Needs Analysis of the Engineering Staff at the Technical Instructors Training Institute

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Abstract

It is often conceived that for any English language teaching program to be fruitful, it has to meet the needs of the participants. English for specific purposes (ESP henceforth) learners are typically adults who previously have experienced English and are willing to learn the English language to transfer some information and communicate a collection of specialized verbal activities and to execute certain occupation –linked purposes and functions. The engineering staff at the Technical Instructors Training Institute, Iraq, Baghdad/ Al-Zafaranyia have found some difficulties in linguistic communication in English which seems to be a necessary requirement to perform effectively in their professions.

A twenty-two item questionnaire of needs analysis is applied to the staff to identify their needs, goals and incentives, that is, what linguistic knowledge they need in their real occupational situations which would help them to function more efficiently in their jobs. Responses to the questionnaire have revealed that they are mostly unable to use English language effectively, and that their primary needs involve the main skills (i.e., listening, speaking reading and writing) associated with their occupations. Moreover, they have recognized the importance of English in engineering field which calls for establishing an ESP language program.

Key words : needs analysis , ESP , engineering staff .

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تحليل احتياجات الملاك الهندسي في معهد
اعداد المدربين التقنيين

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الملخص:

من المسلم به ان نجاح اي برنامج تدريسي للغة الأنكليزية لابد أن يلبي حاجات المشتركين بهذا البرنامج . متعلمون اللغه الانكليزية لأغراض خاصه ESP يكونون عادة من فئة الكبار او البالغين ممن لديهم خبرة سابقة في اللغة الانكليزية ولديهم الرغبة في تعلم هذه اللغه لنقل بعض المعلومات والتواصل عن طريق حزمة من النشاطات الكلامية بغية تنفيذ اغراض ووظائف مرتبطة بالمهنة .

شخص لدى الملاك الهندسي لمعهد اعداد للمدربين التقنيين في بغداد صعوبات في التواصل اللغوي باللغة الانكليزية التي تعد متطلبا أساسيا لأداء هذه الشريحة في مجال عملها . تم تطبيق استبانة ذات 22 فقره لتحليل حاجات الملاك أعلاه بغية تحديد حاجاتهم وأهدافهم وحوافزهم ،اي تحديد نوع المعرفة اللغوية التي يحتاجونها فعليا في مجال عملهم المهني التي تساعدهم على تقديم أداء أفضل .لقد أظهرت استجابات الاستبانة أن عينة الدراسة غير قادرة على الأغلب على استخدام اللغة الانكليزية استعمالا فعالا، وقد أظهرت الاستجابات أيضا حاجة العينة الى لإتقان المهارات اللغوية الأربعة (الانصات والتحدث والقراءة والكتابة) في ما يتعلق بمجال عملهم المهني. وعلاوة على ذلك أكدت عينة الدراسة على الأهمية التي تتبوأها اللغة الانكليزية في المجال الهندسي تدعو الى مزيد من برامج تعليمها لأغراض خاصة .

الكلمات المفتاحية : تحليل احتياجات ، اللغة الانكليزية لأغراض خاصة ، الملاك الهندسي

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Introduction

Since the 1960s, ESP has been recognized as a practical and dynamic activity in the area of teaching EFL, corresponding to developments in science, technology, and business world. It has advanced swiftly over the past 50 years and developed as a chief element in ELT. It has become one of the most vigorous branches of applied linguistics, including TEFL. Consequently, this has led to advancement in syllabus and curriculum growth in the field of EFL, particularly in ESP.

The origin of the ESP is directly linked to the twentieth century. The economic, scientific and technological expansion of USA after World War II, as well as its privileged position in the economic and commercial system, caused those professionals from various areas to call for a common language that would ensure and facilitate international communication. English language has become that 'international language'. This entails that for the English language some concrete needs have driven an advance in the field of linguistics through the study of new theories and ideas about language learning, and a change in the methodology and implementation of teaching English (Hall, 2014).

The widespread practice of English as an international language used for worldwide communication is in persistent expansion. This expansion affects various domains where English is considered as a working tool. Then, there seems to be a great need for a certain approach, related to the learners' motive and readiness for learning, which is initially based on the recognized needs of learners to study ESP. One main factor which leads to the vitality and growth of ESP is owing to the emergence of English as a global language, by which people find it necessary to cope with the different teaching situations and needs.

ESP Definition

A lot of definitions have been formulated to account for what an ESP is, they mostly seem to focus on the idea that the role of ESP is to help language learners to build up the needed abilities in order to use them in a specific field of research, occupation, or workplace. Yet, various interpretations of ESP definitions by different scholars can be observed; some scholars "describe ESP as simply being the teaching of English for any purpose that could be specified". However, others consider it as the "teaching of English used in academic studies or the teaching of English for vocational or professional purposes" (Anthony, 1997: 9-10).

The broader definition is given by Hutchinson and Waters (1987:19) who contend 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". In this view, "English has become subject to the wishes, needs and demands of people other than language teachers" (ibid: 7). Moreover, they concentrate on defining "ESP as an *approach* rather than a *product*"; that is, "ESP does not involve a particular kind of language, teaching material or methodology".

Likewise, Mackay and Mountford (1978: 2) avow that ESP is mostly used to refer to "the teaching of English for a clearly utilitarian purpose." This means that English should be taught to achieve specific language skills using real situations, in a manner that allows the learners to use English in their future profession, or to comprehend English discourse related to their area of specialization.

Mackay and Mountford's view is sponsored by Robinson (1991: 2) who asserts that students of ESP generally study English "not because they are interested in the English Language or English culture as such, but because they need English for study or work purposes." Put it another way, Basturkmen (2006: 18) lays more emphasis on the professional purposes behind establishing ESP courses, asserting that in ESP, "language is learnt not for its own sake or for the sake of gaining a general education, but to smooth the path to entry or greater linguistic efficiency in academic, professional or workplace environments."

With reference to the criteria behind building up ESP, a narrower definition is introduced by Robinson (1991: 3). His definition revolves around two points, firstly, ESP is generally "goal-directed", and secondly, courses in ESP "develop from a needs analysis which aims to specify what exactly it is that students have to do through the medium of English, and a number of characteristics which explain that ESP courses are

generally constrained by a limited time period". Thus, the objectives of ESP courses can be reached and taught to mature learners in somehow homogenous classes with respect to their specialized interests and concerns.

In the same vein, Richards and Schmidt (2010: 198) view ESP as "a language course or program of instruction in which the content and aims of the course are fixed by the specific needs of a particular group of learners". That is, ESP involves certain learners and, hence, it must meet the needs of those learners who use English in academic, professional or work locations.

Main Traits of ESP Courses

For any course intended for teaching ESP to be successful and effective, it should meet the three main characteristics, as suggested by Carver (1983:133-4): These are:

i) *Authentic material* is related to the possibility of the use of authentic learning materials on the basis that "ESP courses should be offered at an intermediate or advanced level, such materials, modified by teachers or unmodified, is common in ESP", specifically in self-directed courses or study tasks. Learners are also frequently exhorted to carry out research using a number of various means (e.g. the Internet).

ii) *Purpose-related orientation* refers to "the simulation of communicative tasks required by the target situation. The teacher can give students different tasks to simulate the conference preparation". This may include "the preparation of papers, reading, note-taking and writing". For a successful program, learners have to attend a session on developing the oral skills. They practice "listening skills, such as listening with empathy", and then "employ their newly acquired skills during a fieldtrip to a local community center" where they can mix with native speakers.

iii) *Self-direction* indicates that "ESP is concerned with turning learners into users" Self-direction can occur successfully when a "teacher encourage students to have a certain degree of autonomy – freedom to decide when, what, and how they will study". In other words, "there must be a systematic attempt by teachers to teach the learners how to learn by teaching about learning strategies". In this way, it is necessary for the well-qualified learners to recognize how to get acquainted with information in the target culture.

Needs Analysis

Essentially, needs are always deemed as the learners' desires to communicate competently in specific situations. The idea of "analyzing the language needs of the learner as a basis for course development has become almost synonymous with ESP" (McDonough, 1984: 29). Thus, ESP has been recognized with reference to the exploration and analysis of learners' purposes and their communicative requirements linked to these purposes.

As a division of ELT, ESP is called for to be significant to the requirements and wants of a certain group of adult learners. This significance is essentially realized through conducting needs analysis to discover "what the learners already know, what

they need to know, and, finally, what they want to know" (Clark, 1998: 30). In this connection, the term *needs analysis* is commonly defined as "the needs for which a learner or group of learners may require language" (White, 1988:84).

Likewise, Brown (1995: 36) identifies needs analysis as "the systematic collection and analysis of all subjective and objective information necessary to define and validate defensible curriculum purposes that satisfy the language learning requirements of students within the context of particular institutions that influence the learning and teaching situation". Placed another way, the proposed curriculum should be linked to the liability of the course satisfying the needs of a specified group of learners and their teacher(s) or the stakeholders. In brief, needs analysis is identified by Dudley-Evans and St. John, (1998: 121) as a means of establishing the "what and how of a course".

As far the pedagogical considerations, Johns (1991: 67) maintains that the rationale behind needs analysis is that by detecting basics of "students' target English situations and using them as the basis of EAP/ ESP instruction, teachers will be able to provide students with the specific language they need to succeed in their courses and future careers".

To arrive at an effective and successful ESP program, it is essential to focus on learners' specific needs. That is, the content of this program should meet their requirements; the skills, actions performed in their classrooms must be pertinent to the sort of English those learners really need in their target specializations. Consequently, this program would motivate those learners as they come across materials concerning scientific fields and technology. In this connection, Gardner and Winslow (1983:76) emphasize that the chief purpose of carrying out a needs analysis is "to produce information which when acted upon makes courses better adapted to students' needs" and "part of the object of formal needs identification is to back up one's proposals with quantitative evidence of their importance". They (ibid) also add that "in many cases, concrete evidence of particular needs, such as these surveys produced, could be directly used as part of the course validation / approval procedure".

Hence, Dudley-Evans and St. John (1998: 122) remark that data collection begins with "language analysis" being affected by the " General English stance and by approaches in linguistics and register analysis" which are utilized to identify "needs as discrete language items of grammar and vocabulary".

Thus, the leading step in the foundation of the ESP program is the investigation of a needs analysis of the engineering staff needs. Knowing the target subjects' needs and their English learning background are the essential requirements in planning and establishing the program more efficaciously and successfully. Hutchinson and Waters (1987:12) confirm that the ESP program "should proceed by first identifying the target situation and then carrying out a rigorous analysis of the linguistic features of that situation". Put simply, it is crucial to the non-English native speaking engineering staff to get engaged in English learning to develop their quality standards of service.

Moreover, in building a successful program, the learner-centered approach is often recommended since this approach is based on a cooperative action between

learners and teachers. That is, learners get directly engaged in the process of decision-making, including the strategy and content of the program. In this sense, Hutchinson and Waters (ibid: 72) clarify that the learner-centered approach:

> *is based on the principle that learning is totally determined by the learner. As teachers we can influence what we teach, but what learners learn is determined by the learners alone. Learning is seen as a process in which the learners use what knowledge or skills they have in order to make sense of the flow of new information. Learning, therefore, is an internal process, which is crucially dependent upon the knowledge the learners already have and their ability and motivation to use it.*

It is apparent from the above statement that learners constitute an essential element to account for in the process of learning English language, as it plays a great role in enhancing and maximizing learning.

Methodology

Data collection and analysis involves three phases: the *method* followed in eliciting the subjects' responses, the chosen *participants* of engineering staff and the *instrument* involving the designed questionnaire.

Method

The data collection and analysis is based on an amalgamation of qualitative and quantitative methods as they are conducted to detect participants' responses to the designed questionnaire which is based on need analysis. The researcher uses an analytic descriptive technique to analyze the data taken from the responses on questionnaire. The frequencies and percentages of the questionnaire items are obtained. Based on the responses of the questionnaire, the researcher can realize the engineers' English learning backgrounds and their career contents.

Participants

Fifty engineers (31 males and 19 females) of various specialtizations (mechanics, electricity, electronics, computer and civil engineering) aging 28-38 at the Technical Instructors Training Institute in Baghdad/ Iraq, are selected to be the subjects of the present study. The subjects have the same linguistic experience as they have commonly studied English for more than twelve years. The participants are all Iraqi native speakers of Arabic. They have passed the same study stages (primary, secondary and university) of learning EFL. Clearly, the engineering staff need English language as a means of accomplishing their occupations more proficiently and improving their specialist education.

Instrument

The main instrument used to elicit responses is a questionnaire (containing multi-option items) administered to the given subjects. The aim of designing this questionnaire is to evaluate the subjects' requirements for English language, to evaluate their abilities of English, to designate their requirements for certain abilities and to

assess the ingredients they will have in the ESP program. Questionnaires are used to refer to "any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers" (Brown, 2001: 6). Essentially, Mackey and Gass, (2005: 93) maintain that "questionnaires allow second language researchers to gather a variety of types of information concerning learners' beliefs about learning, their motivations to learn and their attitudes and reactions to learning, to classroom activities and to instruction".

The pedagogical aim of employing the questionnaire is that it seems to be the most appropriate instrument for collecting the visions and needs of the engineering staff. That is, it often "measures opinions and is probably the single most widely used research type in educational research" (Weirsma, 1995: 169). Or as Marshall and Rossman(2006:100) affirm that in conducting a questionnaire, "personal reflections are integral to the emerging analysis of a cultural group, because they provide the researcher with new vantage points and with opportunities to make the strange familiar and the familiar strange". That is, a questionnaire is designed to "measure respondents' real perceptions' attitudes and interests" (Dorney, 2007: 102) and to provide a "respondents' real perceptions of language needs" (Vandermeeren, 2005: 166).

The present questionnaire is intended to identify and specify the required skills and activities linked to the recent target level of acquisition based on Munby's model (1978: 154-167). The questionnaire items have been constructed in terms of the nine components of this model –   "participants, purposive domain, setting, interaction , instrumentality, dialect, target level, communicative event and communicative key" which are fundamentally linked to the engineering staff's communicative requirements. As a result, a questionnaire consisting twenty-two multiple –choice items has been built up.

Data Analysis

The data analysis of the responses to the questionnaire (related to the present and future of English language use, attitude towards the place and role of English in the subjects' occupations) administered to the engineering staff is conducted "to stress the unique strengths of the genre for research that is exploratory or descriptive" (Marshall and Rossman, 2006: 60). The obtained data of the questionnaire are organized, and the percentage of the subjects' answers to each item is calculated. The questionnaire is tabularized to present the participants' answers to each selection of the items in the question. Typically, the analysis of data is carried out to help the researchers "seek to identify and describe patterns and themes from the perspective of the participant(s), then attempt to understand and explain these patterns and themes" (Creswell, 2003: 203).

Results and Discussion
The engineering staff's responses to the questionnaire items reflect the fact that they need an ESP program as a prerequisite in their jobs and occupations. The analysis of the submitted questions is as follows :

Question one reveals that most participants show their preference to have a program conducted for learning ESP related to scientific issues and technology. 48 subjects (constituting 96%) have made their choices of 'yes' for ESP, whereas only 2 subjects say 'No' .

Question two, concerning the specialized teaching materials, shows that most of the subjects, i.e. 38 (76%) prefer both scientific and technology materials, and general English. 10 (20%) subjects prefer scientific and technology materials, and only 2(4%) subjects prefer general English.

Question three, containing multiple components related to the purposes of establishing ESP, reveals the main purposes and functions of ESP and the number of the participants (with their percentages) who agree or disagree to such purposes. These purposes involve the following:

A. **International relationship and cultural exchange:** Only 11 (22%) subjects agree to this function while 39 (78%) disagree to this function.

B. **Answering questions about general information:** 42 (84%) subjects prefer to use English to answer questions concerning general information while 8 (16%) disagree to this function.

C. **Explaining Iraqi political situations:** It seems that most subjects would not like to talk about political issues. Only 3 (6%) subjects agree to this function ; 47 (94%) disagree to it.

D. **Discussing recent social topics:** Subjects show more preference for social than political issues, as 29 (58%) wish to use English to discuss recent social topics and 21 (42%) disapprove this function.

E. **Conducting engineering research work:** Most subjects (43 with percentage of 86%) prefer to employ English to conduct engineering research while only 7 (14%) disagree to this function.

F. **Socializing and offering help to English speaking foreigners:** Conversely, most subjects (44 with 88%) disfavor the use English for socializing and helping foreigners, while only 6 (12%) approve this function.

G. **Reading books and magazines on science and technology:** Most subjects (42 with 84%) want to use English to read materials concerning science and technology; only 8 (16%) disapprove this function.

H. **Learning English which allows you to the internet websites**: All subjects agree to this function; they strive to learn English for the purpose of having access to the internet.

I. **Translating scientific and engineering materials into Arabic:** Most subjects (41 with 82%) prefer to use English to translate scientific and engineering materials into Arabic in order to understand them, while only 9 (with 18%) disprefer this function.

J. **Learning how to pass a test in English:** 30 (60%) of the whole sample want to learn English for the sake of passing English tests. In contrast, 20 (40%) subjects disapprove this function.

K. **Gaining fluency in speaking:** Most subjects (43 with 86%) seem to lack fluency in speaking therefore they resort to this function**,** other subjects (7 with 14%) seem to see this function as not necessary.

Question four, concerned with the length of implementing the ESP program, discloses the fact that 36 (72%) subjects prefer a two-month program; 12 (24%) prefer a three-month program, while only 2 (4%) prefer a fourth-month program.

Question five, associated with the number of hours for teaching a week, indicates that most subjects (39 with 78%) wish to have teaching six hours a week , 8 (16%) wish to have teaching four hours a week , whereas only 3 (6%) wish to have teaching three hours a week.

Question six, concerning the medium of communication, points out   that only 5 (10%) subjects prefer written medium, 11 (22%) prefer spoken medium, and 34 (68%) prefer both spoken and written medium to communicate.

Question seven, linked to the target level of ESP required, indicates that most subjects (36 with 72%) would like to have an intermediate level; 11 (22%0 of the subjects prefer advanced level , and only 3 (6%) prefer elementary level.

Question eight, considering the English language skills subjects need, reveals the following:
A. **Reading :** 37 (74%) of the subjects prefer reading skill while 13 (26%) disprefer this skill.
B. **Speaking:** All the subjects appeal to this skill.
C. **Comprehending :** 45(90%) of the subjects lack understanding, only 5(10%) seem to comprehend English more easily.
D. **Writing:** 38(76%) subjects seem to lack writing skill, while only 12(24) disprefer having this skill.

Question nine, related to materials engineering staff need to read, shows the following tips:
A. **English books of science and technology:** 38 (76%) subjects prefer to read English books of science and technology, yet 12(24%) would prefer other types of books.
B. **Social magazines and newspapers:** 19 (38%) subjects would like to read social magazines and newspapers, while 31 (62%) would not prefer such types of social resources.
C. **English articles and reports of science and technology:** 45 (90%) subjects prefer to read English articles and reports of science and technology, while only 5 (10%) subjects would not like to read such reports and articles.
D. **Entertainment and funny stories:** 32 (64%) subjects would like to read and get acquainted to entertainment and funny stories, whereas 18(36%) subjects would not like to read such materials.

Question ten, concerning the staff's assessment of their proficiency in reading, discloses that most subjects (39 with 78%) show that their proficiency is satisfactory, 7 (14%) with good, 2 (4%) with very good, and 2 (4%) with weak.

Question eleven, concerning the staff's assessment of their proficiency in speaking, reveals that most subjects are weak as their choice of weak answer records 38

(76%), 6(12%) with satisfactory answer, 5(10%) with good and only one answer (2%) with very good.

Question twelve, concerning the skills the subjects lack while speaking, shows the following:

A. **Fluency:** 49 (98%) subjects confess their lack of fluency while communicating in English ; only one (2%) subject asserts having fluency while speaking.

B. **Asking questions correctly**: 39 (78%) subjects are unable to ask questions correctly in English while 11(22%) subjects seem to do so.

C. **Choosing the correct vocabulary item** : 39(78%) subjects find difficulty in finding the correct vocabulary item, and only 11(22%) appear to use the correct vocabulary item.

D. **Expressing yourself**: 34(68%) subjects are unable to express themselves in English, and 16(32%) state that they are able to do so.

Question thirteen, concerning the staff's proficiency in comprehending spoken English, indicates that half of the subjects seem to understand spoken English well, as 25 (50%) tick the good choice, 13(26%) make the satisfactory choice, 8(16%) choose the very good choice and only 4(8%) seem to be weak in understanding spoken English.

Question fourteen, attributed to staff's difficulty in listening to spoken English, points out to the following:

A. **Comprehending spoken English because of swift speech:** 40 (80%) subjects find difficulty in comprehending spoken English because of the speed of speech, while 10 (20%) find no difficulty in doing so.

B. **Comprehending spoken English because of accent :** 38 (76%) subjects seem to encounter difficulty in comprehending due to the accent used, while 12 (24%) find the accent used does not affect their understanding of the spoken English.

C. **Deducing the meaning of unknown words and idioms:** 44 (88%) subjects seem to be unable to detect the meaning of the novel words and idioms in listening to the spoken English, while 6(12%) seem to find no difficulty in this respect.

Question fifteen, related to the staff's assessment of their proficiency in writing English texts , entails that 30 (60%) subjects are weak in the writing process , 13 (26%) are somehow convincing in writing and 7(14%) seem to be good in this skill. Unfortunately no record for very good choice has been made.

Question sixteen, concerning the skill the subjects lack while writing English texts, implies the following points:

A. **Lack of punctuation:** 38 (76%) subjects find no difficulty with punctuation while writing; only 12 (24%) find punctuation problematic in writing.

B. **Spelling mistakes:** 30 (60%) subjects commit spelling mistakes while writing while 20 (40%) avoid doing so.

C. **Paragraphing and organization:** 44(88%) subjects lack the skill of paragraphing and organizing the text into paragraphs. Only 6(12%) appear to have this skill.

D. **Using proper words and expressions:** 36 (72%) seem to be incapable of using proper words and expressions in writing while 14 (28%) appear to be able to select the suitable words and expressions in writing.

E. Answering examination questions: 35 (70%) subjects are unable to answer written questions in exams; only 15 (30%) are able to do so.

Question seventeen, concerning the staff's need of grammar, reveals that the whole subjects 50(100%) want to study grammar.

Question eighteen, specifying the grammatical aspects that the staff need to study, reflects the following points:

A. Tense and modals: 44 (88%) express their need for tense and modals in studying grammar; only 6 (12%) would not like to study such aspects.

B. Singular and plural: 24 (48%) show their need to use and make a distinction between singular and plural nouns, while 26 (52%) seem to be able to use and make such a distinction.

C. Sentence structure: 37(74%) subjects need to realize how to use sentence structure while 13 (26%) appear to be satisfied with their knowledge of the use of sentence structure.

D. Parts of speech: 21(42%) subjects seem unable able to properly use parts of speech in grammatical sentences, while 29 (58%) appear to be able to handle parts of speech.

E. Prepositions and conjunctions: 28(56%) subjects are incapable of using prepositions and conjunctions properly, whereas 22(44%) seem to be able to do so.

F. Passive and Active: 20(40%) subjects need to know how to make a distinction in the use of passive and active sentences, while 30(60%) look as if they were able to make such a distinction.

G. Conditional clauses: 29(58%) subjects find difficulty in solving problems related to conditional clauses, while 21(42%) seem to find no difficulty in handling conditional clauses.

H. Word formation, inflection and derivation: 39(78%) subjects are unable to use word formation, inflection and derivation properly, whereas 11(22%) seem to be able to do so.

I. Articles and determiners: 29(58%) subjects find difficulty in handling articles and determiners, and 21(42%) appear to be acceptably able to use them.

Question nineteen, connected with the amount of grammatical practice they need per unit, suggests that subjects mostly (31 , 62%) prefer two exercises each unit , 14 (28%) prefer two exercises each unit and 5 (10%) prefer one exercise each unit.

Question twenty, related to the amount of oral practice they need per unit, assumes that 33(66%)subjects hope that each unit contains three exercises, 13(26%) prefer two exercises each unit, and only 4(8%) would like to have one exercise a unit.

Question twenty-one, related to the amount of written practice they need per unit, specifies that 31(62%) subjects want each unit to include two oral exercises, 13(26%) want to have three exercises per unit, and only 6(12%) prefer one exercise a unit.

Question twenty-two, concerned with the type of vocabulary item they need most, postulates that 6 (12%) subjects prefer to learn frequently recurrent ordinary vocabulary, 7 (14%) subjects prefer frequently scientific vocabulary and 37 (74%) prefer both types of vocabulary.

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Conclusion

In the light of the investigation of the linguistic requirements of the engineering staff, the paper concludes that they are mostly incapable of manipulating English language efficiently; therefore, the principal needs of the staff involve all required skills (namely, listening, speaking reading and writing) associated with their occupations, which would help them perform more effectively and professionally in the English language circumstances. In spite of the fact that the staff's needs are varied, meeting these needs would surely help them develop an advanced superiority of service, as they consider English language to be so essential for their services.

The outcome of the questionnaire responses also discloses the fact that the staff members have recognized the significance of English in engineering education and their need for establishing a language program which concentrates on ESP and on English language for engineering, scientific and technological purposes. These needs can help shape the program as they specify the staff's linguistic requirements for their jobs.

As for the suggested program, the engineering staff express their need for a communicative ESP (coupled with general English) which is mainly intended to help them to answer questions, to conduct engineering research work, to allow them to have access to the internet websites, and to discuss recent social topics. This program should account for the required skills (i.e., listening, speaking, reading, and writing). In most cases, the speaking skill is often emphasized as learners express their willingness to communicate fluently in English. They would like to have an intermediate -level program which would last for two months with a six-hour teaching a week.

Recommendations

It is recommended that:

1. ESP teachers must be aware that ESL/EFL learning and teaching should be less academic and more practical as it lays emphasis on the learners' needs related to occupational purposes.

2. It is important to integrate general English in ESP English, as the latter cannot function without having a recourse to the former.

3. As the questionnaire reveals that the staff have been unable to communicate effectively in the target language , ESP teachers are highly recommended to manipulate various types of instructional techniques and activities to help their students overcome all communicative problems.

4. Materials selected to be taught in ESP courses and programs should have dynamic reference to real-life activities and tasks. Furthermore, they should involve authentic and real topics related to the learners' occupations and jobs.

References

Anthony, L. (1997). "Preaching to Cannibals: A look at Academic Writing in Engineering" . *The Japan Conference on English for Specific Purposes Proceedings.* January 31st, 1998.

Basturkmen, H. (2006). *Ideas and Options in English for Specific Purposes.* London: Eli Hinkel, Edition.

Brown, J. D. (1995) *The Elements of Language Curriculum: A Systematic Approach to Program Development*. New York: Heinle & Heinle Publishers.

---------- . (2001) *Teaching by Principles: An Interactive Approach to Language Pedagogy*. New York: Longman.

Carver, D. (1983). Some propositions about ESP. *The ESP Journal*, 2, 131-137.

Clark, D. (2000). "Introduction to Instructional System Design". In *Language Teaching* . Dec, 2008.

Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Approaches. Second Revised ed.* London: Sage Publications Ltd.

Dornyei, Z. (2007) *Research Methods in Applied Linguistics*. Oxford: Oxford University Press.

Dudley-Evans, T. - Jo St John, M. (1998), *Developments in English for SpecificPurposes: Amulti-disciplinary approach.* Cambridge: Cambridge University Press.

Gardner, P.H., & Winslow, J. D. (1983). *Present and proposed methods of determining the needs of students in public sector identifying language needs*. Pergamon Press. 69-78.

Hutchinson, T. and Waters, A. (1987), *English for Specific Purposes: A Learning-centred Approach*, Cambridge, Cambridge University Press.

Johns, A. M. (1991). "English for specific purposes (ESP): Its history and contributions". In M. Celce-Murcia (Ed.), *Teaching English as a second or foreign language*. Boston: Heinle & Heinle.

Johns, A. M. & Dudley-Evans, Tony (1991). English for Specific Purposes: International in Scope, Specific in Purpose. *TESOL Quarterly* 25:2, 297-314.

Mackey, A. & Gass, S. M. (2005) *Second Language Research Methodology and Design*. New Jersey: Lawrence Erlbaum Associates Inc.*:*

Mackay, R. and Mountford, A. (1978) *English for Specific Purposes: A case Study Approach*.London: Longman.

Marshall, C., & Rossman, G. B. (2006). *Designing Qualitative Research.* London: Sage Publications Ltd. .

Mc.Donough, S. (1984). *ESP in Perspectives.* London and Glasgow: Collins ELT.

Mumby, J. (1978).*Communicative Syllabus Design*. Cambridge : Cambridge University Press.

Richards, J. C & Schmidt, R**.** (2010*) Longman Dictionary for Language Teaching and Applied Linguistics* (4th edn.). Malaysia: Pearson Edition.

Robinson, P. (1991), *ESP Today: a Practitioner's Guide,* Hemel Hempstead, Prentice Hall International.

Vandermeeren, S. (2005) 'Foreign Language Need of Business Firms' In Long, M. H., (Ed.) *Second Language Needs Analysis*. Cambridge: Cambridge University Press, 159-181.

Weirsma, W. (1995). *Research Methods in Education: An Introduction. (6th Ed.).* Needham Heights: MA: Simon & Schuster.

White, Ronald V. (1988). *The ELT Curriculum*. Cambridge: Basil Blackwell.

Appendix
Needs Analysis of the Engineering Staff Questionnaire

1. Do you need to learn English for specific purposes of the science and technology**?**
                    a. Yes   **b. No**
2. What kind of syllabus do you need for specialized teaching materials ?
a. scientific and technology materials only   **b. general English only**
c. both scientific and technology and general English materials
3. What are the main purposes that you need ESP for ?
 a. international relationship and cultural exchange   **a. Yes**   **b. No**
 b. answering questions about general information in English a. Yes   **b. No**
c. explaining Iraq's political situations   **a. Yes**   **b. No**
d. discussing recent social topics   **a. Yes**   **b. No**
 e. conducting engineering research work in English   **a. Yes**   **b. No**
 f. socializing and offering help to English-speaking foreigners a. Yes   **b. No**
 g. reading books and magazines on science and engineering   a. Yes   **b. No**
 h. learning English which allows you to the internet websites a. Yes   **b. No**
 i. translating scientific and engineering materials into Arabic a. Yes   **b. No**
      j. learning how to pass a test in English   **a. Yes**
b. No
 k. gaining fluency in speaking   **a. Yes**   **b. No**

        4. How long do you think you need to study ESP ?
 a. two months   **b. three months**   **c. four months**

5. How many teaching hours a week are sufficient for the program ?
a. three hours a week   **b. four hours a week**   **c. six hours a week**

6. Which medium of communication do you need to use ESP with ?
 a. spoken   **b. written**   **c. spoken and written**

7. What is the target level of ESP you need to achieve ?
a. advanced level   **b. intermediate level**   **c. elementary level**

8. What are the English language skills you need to acquire / learn ?
                a. reading   **a. Yes**   **b. No**
                b. speaking   **a. Yes**   **b. No**
                c. comprehending   **a. Yes**   **b. No**
                d. writing   **a. Yes**   **b. No**

9. What would you need to read in English ?
a. English books of science and technology   **a. Yes**   **b. No**
b. social magazines and newspapers   **a. Yes**   **b. No**
c. English articles and reports of science and technology   **a. Yes**   **b. No**

d. entertainment and funny stories   **a. Yes   b. No**

10. How do you assess your proficiency in reading English texts ?

a. very good   b. good   c. satisfactory   e. weak

11. How do you assess your proficiency in speaking English

a. very good   b. good   c. satisfactory   e. weak

12. What skills do you lack while speaking English ?

a. fluency	**a. Yes**	**b. No**
b. asking questions correctly	**a. Yes**	**b. No**
c. answering questions correctly	**a. Yes**	**b. No**
d. choosing the correct vocabulary item	**a. Yes**	**b. No**
e. expressing yourself	**a. Yes**	**b. No**

13. How do you assess your proficiency in comprehending spoken English?

a. very good   b. good   c. satisfactory   e. weak

14. What do you lack while listening to spoken English ?

a. comprehending spoken English because of speed speech	**a. Yes**	**b. No**
b. comprehending spoken English because of accent	**a. Yes**	**b. No**
c. deducing the meaning of unknown words or idioms	**a. Yes**	**b. No**

15. How do you assess your proficiency in writing English texts ?

a. very good   b. good   c. satisfactory   e. weak

16. What skills do you lack while writing English texts ?

a. lack of punctuation	**a. Yes**	**b. No**
b. spelling mistakes	**a. Yes**	**b. No**
c. paragraphing and organization	**a. Yes**	**b. No**
d. using proper words and expressions	**a. Yes**	**b. No**
e. answering examination questions	**a. Yes**	**b. No**

17. Do you need to study grammar?   **a. Yes   b. No**

18. Which grammatical aspects do you need to study ?

a. tenses and models	**a. Yes**	**b. No**
b. singular and plural	**a. Yes**	**b. No**
c. sentence structure	**a. Yes**	**b. No**
d. parts of speech	**a. Yes**	**b. No**
e. prepositions and conjunctions	**a. Yes**	**b. No**
f. passive and active sentences	**a. Yes**	**b. No**
g. conditional clauses	**a. Yes**	**b. No**
h. word-formation, inflections and derivations	**a. Yes**	**b. No**
i. articles and determiners	**a. Yes**	**b. No**

19. How much grammatical practice do you need per unit ?

a. one exercise   b. two exercises   c. three exercises

20. How much oral practice do you need per unit ?

a. one exercise   b. two exercises   c. three exercises

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21. How much written practice do you need per unit ?

a. one exercise   **b. two exercises**   **c. three exercises**

22. What type of vocabulary items do you need most ?

a. frequently recurrent ordinary vocabulary
b. frequently scientific vocabulary
c. both ordinary and scientific vocabulary