form of some words which may affect student's level in the fourth skills.

At the end of session the teacher tried to catch their attention by giving them a task to do in next sessions which finally has a relationship with mathematics. She asked wrote a number of subjects which has a relationship with mathematics in order for each group of students (four students) to present it during next sessions. There was a good time management by her after starting by writing the lesson before students came though they were late.

- **Positive factors during the observations:**

- ❖ Time management by the teacher
- ❖ Students and teacher were not against classroom observation
- ❖ Even there was no attention by all students ,they did not disturb lesson occurrence
- ❖ The teacher's collaboration with this work

- **Negative factors during the observations:**

- ❖ A large number of students in a small classroom
- ❖ Time of the session is not appropriate especially after a long day with other exhaustive modules such as probability
- ❖ There were no exact target of the lesson ,only two activities
- ❖ There were no questions for students to figure out their interest in the text

II.7.2 The presentation sessions

Dates : 26/11/2018 ; 3, 10,17/12/2018	The observer : the candidate
Course :Presentations	Objectives : studying lack of vocabulary of the students

According to what has been observed during the English sessions, The place in which the session is taking place has changed from a small room to an amphity and this is maybe of the nature of the lecture which has been prepared to be in a form of presentations because the teacher seemed to seek for two aims to gain time to evaluate her students and to change a bit the routine of grammar rules that has been taught for years.

Students were asked to prepare a presentation in which to talk about one of a given list by their teacher: Prime numbers, Archimedes, Symmetry, History of numbers, Mathematics and Euclidus. Each group of students have the right to choose the topic they want to prepare and present in the stage in front of their classmates and teacher. When the students took their places the teacher saluted them and immediately brought their submitted works in front of them and told them that in the first presentation there will be volunteers in order to start the presentation. As usual and what is happening in these situations no one wants to be the “victim” as they were saying after the demand of their teacher.

After 10mins of waiting and insisting on them a group was ready to start their work and them although they were not prepared enough because it appeared before starting. The use of papers was not allowed by the teacher at the beginning since it is a presentation so normally the member of each group has all knowledge about what in on the expose, the teacher made an exception for those volunteers and they were four girls two were bringing their papers and the others did not bring them. The teacher brought a paper in order to put notes and questions for the group. It was obvious that the teacher was attentive and concentrating on their spelling which appeared on when they spell a word in a wrong way she write down something about it.

Additionally, it was clear that the noise that the audience is making was affecting students’ performance because their classmates where correcting spelling mistakes to them during the presentation which is a bad habit in any type of discussion or a debate that make them more anxious. The groups who presented after this group faced the same

problems while talking such as when they are talking their classmates where correcting their spelling mistakes, the position of the teacher was not appropriate since she was sitting near them ,the use of papers became more allowed by the teacher than the first session which increase stress and anxiousness. Since all the students are studying mathematics when there was mistakes concerning information some of them where trying to find out the right information by applying some theories they studied before.

In an intervention of a group who were presenting after they finish of course, their topic was about history of number a question was asked: if the rule you are talking about was followed by ancient Greek in order to create those numbers who do we use for now why cannot we apply it on number nine and number two, indeed there was no clear answer from the student which means there where not a data analysis after all.

Another remark was that the teacher was only looking for spelling mistakes that students are making while talking. There was definitely an important problem in all presentations which is the interference between English and French mathematical terminologies and their repetition for each time student do the presentation.

Lack of terminologies was treated by putting French words instead of correcting the spelling mistake and put the right English word in its place. Speaking after learning by heart was another remarkable feature of the majority of presentations; however, for few of them it was helpful sometimes especially that they are aware of presentations manners such as the appropriate use of body language in some situations. A positive factor is that the teacher does not disturb her students while they are talking to correct their mistakes, she wait when they finish she tell them word after another and she correct them. She was trying to make each student repeat the word that was spelling in a wrong way two times in order to not make mistakes in the future

A phenomenon is spreading which is laughing at classmates spelling mistakes in the classroom, the teacher was dealing with it by punishing the student who laugh at the others by not allowing them to present the next time and mines marks from their presentations marks. The teacher was criticizing her student in a nice way in which she mention the mistake, correct it then thank the member of the group about all the efforts that has been done in order to prepare the work.

Moreover, some students who were attending the sessions were not interested on the course content at all due to the bad environment surrounded. exaggeration of making

spelling mistakes ,using French words and even their use was rarely correct, the way that their classmate were reading was not a convinced on as much as it was in the first two presentations. What was more noticeable that the teacher was making some remarks about the position of each member of the group which had a considerable effect on the majority of the group. It made them in a position in which the teacher can evaluate each one by the way of presenting the work.

The role of the teacher to decrease students' anxiousness, perturbation and hesitation was clear shown on their body language from one presentation to another. Students became more courageous even some of those who were not ready to present. One exception was when teacher decided to choose by herself a work and call the names of the group members half of them were absent and the other half were not ready to present, she were insisting on them to it without the others and promised to help and give more courage to them .Students had a bad reaction over her insisting by not giving importance to her efforts on trying to help then were her punishment of zero grade on the module.

As well as the teacher is not specialized on mathematics, she was only correcting grammar and spelling mistakes. She needs to be at least graduated from scientific stream in high school in order to have an idea about mathematics and it relations .The session normally has precised aims to which the use of English in mathematics and get rid of French .The appropriate teachers whom able to be in this positions are those who graduated from ESP branch in their master degree.

The lack of vocabulary by students was shown even in the writing form .Teacher asked the students to use the board in order to reduce their anxiousness by illustrating some examples and drawings. It was sometimes noticed on the teacher when she has not the right form of reading the word due her low expertness and low level in mathematics which confirm what was said above about the qualities that ESP teacher should have in order to be competent.

Besides, being mathematic students was a positive feature in the majority of presentations due to the clear collaboration among students.

Criticizing the content was the most important for a big number of students in contrast to their teacher who were interested only on grammar and spelling mistakes neglecting their lack of vocabulary and the overuse of French instead of English.

The closure of the session was by giving some piece of advice by the teacher for her students to be more active in the next presentations. She gave them another list of presentations but this time she made them free to choose the topic and she did not precise the domain of it at least.

- **Factors that enhance the observation**
 - ❖ The teacher offered the opportunity to make the observation.
- **Aspects that impeded the classroom observation**
 - ❖ Noise despite the small number of students which created some difficulties in concentrating on the members work.
- **Factors that weakened the session**
 - ❖ There was no use of some tools such as data show.
 - ❖ Teacher's focus was only on utterances.
 - ❖ There was a neglecting by the teacher at the overuse of French.
 - ❖ Encouragement by the teacher to the students to get rid of anxiousness.

II.7.2 sessions of second presentation

Date: 06/02/2019	Observer: Candidate
Course: Free presentation	Objectives: Studying lack of vocabulary of the students

At the beginning of the session the teacher was waiting the students as usual since they enter late which causes insufisant time in each session. She started to call the groups one by one and doing the same as the first presentation by taking notes in front of the group who is presenting. Discussion was not that interesting due to some bored topics for some students such as pollution and some children illnesses.

The way of presenting was completely relying on papers and also the overuse of French terminologies in several times instead of English ones. This time teacher was less active than in the previous presentation which effected students motivation whether the ones who present or the audience. One positive feature was two presentations in which students organized their work very well by using data show. Despite the lack of vocabulary that was appearing in each time a member talks, instead of using French words they were whether writing the target word on the board or use a dictionary and show it to their teacher.

By the end of the session teacher was telling her students about the necessity of improving English level by watching English movies and videos and listen to English songs ,try to study English in private institutions in order to enhance their performance especially to prepare themselves for vivas.

Conclusion

After analyzing the data and the results obtained from classroom observations and the submitted questionnaire, the hypothesis by which the problem faced by mathematic students in learning English does really exist and clearly showed in classroom environment. A systematic changment in ESP courses and English courses for scientific students, removing the old method in which teaching grammar previous rules and activities and the over use of French instead of English are highly recommended.

Recommendations

According to the gathered findings and results, it would be convenient to provide a number of suggested recommendations hopefully to excel reduce from the problem of lack of vocabulary by students of mathematical branch; additionally, to establish an appropriate academic atmosphere in which ESP teachers as well as students accomplish the targeted objectives. The intended recommendations could be summarized as follows:

- Higher educational system in Algeria should pay more attention to the relationship between scientific specialties at all Algerian universities.
- Implementing languages among the most important modules at all levels not just before university.
- Encouragement of the use of English in doing researches such as master dissertations and make it an obligation to submit and present it in English.
- For teachers who are supposed to be recommended to teach students they should be competent whether in English or mathematics.
- Teachers should adopt particular strategies to maintain teachers' expressiveness for the maximum period of time in order to capture students' attention.
- English teachers who teach mathematics students should be aware about the aim of the session and be precised to fill the needs of their students.
- Administration in the department of mathematic should take students of whether choosing a module in their specialty to be taught purely in English or teaching them new vocabularies about mathematics.
- Students' choice of the English course nature should be a priority to their teachers.
- An outline should be an important factor for the teacher in order to make the session more organized that can be a reason to avoid neglecting the role of English module important since students do not consider it an essential module for their branch.
- Grammar rules should be an aspect in teaching English for mathematic students besides the other aspects of English language.

- Teacher of English in mathematics department should study the lack in their level not only depending on an easy way to present any lesson.
- The techniques used by teachers should be prepared in advance with a clear outline
- The use of teachers' expressiveness would make teachers appear strongly self-confident and highly qualified; students would be more satisfied on the teacher performance and they could easily absorb lecture targets.
- Motivation and support should be the engine by which teachers can create a good environment in class.
- Teachers of English should do analysis about the English level of students' whom they will deal with.
- Needs analysis should be taken in consideration before starting the organized program.
- Teacher focus in each given presentation should be on the four skills in order to figure out the problem their students are facing.
- Teachers need to firmly reduce students' problems as they attend lectures such as getting bored, deficiency of focus, and lack of contact with teacher performance.

The previous recommendations are highly suggested in order to be taken in consideration whether from the part of teachers or administration. Since teachers and administration are the collaboration that can change the situation to a positive one with positive results for students, English session in mathematics department should be changed from all perspective especially on the highly need of the students to learn vocabulary and grammar in collaboration with teacher's efforts.

General conclusion

This study was aimed to spot a light on one of the major existed neglected problems in language for students who belongs to scientific branches in Algerian universities which is the lack of vocabulary in English. If Algerian university hopes to grow and evaluate other developed universities. The aspect of teaching ESP should take more importance and be understood as actually it represents. Bringing ESP to the position in which it has to be in EFL teaching and learning today. Mathematical English does play a role as well as other languages in the world since it is an expressive language for a category of people.

The current study was mainly a focus on how students of master on in mathematics are doing well in performing language in their English sessions. In order to distinguish the most significant gap whether on the way by which the teacher is giving feedback, presenting the course and the content of the course itself. In order to reach the aims of the study and have a feasible data, a questionnaire that is composed fourteen questions which are related to the problem of lack of vocabulary in English. Classroom observation was the second tool used in this work.

Knowing how and when to use words and knowledge to negotiate and communicate in technical situations is essential to learners if they are to engage in beneficial classroom communication, involving the twin activities of asserting and assimilating meaning. Mathematic students are part of mathematic community that use illustrations, graphs, shapes, operations and theories not literature and culture. One aspect of the language such as grammar cannot a sufficient factor that help this field of study. Language is a composition of different aspects and no one of them can be distinguished from the other in order to express thoughts .The absence of the appropriate words and terms may effects the whole meanings and even change it.

The results obtained from the questionnaire and classroom observation indicated the necessity of getting rid of the old method and techniques of teaching English in mathematics specialty as a module. The majority of students' responses had the same tendency of being free from being slaves to French language without developing their English level in their specialty. The interference also was a clear factor that does not allow them to use science modern language in mathematics. Changing the habit of old method was another demands by students since among the suggested methods in which learning

new vocabularies about mathematics was highly recommended through students' responses.

All in all, this work was done for the purpose of taking students' language requirements into consideration in order to not be just followers or translators linguistically of other's works. Student's needs are highly recommended in all scientific branches of study concerning the language and its use. Teachers are taking the major part of developing and findings solutions to this dilemma in our country. This research remains open to any further development that would deal with the promotion of English language role along with more integration of the followed methods of teaching it in the for the coming years

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Appendices

Appendix 1

Questionnaire for the students

Dear student

This questionnaire is an essential component of a study about the relationship between ESP that you are learning in English courses and vocabulary. Lack of vocabulary is the core of this work. You are kindly requested to answer all questions as truthfully and accurately as possible. All answers are confidential and complete anonymity is assured. So please fill in the questionnaire by ticking your answers in the corresponding box(s) that you would think more appropriate.

Section one: General background

1. Gender:
 - Male
 - Female
2. Type of Baccalaureate:
 - Scientific
 - Technical
3. How long have you been learning English?
 - Six years
 - Seven years
 - Ten years
 - More
4. How would you evaluate your level English?
 - Low
 - Average
 - Good
 - Very good
 - Excellent
5. How often do you use English in your branch of study?
 - Always
 - Often
 - Rarely
 - never

Section two: ESP courses

6. Do you have a problem while performing English?

- Yes
- No
- If yes, to which skill does it belong to:
 - Speaking
 - Listening
 - Reading
 - writing

7. Does the problem you face in English belongs to?

- your Lack of vocabulary
- your low level in grammar
- Both

8. How many sessions of English courses do you have per week:

- One session
- Two sessions
- Three sessions

9. Are you satisfied with the way by which your English teacher in teaching you:

- Yes
- No

10. Does she/he follows certain method in the classroom in order to make you more involved in the course and develop your English level?

- Yes
- No

Section three: Vocabulary

11. By which course's type would you prefer to be taught in your English course?

- Grammar rules
- Learning new vocabularies about mathematics
- Choose a module to be taught purely in English

12. How often does your teacher use French?

- Always
- Often
- Rarely
- Never

13. In your opinion to what extension does teaching mathematic should focus on:

- Teaching English within mathematics
- Give more attention to the relationship between English and mathematics
- Use more English and less French by teacher

14. How often do you make vocabulary mistakes?

- Always
- Often
- Rarely
- never

Appendix 2

Classroom Observation

Date of observation	The observer
Course observed	Objective of observations

Learning objectives for the class being visited

Classroom environment	Classroom management
<ul style="list-style-type: none">✓ Pay attention in class.✓ Annoys and interferes in performing the language.✓ Participation actively in discussions.✓ Time sufficiency.✓ Setting of the session.	<ul style="list-style-type: none">✓ Classroom conducive for vocabulary development.✓ Degree of teacher's use of target language on students.✓ Activities organization.✓ Level of teacher's instructions.
External supports	Teacher's role
<ul style="list-style-type: none">✓ Did the faculty use class time efficiently?✓ Did the faculty members maintain students' interests?	<ul style="list-style-type: none">✓ Does teacher correct student's spelling mistakes?✓ Do students ask questions?✓ Does teacher applies the old method to teach English✓ Does teacher use a new method to teach her students

Classroom interaction	Presentations supports
<ul style="list-style-type: none"> ✓ The frequency of mathematical terminology use. ✓ Do students ask questions? ✓ Assessment of students for each session. ✓ Cooperation between teacher and students. 	<ul style="list-style-type: none"> ✓ Were visual aids used in teaching? <ul style="list-style-type: none"> • If yes, what aid (s) was (were) used? • Was (were) they (it) used efficiently? ✓ Did the instructor provide students with supplemental reference materials (e.g: handouts)?

المخلص

تناولت هذه الدراسة المشكل الرئيسي الذي يعاني منه طلبة الشعب العلمية، من حيث استعمال اللغات الأجنبية في مجالات دراساتهم، نقص المفردات اللغوية، و بصفة خاصة طلبة الرياضيات كنموذج و منه الدور الأساسي في تطبيق دور اللغات الأجنبية لإعطاؤها حقها كما يجب تعتبر اللغة الفرنسية اللغة الرسمية الثانية بعد اللغة الأم فيما يخص التعليم العالي بالجزائر. لذا فإن هذه الدراسة تهدف إلى تمكين طلبة الشعب العلمية من تحسين مستواهم في اللغة الانجليزية باعتبارها لغة العلم الحديث و المتطور بدون غرض النظر عن كون الرياضيات ام العلوم. اما عن الدافع الرئيسي و المحفز للقيام بهذا البحث فهو قلة الاهتمام بالعلاقة الوطيدة التي تتواجد بين العلم و اللغة بصفة خاصة، غياب الوعي التام بجدية خطورة الوضع الحالي لمناهج تدريس اللغات الأجنبية لطلبة التخصصات العلمية بالجزائر. طغيان التقليد الاعمى للطرق و التقنيات القديمة أعطى لمستوى الطلبة جانب سلبي في جميع مستويات استعمال اللغة الانجليزية. كما نجد كذلك مشكلة التداخل اللغوي و الإفراط في الاستعانة باللغة الفرنسية بدل الانجليزية رغم تراجع مكانتها بين لغات العلم الحديث و هذا راجع لأسباب تاريخية. و كحل لهذه المشكلة عملنا في هذه الدراسة على النهوض و تدارك عمق المعضلة التي يواجهها معظم الطلبة بالشعب العلمية عن طريق اقتراح عدد من المنهجيات الجديدة و منها التخلص من الطرق التقليدية العتيقة.

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