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ESP Course Design for Computer Science Students in Morocco: Perceptions and Satisfaction from a Project-Based Learning Perspective

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Abstract: ***English Language Teaching (ELT) development is due to the awareness of the quality of the process of language learning. This article deals with English for Specific Purposes (ESP) course design and the degree of satisfaction. The article is based on a case study which investigates the attitudes of computer science students, with the focus on gender differences, in l'Ecole Superieure de Technologie in Meknes (ESTM) in Morocco, towards the course. A mixed-method approach is adopted in the collection of data: the students' questionnaire and the instructor's interview. The findings of this study vary between significant and non-significant relationships among dependent and independent variables. It is also shown that students' needs analysis is effective for students and teachers to design a suitable ESP course and to put students in the center of the learning operation. Moreover, Project-Based Learning (PBL) is found to be the perceived appropriate teaching/learning approach for ESP students to achieve satisfaction.***

Keywords: EGP, ESP, Attitudes, Needs Analysis, Course Design, Project-Based Learning Satisfaction

1. Introduction

For many decades, teaching English as a foreign language has undergone many developments in finding the suitable method (s) to adopt for non-native speakers of English. In the first phase, English for General Purposes (EGP) was dominating the process of teaching and learning. In EGP, students are exposed to studying the grammatical rules that govern the use of the English language. Moreover, the language is studied as an object in itself, meaning that learners give much importance to the manner they can improve their level of linguistic competence with the concentration on the four learning skills (listening, speaking, reading, and writing) rather than what can be done with the language in the reality of the learners. In the second phase, there has been a shift from what is general to what is specific in the process of teaching and learning. In this realm, educationalists think of teaching ESP, promoting the development of specific skills to facilitate communication in different special environments. Thus, the implementation of ESP aims at integrating students in the real life they need English for to attain their individual goals.

To debate the English language necessitates its great importance not only as a language of communication but as a medium and a tool for the entrance into a world of specialization in different domains such as tourism, business, law, computer studies and the list goes on. Furthermore, language in the field of learning and teaching becomes a means of satisfaction in the sense that the language no longer remains static but active among learners who are exposed to different inputs/skills that enable them to satisfy their needs.

For the sake of precision, the concern here is with two disciplines in the field of Applied Linguistics, mainly in ELT: EGP where the major focus is general rather than specified; while in ESP, language is more technical than the first. So, scholars have tackled this issue by being either discarded or overlapped. In the ensuing lines, more attention is given to the historical background of EGP and ESP.

It is obvious that the numerous developments in the teaching of English as a second or a foreign language have their origins from the expanding awareness of the nature and process of language learning in general, and the manner in which the learner acquires a language in a specific context. This goes back to the emergence of some theoretical linguistics like psycholinguistics and sociolinguistics for they are considered as the most relevant branches to language learning, which is viewed as a facilitating ability to communicate in various situations.

As a matter of fact, the English language has gained great importance, especially during the flourishing era of globalization. English gets at the top of the hierarchy of many languages thanks to the growth of technology, international trade, and economies. In the same respect, there has been an influence on the methods used for instructing learners. There is a shift from what is general to what is specific, from what is theoretical to what is practical so as to satisfy not only the learners' needs but the market needs as well.

The main concern here is to react to the following question: "Are ESP methodology and course design used in the same way as they are used in EGP context?" The path to an attempt to find an answer goes through many steps in the present study, beginning with an overview of ESP, a brief historical background, major characteristics, methodology and course design, and a synthesis of ESP.

2. Review of Literature

In theory, the concept of ESP is at the core of bulky research in ELT. Allen and Widdowson (1974) claim that

> "A need has arisen to specify the aims of English learning more precisely as the language has increasingly been required to take on an auxiliary role at the tertiary level of education. English teaching has been called upon to provide students with the basic ability to use the language to receive and (to a lesser degree) to convey information associated with specialist studies" (p. 67).

This shows that the growing interest in teaching English as a foreign language (TEFL) makes it necessary to help students to cope with the technical skills their studies dictate. ESP course intends to a smooth facility for learners not to develop their grammar orientation but to reach a certain level of professional and academic learning at college or university in fields like science, engineering, commerce, law, medicine, and technology. Allen and Widdowson (1974) add that "The general English course is intended to cover 'an elementary syllabus' as distinct from the concern of English for special purposes with an 'intermediate and advanced syllabus'" (p. 67). In such a case, the authors declare that EGP occurs in the first stage of learning, while ESP is on the second stage where learning of the language is more highly developed in the sense that there is no focus on the proficiency of the language, but on the needs the language can bring to the targeted learners.

ESP as a concept is more concerned with adult learners. In this sense, the learner acquires abilities that make him/her shift from "restricted" codes in which language proficiency is devoted to "elaborated" codes which provide learners with multiplicity in feedback (Bernstein, 1964). Bhatia (1979) concludes that "ESP is largely an exercise in acquiring practical control of a register-specific lexicon" (p.68). In other words, ESP necessitates the knowledge of specific jargon that contributes to learners' competence in a more practical area of study. Moreover, Bhatia (1979) adds that "ESP is a language variety in itself with specific rules governing its usage" (p.68). From the practical side of language, ESP utilizes the scientific side of the language for the sake of communicating purposively. Thus, the specific lexical items in a particular field focus on integrating the rules of grammar with communicative properties of the language.

2.1. On Defining ESP

ESP has gradually developed to be an important area of interest for those who are concerned with the activities of the discipline it serves. There are many fields of interest with various activities which require special linguistic competence such as technical English, scientific English, medical English, English for law, English for business, English for political affairs, and English for tourism.

Wright (1992) states that "ESP is, basically, language learning which has its focus on all aspects of language pertaining to a particular field of human activity, while taking into account the time constraints imposed by learners". Orr (1998) goes further on clarifying the line of demarcation between ESP and EAP stating that "English for Specific Purposes (ESP) is research and instruction that builds on EGP and is designed to prepare students or working adults for the English used in specific disciplines, vocations, or professions to accomplish specific purposes". It is obvious that ESP context must be preceded by a considerable background of general English. As it has been argued, ESP is associated with mature learners because it has a strong relationship with specialization in different fields of concern for an advanced age.

Although ESP is a controversial issue, consequently, there is much misinterpretation concerning the exact definition of ESP. Moreover, there is a hot debate whether or not English for Academic Purposes (EAP) could be considered part of ESP in general. Some scholars described ESP as simply being the teaching of English for any purpose that could be specified.

Mackay and Mountford (1978) define ESP as the teaching of English for a "clearly utilitarian purpose". The purpose they refer to is defined by the needs of the learners, which could be effectively academic, occupational, or scientific. These needs in turn determine the content of the ESP curriculum to be taught and learned. Mackay and Mountford also define ESP and the "*special language"* that takes place in definite settings by certain contributors. They claim that those participants are usually mature. Their focus is on adults who are usually *"highly conscious"* of the reasons to attain English proficiency in the very field of their specialization. Unavoidably, adults make use of the specialized language in authentic situations, because the activities of their specialization require the use of appropriate ESP (p.2).

In the same context, Dudley – Evans (1998) define ESP in terms of 'absolute' and 'variable' characteristics.

Absolute Characteristics

1) ESP is defined to meet specific needs of the learners.
2) ESP makes use of underlying methodology and activities of the discipline it serves.
3) ESP is centered on the language appropriate to these activities in terms of grammar, lexis, register, study skills, discourse and genre.

Variable Characteristics

1) ESP may be related to or designed for specific disciplines.
2) ESP may use, in specific teaching situations, a different methodology from that of General English.
3) ESP is likely to be designed for adult learners, either at a tertiary level institution or in a professional work situation. It could, however, be for learners at secondary school level.
4) ESP is generally designed for intermediate or advanced students.
5) Most ESP courses assume some basic knowledge of the language systems (p.5).

Apparently, Dudley-Evans has significantly improved ESP by including more variable characteristics "in contrast with 'General English'" (Johns et al., 1991: 298). Bearing in mind all the definitions mentioned, Hutchinson et al. (1987) state that, "ESP is an approach to language teaching in which all decisions as to content and method are based on the learner's reason for learning". To this end, there is always a reason or a goal for learners to achieve, which is associated with the 'what' and the 'how' to do it (p.19).

2.2 Needs Analysis/ Assessment

Before delving into needs analysis (NA) and its types, it is compulsory to stop at the term 'needs'. Abraham Maslow (1968, 1970) states that there are two dissimilar categories of

needs: *deficiency* (or maintenance) *needs* and *being* (or growth) *needs*. The first category is composed of four levels:
1) Basic physiological needs;
2) Need for safety and security;
3) Need for interpersonal closeness;
4) Need for self-esteem (p.64).

The cited needs above are the founders of the personality and the balance of the person's psychology and biology, including the physiological requirements such as "food, water, sleep, and the absence of pain" "the needs for security, belonging, and self-esteem". Maslow puts a condition that is in case these needs are not met, it becomes hard for any person to fulfill the other needs on the hierarchy. Thus, children who are insecure or hungry and have low self-esteem cannot concentrate and are unable to give complete attention in the classroom.

The second category of needs mentioned by Abraham Maslow is *being needs*. The latter are embodied in the other three levels on Maslow's pyramid:
1) Cognitive needs;
2) Aesthetic needs;
3) And Self-Actualization (p.64).

These levels have their great share in the accomplishment of the individual's "cognitive and aesthetic development and the attainment of self-actualization (realizing one's potential)" (Maslow, 1968: p.64). So if the first four levels are not satisfied, the second three levels will not be achieved. The implication of Maslow's significant needs is that they help detect children who have difficulties in the learning process at school as their basic needs are not met either at home or at school.

Since Maslow's ideas are rightfully concerned with the individual learner, this coincides with the ESP approach that is strongly based on the Needs Analysis (NA). NA has come to the surface as the result of the shift in language teaching and learning from the teacher to the learner. The latter is given priority in order to achieve an effective learning. Therefore, the focus on the learners' needs make it possible for language teachers and other practitioners like syllabus designers to get information about the learners' goals.

Teachers of English as a foreign language should be conscious of the value of the needs analyses in ESP. To accumulate some information that concern the learning needs of the students, to define the purpose of the targeted courses, and determine the suitable content needs analysis is immediately needed. So, the determination of the content has its point of departure in drawing an analysis of the targeted group of students. Moreover, to serve the interests of the group is strongly based on taking needs analysis into a significant consideration so as to agree upon a specific course (Harrison, 1996: 24-26).

2.3. EGP and ESP Course Design

In his article "*ESP at the Tertiary Level: Current Situation, Application and Expectation"*, AbdulMahmoud Idrees Ibrahim (2009) states that it is a must to

> "ask whether your students will use English to pass the exam as a university requirement or in workforce after graduation. Absolutely, in this case our intention is to prepare learners for the future not for passing exams, because we rely on the results of the need analysis, which we have to execute before designing the ESP course. ESP needs analysis positions a solid foundation for a stable ESP syllabus. Since needs analysis have been run for the targeted group to collect data about their learning needs then the process of core courses designation will take place" (p. 200-201).

For the sake of elaboration, designing a course for any ESP system necessitates defining the objectives of the course which must be reliable and motivating so that students can meet their needs. Therefore, needs analysis is the elected method to investigate the target needs of the learners. It is also the tool via which the teacher and the students put the teaching/learning process on the right path to have the maximum of the course needs satisfied.

Concerning the goals of learning ESP, Xenodohidis, (2002) confirms that "the goals should be realistic; otherwise the students would be de-motivated". In accordance with an ESP course for employees at the American University of Beirut, Shaaban (2005) explains that the core course progress and its content focus on a 'common core' for the learners from a variety of workplaces. This content holds "basic social English communication, following directions, giving instructions, along with specialized terminologies and expressions" (p.202). Developing a course for health science, Gatehouse (2001) also integrates General English language content and acquisition skills for language.

It can be concluded that General English language content, grammar, functions and skills acquisition are the "dominant aspects" in any core course plan, while "terminologies and specific functions of a particular content are integrated in the course to meet the learners' specific needs". Hutchinson and Waters (1987) compare ESP to the leaves and branches of a tree to a language tree. Without any roots to absorb water, leaves or branches would not grow up. Therefore, AbdulMahmoud Idrees Ibrahim (2009) says that "the leaves and branches ESP language will not flourish if they lack the essential language support such as general English grammar, lexis and functions" (p.202-3). Thus, there is a claim that ESP originates from the basics of EGP and the functional side of English. For instance, grammar and vocabulary contribute to the prosperity of ESP.

Gilmour and Marshal (1993) argue that the ESP learners' difficulties are not attributed to the lack of technical terminology but mostly due to the shortage of general English vocabulary. These essential items must be included in the prearranged course for the ESP learners by referring to the field of specialization. Moreover, Gilmour and Marshal (1993) points out that

> "In designing any ESP course, attention should be paid to the four learning styles, using a range of combinations of knowledge, reflection, conceptualization, and experimentation. Different experiential elements should be used in the

classroom, such as sound, music, visuals, movement, experience, and even talking" (p. 203).

To put it differently, course design in ESP is strongly rooted and fed from EGP principles. So, both disciplines are intertwined, fused, but cannot be disassociated.

The Role of ESP Practitioner

It is the role of ESP practitioner as course designer and materials provider that should be also taken into consideration. The idea is based on David Nunan's (1987) observations about the teacher as a curriculum developer. It seems evident that if teachers are to be the ones responsible for developing the curriculum, they need "the time, the skills and the support to do so" (p.75). Support may include curriculum models and guidelines and may include support from individuals acting in a curriculum advisory position. The condition of such support cannot be removed and must not be seen in isolation from the curriculum (Nunan, 1987). Thus, Nunan recognizes that issues of time, skills, and support are keys for the teachers who are faced with the real task of developing the curricula.

Carter (1983) identifies some of the characteristics of ESP courses. He states that there are three features common to ESP courses: a) authentic material, b) purpose-related orientation, and c) self-direction (p.6). This coincides with Dudley-Evans (1997) claims that ESP should be offered at an intermediate or advanced level and use of authentic learning materials is practical. Closer examination of ESP materials will follow; suffice it to say at this stage that the use of authentic content materials are indeed features of ESP, particularly in self-directed study and research tasks. The student evaluation is based on the fact that the learners are required to investigate and present an area of interest. The students should be encouraged to conduct research using a variety of different resources, including the Internet.

The second characteristic is concerned with purpose-related orientation which refers to the simulation of communicative tasks required for the target setting. Carter (1983) cites student simulation of a conference, involving the preparation of papers, reading, note-taking, and writing.

Finally, self-direction is a characteristic of ESP courses in that the "point of including self-direction (...) is that ESP is concerned with turning learners into users" (Carter, 1983: 134). In order for self-direction to occur, the learners must have a certain degree of freedom to decide when, what, and how they will study. Carter (1983) adds that there must be a systematic attempt by teachers to teach the learners how to learn by teaching them about learning strategies.

2.5. ESP Methodology

Starting from the conviction that the syllabus used in language teaching has been guided by methods which address the psychological needs of individual learners, there must be a need to mention the kinds of method which may suit EGP or ESP classes. For the same purpose when dealing with method approach, Breen (1984:47) proposes that the relation between a learner and a teacher in the classroom is connected by negotiation between the two practitioners. For example, students' needs are taken into account, and they feel free to learn any kind of syllabus they wish and see appropriate.

As far as ESP is concerned, Robinson (1991) advocates that there is an approach in the learning process which is used in the students' specialist disciplines. Widdowson (1981) claims that ESP is taught through using the methodology of students' target discipline. To put differently, the pedagogy needed is oriented towards the inner of the student. Here comes Mumby's concept of communication needs that are cited in Mackay and Palmer (1981:32). The profile consists of nine parameters, listed as follows:

1) Personal: they are the culturally significant information about the individual, such as the language background.
2) Purpose: it is the occupational or educational objective for which the target language is required.
3) Setting: it is the physical and the psychological setting in which the target language is required.
4) Interaction variables: such as the role relationships to be involved in the target language use.
5) Medium, mode, and channel: they are the communication means.
6) Dialects: Information on dialects to be utilized.
7) Target level: it is the level of competence required in the target language.
8) Anticipated communicative events: Micro- and Macro-activities.
9) Key: it is the specific manner in which communication is actually carried out.

This shows that using the communicative methodology in the learning process will be appropriate for the needs of students to be carried out. This also leads to mention that there are two main approaches in designing courses: the top-down approach and the down-top approach. The first is associated with EGP in which the teacher is the source of information and is in the center of the teaching/learning process, whereas in the second, which is associated with ESP, the learner is given priority in the design. In such a case, the learners are no longer passive but active and aware of designing the course needs in collaboration with their instructor.

Since ESP requires comprehensive needs analysis and because the learning-centered curriculum is not static, it is very hard for any practitioner to be in a position to identify the perfect balance of the abilities for any particular group of learners. In reality, responsibility is partly assumed by the instructors who are in the best position to identify constant changing learner needs and who are in the best position to ensure that all students receive a balanced language. But for the methodology, it is sometimes difficult to declare that a certain method goes with only one of the EGP or ESP as they may overlap mostly, which leads to the eclectic approach in the materials selection.

Project-Based Learning

After having taken decisions of the needs analysis and course design, it is the teacher's responsibility to choose the suitable ESP methodology. Generally, task-based and project-based approaches are the commonly applicable methodologies in teaching ESP the learner is at the center of

the learning process. In this study, the focus is on the Project-Based Learning (PBL) as it has recently been mentioned in the research design. Bell (2010) states that

> "Project-Based Learning (PBL) is a student-driven, teacher-facilitated approach to learning. Learners pursue knowledge by asking questions that have piqued their natural curiosity. The genesis of a project is an inquiry. Students develop a question and are guided through research under the teacher's supervision. Discoveries are illustrated by creating a project to share with a select audience" (p. 39).

This invokes that the PBL puts the learner in the core of what is being taught (content), how it is being taught (methodology), and for what purposes it is being taught (objectives). In the same approach, both the teacher and the learners collaborate, negotiate, and draw conclusions on how to design the course so that they can achieve a certain degree of satisfaction in the field of study. For instance, in PBL, students are expected to deliver presentations in front of the whole group for the sake of finding answers to some inquiries of the same interest.

Moreover, PBL can sustain learning and formulate a strong pillar of the curriculum. This makes Bell (2010) add that "PBL is a key strategy for creating independent thinkers and learners" (p. 39), meaning that PBL enables learners to develop their skills and makes them creative. Thus, PBL converges with autonomous learning in the sense that learners are not wholly dependent on the teacher, but they are inspired by the creative thought. In brief, students in PBL acquire how to be selective in the information they are in need of, which boosts their critical thinking. In the same respect, the same scholar backs up the idea by indicating that "PBL is an approach to instruction that teaches curriculum concepts through a project. The project is guided by an inquiry question that drives the research and allows students to apply their acquired knowledge" (p. 40). This means that the student's project is in the heart of the operation. To set the project requires coaching the students and guiding them to find relevant answers to the area of inquiry.

Another phase of PBL, namely the project, is when students evaluate themselves by themselves. Evaluation includes the process of learning and the degree of achievement of the students' social communication. In the same realm, Bell (2010) says that "students reflect on their communication skills, if they felt they listened well to other students' ideas, and if they believed their own opinions were heard" (p. 41). In other words, self-evaluation focuses on understanding their capacities to interact. This strengthens their active listening and questioning their degree of comprehensibility. In short, learning via projects is based on investing in the employment of the learner's critical thinking, which enhances self-awareness for students to solve the facing problems in the learning process. To this end, PBL motivates learners' engagement in dealing with tangible and real tasks, which develop their academic skills (Ibid. 42).

For Thomas (2000),

> "Project-based learning (PBL) is a model that organizes learning around projects. The projects are complex tasks based on challenging questions or problems that involve students in design, problem-solving, decision-making, and/or investigative activities, that give students opportunities to work relatively autonomously over extended periods of time, and culminate in realistic products or presentations" (p.3-4).

The intention of Thomas (2000) connotes that when students are given tasks, more opportunities to collaborate, to solve problems, and to make decisions are provided to students to learn independently. In addition to that, presentation delivery can have realistic outcomes and efficient tool to decipher the complexity of the learning tasks, which helps learners be successful in problem solving.

Additionally, Patton (2012) states that "Project-based learning refers to students designing, planning, and carrying out an extended project that produces a publicly-exhibited output such as a product, publication, or presentation" (p. 4). For Patton, PBL provides situations where the learner is no longer passive, but an active component who takes part in course scheming and development. In such a case, the learner shifts from consumption to production in the sense that presenting a topic in front of the audience boosts the learner's creativity, which is considered a plus to learning autonomously. In brief, PBL is strongly related to the social constructivism in which learners do their best to look for and build their own knowledge with the focus on the communicative skills. For the same goal, Thomas (2012) sets five conditions to PBL:

1) PBL projects are central, not peripheral to the curriculum.
2) PBL projects are focused on questions or problems that "drive" students to encounter (and struggle with) the central concepts and principles of a discipline.
3) Projects involve students in a constructive investigation.
4) Projects are student-driven to some significant degree.
5) Projects are realistic, not school-like. (p. 5)

The above criteria set by Thomas indicate that the learner is put in the center of PBL. First of all, the set of courses are based on projects which are fundamental in the process of teaching/learning. Second, the learner is expected to find solutions to complex questions. Third, the learner is included in the practical and productive examination of the situation-problem. Fourth, the aim of projects is noteworthy to reach the learners' objectives from the course. The last principle in PBL has to with authentic projects which may help learners adapt with real challenges.

3. Methodology

3.1. The research hypotheses

Basing on the review of the literature, four research hypotheses for the quantitative approach have been set as follows:

H1: There is a predictive link between gender perceptions and ESP course.

H2: There is a significant relationship between ESP course design and students' satisfaction.

H3: There is a predictive link between the adopted course design and student needs' satisfaction of language skills in ESP.

H4: The PBL as an ESP approach is significantly effective for ESP students to learn.

The hypotheses are set to see, in the first stage, if there is an effect of the way males and females' perceptions towards designing the course of ESP- Does the way the ESP course is designed affects students' satisfaction? In the second stage, the hypothesis tends to investigate the assumption that the course design satisfies the needs of ESP students- Does the way the ESP course is designed affects students' satisfaction? Then, hypothesis three is intended to see if the course designed boosts the language skills in ESP- Does the course designed boost the language skills needed for ESP students? In the last stage, the hypothesis tries to investigate if the PBL is an effective approach for students to learn- Does the adopted teaching/learning method satisfy the needs of ESP students?

The research questions

Two research questions have been generated for the qualitative approach to investigate the effect of students' perception of course design in ESP. Then, they try to find students' satisfaction in ESP course with respect to course design. Moreover, the research questions are devoted to the teacher's knowledge and teaching method (PBL implementation) and their effects on the course satisfaction.

1) Does the teacher take into consideration the ESP students needs in course design?
2) Is the implementation of PBL in teaching ESP course effective for needs satisfaction?

3.2. The research design

In this study, there are three variables: gender, course design, and project-based learning as independent variables and ESP satisfaction and perception as dependent variables. The investigation of the variables is based on cross-tabulating the independent variables with their effects on the dependent one. In other words, the study tries to see if gender perceptions of course design satisfy the needs of ESP students. Later, it tries to find if the adoption of project-based learning approach in teaching ESP course is efficient in learning ESP.

In this study, a case study research design is adopted. The intention behind adopting the case study is to deal with one group of students who have in common the same educational background and who were pre-selected to continue their LP degree (Professional Degree) in Computer Studies. In this study, SPSS program (version. 20.0) is used to test the reliability of the items consistency, and to find the frequencies, the mean score and standard deviation of the items, and cross-tabulation. Both descriptive and inferential statistics were used to test the suggested hypotheses and to answer the research questions to attain the objectives set for the present study.

3.3. The Research Method

The research method used to accomplish the objectives, to test the hypotheses, and answer the research questions set for this study is the mixed-method approach. A quantitative approach was adopted, using the questionnaire, to collect data from the respondents who belong to GI Department (Génie Informatique) in ESTM, Moulay Ismail University, Morocco. Collecting data quantitatively would help the researcher gather the maximum of information on the respondents and would entail the unbiased position of the researcher. The qualitative approach was opted for interviewing the ESP teacher of the License Professionnelle (LP) students in the same institution.

3.4. Participants

Since the research topic is related to teaching ESP course, the sample in this study is in ESTM that belongs to Moulay Ismail University in Morocco. Students belonging to The LP option have been targeted. The questionnaire was addressed to 29 respondents- males and females. The ESP teacher also participated in responding to the interview questions to obtain in-depth information, using the semi-structured strategy. The convenient sampling strategy was adopted due to the availability of the respondents and the easy access to the school.

3.5. About the course design

The ESP course for LP students in ESTM is composed of 26 hours as set by the guidelines. It is distributed in six sessions. In each session, students are expected to study four hours per week. The students used to have a break of 10 to 15 minutes after studying two hours. The first two-hours were devoted to the teacher, while the after break two hours was devoted to students' presentations. Thus, the teacher gave handouts of some reading materials, focusing on theoretical communication issues, verbal, non-verbal, formal writings etc. where students should do some practices. For students, after presenting in the classroom, the teacher asked them to write a report on each presentation and read it in front of their colleagues. Presenters take charge of turn-taking during the discussion, giving chance to all students to ask, add, and comment on the content of the presentation with respect to the time limit. Finally, two hours from twenty-six were left to the final exam because the department is in need of students' grades. Grades were based on the written exam and the projects presented during the course as well as students' participation and communication skills.

3.6. The first meeting interview

For the sake of analyzing the ESP students' needs to design the course from the first meeting, the teacher asked students to introduce themselves in front of other students. The teacher's intention was to know about the language level of the students as a pre-requisite to decide about the skills to be developed. Then, the teacher conducted an interview with all the ESP students in forms of questions and suggestions of the course content. For the same goal, the teacher tried to gather the maximum of guiding information for the course design. Having the objectives in the teacher's mind, here are some of the questions implemented in the needs analysis:

1- Would you please introduce yourselves in front of your classmates (in public)?
2- What do you want to study in this course?
3- How do you want to study?

4- How do you see projects/presentations?
5- Would you like to present using the computer or other ways?
6- What about learning the language related to the job market?
7- Do you need the language you use in your field of specialization?

The objectives of the first meeting interview were to find out about the students' needs to design the content and the methodology upon which the course should be based so as to assess their degree of satisfaction. In the first stage, students were surprised to see the teacher asking them such questions as if the teacher did not know what to teach. Later, the negotiation process through the interview done by the teacher made learners aware of the ESP course and motivated them to share their thought, debating diverse topics, and suggesting what to be taught to match their needs with the course. Moreover, the first meeting interview made students think about the usage of the English language in connection to the job market.

In the second phase, the findings of the needs analysis showed that despite the ESP course, students differ in studying the EGP skills; some of them would like to study grammar rules, while others' awareness made them resort to the ESP orientation. Moreover, the teacher tried to find common links between those needs differences by incorporating the four skills (listening, speaking, reading, and writing) throughout the delivered presentations. Moreover, all students appreciated presenting via the computer. Their decision was based on their field of study – computer hard and software studies. In such a case, their expertise in the same field helped them make decisions in the course, which proved the learning-centered approach in which the focus was on the learner who became a partner in the selection of materials.

4. The Results

This section is meant to portray the obtained results from the quantitative approach, specifically the questionnaires which have been coded and analyzed through the SPSS as a data analysis tool.

The reliability test of the questionnaire

Reliability Statistics	
Cronbach's Alpha	Number of Items
.896	25

The table above shows the **Cronbach's Alpha *(Reliability Coefficient)***, which is a test used to assess the consistency of the items of the questionnaire; that is to say, whether the chosen items are testable or not. Mallery (2003) provides the following rules of thumb: "≥.9 – Excellent, ≥ .8 – Good, ≥.7 – Acceptable, ≥.6 – Questionable, ≥.5 – Poor and ≤ .5 – Unacceptable" (p.231). The consistency of the 25 items of the questionnaire of this study match the criterion for adequate internal consistency that is set by Mallery, since the alpha coefficient is **α= .89)**, which is considered as very good.

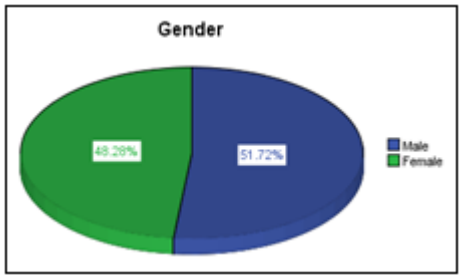

Figure: Respondents' distribution by Gender

The pie-chart represents the distribution of male and female respondents. It shows the following results. Regarding Male respondents, (N=29, 51.72%), while Female ones (N=29, 48, 28).

H1: There is a predictive link between gender perceptions and ESP course.

Gender * Presentations helped me develop all of them Crosstabulation					
			Presentations helped me develop all of them		Total
			Yes	No	
Gender	Male	Count	8	7	15
		% within Gender	53.3%	46.7%	100.0%
		% within Presentations helped me develop all of them	50.0%	53.8%	51.7%
		% of Total	27.6%	24.1%	51.7%
	Female	Count	8	6	14
		% within Gender	57.1%	42.9%	100.0%
		% within Presentations helped me develop all of them	50.0%	46.2%	48.3%
		% of Total	27.6%	20.7%	48.3%
Total		Count	16	13	29
		% within Gender	55.2%	44.8%	100.0%
		% within Presentations helped me develop all of them	100.0%	100.0%	100.0%
		% of Total	55.2%	44.8%	100.0%

The contingency table shows the results obtained from the cross-tabulation of gender and the role of presentations in developing the students' four learning skills (listening, speaking, reading, and writing). The test is done to assess the existing relationship between the gender perceptions and the ESP course. The crosstab between the usefulness of using presentations in developing all the four learning skills and gender shows that male and female scores are the same regarding the 'yes' option, indicating that **27.59%** for both male and female respondents develop their language learning skills. But **20.69%** of female respondents and **24.14%** of male ones opted for the 'No' option, meaning that presentations are slightly not helpful for females more than males. This indicates that females are, to some extent, more interested in learning via projects.

Chi-Square Test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	**.042**[a]	**1**	**.837**
Continuity Correction[b]	**.000**	**1**	**1.000**
Likelihood Ratio	**.043**	**1**	**.837**
Fisher's Exact Test			
Linear-by-Linear Association	**.041**	**1**	**.839**
N of Valid Cases	**29**		

The above Chi-square test is conducted to test the significant relationship between the gender perceptions towards the ESP course. The results show that the p-value (**p= .83**) is higher than **.05**, meaning that gender attitudes' factor is not a significant determinant in relation to the ESP course design. Thus, the first hypothesis- There is a predictive link between gender perceptions and ESP course- is retained.

H2: There is a significant relationship between ESP course design and students' satisfaction.

Do you think that the provided English course content and activities have a relationship with your descipline? * I learnt how to speak with less problems of language Crosstabulation

			I learnt how to speak with less problems of language				Total
			Strongly agree	Agree	Undecided	Disagree	
Do you think that the provided English course content and activities have a relationship with your descipline?	Yes	Count	11	12	3	1	27
		% within Do you think that the provided English course content and activities have a relationship with your descipline?	40.7%	44.4%	11.1%	3.7%	100.0%
		% within I learnt how to speak with less problems of language	100.0%	100.0%	60.0%	100.0%	93.1%
		% of Total	37.9%	41.4%	10.3%	3.4%	93.1%
	No	Count	0	0	2	0	2
		% within Do you think that the provided English course content and activities have a relationship with your descipline?	0.0%	0.0%	100.0%	0.0%	100.0%
		% within I learnt how to speak with less problems of language	0.0%	0.0%	40.0%	0.0%	6.9%
		% of Total	0.0%	0.0%	6.9%	0.0%	6.9%
Total		Count	11	12	5	1	29
		% within Do you think that the provided English course content and activities have a relationship with your descipline?	37.9%	41.4%	17.2%	3.4%	100.0%
		% within I learnt how to speak with less problems of language	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	37.9%	41.4%	17.2%	3.4%	100.0%

The contingency table shows the results obtained from the cross-tabulation of the ESP course design and students' satisfaction. The test is done to assess the existing relationship between the ESP course design and students' satisfaction. The correlation between the two items "Do you think that the provided English course content and activities have a relationship with your discipline?" and "I learnt how to speak with less problems of language" shows that **79.31%**, aggregating 'strongly agree with **37.93%**' and 'agree with **41.38%**' scales (**32** out of **n= 29**) agreed upon the benefits of the course content and activities in their discipline and who learnt how to develop their speaking skill. This implies that the ESP instruction gives importance to the communicative skill because students can overcome the social barriers hindering professionalism in the job market, for instance.

Chi-Square Test

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	**30.793**[a]	**9**	**.000**
Likelihood Ratio	**25.944**	**9**	**.002**
Linear-by-Linear Association	**15.773**	**1**	**.000**
N of Valid Cases	**29**		

The above Chi-square test is conducted to test the significant relationship between the ESP course design and students' satisfaction. The results show that the *p*-value (***p*= .000**) is less than **.05**, meaning that there is a convincing significant association between the ESP course design and students' satisfaction. Thus, the second hypothesis- There is a significant relationship between ESP course design and students' satisfaction- is rejected.

H3: There is a predictive link between the adopted course design and student needs' satisfaction of language skills in ESP.

Who desings the course? * writing report for each presentation helped me develop my writing skill Crosstabulation						
			writing report for each presentation helped me develop my writing skill			Total
			Strongly agree	Agree	Undecided	
Who desings the course?	Teacher	Count	2	3	2	7
		% within Who desings the course?	28.6%	42.9%	28.6%	100.0%
		% within writing report for each presentation helped me develop my writing skill	11.8%	33.3%	66.7%	24.1%
		% of Total	6.9%	10.3%	6.9%	24.1%
	Both of them	Count	15	6	0	21
		% within Who desings the course?	71.4%	28.6%	0.0%	100.0%
		% within writing report for each presentation helped me develop my writing skill	88.2%	66.7%	0.0%	72.4%
		% of Total	51.7%	20.7%	0.0%	72.4%
	I do not know	Count	0	0	1	1
		% within Who desings the course?	0.0%	0.0%	100.0%	100.0%
		% within writing report for each presentation helped me develop my writing skill	0.0%	0.0%	33.3%	3.4%
		% of Total	0.0%	0.0%	3.4%	3.4%
Total		Count	17	9	3	29
		% within Who desings the course?	58.6%	31.0%	10.3%	100.0%
		% within writing report for each presentation helped me develop my writing skill	100.0%	100.0%	100.0%	100.0%
		% of Total	58.6%	31.0%	10.3%	100.0%

The contingency table shows the results obtained from the cross-tabulation of the ESP course design and students' needs satisfaction of the language skills in ESP. The test is done to assess whether the ESP course design satisfies the students' needs of language skills in ESP. The relationship between the two items "Who designs the course?" and "Writing reports for each presentation helped me develop my writing skill" shows that **72.41%** (strongly agree, **51.72%,** and agree, **20.69%**, aggregated) who claim that both the teacher and students collaborate in designing their ESP course. This means that the process of needs analysis is effective to motivate and put the students in the center of the learning operation, which boosts their self-esteem to ameliorate their writing skill. This indicates that the students' contribution to designing their own ESP course makes them achieve a certain degree of satisfaction by being inspired by the responsibility they assume in their self-awareness.

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	**15.109**[a]	**4**	**.004**
Likelihood Ratio	**12.599**	**4**	**.013**
Linear-by-Linear Association	**2.540**	**1**	**.111**
N of Valid Cases	**29**		

The above Chi-square test is conducted to test the significant relationship between the course designer and students' development of the language skills. The results show that the p-value (***p*= .004**) is lower than **.05**, meaning that there is a significant relationship between the ESP course designer and students' needs satisfaction of the language skills in ESP. Thus, the third hypothesis- The course design is expected to satisfy the students' needs of language skills in ESP- is rejected.

H4: The PBL as an ESP approach is significantly effective for students to learn.

Are presentations good strategies for you to learn * Presentations helped me develop all of them Crosstabulation					
			Presentations helped me develop all of them		Total
			Yes	No	
Are presentations good strategies for you to learn	Strongly agree	Count	7	4	11
		% within Are presentations good strategies for you to learn	63.6%	36.4%	100.0%
		% within Presentations helped me develop all of them	43.8%	30.8%	37.9%
		% of Total	24.1%	13.8%	37.9%
	Agree	Count	7	6	13
		% within Are presentations good strategies for you to learn	53.8%	46.2%	100.0%
		% within Presentations helped me develop all of them	43.8%	46.2%	44.8%
		% of Total	24.1%	20.7%	44.8%
	Undecided	Count	2	3	5
		% within Are presentations good strategies for you to learn	40.0%	60.0%	100.0%
		% within Presentations helped me develop all of them	12.5%	23.1%	17.2%
		% of Total	6.9%	10.3%	17.2%
Total		Count	16	13	29
		% within Are presentations good strategies for you to learn	55.2%	44.8%	100.0%
		% within Presentations helped me develop all of them	100.0%	100.0%	100.0%
		% of Total	55.2%	44.8%	100.0%

The contingency table shows the results obtained from the cross-tabulation of the PBL ad its effectiveness for students to learn. The relationship between the two items "Presentations helped me develop all of the skills (listening, speaking, reading, writing)?" and "Are presentations good strategies for you to learn" shows that **48.2 %** (strongly agree, **24.1%,** and agree, **24.1%**, aggregated) who claim the use of presentations help them learn in their ESP course. This means that the process PBL is effective, since it boosts their centeredness and autonomous learning. This indicates that the students' active participation via presentation delivery is of great benefit for ESP students to learn.

Chi-Square Test			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	**10.509**[a]	**4**	**.033**
Likelihood Ratio	**12.400**	**4**	**.015**
Linear-by-Linear Association	**3.006**	**1**	**.083**
N of Valid Cases	**29**		

The above Chi-square test is conducted to test the significant relationship between PBL and its effectiveness for ESP students to learn. The results show that the p-value (***p*= .03**) is lower than **.05**, meaning that there is a significant relationship between PBL and its effectiveness for ESP students to learn. Thus, the third hypothesis-The PBL as an ESP approach is significantly effective for students to learn-is rejected.

4.1. Finding of the interview

The interviewed teacher is an MA holder who has had some training on ESP course design and methodology in the master program in Applied Linguistics. The questions addressed to him were intended to collect data on the procedure he followed in needs analysis, the extent to which he takes into account his students' needs and the suitable method of teaching he adopted to satisfy their needs through the course designed. Starting from the experience the teacher has accumulated in ESP, the teacher conducted an interview with his students in the first meeting so that he could formulate an overall image on the students' needs he was supposed to satisfy. Later on, the teacher declared that he always took into consideration the needs simply because they are in the core of the ESP course.

Moreover, in terms of relevance, the teacher saw that there was an important association between what had been designed for the ESP course and the level of students related to the EGP skills. The teacher added that these skills were confined to listening, speaking, reading, writing, and communication. All of them should be given priority to achieve a certain degree of satisfaction in ESP course. What can be inferred is that the teacher saw collaboration with students more effective and satisfying for goals achievement.

According to the teacher, the teaching/learning approaches adopted in ESP courses are classified in order of importance: 1- learner-centered approach; 2- task-based approach; 3- project-based approach; and 4- content-based approach. This means that the teacher is well-equipped with CLT (Communicative Language Teaching) method, where the learner is put in the center of the learning process. Besides, giving tasks to students boosts their independent learning and acquire the communicative skills. Furthermore, presenting the given task reinforces the language learning skills because doing research on a certain topic, writing it, reading it, listening to others' feedback enable students not only to develop their skills but use them authentically. Thus, the teacher and students' interest is in the 'how' rather than in the 'what', which is the content.

All in all, the role of the teacher as a practitioner in ESP course is prominent in the sense that the type of the course has to do with adult learners. This implies that the teacher's duty is to try to integrate learners in their field of specialization. Moreover, the teacher acts in partnership with the learners to find solutions to authentic situations exploiting their linguistic and communicative competences. An ESP authentic teacher is the one who makes his/her learners learn how to learn through the strategies he/she uses during the ESP course. In brief, students' performance is not only limited to the classroom environment but to the outside reality as well.

5. Discussion of the Results

The study tries to investigate ESP course design for computer science students and their perceptions towards the ESP course design as well as the effectiveness of project-based learning as an adopted teaching approach for students' needs satisfaction. The focus was on LP students in computer studies in ESTM in Moulay Ismail University, Morocco. The main concern in this study was to see whether there is a relationship between gender perceptions and ESP course design. Moreover, the study also aims at investigating the importance of needs analysis in drawing students' satisfaction, and then the study seeks for the effectiveness of project-based learning in ESP course in the Moroccan context.

With respect to the generated results, the following section is dedicated to discuss and interpret the findings of the quantitative approach on the basis of the research questions and hypotheses set for the present study.

After having cross-tabulated the first hypothesis - There is a predictive link between gender perceptions and ESP course - the results showed that the p-value (***p*= .83**) is higher than **.05**, which means that the gender variable does not affect the ESP course, implying that male and female students do not differ much on the ways they perceive the course design procedure. From the socio-cultural angle, the asymmetric power governing the relationship between men and women is reduced in the educational context. To put it in a different way, the pre-existing male dominance of female goes down and results in democratizing the individual attitudes towards the phenomenon under study. In brief, sex differences are fundamental criteria in syllabus deign in which both males and females should voice themselves.

Basing on the results drawn from the second hypothesis - There is a significant relationship between ESP course design and students' satisfaction - the cross-tabulation test shows that the *p*-value (***p*= .000**) is lower than **.05**, meaning

that there is a convincing significant association between the ESP course design and students' satisfaction. Thus, it can be inferred that the course design in ESP plays a very important role in the degree of satisfaction vis-à-vis the students' needs. This also implies that the collaboration of the teacher and the students in putting the ESP framework leads to satisfaction. According to the study, the first meeting interview is highly successful in the sense that both the teacher and students (the ESP community) agreed upon the main themes that match with the goal of the discipline.

Discussing the third hypothesis - The course design is expected to satisfy the students' needs of language skills in ESP - the crosstab demonstrates that the p-value (***p*= .004**) is lower than **.05**, meaning that there is a significant relationship between the ESP course designer and students' needs satisfaction of the language skills in ESP. This indicates that the four skills (listening, speaking, reading, and writing) are common in both EGP and ESP courses. In other words, adult learners need to develop their linguistic and communicative competences but in relation to the job market. This is clearly shown in the implementation of what has been learnt in the outside reality.

Deductions from the fourth hypothesis - The PBL as an ESP approach is significantly effective for students to learn – based on the chi-square test display that the p-value is **.03** which is lower than **.03**, implying that project-based learning is effective in ESP course and that there is an association between the two variables. Presentation delivery in ESP course supports the findings of hypothesis three in the sense that being linguistically and communicatively competent requires being given a task to prepare, to read about, to deliver, and to receive feedback on its content. In a nutshell, project-based learning is found to be an effective approach to assess the course designed for LP students.

For the findings of the research question number one which is associated with the teacher's interview - Does the teacher take into consideration the ESP students needs? - the outcomes from the conducted interview demonstrate that the process of needs analysis is an effective tool to motivate and put the students in the center of the learning operation, which boosts their self-esteem to ameliorate their writing skill. It can be inferred that the students' contribution to designing their own ESP course makes them achieve a certain degree of satisfaction by being inspired by the responsibility they assume in their self-awareness. Regarding the second research question which is concerned with–is the implementation of PBL in teaching ESP course effective for needs satisfaction? – the finding of this research question goes in parallel with research hypothesis three and four and research question one. In the same vein, the adopted approach satisfies the needs of his ESP students.

6. Conclusion

The present situation of ESP in ESTM at the University of Moulay Ismail in Meknes is in a challenging context where more focus on students' needs is required. In the same respect, the present study explores the process of an ESP course design starting from needs analysis, moving to methodology implementing, and arriving at the assessment stage. Moreover, the study has dealt with the effectiveness of the Project-Based Learning as a teaching/learning approach to achieve satisfaction for higher education technology students' needs. The achievement in this study is embodied in boosting students' awareness and motivation in developing an ESP course so that their needs can be taken into account. Thus, attaining the objectives set for this study, the questionnaire was addressed to students and was used as a research instrument to collect data on NA, PBL, and students' attitudes and satisfaction after having the ESP course designed. The teacher interview was conducted to gather data on the ways the ESP teacher designs, manages, and exploit his background knowledge about the course to draw a satisfying learning-centered context for the ESP learners.

References

[1] Aban T.B. (1979). ESP for Students of Science in *English Teaching Forum* (1979-1983).
[2] AbdulMahmoud Idrees Ibrahim. (2009) "ESP at the Tertiary Level: Current Situation, Application and Expectation". English Language Department, Faculty of Education. Alza'eem Alazhari University.
[3] Alen, J.P.B. and H.G. Winddowson. 1974. Teaching the communicative use of English. IRAL, 12, 1.
[4] Bell, S. (2010). Project-based learning for the 21st century: Skills for the future. *The Clearing House*, *83*(2), 39-43.
[5] Bernstein, Basil. 1964. Aspects of language and learning in the genesis of the social process. In Language in culture and society,ed. Del Hymes. New York: Harper and Row
[6] Breen, M. (1987). Learner contributions to task design. *Language learning tasks*, *7*, 23-46.
[7] Carter, D. (1983). Some propositions about ESP. The ESP Journal, 2, 131-137.
[8] Dudley-Evans, T. and St John, M. (1998). Developments in ESP: A multi-disciplinary approach. Cambridge: Cambridge University Press.
[9] Gilmour, M., Marshal, S. (1993). Lexical knowledge and reading in Papua New Guinea. English for Specific Purposes 12 (2), 145-157.
[10] Harrison, R. (1996). The training of ESP teachers in Russia. English for Specific Purposes - Russia, 2: 24-26.
[11] Hutchinson, T. and Waters, A. (1987). English for Specific Purposes: A learning-centred approach. Cambridge: Cambridge University Press.
[12] Mackay, K. and A. J. Palmer (Eds) (1981). Language for specific purposes: program design and evaluation. Rowley, Mass: Newbury House.
[13] Maslow, A. (1968). Some educational implications of the humanistic psychologies. *Harvard Educational Review*, *38*(4), 685-696.
[14] Netikšienė, N. (2006) teaching English for Specific Purposes. T. 14, Nr. 4. ISSN 1822-430X print/1822-4318 online.
[15] Nunan, D. (1987). Communicative language teaching: Making it work. *ELT journal*, *41*(2), 136-145.
[16] Orr, T. (1998). The Language Teacher. ESP for Japanese Universities: A Guide for Intelligent Reform, 22(11), URL: http://www.jalt-ublications.org/tlt/files/98/nov/orr.html.

[17] Patton, Allan. 2012. *Work That Matter: Teacher's Guide to Project Based Learning*. The Paul Hamlyn Foundation.
[18] Robinson, P. C. (1991). *ESP today: A practitioner's guide*. Hemel Hempstead: Prentice Hall.
[19] Rosenberg, M. 2004. "Never the twain shall meet", *English Teaching Professional* 11(35): 36–37.
[20] Shaaban, K. (2005). An ESP Course for Employees at the American University of Beirut, ESP World, 4 (2:10). (10 pages) http://www.esp-world.info/Articles_10/Lebanon.htm.
[21] Thomas, J.W. 2000. *A review of research on project-based learning*. Retrieved August 7 2016,from http://www.bobpearlman.org/BestPractices/PBL_ Research.pdf.
[22] Widdowson, H. G. (1981) 'English for Specific Purposes: Criteria for Course Design' In Selinker, L., Tarone, E., & Hanzeli, V. E., (Eds.) English for Academic and Technical Purposes: Studies in Honor of Louis Trimble. Rowley, Mass: Newbury House, 1-11.
[23] Wright, C. (1992) available: http://www.camlang.com/art001.cfm#1.
[24] Xenodohidis, T. H. (2002). An ESP Curriculum for Greek EFL Students of Computing: A New Approach. ESP World, Issue 2, Vol. 1 . http://www.esp-world.info/index.html.
[25] Yalden, J. (1988). *Syllabus Design: An Overview of the Theoretical Issues and Practical Implications*, Cambridge: CUP.