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Evaluation of Computer Engineering ESP Course from Students' Viewpoints

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Authors' contributions

This study was carried out in collaboration between the both authors. Author MAM designed the study, wrote the protocol and first draft. Author AN supervised the work, provided some related sources and performed the statistical analysis. Both of the authors read and approved the final manuscript.

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ABSTRACT

As a course is being taught for several years, it should be evaluated to develop an awareness of whether the goals have been achieved. *English for Specific Purposes (ESP)* has been designed as a mandatory course for students of all disciplines (except English) in Iranian universities. The purpose of this study was to investigate an ESP course in the field of computer engineering in the current situation of Iranian universities by examining the students' attitudes. The participants were selected through simple randomization. There were 132 undergraduates consisting of 64 males and 68 females from five Iranian universities. The data were gathered by employing a researcher-made questionnaire as well as four open-ended questions. Independent sample t-test and one-sample

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t-test were employed to analyze the data. The results indicated that the ESP students' attitudes toward their ESP course were below expectations. The findings revealed that the current situation of the ESP courses in Iran was actually problematic and needed to be rectified.

Keywords: ESP; computer engineering; ESP students; attitude.

1. INTRODUCTION

As English was selected as an "International Language," people were recommended to learn English in order to establish a productive relationship with people of different countries. Learning English can guarantee the availability of opportunities to employment, travelling, higher education, and even a better life. These are some of the characteristics, which, according to Brutt-Griffler as cited in [1, p.12] make an international language. In addition, according to Mackey (2002), as cited in [2] *English language teaching has become very important because of the global status of English and people all over the world are learning this language (p.35)*. Considering the fact that English was used for different purposes such as travel, work, trade, …etc. and frequently special terminologies and words were being coined, due to advancement of technology, English was classified into two sections: "English for General Purposes" (EGP) and "English for Specific Purposes" (ESP).

From the1980s, ESP has grown to become one of the most important of EFL instructions. Its main purpose was to train students to read and comprehend their own field of study and prepare them for relevant professional setting in the future. The ESP program was therefore made on an assessment for purposes and needs and the function for which English is required [3].

ESP has some characteristics. That is, Absolute and variable. There are two definitions on basis of [4,5]. [4] definition made a distinction between four absolute and two variable characteristics.

1.1 Absolute Characteristics

ESP consists of English language teaching which is:

- designed to meet specified needs of the learner;
- related in content (i.e. in its themes and topics) to particular disciplines, occupations and activities;
- centered on the language appropriate to those activities in syntax, lexis, discourse, semantics, etc., and analysis of this discourse;
- in contrast with General English.

1.2 Variable Characteristics

ESP may be, but is not necessarily:

- restricted as to the language skills to be learned (e.g. reading only);
- taught according to any pre-ordained methodology (Gatehouse, 2001 cf. Strevens, 1998, pp. 1-2).

This definition tries to identify ESP in contrast with General English. Therefore, the emphasis is on "Specific English" that belongs to some particular discipline, occupation or activity. This definition makes it mandatory that ESP courses should concentrate on the language, i.e. syntax, lexis, discourse, semantics etc., which is appropriate for some particular discipline, occupation or activity. [5] have presented a modified definition of ESP which is also comprised of absolute and variable characteristics of ESP that are as follow:

1.3 Absolute Characteristics

- ESP is defined to meet specific needs of the learner;
- ESP makes use of the underlying methodology and activities of the discipline it serves;
- ESP is centered on the language (grammar, lexis, register), skills, discourse and genres appropriate to these activities.

1.4 Variable Characteristics

- ESP may be related to or designed for specific disciplines;
- ESP may use, in specific teaching situations, a different methodology from that of general English;
- ESP is likely to be designed for adult learners, either at a tertiary level institution or in a professional work situation. It could, however, be for learners at secondary school level;

- ESP is generally designed for intermediate or advanced students;
  Most ESP courses assume some basic knowledge of the language system, but it can be used with beginners".

ESP has been specified as a mandatory course, proven as fundamental needs, for students of all fields of sciences in Iranian universities. The aim is to train students to read and comprehend specific texts relevant to their field of study in English in order to prepare them for occupational or professional settings in the future. A more specific justification, which can make ESP uses clearer, is that this course is offered for those who are going to become qualified as professional experts in their field of study.

In addition, the recommendation on employment of the qualified graduates who master their field of study in English as an international language is being strongly emphasized in Iran. According to [6] ongoing changes and increasing globalization have increased the importance of communication in English at the workplace both within and across boundaries. Unfortunately not much research has been conducted on ESP in area of language teaching in Iran or other countries and the importance and real meaning of ESP are seldom emphasized in academic institutions and research organizations. [7] believe that the logic behind ESP is still unknown to most students.

Having accepted the today's facts toward ESP, now we should investigate how this program can be directed toward fruitful results. [8] believed that an effective ESP program requires relevant materials, knowledge, instructions and teamwork with subject matter professionals. According to most researchers, success depends on two sets of elements in any language teaching-learning program: first, human elements, such as the role of the teacher, the nature of learner(s) and the relationship between students; second, non-human elements, such as the textbook (s) and the teaching material(s), teaching aids and props, the syllabus and the number of hours specified for studying. All these factors are essential for improving such courses.

2. STATEMENT OF THE PROBLEM

Nowadays to find a good job requires the applicants to have practical skills. One of which, determined to have invaluable advantages, is ESP. Moreover, the demands of computer engineering graduates for employment are being increased in Iranian society. Most of job applicants in the field of computer fail to find their favorable job due to lack of sufficient familiarity with English language needed for special job. Although all university students have already passed an ESP course in connection with their field of study, they complain to have not enough capabilities in this area. On the other hand, they criticized that they have not learned many practical expressions related to their field of study or have forgotten those few useful expressions in their ESP textbooks. It seems that the computer engineering ESP program in Iranian universities has not been performed successfully. Therefore, there is a need to pay more attention to this area of language and help to improve the level of students' knowledge for their future ends.

3. SIGNIFICANCE OF THE STUDY

It seems that authentic teaching-learning ESP in the field of engineering sciences has seldom been carried out or authenticity toward ESP teaching-learning has never been done in Iranian educational system. Moreover, the importance of the ESP course has not been made clear well in academic and research institutions. Undoubtedly, most graduates have forgotten effective expressions relative to their major due to the current ESP programs in Iran. Therefore, the significance of this study is, mainly, to inform the current weaknesses and challenges of ESP course in the field of computer engineering in universities from the perspective of students. As a result, the instructors, students, researchers, program organizers, evaluators, administrators, course designer and …etc can benefit from the final findings of the current research.

4. RESEARCH QUESTIONS

This research intends to answer the following questions:

1. What are the attitudes of computer engineering students toward their ESP program?
2. Is there any significant difference between the attitudes of male and female university students toward the ESP program of computer engineering?

4.1 Related Literature

According to [9], when the Second World War ended, new scientific, technical and economic

demands grew and English became the international language. Therefore, the English language was determined to be taught in a way that serves different purposes. Furthermore, some changes took place in linguistics, which demanded focus on communicative aspects of language and learners' needs in specific contexts.

English for Specific Purposes (ESP) or English for Special Purposes was coined as a term in the 1960's as it became increasingly clear that general English courses frequently could not meet learners' or employers' needs. When English was known as an international language in the world and technology, medicine, education, and research were growing, the demand for ESP grew rapidly, particularly in EFL countries where English is mainly used for instrumental goals. People in these countries learn English in order to accomplish the school curriculum requirement, to pass standardized English proficiency tests, or to achieve promotion or professional development at work. Instead of learning English for such purposes, it is better to learn English as it relates to their professional fields so that they can easily find a job and be more professional.

According to Johns, cited in [10] ESP is a movement based on the proposition that all language teaching should be tailored to the specific learning and language use needs of identified groups of students and also sensitive to the social culture context in which these students will be using English (p.43). ESP can be classified into two sections: English for academic purposes (EAP) and English for occupational purposes (EOP). EAP serves in academic and EOP in occupational settings [5, p.6].

According to [9, p.6], the fact that "learners know specifically why they are learning a language" is a great advantage on both sides of the process. The group of ESP learners is going to achieve the same goal in the field of studying branch, so learners' motivation, in a form of the same aim, enables teacher to meet learners' needs and expectations much easier. Learners and the way of learning ('acquiring language') are considered to be the main factors in the whole process. [9] emphasized ESP to be an approach not a product. This belief means that language learning not language use is highlighted. They drew the attention to a 'learning-centered approach' "in which all decisions as to content and method are based on the learner's reason for learning" [9, p.19].

4.1.1 Differences on ESP and General English (GE)

Although students must take ESP and General English (GE) courses during their studying in university, they can't exactly clarify what the differences are between these two courses. In fact, such a question comes to our mind: 'What is the difference between the ESP and "General English" approach?'According to [9] the answer to this question is quite simple, "In theory nothing, in practice a great deal". Of course, the last statement was quite true. Early research in this field hypothesized that the major differences between ESP and GE lies in the technicality of lexicon [11].

Some other scholars made a distinction between GE and ESP in other ways. [12] believed that ESP contrasts with General English which can be referred to as "English of the exam". He further pointed out that the nature of ESP depends on the needs of the learners who experience those needs. In this regard, [9] contended that ESP is not a particular kind of language and methodology, nor does it consist of a particular type of material. It is an approach to language teaching which is based on the learner needs. [13] believed: "General Purpose English is not less specific and purposeful than ESP. What distinguishes them is the way in which the purpose is defined. ESP is essentially a training operation which enables the learners to cope with defined eventuality in future". [12] explained the characteristics of an ESP course which distinguishes it from a GE. [14] pointed out that an ESP course is purposeful and aims at successful performance of occupational and educational roles. It is designed, therefore, on the basis of students' needs and should be tailor-made. [11] believed that ESP is associated with later stages of language learning, while GE is associated with earlier ones. That is, GE instruction prepares learner for ESP instruction.

In a comparison between GE teacher and ESP teacher, [15] stated that both GE and ESP teacher should be able to identify the current language level of learners and to select materials and set tasks that are appropriate in level as well as in context. They also need to be able to set course objectives and devise course program. In order to achieve this it is essential for the teacher to have an in-depth knowledge of the language

system in terms of skills, functions, structures and vocabulary.

4.1.2 Needs analysis

Needs analysis (NA) is an information gathering process. As cited in [16, p.2] it is also known as needs assessment that has a vital role in the process of designing and carrying out any language course, whether it is English for Specific Purposes (ESP) or general English course, and its centrality has been acknowledged by several scholars and authors([17,9,18,19,20,21,22,23,24,25,3,5,26,27, 28]). Also, the importance of carrying out a needs analysis for developing EAP tests is emphasized by [29,30], cited in [29].

As cited in [2], the emergence of needs analysis in language planning comes back to the 1970s and its widespread proliferation in the domain is attributable to its adoption by The Council of Europe's modern language project (p.37). [31] opined that the development of a perception of need within communicative language teaching (CLT) in the 1970s had a widespread influence on needs analysis work. NA is considered as a basic principal of ESP [32] and most of the information on NA initially came from ESP. This is probably due to the fact that an NA approach is more useful when learners' needs are connected to a 'discrete set of communicative situations'.

All these uses of NA refer to the fact that NA can be used for a range of purposes. It can be helpful in determining whether a program should be implemented by finding out if it matches the goals and objectives of the learners for language learning and is used as part of a program. It can also help in improving various components of the program and making these more oriented to the needs of the learners. NA can also help in evaluating an existing program and if found deficient can help in establishing the need for introducing a change and what kind of change may appropriately match the needs of the learners and simultaneously be acceptable to teachers. This is the type of utilization of NA which can help in determining whether a positive attitude towards implementation of CLT exists among teachers and learners and whether CLT is more attuned to the kind of existing learning needs. Needs analysis can be limited to gathering information about the attitudes, belief and opinion of the learners and teachers and concurrently a more comprehensive NA can be conducted to gather information about all contextual factors.

4.1.3 Relevant theories on significance of implementing needs analysis

[32] believed that needs analysts should be cautious in collecting information from various sources due to the multiplicity and diversity of the views on prerequisites for an ESP course. [9] held that the relationship between necessities as perceived by a sponsor or an ESP teacher, and what the learners want or feel can be at extreme poles. However, he suggests that learners' perceived wants and wishes should be considered carefully, and due to objective and subjective reality of needs, each learning situation should be considered uniquely and systematically.

The research to date emphasizes the significance of a needs analysis for devising a course, writing textbooks or course books, and the kind of teaching and learning that takes place [32-3].Yet it is recommended that a needs analysis should be carried out continuously because 'as students become more involved with the course, their attitudes and approach may change' [32, p.15]. A needs analysis answers the questions who, what, when, and where but not how, that is, the target audience (who needs to be trained), the task or content (what needs to be taught) and the context or training environment (where and when the training needs to be conducted) [33].

[34] cited four reasons for performing needs analyses: First, to determine the relevance of the material to the learners" situations; second, to justify the material in terms of relevance for all parties concerned (teacher, learner, administration, parents); third, to account for differences in learner needs and styles, fourth, to which will meet the needs of the learners as fully as possible within the context of the situation. Accordingly, every language course should be viewed as a course for specific purposes which just varies in the precision with which learner needs can be specified.

4.1.4 A summary of previous studies on ESP in Iran

Specifically, [35] demonstrated that low English language proficiency of Iranian EFL students hindered their academic progress. Thus, strong English language proficiency is needed to reach one of the major goals of ESP courses. [36]

criticized traditional approaches to ESP materials development. He mainly favored a rhetorical framework, covering discoursal aspects of texts. The framework consisted of certain strategies and techniques for skimming and scanning information based on a procedural reading model and [37] focused on the learner-centered approach. He argued for learner autonomy, goal-orientedness, process-orientedness, and metacognition, and touches upon TEFL in Iran to see how much it related to these factors.

Moreover, [38] turned the spotlight on the weak points of ESP courses and materials for a specific group of students. He then offered general suggestions to come up with more productive ESP classes for the students as well as [39] referred to some weak points of ESP books published by SAMT, and has some comments on recent improvements. However, the paper fell short of practical suggestions, which would be welcomed and appreciated and [40] also referred to some points of ESP textbook, materials and needs analysis of nursing students of Fatemeh Zahra College Shiraz-Iran. She had done this by using questionnaires and interviews.

5. METHOOLOGY

5.1 Participants

The participants in this study were chosen from ESP students of universities. They were 132 students consisted of 64 males (48.48%) and 68 females (51.52%) ranging in age from 21 to 30. They were randomly selected from five universities including Shiraz State University, Shiraz Azad University, Fars Science and Research University, Pishtazan Non-beneficiary Higher Education Institute of Shiraz and Eram Non-beneficiary Higher Education Institute of Shiraz. All of the participants were in the field of computer engineering who were studying ESP course. Table 1 shows the demographic information of the participants.

Table 1. Characteristics of the participants

Gender	Participants	
	ESP students	Age
Male	64	21_30
Female	68	20_27

5.2 Instrumentation

The instrument used in this study was a questionnaire made by the present researchers to ascertain the attitudes of ESP students toward the computer engineering ESP course. The reliability was examined by Factor analysis Cronbach's alpha (it was found to be 0.756) and the validity was carried out through using expert judgments and interview. It was consisted of two main parts: quantitative and qualitative sections, each having its own merit. The quantitative part was designed to obtain some information about the present status of course book and teaching materials, the method of teaching and testing, the availability of audio-visual aids and the ESP classroom quality. Furthermore, it was made up of twenty five items in the form of Likert Scale. A commonly used five-point Likert scale format encompasses: 1. Strongly agree, 2- Agree 3- Neither agree nor disagree (No idea), 4- Disagree, 5- strongly disagree.

In the second section, four open-ended items were included. [41] believed that by permitting greater freedom of expression open-ended items can provide a far greater richness than fully quantitative items. The purpose is to achieve a fuller understanding of a target phenomenon. It was intended to enquire the participants preferences about university instructors' discipline (English or non-English) for teaching ESP course, strengths and weaknesses of their ESP class and their suggestions for improvement of this course. The validity and reliability of the questionnaire will be discussed in the following sections.

5.3 Procedure

The data were collected by distributing a Persian questionnaire to intended respondents to give their perspectives. Then one hundred and thirty two ESP students' attitudes were examined using the Likert Scale. The participants read each statement in the scale and decided to select one of the following responses 'strongly agree' 'agree' 'neutral' 'disagree' 'strongly disagree' with the statements. Each response had its value ranging from 1 to 5. The measure yielded a global score ranging from 25 to 125.

5.4 The Validity and Reliability of Questionnaire

5.4.1 The validity of the questionnaire

Expert judgments were used to ensure the content validity of the questionnaire. To this end, it was given to three experts to examine it and find out the problems. Through judgment, some

items were completely omitted and some of them were reworded. Afterward, the committee members' advice was sought. Each strongly confirmed the appropriateness of the questionnaire with regard to subject-matter content and the objectives of the research.

5.4.2 The reliability of the questionnaire

The procedure used to administer the questionnaire began with checking its reliability.

Table 2. Distribution of gender

Participants	No. of items	Cronbach's alpha
30	25	0.756

The reliability was tested by the Cronbach's alpha for 30 teachers. It was found to be 0.756 which is an acceptable value. Thus, the questionnaire was reliable.

5.5 Data Analysis

The data were analyzed through SPSS software version 21 to obtain descriptive and inferential statistics. To this end, one-sample t-test for students' attitude toward their ESP course as well as Independent sample t-test for comparison of attitude between male and female students were run. Furthermore, the students' responses to four open-ended questions were taken into consideration in order to give more detailed discussion and conclusion. The findings of descriptive and inferential statistics and analytical responses have been presented in the next section.

6. STATISTICAL RESULTS

As seen in Table 3 and Fig. 1, most of the students were females (68 (51.5%) persons out of 132).

Table 3. Distribution of students' gender

Statistics / Gender	Frequency	Percent
Male	64	48.5
Female	68	51.5
Total	132	100.0

Table 4 showed statistics for the attitude toward ESP course in male and female students. It indicated that the attitude mean was 67.29 with a standard deviation of 10.697, ranged between 45 and 91. The Skewness and Kurtosis were in the accepted range (between -1 and 1), so the distribution was near to the normal.

The above Table showed the results for the Kolmogorov-Smirnov Test. Since the p–values were greater than 0.05 ($p>0.05$) for ESP students (male, female students), the statistics were not significant which means that the distributions were normal. Thus, parametric tests could be used.

6.1 Research Question 1: What are the Attitudes of Computer Engineering Students Toward their ESP Program?

To investigate this question, regarding scores which are between 25 and 125 (25 questions each scored between 1 and 5), we compared the scores obtained from the questionnaires with the expected value of 75 (the middle of 25 and 125). According to Table 4, the mean of students' attitude ($M=67.29$) was less than 75. The statistical significance of the difference was tested by the one-sample t-test as presented in Table 6. The necessary condition of normality was satisfied as seen in Table 5.

As shown in Table 6, the t-test was significant at the level of 0.01 ($t=8.283$, $df=131$, $p=0.001<0.01$). Thus, the difference between the students' attitude mean and the expected value (75) was significant. In other words, the attitude of students toward their ESP course was significantly lower than the expected value 75.

6.2 Research Question 2: Is there Any Significant Difference between the Attitudes of Male and Female University Students toward the ESP Program of Computer Engineering?

This question was tested by the independent t-test. The normality condition was satisfied as indicated in Table 5.

The results of the independent t-test as is presented in Table 7 showed that there was no significant difference between the two groups ($p=0.655>0.05$). This indicated that male and female students' attitudes toward their ESP course were statistically the same. Thus, the hypothesis "the male and female students have different attitude toward their ESP course" were rejected.

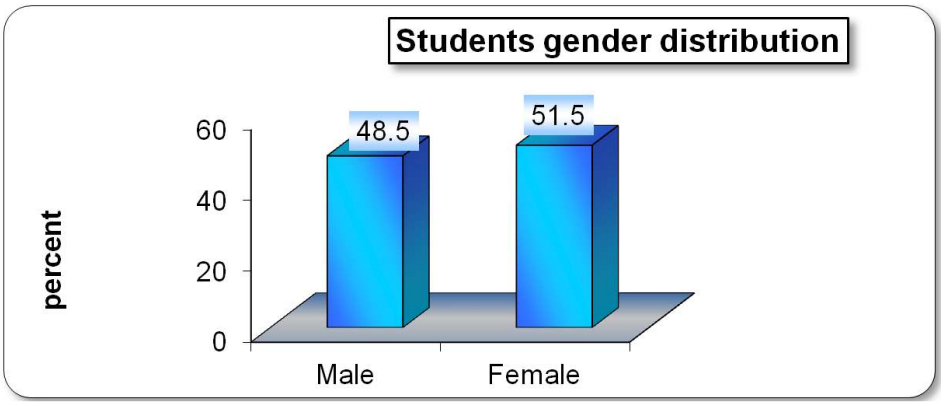

Fig. 1. Students' gender distribution

Table 4. Statistics for attitudes toward ESP course in different groups

Group	N	Mean	Std. deviation	Kurtosis	Skewness	Minimum	Maximum
Male students	64	67.72	10.390	-0.721	-0.579	45	83
Female students	68	66.88	11.041	-0.731	0.507	51	91
Total students	132	67.29	10.697	-0.820	0.022	45	91

Table 5. Kolmogorov-Smirnov test of normality for attitude

Group	Z	Sig. (p)
Male students	1.305	0.066
Female students	0.955	0.321
Total students	0.982	0.290

Table 6. The one-sample t-test for the students' attitude toward their ESP course

Statistics / Variable	N	Mean	Std. deviation	Std. error mean	Test value = 75			
					Mean difference	t	df	Sig. (2-tailed)
Attitude	132	67.29	10.697	0.931	-7.712	-8.283	131	0.001

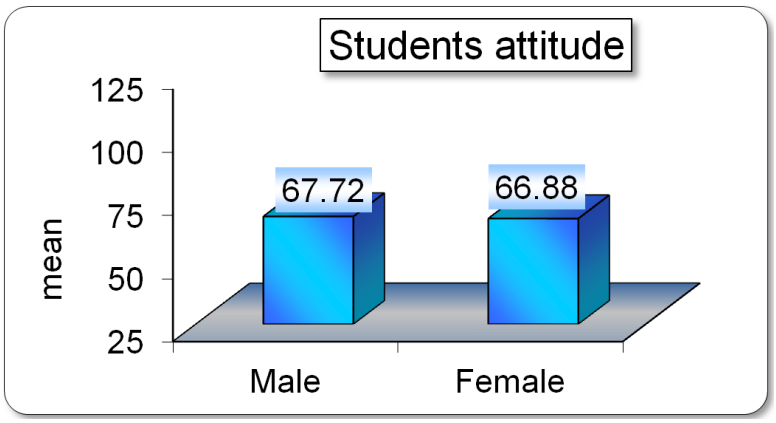

Fig. 2. Attitude mean in different gender groups

Table 7. The independent t-test for comparison of attitude between males and females students

Statistics / Group	N	Mean	Std. deviation	Std. error mean	Mean difference	T	df	Sig. (2-tailed)
Male	64	67.72	10.390	1.299	0.836	0.448	130	0.655
Female	68	66.88	11.041	1.339				

The Fig. 2 showed that the attitude mean scores were similar in male and female groups.

7. DISCUSSION

7.1 Analysis of Students' Responses to Open-ended Questions

7.1.1 Students' responses regarding ESP instructors' expertise

A large number of students, including more males, believed that those instructors who had a degree in the field of computer could teach the ESP course effectively on condition that they mastered English and were familiar with the methods of teaching. Since they knew technical expressions, terminologies and they mastered their field of study. They could teach and explain to the students much better than English instructors. In contrast, some students, including many of females, believed that English instructors were more suitable for teaching ESP, if they have already studied the subject-matter, because they had studied English rule, principles, etc.

7.1.2 Students' responses regarding strengths of ESP classes

A majority of students believed that they had not observed any strength in their ESP classes except a few students who stated that group working and class participation definitely were the only strengths of their ESP classes.

7.1.3 Students' responses regarding weaknesses of ESP classes

Almost all participants wrote their opinions about the weaknesses of their ESP classes. They firmly believed that they had a lot of weaknesses in ESP classes. So, the researchers studied the students' views one by one and then, as an impartial person, started analyzing their views completely. The analyses revealed the warning signs, which were essential to take serious steps to ameliorate this program. Specifically, old textbooks and useless sources were introduced and covered in ESP classes. In general, ESP books should be updated for ESP classrooms. Since the computer disciplines are being developed and technology becomes newer. Moreover, a few students believed that their instructors spoke Persian and did not carry out constructive movement for improving the students' level. It seemed that they did not master English or ESP course.

More important, the instructors did not care much about students' homework, they covered the lessons fast without paying attention to students' understanding. Students wondered how to answer the exercises because of their weak background of English. Another viewpoint was that, a group of students declared that the instructors taught this course simply without assigning the students homework and without encouraging their students to participate in class activities as well as some students stated that their instructor was incapable of controlling the class.

Above all, almost all of ESP students of a state university were completely unsatisfied with their ESP course, since they complained that ESP courses were divided into two parts, ESP for basic sciences and engineering sciences, in this university. Those students who were studying in one field of engineering sciences should take the ESP course specified for all of the engineering students. They stated that in their class all students of five fields of engineering branches were present and a course book or a textbook consisted of ten lessons had to be taught for five majors which nearly two lessons were related to the field of computer engineering. The rest were some lessons related to other majors such as, mechanic engineering, electronic, oil, and chemistry. In other words, almost 80% of this book was useless and ineffective for computer students. For examples, according to one of the unsatisfied students "what is the use of ESP oil texts for computer engineering?" can be distinguished as critical challenges. Students strongly emphasized that each ESP class should be separated for each major. Preferably

engineers should learn technical words and terminologies related to their field of study and not necessary to learn sciences which they do not need them at all.

7.1.4 Students' suggestions for betterment of ESP program

In order to take positive steps for improvement of the ESP programs, it is better to take students suggestions into considerations which can be helpful for program organizers to revise the pedagogical policy. Students' suggestions are elaborated as follows:

1. A few students recommended that the class hours be increased and ESP examination be designed objectively.
2. A number of students believed that special passages for translation should be increased. In this regard, texts should be specified for computer sciences as well as a practical research should be assigned so that the contents of ESP course can be stored for long term
3. A few students, who approved ESP as an effective course, suggested that this course be submitted in final semesters because they had already studied the content of ESP book in Persian (their mother tongue). Certainly, this could facilitate the learning.
4. Some of the students believed that qualified instructors should be selected for teaching ESP who were knowledgeable and familiar with the subject-matter or the knowledge-level of instructors should be promoted with subject-matter.
5. Using updated sources are more beneficial than using old-fashioned ones.
6. They strongly emphasized that the instructors should teach authentically, assign useful homework to the students and then ask them to deliver their work, ask their students the lessons which they had taught before, encourage and motivate them to study and to do research. Some students believe that the instructors should do their intended task seriously as they have been ordered and not to be nonchalant to their task.
7. Most of the students believed that if the quality be increased in the ESP classes including effective teaching, introducing useful textbooks, creating motivation and interests, controlling the class and using teaching aids, learning would be facilitated.

7.2 Comprehensive Analysis

From data collected regarding female and male students, it can be inferred that the current situation of ESP has failed to satisfy their needs. They strongly believe that textbooks, the method of teaching and physical condition of class should be modified. However, Iranian students have low proficiency of English language. These perspectives are compatible with surveys conducted by [37] who emphasized on learner-centered approach and [36] who criticized the traditional approach as well as [35] pointed out the weak proficiency of students.

In addition, it should be noted that ESP courses have not ever met the predetermined objectives. Some improving factors might be introduced: first, a large number of words, terminologies and texts which have been compiled in the ESP books should be specifically commensurate with learners' disciplines. In other words, relevant materials should be developed and covered; second, GE instructions should be modified in order to prepare students step by step with ESP; third, instructors should have a sense of responsibility toward their job. The employment of nonchalant instructors should be seriously avoided; finally, students' evaluation should be on basis of standard criteria. Above all, one possible solution is team teaching or collaboration between language instructors and subject-matter instructors. Instruction can be, to great extent, improved if an effective collaboration between them (language and subject-matter instructors) be carried out.

8. IMPLICATIONS

As cited in Mirza Suzani, Yarmohammadi and Yamini [7, p.195] in any educational atmosphere, retention of materials depends on three important factors: the quality of teaching, the interest of learners and the meaningfulness of textbooks and materials [21]. It should be noted that evaluating attitudes is particularly helpful to gain a good and useful insight into the nature of materials. Therefore, examining the students' attitudes can be a good source for policy makers, course developers, program organizers to improve such programs. Finally, it is worth mentioning that evaluating students' attitudes can also be a good help for ESP instructors to offer the most effective instructions they need for their future ends. It can also play an important role in increasing learners' interest.

9. CONCLUSION

The results revealed that students' attitudes were below the expected level toward their ESP course. In response to the second question is that the attitudes of male and female students were found to be the same and contrary to our expectations there were no significant differences between them. To sum up, we came to the conclusion that the current situation of ESP course in the field of computer engineering was not satisfactory for students. The students believed that passing this course was just waste of time. Indeed, the teaching-learning of ESP undergoes an ill-judged policy in Iranian universities. Therefore, it is recommended that the current situation should be rectified based on needs analysis which serves authentic teaching, practical texts, and serious educational rules. Of course, in recent years some attentions have been seriously paid to ameliorate of this program which worth appreciation. Still, there exist some shortage sand problems which fundamentally need to be paid much more attention. The researchers hope that the goals behind ESP will be achievable in the future.

10. LIMITATIONS AND ISSUES FOR FURTHER STUDY

The generalizability of the findings may be limited since this research has examined only 132 students of five universities in one province of Iran. Maybe if all participants were chosen from different universities all over the country, the results would be more generalizable. Furthermore, scaling of responses can be another limitation. Likert scaling is a bipolar scaling method, measuring either positive or negative response to a statement [42]. Whether individual Likert item can be considered as an interval- data, or whether they should be considered, as o data is the subject of disagreement.

This study was primarily conducted to investigate the current situation of ESP course in the field of computer engineering. Surely, this research can also be conducted for other majors. A second point is that, evaluation of ESP textbooks can also be done in terms of instructors' attitudes by administrating questionnaire to them. Furthermore, research on evaluating two ESP instructors whose major is English language and Non-English (subject-matter) as well as research on evaluation of students' achievement in terms of two ESP groups which differ in discipline of their instructors (English and Subject-matter) can be conducted. Finally, there may be other variables which could improve the level of students' success in learning ESP. It would be the task of researchers to identify what these variables are, and by testing them, determine the extent to which they may affect ESP teaching and learning.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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