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Designing an ESP Course for Engineers in SAMSUNG Engineering Work Site in Timimoun

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Abstract: *It is not an overstatement to claim that the field of English for Specific Purposes (ESP) has made a great jump in Algeria in the last decade. Moreover, designing an ESP course is one of the important steps in ESP. Entitled "Designing ESP Course for Engineers", this work aims at designing a course targeted to engineers in SAMSUNG ENGINEERING WORK SITE in TIMIMOUN. Among the main problems encountered by both teachers and engineers is the lack of adequate and appropriate ESP courses and the lack of English language teachers in general and ESP teachers in particular. The study is based on analyzing the needs of the target group (Engineers), and the evaluation of a course. The needs analysis in this action research has been conducted using different tools. The results of the study show that almost all participants (engineers) need an ESP course, with the predominant needs which are speaking and listening first, followed by reading, writing and translation as a fifth skill. They also need vocabulary related to their specific knowledge in order to deal with their jobs. Moreover, this study suggests to take into account the learners' needs, their level, the degree of motivation and the evaluation of the students' performances throughout the course as well as the evaluation of the ESP course itself.*
Keywords: *ESP, skill development, means, material, human, resources, evaluation.*
Résumé : *Sans aucun doute, le domaine de l'anglais à des fins spécifiques (ESP) a fait un grand saut en Algérie la dernière décennie. Ainsi, la conception d'un cours ESP est l'une des étapes importantes. Intitulé « Conception de cours ESP pour ingénieurs », ce travail a pour but de discuter la conception d'un cours destiné aux ingénieurs du SAMSUNG ENGINEERING WORK SITE de TIMIMOUN. Parmi les principaux problèmes rencontrés par les enseignants et les ingénieurs est le manque de cours appropriés ainsi que l'encadrement enseignant en langue anglaise en général et en ESP en particulier. L'étude est basée sur l'analyse des besoins du groupe cible (ingénieurs), la conception d'un cours et son 'évaluation. L'analyse des besoins de cette recherche-action a été menée à l'aide de différents outils. Les résultats de l'étude montrent que presque tous les participants (ingénieurs) ont besoin d'un cours ESP, avec des besoins prédominants qui sont l'oral et le développement de l'écoute, puis la lecture, l'écriture et la traduction comme une compétence cinquième. Ils ont également besoin de vocabulaire lié à leurs connaissances spécifiques afin de faire face à leurs emplois. De plus, cette étude suggère de tenir compte des besoins des*

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apprenants, de leur niveau, du degré de motivation et de l'évaluation des performances des étudiants tout au long du cours ainsi que de l'évaluation du cours ESP lui-même.
Mots clés : *ESP, développement des compétences, ressources, humaine, matériels, évaluation*.

1. Introduction

The previous mentioned review of literature handled the theoretical side of the present study throughout highlighting the most important elements associated with designing ESP courses for Engineers. However, this chapter will be about the practical side of the study for the sake of assessing the gathered data.

Samsung Engineers are chosen to be the source of the current study, since they are working in a foreign company, so the official language used is English. Therefore, the engineers' opinions and views are very critical to test our hypothesis and research questions. The questionnaire was designed as a tool for gathering information from Engineers who are working at Samsung Company in Timimoun project in order to obtain perceptions from a considerable number of respondents about the topic under investigation.

2. Method

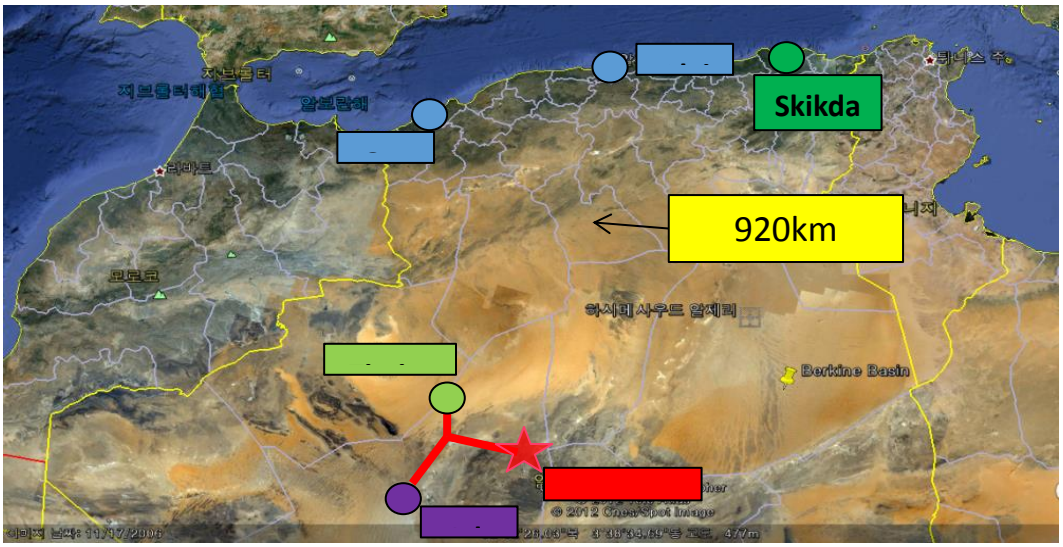
With the purpose of answering the research questions and testing what was hypothesized, the quantitative and qualitative methods seemed to be the appropriate ones. According to Kothari (2004), a quantitative study is based on the measurement of quantity or amount. It is applicable to the phenomenon that can be expressed in terms of quantity. It includes frequencies, percentages, tables, charts and diagrams to characterize the sample. Whereas the qualitative study seeks to cover and also describe specific situations and actions

2.1. Space of Investigation

Samsung Engineering Co., Ltd. was established as the first engineering firm in Korea in 1970 and has its headquarters based in Seoul, South Korea. As an Engineering, Procurement and Construction (EPC) Company, it provides a full range of engineering services including feasibility studies, design, procurement, construction, and commissioning. The Timimoun Field Development project is located 800km southwest of Algiers, 120 km from Aougrout city. Samsung Engineering is responsible for engineering, procurement, construction and pre-commissioning on a lump-sum-turn-key basis to build a 180km pipeline and a Central Processing Facility (CPF) with a capacity of 177 million standard cubic feet per day (MMSCFD). The project is expected to reach its completion in 2017.

Samsung Engineering was the only Korean company selected for this project in the pool of top European and Japanese EPC firms. The company has proved its expertise in oil and gas plant projects with a strong track record in Iraq, Saudi Arabia, Indonesia and Malaysia.


Samsung Eingineering
Timimoun Field Development Project
SAMSUNG
SAMSUNG ENGINEERING
exceeding limits
1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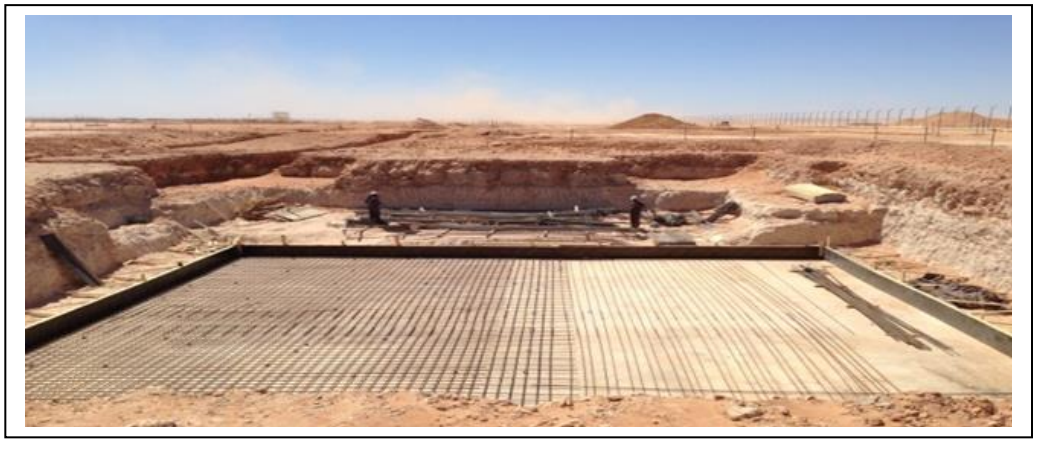

2.2. Population and Sampling

The Engineers' questionnaire was handed out to (40) Engineer from different fields who are currently working at TFD project. We tried to include all the Engineers in order to enrich the study with diverse attitudes and opinions; yet we were not able to accomplish this since it depended on the availability of the Engineers during the period of distributing the questionnaire. The population was selected taking into account that Engineers from different fields generally use different vocabulary items based on their scope of work and they differ in terms of needs, therefore the courses designed for them will differ as well, which will enhance the study results

2.3. Data Collection

The following method of data collection will be used during our study.

2.3.1. Questionnaire

Choosing the most appropriate means of research is certainly a matter of many factors. Beiske (2002) states that while factors such as time and costs certainly play an important part in deciding how to approach a particular research problem, the subject of the research itself should ultimately determine the methods used. In this study, a questionnaire was opted for as a suitable tool to test the research hypotheses. Generally speaking, a questionnaire is a data collecting tool. To put it differently, it is a series of questions that respondents are supposed to answer in order to gather data. Questionnaires are beneficial; they allow us to gather a large amount of data. In addition, they are widely used by researchers for the sake of investigating peoples' attitudes and opinions. (Brown& Dowling, 1998 cited in Kothari, 2004)

2.3.1.1.The Aim of the Questionnaire

Engineering throughout countries are aware of the role of English language as an important tool for communicati on and work. So, designing ESP courses is totally based on exploring whether English courses for engineering are suitable to reach the standardized goals. Therefore, their attitudes are absolutely of significance to the authenticity of the current research.

2.3.1.2.Description of the Questionnaire

This type of questionnaire is chosen principally due to the Engineers' commitment to their duties, so they were constrained by time. The questionnaire is composed of 13 close ended questions, with the majority being prepared questions. The participants were asked to circle one of the pre-determined choices. We favored to use such type of questions as they are easy to read, complete, easy to collect data with, as well as easy to analyze. The results were collected in table format, a percentage for each selection of each response and question were calculated in order to determine the percentage for each choice.

3. Data Analysis: Interpretation of the Engineers' Questionnaire

Q1: What is your job title at the company?

1- Civil engineer **2-** electrical engineer **3-** mechanical engineer **4-**others

Civil engineer	**electrical engineer**	**mechanical engineer**	**others**
16	10	10	04
40%	25%	25%	10%

Table. Engineers Job Titles

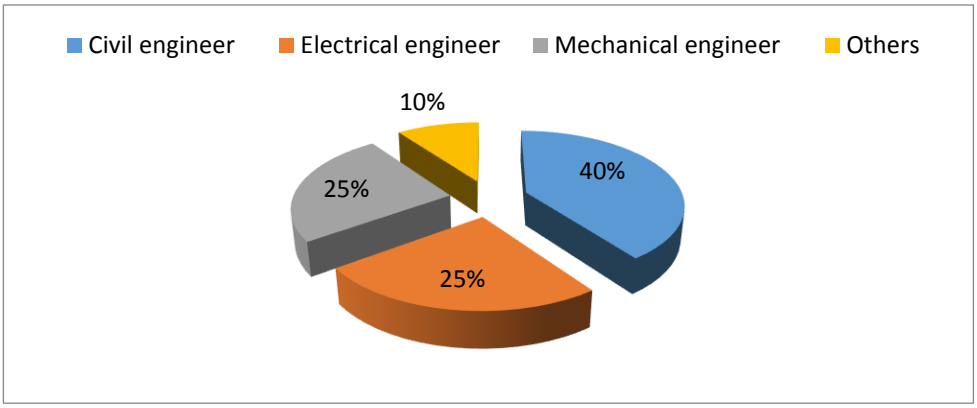

Figure 3: Engineers Job Titles

From the chart above, it is noticed that the engineers' team of Samsung Engineering COLTD is divided as follows: (40%) are civil engineers, (25%) are electrical engineers, the same percentage (25%) are mechanical engineers and the remaining (10%) have other job titles.

Q2. What is your level in English?

1- average **2-** good **3-** Excellent

average	good	Excellent
25	10	5
62.5 %	25 %	12.5 %

Table 2. Level of proficiency in English

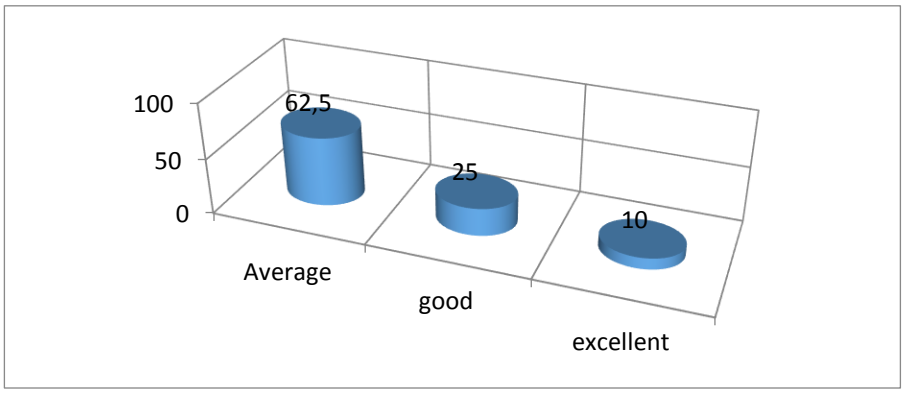

Figure 4. Level of proficiency in English

This question is considered to be very important, because it determines the Engineers' level of proficiency in English. So, it is clear from the table and the graph above that more than half of the Engineers (62.64%) have an average level in this language. However, (25%) selected "good" option, which implies that only few of them are good in English.Whereas, only (12.5%) selected "excellent "category.

The results obtained revealed that most of the Engineers have an average level in English, which is mainly related to their years of studying the language and their interest and motivation to improve their level in learning the language.

Q3: Where will your English be used?

1- Office **2-** Field **3-** Workshop

office	**Field**	**Workshop**
14	20	6
35%	50%	15%

Table3. Place of Using English

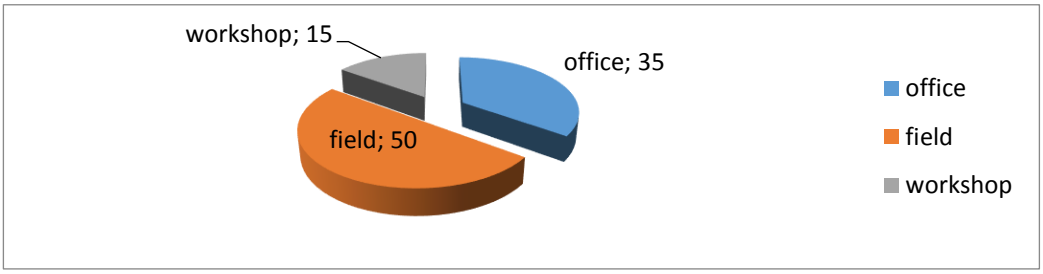

Figure 5. Place of Using English

The chart above demonstrates that half of the Engineers 50% use English in the field. Whereas 35% use the language in the office, this may be related to writing emails and communicating with Korean supervisors and their peers' different nationalities. Yet only 15 % uses English in workshop, because generally engineers spend most of their time in the field or inside office.

The results reveal that a considerable part of the Engineers choose to use the language in the field, which is the place where they need to use it. Therefore, in the field technical vocabulary and communication skills can be practiced daily.

Q4: Do you think that English is important for your work?

1- Yes 2- No comment 3- No

Yes	No comment	No
30	04	06
75%	10%	15%

Table 4. The Importance of English at Work

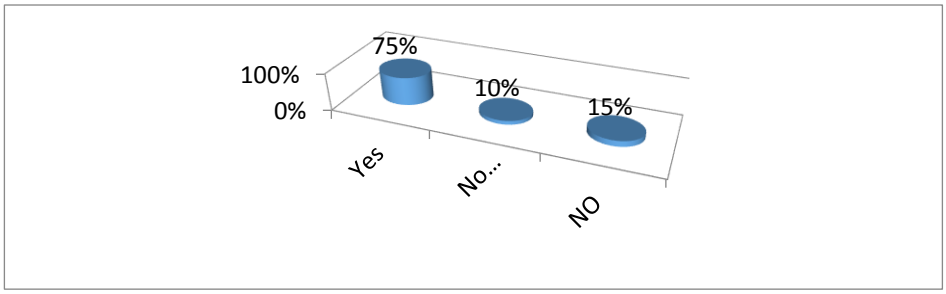

Figure 6. The Importance of English at Work

This question is at the heart of the present study since it aims at knowing how important English is for Samsung engineers. The majority of the participants (75%) replied by yes, English is important for them. (10%) among the participants did not comment; however, (15%) among them said that English is not important for their work.

Q5. What weakness do you have in writing and speaking?

- **Writing**

I can't write correctly grammatical sentences	I cannot write in free hand	I cannot create well organized paragraphs
14	12	14
35%	30%	35%

Table 5. Engineers Writing Weaknesses

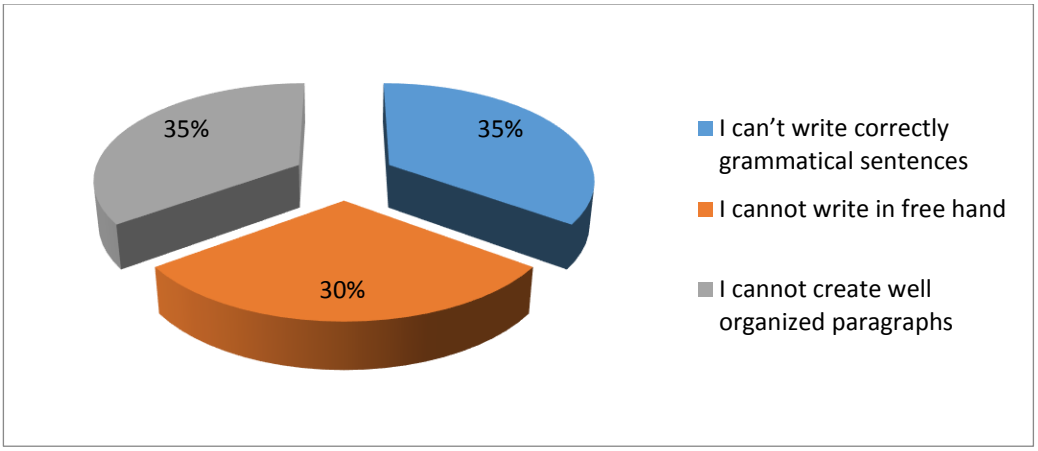

Figure 7. Engineers Writing Weaknesses

From the chart and the table above, the majority of Engineers have problems in writing the language. 35% of the Engineers choose the first option, which means that they cannot write grammatically correct. Whereas the other 35% opted for the fact that they cannot create well organized paragraphs. However, 30% states that they cannot write in free hand.

These results demonstrate that most of the Engineers suffer from the written part of the language. This mainly due to the content of the courses they have been studying as well as the lack of practice in writing in English.

- **Speaking**

I can't speak with grammatical correctness	I can't speak in context with fluency
26	14
65%	35%

Table6. Engineers Speaking Weaknesses

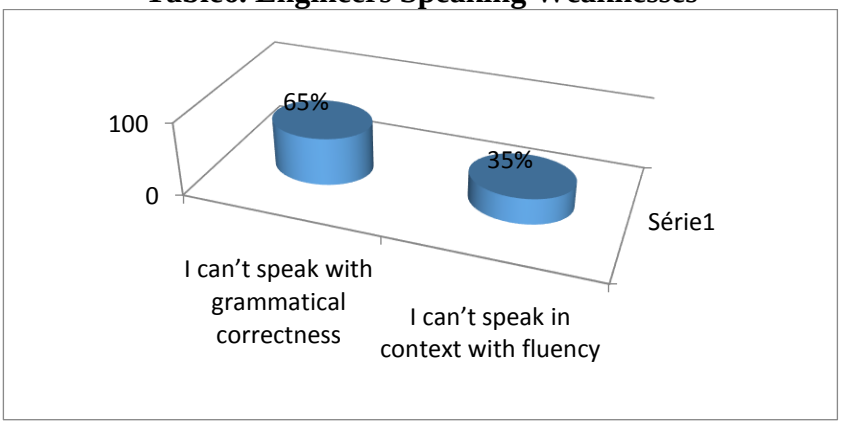

Figure 8. Engineers Speaking Weaknesses

Q6: For what immediate purposes do you need to learn English?

1- Study and Research **2-** Travel

3- Social purposes **4-** Profession/Job Study abroad

Study and Research	Travel	Social purposes	Profession/Job Study abroad
14	10	10	6
35%	25%	25%	15%

Table 7. The Purposes behind Learning English

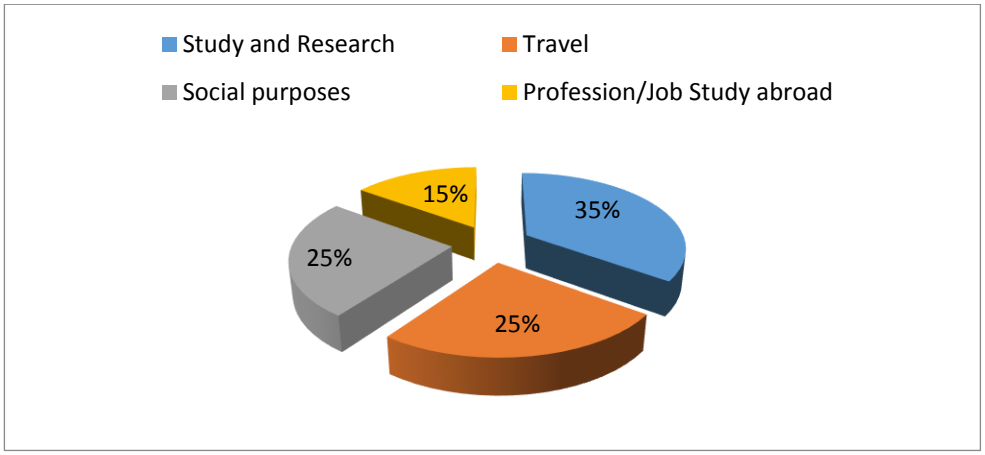

Figure 9. The Purposes behind Learning English

The table and the figure above show that there is convergence in the percentage. That is to say, (25%) of participants claimed that the purpose behind learning English is to use it in their study and research. Another (10%) of the participants opted for "Travel", they stated that they would need English for traveling, (10%) for "social purposes"; however, (15%) declared that English would help them to work or study abroad.

These results demonstrate the crucial role of English as a language that can be used in different areas. This is true in an era of globalization where English enjoys the role of the main lingua franca.

Q7: How will your English be used?

1- Speaking **2-** writing **3-** other skills

Speaking	Writing	Other skills
25	10	05
62.5%	25%	12.5%

Table 8. English Skills at work

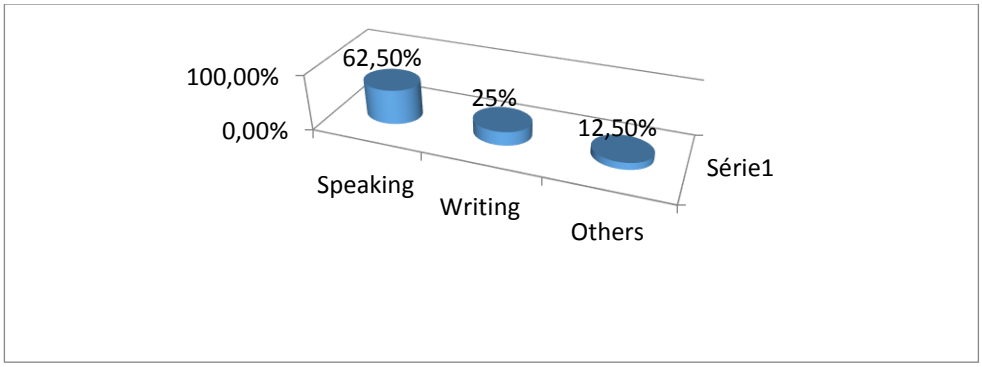

Figure 10: English Skills at work

The point behind asking this question is to know the most dominant skill to be used among the participants. The majority of them (62.5%) opted for 'Speaking'. This may mean that there is a perpetual interaction among workers; however, (25%) selected 'writing' and only (12.5%) opted for 'other'. The majority of participants need English to communicate rather than other purposes such as writing which comes as a second priority.

Q8: Which key job skills do you lack?

- **a.** Job application and resume writing,
- **b.** Job interview,
- **c.** Presentation in a meeting.

Job application and resume writing	**Job interview**	**Presentation in a meeting.**
30	05	05
75%	12.5%	12.5%

Table 9. English Job skills

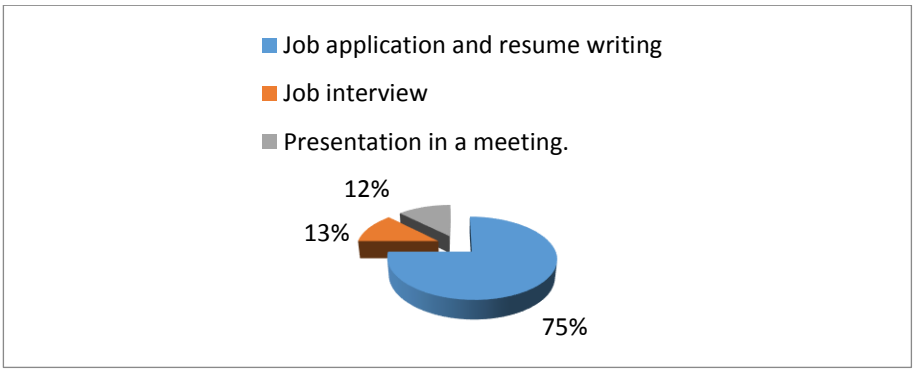

Figure 11. English Job skills

This question seeks to know the students' weaknesses at the level of key job skills. Participants differ in their answers. Thirty (30) of them (75%) admitted that they are week in job application and resume writing. Five (05) participants (12.5%) declared that they

are week in job interview; however, (05) participants (12.5%) claimed that they face difficulties in presentation in meetings.

Q9: What types of materials do you think the course should include?

a. Textbooks, instruction/equipment manuals, CDs, DVDs, and other materials used in content courses or to train people for a job,
b. Materials used on a job, such as work forms, charts and samples of relevant course assignments and student papers.

Textbooks, instruction/equipment manuals, CDs, DVDs, and other materials used in content courses or to train people for a job	**Materials used on a job, such as work forms, charts and samples of relevant course assignments and student papers**
04	36
10%	90%

Table 10. Types of Materials Included in ESP Course

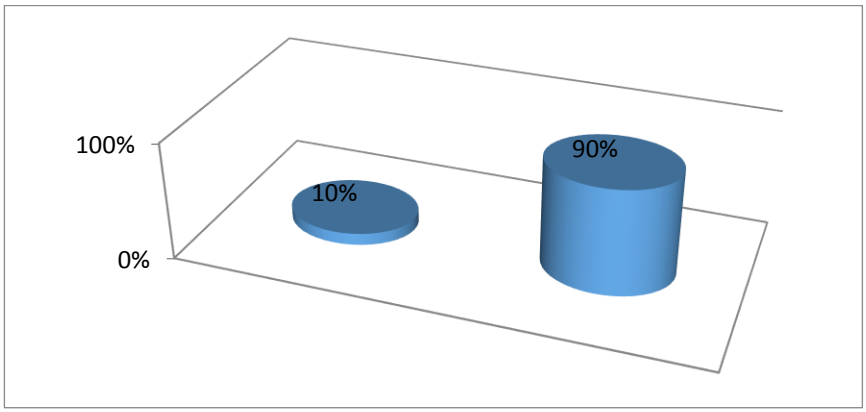

Figure 12. Types of Materials Included in ESP Course

This question is considered to be very important, because it determines the Engineers' preference of the materials they prefer to use while learning the language**.** A quick glimpse at the table and the figure above will reveal that almost all the participants making up (90%) prefer Materials used on a job, such as work forms, charts and samples of relevant course assignments and student papers. However, only (10%) opted for textbooks, instruction/equipment manuals, CDs, DVDs, and other materials used in content courses or to train people for a job. That is to say that the participants are aware of the kind of materials that fit their needs because using materials which have a relation with the context of their current job could help them learn the needed language.

Q10: Why are you doing ESP courses?

a. To develop professional communication in writing and speaking,
b. To develop skill in writing business correspondence,
c. To develop job interview skill**.**
d. To develop presentation skill.

To develop professional communication in writing and speaking	**To develop skills in writing business correspondence**	**To develop job interview skill**	**To develop presentation skill**
14	10	10	6
35%	25%	25%	15%

Table 11. Reasons behind Doing ESP Coures

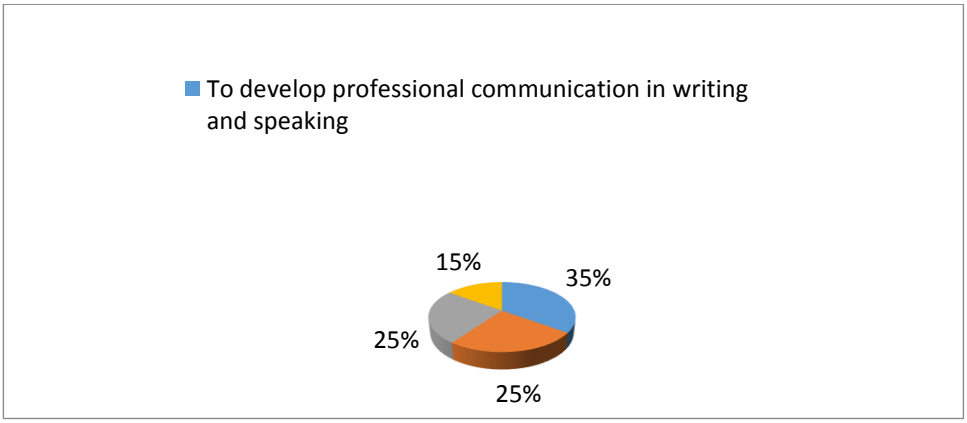

Figure 13. Reasons behind Doing ESP Coures

This question tries to figure out participants' reasons behind doing ESP courses. Participants differ in their responses. (35%) of participants thought that ESP courses will help them develop professional communication in writing and speaking**.** Another (25%) guess that ESP courses are the key to develop skills in writing business correspondence. (25%) of the participants stated that there is a relationship between job interview skills and ESP courses for that these latter could help them reach a certain advanced level in interviewing. while the remaining six (06) students (15%) thought that ESP courses will help them develop presentation skill.

Our intention was not exactly to know the participants' reasons behind doing ESP courses, but rather what they think about the more needed job skill in order to be developed. That, we believe, may lead them to auto-questioning, henceforth, having a student who is able to assess him/herself.

Q11: What language structures do you consider important in ESP courses?

Technical terms in your area of specialization	**Grammatical structures**	**General terms used in scientific contexts**	**Others**
30	5	4	1
75%	12.5%	10%	2.5%

Table 12. Language structures for ESP courses

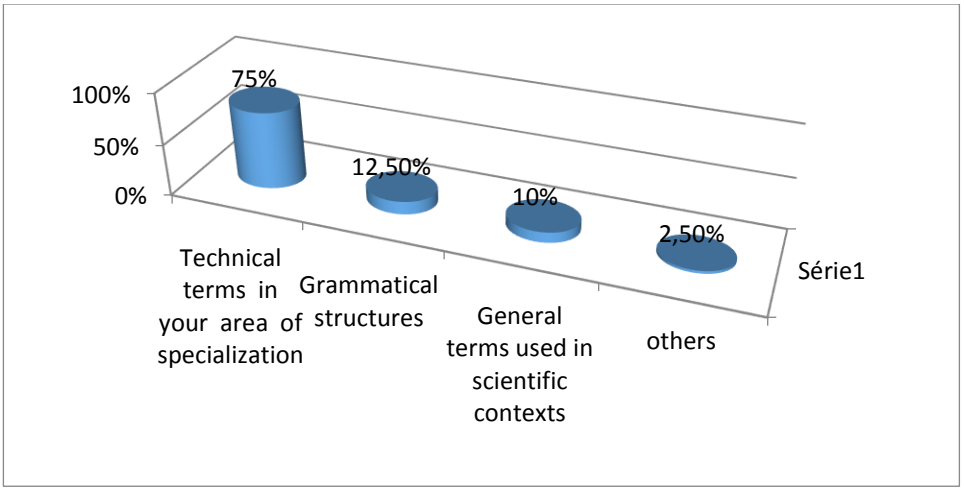

Figure 14. Language structures for ESP courses

The results show clearly that the item with the highest percentages (75%) of responses frequencies is Item 1 (Technical terms in your area of specialization). However, the item which is perceived by the participants to be less important to be learnt is Item 4 (others). This result is indicated by a lower percentage of students' responses (2.5%). Additionally, two items with less than quarter of the participants' frequency responses ranged from 12.5% to 10% are Item 2 (Grammatical structures, e.g. present participles, passives, conditionals, etc.) and Item 3 (General terms used in scientific contexts) and, respectively.

Q12: How do you prefer to do learning activities?
1-In small groups **2-**Individually **3-** In pairs

In small groups	Individually	In pairs
16	08	16
40%	20 %	40%

Table13. Engineers Preferences of Learning Activities

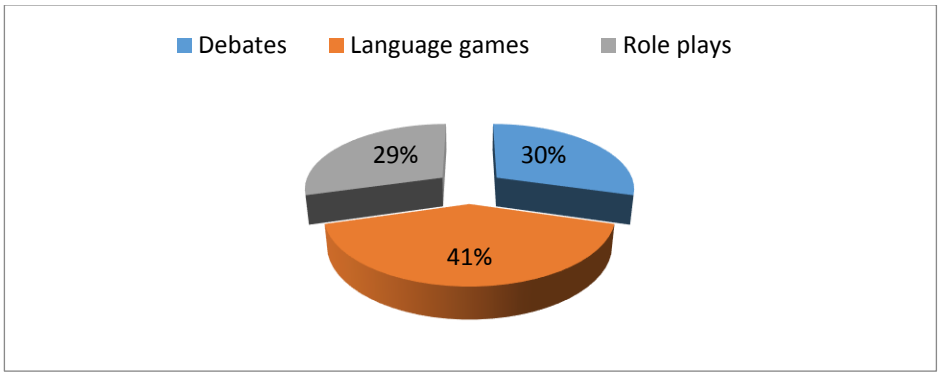

Figure15. Engineers Preferences of Learning Activities

This questionnaire intended to find out engineers' learning preferences or suggestions to improve English language courses. The researcher has noticed that the same percentage of the participants (40%) preferred pair and group work. However, the remaining (20%) of the participants preferred working alone.

Q13: Do you like learning through?

1- Debates **2-** Language games **3-** Role plays **4-**Written exercises

Debates	Language games	Role plays	Written exercises
10	14	10	6
25%	35%	25%	15%

Table 14. Engineers Attitudes towards Learning

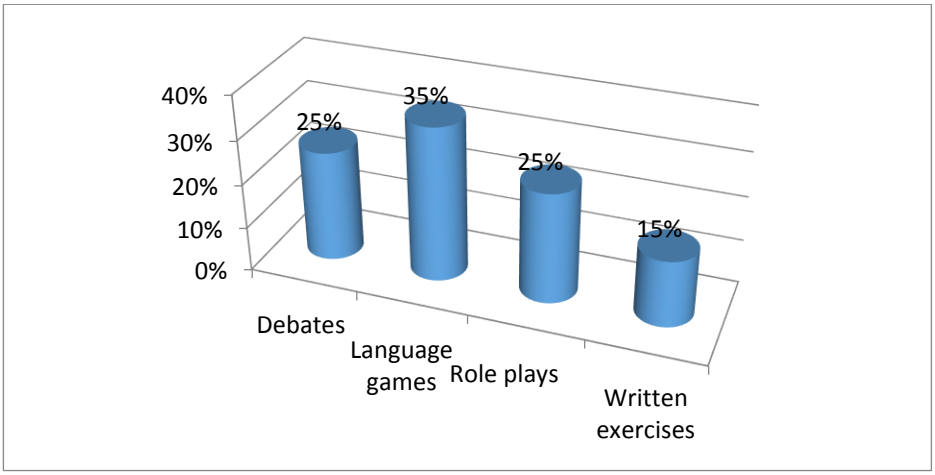

Figure16. Engineers Attitudes towards Learning

Based on the above chart, it is noticeable that (35%) of participants opted for oral activities "debates". Whereas (25%) of them preferred learning through language games. The same percentage of the participants (25%) chose role plays as a learning strategy; however, the minority of (15%) selected written exercises to perform during lectures.

4. General Discussion of the Findings

The study found evidence that the needs analysis gives background information on the learners, their learning habits, and expectations. This work also shows that learners have precise and clear views about their abilities and weaknesses in the different language skills. Therefore, they can opt for the suitable one that may help them in their academic study, job or social life.

Our aim for the investigations was not exactly to gather quantitative data from participants. But rather to raise the awareness about the necessity of needs analysis and how teaching and learning should take place and how to develop new teaching materials according to learners' needs in terms of appropriateness and effectiveness.

To begin with, the researcher has noticed, through the questionnaire that the majority of the participants noted that ESP is important and beneficial not just for their jobs but also for their future careers.

Additionally, according to the findings that presented the importance of English language skills and their classification according to students' needs. Interestingly enough, all the language skills have been perceived to be important to acquire regardless of being used frequently or not. However, there was an agreement among students in perceiving speaking to be number one in terms of needs more than writing and other skills. Therefore, developing tasks that encourage communication and interaction is taken as crucial tasks which would benefit the learners' professional careers. Moreover, the findings revealed that there are some English language sub-skills that the participants have to master in order to function effectively in the target situation.

The results to the question "what language structures do you consider important in these English courses?' showed that Technical Terms are perceived as being most important by the participants since these are two lexical areas frequently used in science and technical English. They are technical vocabulary and sub-technical one, referring to those "common" words that occur with special meaning in specific fields. The students consider vocabulary essential for comprehension of scientific texts and in the area of specialization.

We can conclude that learners' needs are valuable source to design an appropriate course in order to improve the teaching and learning situation of ESP to this group of engineers. We can say also that an eclectic method is the most appropriate for them due to the lack of time. Based on what has been discussed the bellow table is a suggested course for Samsung engineers.

5. Limitations of Research

In most of its stages, our research went in good conditions except for some periods in which we felt unable to deal with it. As a result, we were obliged to cancel some sections, especially that of conducting few ESP courses for Engineers on site. O n the basis of the analysis above, the main limitations in this research are:

- The impossibility to generalize our findings because of the small number of the participants and the time factor; these were the biggest issues of the research.
- The last limitation, which we see as the most hindering, is the total lack of resources whether in our university or other local universities encompassing teaching ESP. This made us in front of one option which is URL as almost the only source except for some ebooks hardly available on the web.

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