

Needs Analysis in ESP Context: A Case of Third Year Natural Sciences Students at ENS (Ecole Normale Supérieure) Kouba, Algiers, Algeria,

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Abstract:

Addressing learners' needs is a crucial step towards achieving better teaching/learning results. The purpose of this study is to shed light on ESP course addressed to Natural Sciences students at ENS (Ecole Normale Supérieure) Kouba, Algiers which is a Higher Teacher Training School. This study explores the circumstances under which ESP course teaching/learning process is taking place. This includes the examination of ESP course content, students' preferences, ESP course prerequisites, students' academic and/or professional needs, etc. To answer the research questions, we have opted for a qualitative descriptive research and chosen a questionnaire as a data gathering tool. The results show that most participants are interested in having an ESP course. It also shows that some of them claim that their English level does not meet ESP course prerequisites. Moreover, the majority of participants state that the current ESP course does not fulfill their academic and professional needs.

Keywords: course design, English for specific purposes, learners' needs, prerequisites, syllabus content.



1. Introduction

Being the language of technology and commerce, English has become widespread in the world in different fields including that of education. This takes place as language teaching policy usually seeks to go in parallel with economic and social demands (Hutchinson & Waters, 1987; Kirkpatrick & Hamid, 2021). As such, all countries, including Algeria, had stressed the importance of integrating English teaching at different levels. In relation to the Algerian educational system, English is taught at all levels, including the

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primary school, a decision that has been made in Juin 2022 and fosters the claim that English is imposing itself as an international language. In this respect, there has been a gradual shift towards adopting English language instead of French language (Gaidi, 2016) in order to respond to the increasing demands of the mastery of English language in different professional and occupational contexts.

Teaching English takes place for general (EGP) and specific purposes (ESP). English for General Purposes is “the language that we use every day to talk about ordinary things in a variety of common situations” (Bowker & Pearson, 2002, p. 25). In contrast, English for Specific Purposes is “the language that is used to discuss specialized fields of knowledge” (Bowker & Pearson, 2002, p. 25). In the Algerian context, English is taught as EGP at the primary, middle, and secondary schools. The course content reflects a shared syllabus regardless individual and contextual variation. That is, EFL learners are expected to master a beforehand set of target linguistic features and skills. Opting for a learner-centered approach in the Algerian schools has allowed a certain flexibility regarding how to teach a language (taking into account idiosyncratic learning styles and strategies) (Weimer, 2013), but not what to learn (the syllabus content).

At the university level, English is taught as either EGP or ESP. Teachers at the English department mainly reinforce learners’ mastery of the four skills in General English, not Specific English. In spite of having a variety of modules that appear to handle certain specific fields, especially at the post-graduate stage (Literature, Civilization, History, etc.), the ultimate aim of learners’ training is to master the English language i.e., to be able to communicate effectively in day-to-day and academic conversations. ESP learners, for their part, are taught specialized English i.e.; English in relation to their field of study: Biology, Commerce, Informatics, Sociology, Law, etc. in their own departments. For instance, third year Natural Sciences students at ENS (Ecole Normale Supérieure) Kouba, Algiers which is a Higher Teacher Training School are classified within the second category. Their planned ESP syllabus content includes Biology in English Language. Teachers who are supposed to teach ESP in other departments are those graduated from English departments. That is, they have been trained to teach EGP, not ESP. Many case studies have raised this issue along the absence of the implementation of a needs analysis procedure in the design of ESP courses (for further details, see Poedjiastutie & Nurbatra, 2022).

Therefore, this study aims to uncover some of the issues related to the design and implementation of ESP courses in the department of Natural

Sciences at ENS Kouba, Algiers. In other words, it checks and calls for the importance of adopting a needs analysis procedure that would respond to learners' needs; hence, enable course designers and practitioners to overcome some of the above challenges. It raises a number of questions among of which:

- Are third-year Natural Sciences students interested in having an ESP course?
- Does their English level meet ESP course prerequisites?
- Does ESP course fulfill their academic and/or professional needs?

To answer these questions; we have formulated the following hypotheses:

- Most participants would like English to be removed from the university curriculum.
- Participants, if any, who would like English to be removed from the university curriculum, would claim that their English level does not meet ESP course prerequisites.
- ESP course does not fulfill participants' academic and professional needs.

2. English for Specific Purposes and Needs Analysis

English for Specific Purposes is an approach to language teaching that has emerged in the late 1960's to respond to learners' needs in specific learning contexts. That is, it is "an approach to language teaching in which all the decisions as to content and method are based on the learner's reason for learning" (Hutchinson & Waters, 1987, p. 19). In other words, the purpose of an ESP course is "to enable learners to function adequately in a target situation, that is, the situation in which the learners will use the language they are learning" (Hutchinson & Waters, 1987, p 12).

Different institutions, in Algeria and abroad, launch ESP courses in parallel with other modules taught in the mother tongue and with which it shares the field of study. In other words, the main difference between ESP courses and the other modules is the medium of teaching and interaction (Dudley-Evans & St John, 1998).

2.1 Needs Analysis

The scope of needs analysis is "syllabus specification derived from target-situation needs" (West, 1994, p. 1). Basturkmen (2010) explains that:

Needs analysis in ESP refers to a course development process. In this process the language and skills that the learners will use in their target professional or vocational workplace or in their study areas are

identified and considered in relation to the present state of knowledge of the learners, their perceptions of their needs and the practical possibilities and constraints of the teaching context. (p. 19)

Hutchinson and Waters (1987) also add that the most thorough explanation of target situation analysis is the one presented by John Munby in his *Communicative Syllabus Design* (1978). However, they claim that focusing on Target Situation Analysis alone is not sufficient in itself as “We cannot simply assume that describing and exemplifying what people do with language will enable someone to learn it... A truly valid approach to ESP must be based on an understanding of the processes of language learning.” Put it simply, a needs analysis process should examine both: *Target Needs* and *Learning Needs*.

2.1.1 Target Needs

Target needs are defined as “what the learner needs to do in the target situation” (Hutchinson & Waters, 1987, p. 54). They are better understood in terms of: *Necessities*, *lacks*, and *wants*.

2.1.1.1 Necessities

As the term implies, necessities refer to the demands of the target situation i.e., “what the learner has to know in order to function effectively in the target situation” (Hutchinson & Waters, 1987, p. 55). This includes for instance, “the linguistic features – discursal, functional, structural, lexical – which are commonly used in the situation identified” (Hutchinson & Waters, 1987, p. 55).

2.1.1.2 Lacks

To check the needs of learners, we also have to know what needs (necessities) they lack. Lacks are determined by comparing what the learner already knows and the *necessities* (Hutchinson & Waters, 1987).

2.1.1.3 Wants

Relying on *necessities* and *lacks* is understood as determining needs objectively. However, needs analysis process should also take into account learners’ personal needs i.e., *wants* (Hutchinson & Waters, 1987). To clarify, learners may perceive their needs to be other ones than those proposed by: course designers, sponsors, and teachers (Hutchinson & Waters, 1987).

2.1.2 Learning Needs

In order to function effectively in the target situation, learners need a set of competences, strategies, knowledge, etc. However, the question to be asked is how are they going to learn these abilities (the lacks)? In this regard,

learning needs are defined as what the learners need in order to learn (Hutchinson & Waters, 1987) i.e., learning needs answer the question: “What knowledge and abilities will the learners require in order to be able to perform to the required degree of competence in the target situation?” (Hutchinson & Waters, 1987, p. 60). In order to determine target needs and learning needs, Hutchinson and Waters (1987, pp. 59, 61) propose a checklist of questions.

3. Methodology

3.1 Research Design

This study used a qualitative descriptive research method which is meant to provide straightforward descriptions of experiences and perceptions (Sandelowski, 2010). In other words, a qualitative descriptive research is primarily exploratory and based on the collection of non-numerical data i.e., words rather than numbers. It aims to provide insights into some given problem and helps develop research questions and hypotheses for potential quantitative research. The reason for choosing this method is that it is in accordance with the main aim of this study which is to describe and analyse the factors related to the implementation of ESP course in the department of Natural Sciences ENS Kouba, Algiers, Algeria.

3.2 Research Instrument

The data collecting tool was a questionnaire addressed to a sample of 52 participants from third year Natural Sciences students at ENS Kouba, Algiers, Algeria. The questionnaire, including but not limited to the checklist of questions proposed by Hutchinson and Waters (1987), was meant to determine ESP learners’ needs (target needs and learning needs). Worthy of mention, some questions the answers of which were already known, were not included in the questionnaire. These questions along their answers are included in the table below:

Table 1. Answers to Questions not Included in the Questionnaire

	Questions	Answers
Target Situation Needs	- What will the content areas be?	- The content area is Biology taught to postgraduate students.
Learning Needs	- Why are the learners taking the course?	- ESP course is a compulsory subject. - Getting a good grade, learners will increase their chance to succeed. - Students, who pass their exams, including that of ESP subject, will increase their chance to gain a job as middle school teachers after one year (Bac+4) or secondary school teachers after two years (Bac+5).
	- What is their learning background?	- Natural Sciences learners have been taught Biology in Arabic language in middle school and secondary school. - Admission to Natural Sciences department necessitates a high grade in the Baccalaureate exam and in the subject in question (Natural Sciences).
	-What resources are available?	- ESP course teachers are trained in EGP. In other words, they are not trained to teach ESP course related to Biology or other field of study. - For them, teaching ESP is a challenge as they have to show competencies, related to the subject content in question i.e., Biology. As a consequence and responding to their competencies in EGP, the English Department seems a suitable professional place. This may be confirmed by the fact that there is no permanent ESP teacher in ENS in any of the departments.
	- Who are the learners?	- They are Algerians. - They have different ethnic backgrounds. - They have been taught biology in Arabic language (middle school and secondary school curricula). - They are used to Competency-Based Approach (CBA) which has been recently adopted by the Algerian educational system as a form of education reform. One of the main principles of CBA states that the learner should be the center of the teaching-learning operation. As such, the teacher should play the role of a guide and facilitator who develops learners' competencies and encourages them to be autonomous learners and active social agents.
	- Where does the ESP course take place?	- ESP course takes place in ENS Kouba - Algiers, Algeria. - It is a calm, pleasant place; with a lot of greenery.
	- When does the ESP course take place?	- ESP course takes place once a week.

The questionnaire includes 24 open-ended and closed-ended questions distributed in 3 sections. The first section is meant to identify what constitutes learners' personal profile and includes questions about age and gender. The second one, which includes 14 questions, entails the analysis of ESP course current situation. For the third one, it determines learners' needs and includes 8 questions. A pilot study was then used to check the clarity and comprehensibility of the questions along coherence among the different sections. The students who participated in the pilot study were 22 third year students other than the ones participating in the study. All participants found the questionnaire clear and fits for purpose.

4. Results and Discussion

4.1 Results

4.1.1 Learners' Personal Profile

Most participants (30) are 20 years old which is the expected age of a third year student who has not failed his Bac exam. 2 participants are 19 years old. This is the category of those who have started schooling at 5 years old. 12 participants are 21; 2 are 23 and 2 participants are 24. These participants might have failed, once or more, their Bac exam for a reason or another. It is also noteworthy that 2 participants are 40 years old. This might include, for instance, those who have recently succeeded their Bac exam or those who have decided to pursue their postgraduate study after a long break.

Also, the majority of participants (48) are female students. This might be due to the fact that at the end of their training period, ENS students are directed to teaching profession at middle or high schools. A guaranteed teaching profession may seem an attractive factor for many female students who do not want to bother themselves to check, most of the time hopelessly, elsewhere. In other words, teaching seems one of the most requested jobs by women.

4.1.2 Current Situation Analysis

In this section, participants are asked a set of questions as part of current situation analysis (see table 2 below). First, an important question that one should ask while drawing a sketch on ESP learners' needs is that of the reason(s) behind learning English language. In this context, participants have chosen different options at the top of which comes 'Higher education' (31.8 %) followed by 'Communicate with foreigners' (25.8 %). Opting for 'Higher education' option may stress the importance of English language in achieving good results in Higher education especially as most resources are available in English language. Also, being an international language, English seems the best choice to set communications with foreigners; especially for those who

intend to travel and/or live abroad.

'Success for future profession' comes next with 22.7 %. Participants who opted for this choice stress the fact that ESP course is a part of Natural Sciences third year program. In other words, they are aware that they have to pass ESP exam in order to succeed, graduate, and get recruited. However, only 6 participants have opted for 'Success to find a job' (4.5 %). This category might include those who intend to find a job other than teaching. These participants recognize the importance of English language in different professional fields including: Technology, Commerce, Education, etc.

16 participants have stated that they want to learn English to communicate with friends and/or family members. This category may include those who have relatives living in English-Speaking countries or whose family members are using English as part of their daily life. 4 students have given their own statements stressing, once more, the importance of English to set communication with different people throughout the world.

When participants were asked when they used English, social media comes first (42 participants) followed by watching movies (30 participants). Only few of them (6 participants) use English at home or when they study (2 participants).

In relation to compatibility between ESP syllabus content and other subjects, most of participants (28 participants) have opted for 'Somehow' option. Only 14 participants have stated that ESP syllabus content goes too much in parallel with what they study in other subjects while 10 participants have stated that this takes place a little.

When participants were asked whether they prefer to study EGP or ESP, most of them (32 participants) have stated that they prefer to study EGP. According to them, this takes place for different reasons, and these are their responses:

- To use it in all fields
- Because the ESP program is centered around the appropriate language for the activities in terms of grammar, vocabulary, recording, study skills, discourse and gender. variable properties
- I wanna speak as the naive speaker ,so i need to learn the general term ,then I will be happy to study the ESP
- Actually I don't have any particular answer! , but I can say that it's just a matter of being more educated and being able to communicate freely in English
- To be much professionnel
- To improve my English

- I want learn english to communicate uually
- To use it in general fields

As shown in their responses, participants, who have opted for EGP, have given especially three main reasons:

- 1- They want to master English language in order to become fluent speakers.
- 2- English is an international language that has invaded all fields.
- 3- They consider EGP as more important than ESP. Perhaps, it is a prerequisite to learn ESP.

For those who have opted for ESP, they recognize the link between ESP and their field of study (Biology).

When participants were asked whether they want English to be removed from the university curriculum, the majority of them either strongly disagree (24 participants) or disagree (16 participants). Only 8 of them either strongly agree (4 participants) or agree (4 participants) while 4 participants have preferred to stay neutral. These results show that the majority of students recognize the importance of English language for a reason or another. Those who prefer to remove English language from the university curriculum have their own reasons too; especially as all participants have already shown an intention to learn either EGP or ESP.

Participants who want English to be removed from the university curriculum have a variety of reasons on the top of which syllabus content (8 participants). Other reasons include: the claim for the non-utility of learning English (6 participants), the low English level that does not meet ESP course prerequisites (6 participants), and the teaching method (2 participants).

When participants were asked to arrange these reasons from the most important to the least important one, two main reasons have been emphasized: 'the English level does not meet ESP course prerequisites' (5 participants) and 'they do not like the syllabus content' (3 participants). The other reason that can be related to these aforementioned ones is that of 'considering learning English as useless'. This takes place as having an English level that does not meet ESP prerequisites and/or being taught a content that participants do not like much will negatively affect their attitudes towards learning English language.

Another significant question within the current situation analysis is how participants study. Answers to this question show that the majority of participants (46 participants) study individually. Only 4 participants study in groups and two of them study in pairs.

For the use of the dictionary, 36 participants have stated that they use a

dictionary. This takes place as learning any foreign language, including the English one, necessitates consulting a dictionary. However, 16 participants have claimed that they do not use a dictionary. So, we may guess that these students either have a good English level that, according to them, does not necessitate the use of a dictionary or they may not be interested in learning English at all. For the type of the dictionary used by these participants, the majority of them (30 participants) have opted for the general language dictionary. This choice confirms their earlier response about preferring to study EGP to ESP. Only 6 participants use specialized language dictionary. These participants can be the ones who have recognized the link between what they study in ESP and their field of study i.e., Biology.

To check possible effective teaching techniques and strategies that one may reinforce in an ESP course design, we have asked participants about the technique adopted by the teacher to explain difficult terms. Participants were given three suggestions and the results show that their ESP teacher uses most (26 participants) the Arabic language to explain difficult terms. This is expected as it is understood by all participants. In spite of being one of the most long-standing controversies in the history of ELT classrooms, it is claimed that the use of the mother tongue saves time and effort (Stern, 1992). Other techniques include: the use of English language (18 participants) and 'visual, audial, and audio-visual aids' (8 participants). According to participants, the three techniques are effective ones.

Also, to trace the implementation of CBA in the university context and particularly that of teaching ESP course, participants were asked whether they consider their teacher to be a guide (facilitator) or a traditional teacher who takes control of the whole learning process. The result shows that the majority of them (42 participants) consider their teacher to be a guide (facilitator). In fact, this has been expected since learners at the university level are student-researchers who assume, to a large degree, responsibility of their own learning by: asking questions, carrying out investigations, and suggest solutions to fill in research gaps.

In relation to the type of evaluation adopted by the ESP teacher, most participants (30 participants) have asserted that they had: diagnostic, formative, and summative evaluations in their ESP course. 15 participants have stated that they had but a summative evaluation, while 7 students have claimed that they had both a formative and a summative evaluation. Apparently, some participants might not have fully grasped the meanings of these terms or they might have missed some of these evaluation forms as it is expected that all participants receive the same form(s) of evaluation.

Table 2. Current Situation Analysis

Questions	Answers	Number of Students
1- Why do you learn English? You can tick more than one option.	- Higher education	42
	- Success to find a job	6
	- Success for future profession	30
	- Communicate with foreigners	34
	- Communicate with friends and/or family members	16
	- "Because English has become the language spoken by most of the world's population."	2
	- "Because it's an international language so it'll always be needed."	2
2- When do you use English?	- When you study.	2
	- On social media.	42
	- At home.	6
	- "When I watch movies".	30
3- Does the ESP syllabus content goes in parallel with what you study in the other subjects?	Too much	14
	Somehow	28
	A little	10
	Not at all	/
4- Do you prefer to study ESP or EGP?	ESP	20
	EGP	32
5- If you have not opted for any of the above choices, would you like English to be removed from university curriculum?	Strongly agree	4
	Agree	4
	Neutral	4
	Disagree	16
	Strongly disagree	24
6- If yes, is it because:	a- You don't like syllabus content.	8
	b- You don't like the teaching method.	2
	c- There is no utility from learning English.	6
	d- Your English level does not fit ESP course pre-requisites.	6
7- If you have chosen more than one option, arrange them from the most important to the least important one.	d-c-a-b	1
	d-c-a	3
	d-a	1
	a-d	1
	a-c	1
	a-b-c	1
8- Do you study	- Individually	46
	- In pairs	4
	- In groups	2
9- Do you use the dictionary?	- Yes	36
	- No	16
10- If yes, is it	- A general language dictionary.	30
	- A specialized language dictionary.	6
11- When you do not grasp a term in English, how does your teacher explain that to you:	- using English language.	18
	- using Arabic language.	26
	- using other aids (visual, audial, visual-audio, etc.)	8
12- Is it efficient?	- Yes.	52
	- No.	/
13- In relation to the teaching methodology, do you consider your teacher?	- A guide (facilitator).	42
	- A traditional teacher (taking control of the whole learning process). Specify	10
	- Diagnostic.	30
14- What sort of evaluation did/do you have in ESP? You can choose more than one option.	- Formative.	37
	- Summative.	52

4.1.3 ESP Course Needs Analysis

After the analysis of the current situation, it is now time to draw a sketch on learners' needs by asking some questions about their wants (see table 4 below). As mentioned above, ESP learners' perceptions and attitudes are important factors in deciding about what to include and how in an ESP course. The first question checks possible relationship between English language proficiency and academic performance in ESP course. Answers to this question confirm, to a great degree, the existence of a link between English language proficiency and achievements in ESP course. That is, the majority of participants (46 participants) have stated that they needed English language proficiency in order to achieve a good performance in ESP course.

Along English language proficiency, participants also have other wants. When given a list of wants to choose from, the majority of participants (20 participants) have opted for the mastery of basics of English. This confirms what has already been stated about the importance of English language proficiency in achieving good results in ESP course. Participants (12 participants) also stated a need for new teaching methods. Integrating pair and/or group work along assigning more time to ESP course came next with an equal percentage (11.5 %). The other needs, although opted for by a minority of participants, have not been neglected either. These include needs for: a variety of evaluation models, learning styles, and extra courses.

Next, the importance of integrating the four skills in any language teaching course is unquestionable. For that, participants have been asked about the skill(s) they think should be developed in ESP course. Answers to this question state that speaking comes first (49 participants) followed by writing (42 participants). However, the other skills, listening and reading, have not been neglected either. Again, these results confirm that participants want to study EGP in order, especially, to become fluent speakers of English language. However, as their ESP examination takes place in a written mode only, participants seem aware of the importance of the writing skill as well. At last, opting for all the skills, although in a varying degree, confirms the link between the different skills, where developing one necessitates, whether directly or not, developing the others.

Participants were then asked to arrange the skills from the least to the most developed one. The results have shown that speaking and writing came first as the majority of participants (29 participants) have opted for these two skills respectively. When participants were asked to choose but one skill to develop, most of them (28 students) have confirmed that it is speaking that is needed most followed by writing (20 students). Only 4 students have chosen

the listening skill.

Participants have suggested different ways to develop the skills (see table 3 below). Most of those who have opted for the speaking skill have claimed for the importance of carrying out dialogues about different topics. However, one of them has suggested developing the speaking skill by engaging in conversations in relation to the field of study i.e., 'Biology'; "Carry out dialogue sessions on a topic related to the field".

Participants who have stated a need to develop the writing skill have claimed that students have to think in English language rather than Arabic language. They have also urged more time to be devoted to the writing skill. Another participant has emphasized the importance of the listening skill instead. According to him, listening can be reinforced by a good mastery of English vocabulary.

Table 3. Ways to Develop Different Skills

The Skill	Statements
Speaking	Listen Extra models of communication I have no idea Learning Carry out dialogue sessions on a topic related to the field Providing quotas that support correct pronunciation and (writing) as a scientific dialogue by forming groups talk to friends and read books
Writing	A lot of students still thinking in Arabic I guess more time to practice!
Listening	English vocabulary

Participants were also asked how they deal with low academic achievements in ESP course. Most of them (24 participants) have stated that they carried out consolidation out-class activities. 14 participants, for their part, have opted for having extra courses. However, it is noteworthy that 14 participants have stated that they did nothing. These results show that while the majority of participants (38 participants) are aware of the importance of seeking solutions to increase their academic achievements in ESP course, some of them seem careless. Especially the last category of participants reinforces the claim that there are students who are not autonomous; neither do they try to work out their own problems.

The last question was about participants' views about the more suitable

teaching practices in ESP context. Answers to this question state that the majority of participants (18 participants) have claimed for group-collaborative teaching. This would possibly enable teachers to work in small groups to overcome teaching difficulties. A good number of participants have also chosen experiential learning. This may take place due to the particularity of their field of study i.e., Biology which is largely experiential in nature. Critical thinking activities came next (8 participants) being one of the most important competencies most teachers seek to develop in their students. Orakci et al. (2019, p. 300) state that this skill can be defined as the ability “to analyze, reflect, self-assess, argue, be autonomous, and evaluate” one’s own learning. Other participants have not neglected other teaching practices including: Inquiry learning (investigation), collaborative project work, role-play games, and brainstorming. Opting for all the suggested teaching practices, although in a varying degree, emphasizes the importance of implementing a miscellany of teaching practices to suit different learning styles and preferences.

Table 4. ESP Course Needs Analysis

Questions	Answers	Number of Students
1- Do you think there is a relationship between students' English language proficiency and academic performance in ESP course?	Yes	46
	No	6
2- What do ESP students need? You can choose more than one option.	- Master basics of English	20
	- New learning styles integrated in the syllabus design.	2
	- New teaching methods.	12
	- Extra courses.	2
	- More time allotted to ESP Course.	6
	- A variety of evaluation models.	4
	- Integrate pair and/or group work.	6
3- What is/are the skill(s) that should be developed in ESP course? You can choose more than one option.	- Listening	37
	- Speaking	49
	- Reading	25
	- Writing	42
4- If you have chosen more than one option, arrange them from the least developed to the more developed one.	-Speaking-writing-listening-reading.	17
	- Speaking-writing-reading-listening	4
	- Writing-reading-listening-speaking	3
	- Writing-speaking-listening-reading	1
	Speaking-writing-listening	8
	Listening- speaking-writing	4
	Speaking-writing	2
5- If you are to choose to develop but one skill, what would be this skill?	- Speaking	28
	- Writing	20
	- Listening	4
7- If you are not satisfied with your ESP achievements, what do you intend to do?	- Consolidation out-class activities.	24
	- Have extra courses.	14
	- Nothing.	14
8- What teaching practices do you think are more suitable in ESP context:	- Group-collaborative teaching.	18
	- Inquiry learning (investigation).	2
	- Collaborative project work.	4
	- Experiential learning.	16
	- Role-play games.	2
	- Brainstorming.	2
	- Critical thinking activities	8

4.2 Discussion

First, if we consider the target situation analysis, we find that the participants are going to be recruited as future middle school or secondary school teachers of Natural Sciences. The teaching language will be Arabic not

English language. So, a good mastery of ESP seems useless in their future profession. Only for few of them, those who might have other plans for their future professions, mastering ESP would be significant. This category might also include those who intend to carry out post-graduate studies (Master's degree and Ph.D. degree) in Algeria or abroad. Meanwhile and as mentioned above, since ESP is a part of third year program i.e.; a compulsory module, students are obliged to pass and succeed ESP exam.

Also, the analysis of participants' responses to some questions have shown that some of them have a negative attitude towards ESP course due to different reasons including: syllabus content, teaching methods and techniques, the lack of prerequisites, little time allotted to ESP course, evaluation modes, the lack of practice (as most participants use English on social media and to watch movies), etc. In this context, while some participants try different learning strategies to overcome these difficulties, others choose to quit. In other words, in spite of having a negative attitude towards some parts of ESP course, the majority of participants have called for a reform rather than a removal of ESP course. This shows that participants are aware of the importance of English language being EGP or ESP.

ESP teachers, for their part, are trained to teach EGP, not ESP. As such, the majority of them would prefer to teach General English at the English department (EGP) not a specialized one at Biology, Physics, Mathematics, etc. departments. In other words, an ESP teacher should show qualifications in both EGP and ESP in certain fields of study. In the context of this study, an ESP teacher at the department of Natural Sciences should show qualifications in English Language as well as Biology (Natural Sciences). However, the second condition is absent as they have not been taught Biology in any stage of their curriculum. Only teachers graduated from a Biology department that uses English language as a teaching language can satisfy these conditions. Accordingly, when no ESP teacher is available, the mission of teaching ESP is assigned to a teacher from the teaching staff (specialized in Biology) who profited from an extensive training in one of the English speaking countries.

Now, relying on the discussion above, it is time to check the three hypotheses formulated in this study. As a reminder, the first hypothesis states that most participants would like English to be removed from the university curriculum. The second one states that participants, if any, who would like English to be removed from the university curriculum, would claim that their English level does not meet ESP course prerequisites. For the third hypothesis, it states that ESP course does not fulfill their academic and/or professional needs. The analysis of participants' responses to the

questionnaire and answers to other questions (see table 1) have shown that the first hypothesis is refuted as most participants do not want English to be removed from the university curriculum. The second one is partially confirmed as only 6 out of 22 participants who wanted English to be removed from the university curriculum, have claimed that their English level did not meet ESP course prerequisites.

For the third hypothesis, it is almost confirmed as the ESP course does not, to a great degree, fulfill participants' academic and professional needs. First, English language is not the language used in teaching Natural Sciences in middle and secondary schools. Only for those, who use English language to study (2 participants) and who might have other plans for other future professions, having an ESP course might satisfy a professional need. Also, regarding academic needs, the analysis of participants' responses to different questions including question 2 from the second section and questions 2, 5, and 8 from the third section has confirmed that ESP course does not fulfill most participants' academic needs as they suggest important reforms like: introducing changes on the syllabus content, giving much focus to speaking skill, providing participants with necessary prerequisites before tackling ESP courses, etc. The majority of them (32 participants) even prefer to study EGP to ESP. In spite of that, some participants have acclaimed some parts in ESP course like the fact that their ESP teacher plays the role of a guide, uses different techniques to explain difficult terms, and uses the three modes of evaluation: diagnostic, formative and summative evaluation.

5. Conclusion and Recommendations

Drawing a sketch on ESP learners' needs is a crucial step to pass through before making any decisions about what to teach and how. In the present study, questions about ESP needs have targeted third year Natural Sciences students at ENS Kouba, Algiers, Algeria. The findings of this study confirm the existence of a gap between what participants really need and what ESP course provides them with. As such, it calls for the following implications which would improve any ESP course not only that addressed to Natural Sciences students:

- Encourage the use of English language in ESP learners' future profession. This can take place giving privileges (scholarships for instance) for those who show a good mastery of English language.

- Motivate ESP learners to learn and use English language using: Exam grades, writing theses in English, adopting English as the language of instruction and examination in other modules, etc. This takes place as

motivation plays a crucial role in successful language learning (Mellit & Idri, 2019).

- Revise ESP course design i.e., how an ESP course should be planned. This includes making decisions about: syllabus content (topics to be covered in an ESP course), time allotment, teaching methods and techniques, teachers' training, learners' learning styles and preferences, etc. This takes place with the aim of making an ESP course an enjoyable space for both the teacher and the learner.

- Develop the speaking skill as it seems the one that would bridge the gap between ESP learners and English language (being an EGP or ESP).

- A call for an interactive lecturing that involves the exchange of knowledge and experience between teachers and students, and allows them to critically discuss the lecture content.

- Integrate collaborative teaching in which ESP teachers along other teachers in the department (Natural Sciences in this context) work together to plan lessons, teach, and evaluate students' progress.

- Integrate collaborative learning in which ESP learners work in pairs, small or large groups to carry out investigations to answer questions and overcome learning difficulties.

- Exploit ESP learners' different potentials. In the context of this study, learners admitted to this school (ENS Kouba, Algiers) are brilliant ones who have passed Bac exam with a good score. In other words, even those who have not done well on ESP exam can be easily directed towards achieving good results. Also, the majority of participants are female students who usually outperform males in almost all disciplines (Cole, 2022). Being as such, they are expected to easily overcome ESP learning difficulties.

- ESP teachers should receive a training to teach ESP. This may necessitate collaboration between English department and other departments.

- Reconsider the integration of the mother tongue, TIC, and results got from translation studies when designing ESP courses.

- Adopt teaching practices that consider different learning styles and strategies.

- Although most participants have confirmed that the syllabus content goes in parallel with other modules, they have expressed preferences for studying EGP first being, according to them, a prerequisite for studying ESP. Decisions related to how much EGP is needed, how it is going to be taught, and at which stage are made after carrying out a needs analysis procedure.

- In spite of facing difficulties with learning ESP, most participants have called for a reform rather than a removal of ESP course. This reflects

participants' awareness about the importance of learning English language being EGP or ESP.

- Needs Analysis process is not a once-for-all procedure. It is a continuous process that should reflect an ongoing effort to improve ESP teaching-learning operation to respond to language learners' needs.

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