

The Evaluation of Computer Engineering ESP Course from the Students Attitudes

Abstract

As a course is being taught for several years, it should be evaluated to develop an awareness to what extent the goals behind it have been achieved. Therefore, the purpose of this survey was to investigate the ESP course in the field of computer engineering in current situation of Iranian universities by analyzing the students' attitudes. The participants were randomly selected. They were 132 undergraduates consisted of 64 male and 68 female from five universities of Iran. The data gathered by employing a questionnaire as well as four open-ended questions. Independent samples t-test as well as one-sample t-test were employed to analyze the data. The results indicated that the ESP students' attitudes are below the expected value toward ESP course. The findings revealed that the current situation of ESP course in Iran is actually problematic and needs to be rectified.

Keywords: ESP , computer engineering, ESP students, attitudes

1.1 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. Its acquisition can guarantee the availability of opportunities to employment, travelling, higher education, and even better life. These are some of the characteristics which according to Brutt-Griffler (as cited in, McMkay,2002) make an international language. Afterwards, according to Mackey (2002): *English language teaching has become very important because of the global status of English and people all over the world are learning this language.* Whereas , English was used for different purposes, travel, work, trade,...etc. And frequently special terminology, words were being coined, due to advancement of technology, English was classified into two section: "English for general purposes" (EGP) and English for specific Purposes (ESP).

28 From 1980s, English for specific purposes (ESP) has grown to become one of the most
29 important of EFL instructions. Its main purpose was to train students to read and
30 comprehend their own field of study and prepare them for relative professional setting in
31 the future . ESP program was therefore made on an assessment for purposes and needs
32 and the function for which English is required (Jordan,1997).

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

40 In addition, the recommendation on employment of the qualified graduates who
41 master their field of study in English as an international language is being strongly
42 emphasized in current work-condition of Iran. According to purpura and king (2003)
43 ongoing changes and increasing globalization have increased the importance of
44 communication in English at workplace both within and across boundaries.
45 Unfortunately not many researches have been conducted on ESP in area of language
46 teaching in Iran or other countries and the importance of ESP is seldom emphasized
47 in its real meaning in academic places and research organization. Mirza suzani,
48 Yarmohmmadi and Yamini (2011) believe that the logic behind the ESP is still
49 unknown to most students.

50 Having accepted the today facts toward ESP, now we should investigate how this
51 program can be directed toward fruitful results. Sullivan and Girginer (2002) believed that
52 effective ESP program requires relevant materials, knowledge, instructions and teamwork
53 with subject matter professionals. According to most researchers who agree that in any
54 language teaching-learning program success depends on two sets of elements, first, human
55 elements, such as the role of the teacher, the nature of learners, the relationship between
56 students, second, non-human elements, such as the textbook and the teaching materials,

57 teaching aids and props, the syllabus, the number of hours specified for studying. All these
58 factors are essential for improving such courses.

59 **1.2 Statement of the problem**

60 Nowadays to find a good job requires the applicants to have practical skills. One of
61 which is ESP which is of high importance. Moreover, computer engineering graduates'
62 demands for employment is being increased in Iranian society. Most of job applicants
63 in the field of computer fail to find their favorable job due to lack of sufficient
64 familiarity with English language needed for special job. Although all university students
65 have already passed the ESP course in connection with their fields of studies, They
66 complain to have enough capabilities in this area. On the other hand, they criticized that
67 they have not learned many practical expressions related to their field of study or have
68 forgotten those few useful expressions in their textbook in ESP classroom. It seems that
69 computer engineering ESP program in Iranian universities has not been performed
70 successfully. Therefore, there is a need to pay more attention to this area of language
71 and help to improve the level of students' knowledge for their future ends.

72 **1.3 Significance of the study**

73 Authentic teaching-learning ESP in Iran in the field of engineering sciences has seldom
74 been carried out or in other words authenticity toward ESP teaching-learning has never
75 been done. And also the importance of ESP course has not been made clear well in
76 academic places. Undoubtedly, most graduates have forgotten effective expressions relative
77 to their major due to current ESP teaching-learning system in Iran. Therefore, the
78 significance of this study is, mainly, to inform the current weaknesses, challenges of ESP
79 course in the field of computer engineering in universities from the perspective of students.

80 **1.4 Research Questions**

81 This research intends to answer the questions as follow:

82 1_ What are computer engineering students' attitudes toward their ESP program?

83 2_ Is there any significant difference between male and female university students
84 attitudes toward ESP program of computer engineering?

85 **Related literature**

86 According to Hutchinson and Waters (1987) when the Second World War ended, new
87 scientific, technical and economic demands grew and English became the international
88 language. Therefore, English language was determined to be taught in a way that serves
89 for different purposes. Furthermore, some changes took place in linguistics, which demanded
90 focus on communicative aspects of language and learners' needs in specific contexts.

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

102 According to Johns, cited in Celce-Murcia (2006, P.43) English for specific purposes
103 (ESP) is movement based on the proposition that all language teaching should be tailored
104 to the specific learning and language use needs of identified groups of students and also
105 sensitive to the social culture context in which these students will be using English. The
106 ESP can be classified into two sections: English for academic purposes (EAP) and English
107 for occupational purposes (EOP). EAP serves in academic and EOP in occupational
108 settings (Dudley-Evans and St. John, 1998, P.6).

109 According to Hutchinson and Waters, (1987, p. 6) The fact that "learners know
110 specifically why they are learning a language" is a great advantage on both sides of the
111 process. The group of ESP learners is going to achieve the same goal in the field of
112 studying branch, so learners' motivation, in a form of the same aim, enables teacher to

meet learners' needs and expectations much easier. Learner and the way of learning ('acquiring language') are considered to be the main factors in the whole process. Hutchinson and Waters (1987) emphasized ESP to be an approach not product that means language learning not language use is highlighted. They draw 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" (Hutchinson and Waters, 1987, p. 19). In fact, it always comes to our mind such a question, 'What is the difference between the ESP and "General English" approach?' According to Hutchinson, the answer to this question is quite simply, "in theory nothing, in practice a great deal". In 1987, of course, the last statement was quite true. At the time, teachers of 'General English' courses, while acknowledging that students had a specific purpose for studying English, would rarely conduct a needs analysis to find out what was necessary to actually achieve it.

3.1 Participants

The participants in this study were chosen from ESP Students universities. They were 132 students consisted of 64 Male (48.48%) and 68 Female (51.52%) ranged 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, Eram Non-beneficiary higher education institute of Shiraz, all of them were in the field of computer engineering who were studying ESP course.

Table 3.1 characteristics of the Participants

GENDER	PARTICIPANTS	
	ESP Students	AGE
Male	64	21_30
Female	68	20_27

3.2 Instrumentation

Instruments used in this survey was a new questionnaire made by the researcher to ascertain the ESP students attitudes toward the computer engineering ESP course. The reliability was examined by Factor analysis Cronbach alpha as well as the validity was carried out through using experts judgments and interview. It was consisted of two main parts: quantitative and qualitative sections which has its own merit. The quantitative 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 5 point Likert scale format is: 1. Strongly agree, 2- Agree 3- Neither agree nor disagree (No idea), 4- Disagree, 5- strongly disagree.

In the second sections, four open-ended Items were designed as Dornyei (2007) believed that by permitting greater freedom of expression open-ended Items can provide a far greater richness than fully quantitative. The purpose was to achieve a fuller understanding of a target phenomenon. It was intended to enquire the participants preferences about university instructors' expertise (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.

3.3 Procedures

The data was 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 whether they were ' strongly agree' 'agree' 'neutral' 'disagree' ' strongly disagree' with the statements. Each response has its value ranging from 1 to 5. The measure yielded a global score ranging from 25 to 125.

3.4 The validity and reliability of questionnaire

3.4.1 The validity of the questionnaire

The experts 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 experts judges, some items were completely omitted and some of them were reworded. Afterwards, the committee member' advice was sought. Each strongly confirmed the appropriateness of the questionnaire with regard to subject matter content and the objectives of the research.

3.4.2 The reliability of the questionnaire

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

Table 3-1. 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.

3.5 Data analysis

The data were analyzed through SPSS software version 21 to obtain descriptive and inferential statistics. Moreover, 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, four open-ended questions have been taken into consideration in order to give more detailed discussion and conclusion. The findings of descriptive and inferential statistics and analytical procedure will be presented in the next section.

4.0 Statistical Results

Table 4-1. Distribution of students' gender

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

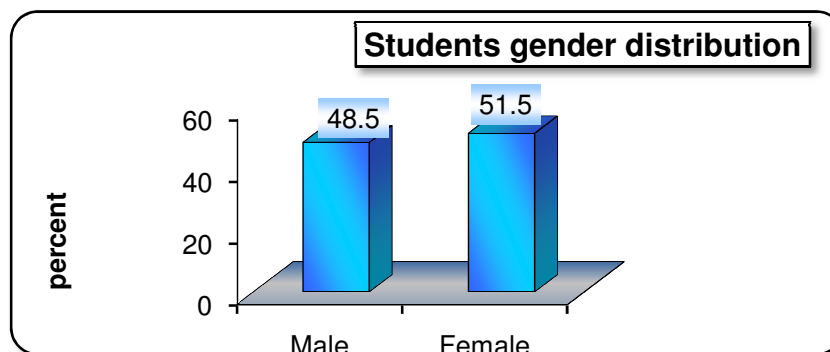


Fig. 4-1. Students' gender distribution

As seen in Table 4-1 and figure 4-1, most of students were females (68 persons out of 132, corresponded to 51.5%).

Table 4-2. 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 4-2 shows statistics for variable attitude toward ESP course in Male and Female students. It indicated that the attitude mean was 67.29 with standard deviation 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.

Table 4-3. 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

The above Table shows results for the Kolmogorov-Smirnov Test. Since 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 test can be used.

Research Question 1: What are computer engineering students' attitudes toward their ESP course?

To investigate this question, regarding scores which are between 25 and 125 (25 questions each scored between 1 and 5), we compared the score obtained from questionnaires with the expected value of 75 (the middle of 25 and 125). According to Table 4-2, 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 4-4. The necessary condition of normality was satisfied as seen in Table 4-3.

Table 4-4. 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

As shown in Table 4-4, 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 average.

Research Question 2: Is there any significant difference between male and female university Students' attitudes toward their ESP course of computer engineering?

This question was tested by the independent t-test. The normality condition was satisfied as indicated in Table 4-3.

Table 4-5. 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 result of independent t-test as presented in Table 4-5 shows that there was no significant difference between two groups ($p=0.655>0.05$). This indicated that male and female students' attitudes toward their ESP course were statistically the same. This gives negative answer to the research hypothesis.

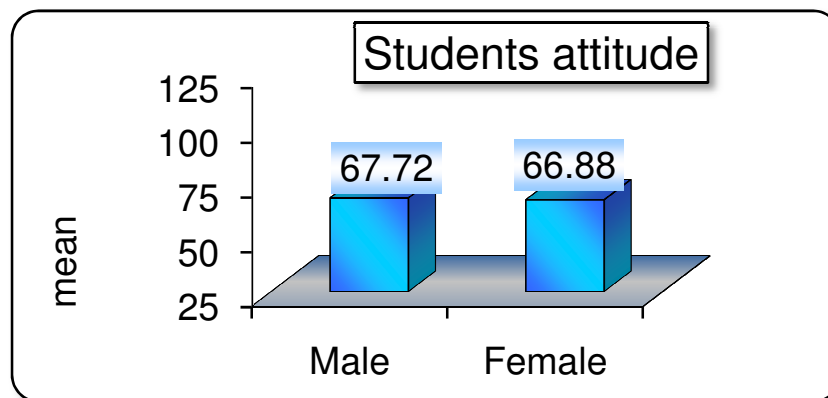


Fig. 4-2. Attitude mean in different gender groups

The above diagram shows that attitude means were close to each other in male and female groups.

4.1 Analysis of Students Responses to open-ended questions

237 **Students responses regarding ESP instructors expertise**

238 A large number of students, including more males, believe that those instructors who
 239 have degree in the field of computer can teach the ESP course effectively on
 240 condition that they master in English and be familiar with the methods of teaching.
 241 Since they know technical expressions, terminology and they master in their expertise.
 242 For this reason, they can teach and explain to the students much better than English
 243 instructors.

244 In contrast, some students, including many of females, believe that English instructors
 245 are more suitable for teaching ESP, if they have already studied the subject-matter,
 246 because they have studied English rule, principles ...etc.

247 **Students responses regarding strengths of ESP classes.**

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

251

252 **Students responses regarding weaknesses of ESP classes.**

253 Almost all participants have written their opinions about the weaknesses of their ESP
 254 classes. They firmly believed that they had a lot of weaknesses in ESP classes. So,
 255 the researcher studied the students views one by one and then, as an impartial
 256 person, started analyzing their views completely.

257 The analysis revealed the following warning points which is essential to take serious
 258 steps to ameliorate this program.

259 1. old textbooks, useless sources are introduced and taught in ESP classes. In general
 260 ESP books should be up-to-date for ESP classrooms. Since computer sciences is being
 261 developed and technology become newer.

262 2. The instructors did not pay importance who had written their homework, they
263 covered the lessons fast without paying a little attention to students' understanding.
264 Students did not know how to answer the exercises, students level was elementary.

265 3. A group of students declared that the instructors teach this course simply without
266 assigning the students homework and without encouraging their students to participate
267 in class activity.

268 4. Some students stated that their instructor was incapable of controlling the class.

269 5. A few students believe that their instructors spoke Persian language and did
270 not carry out constructive movement for improving the students' level. It seemed that
271 they did not master in English or ESP course.

272 6. Almost all students of a state university, which the researcher is not willing to
273 mention its name, were completely unsatisfied with their ESP course, since they
274 complained that ESP courses are divided into two parts, ESP for basic sciences and
275 engineering sciences, in this university. Those students who are studying engineering
276 branches should take the ESP course specified for engineering students. They stated that
277 in their class all students of five field of engineering branches were present and a
278 course book or a textbook consisted of ten lessons had to be taught for five majors
279 which nearly two lessons were related to the field of computer engineering. The rest
280 were some lessons which related to other majors such as, mechanic engineering,
281 Electronic, oil, chemistry. In other words, almost 80% of this book was useless and
282 ineffective for computer students. For examples, according to one of unsatisfied students
283 " what is the use of ESP oil texts for computer engineering ?" can be distinguished as
284 critical challenges. Students strongly emphasized that each ESP class should be
285 separated for each major. Preferably engineers should learn technical words, terminology
286 related to their field of study not necessary to learn sciences which they do not need
287 them at all.

288 **Students suggestions for betterment of ESP program**

289 In order to take a positive steps for improvement of the ESP program, It is better to
290 take students suggestions into considerations which can be helpful for program organizer
291 to revise the pedagogical policy. Let's elaborate the students suggestions as follow,

292 1. A few number of students recommended that the class hours be increased and the
293 ESP examination be designed objectively.

294 2. A number of students believe that special passages for translation should be
295 increased. Texts should be specified for computer sciences.

296 3. A few number of students who approved the ESP as an effective course suggested
297 that this course be submitted in final semesters because they had already studied the
298 content of ESP book in Persian language (their mother tongue). Certainly, this can
299 facilitate the learning.

300 4. A number of students believe that qualified instructors should be selected for teaching
301 ESP who are knowledgeable and are familiar with the subject-matter or the knowledge-
302 level of instructors should be promoted with subject-matter.

303 5. Using an up-to-date sources are more beneficial than using a textbook relevant to fifty
304 years ago.

305 6. Assign a practical research so that the content of the ESP can be stored for long term.

306 7. They strongly emphasized that the instructors should teach authentically, assign
307 useful homework to the students and then ask them to deliver their work, ask their
308 students the lessons which they had taught before, encourage and motivate them to
309 study, to do research. Some students believe that the instructors should do their intended
310 task seriously as they have been ordered not to be nonchalant to their task.

311 8. A number of few students believe that if the quality be increased in ESP classes
312 including effective teaching, introducing useful textbooks, creating motivation and
313 interests, controlling the class and using teaching aids, learning would be facilitated.

314 **4.2 Discussion**

From female and male students, it can be inferred that the current situation of ESP has failed to satisfy their needs which definitely serve for their professional settings. They strongly believe that textbooks, the method of teaching and physical condition of class should be modified. These perspectives are compatible with surveys conducted by Ajideh (2002) who emphasized on learner-centered approach and Shokouhi (2005) who criticized traditional approach.

5. Conclusion

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

References

- Ajideh, P. (2006). Schema – theory based considerations on pre-reading activities in ESP textbooks. *The Asian EFL Journal* ,16 , 1-19.
- Celce_murcia, M.(2006)*Teaching English as foreign language*.3rded. Boston, MA: Heinle & Heinle.
- Cianflone, Eugenio. (2010) ‘What Degree of Specificity for ESP Courses in EFL Contexts?’ *Scripta Manent. Published by SDUTS*, 5 (1-2) 3-8.
- Dornyei,Z. (2007) *Research methods in Applied Linguistics*. Oxford: Oxford University

- 342 Press.
- 343 Dudley-Evans, T., and St. John, M. (1998). *Developments in ESP: A multi-disciplinary*
344 *approach*. Cambridge: Cambridge University Press.
- 345 Hutchinson, T. & Waters, A. (1987) *English for specific purposes: A learning centered*
346 *approach*. Cambridge: Cambridge University Press.
- 347 Jordan, R. R. (1997). *English for academic purposes: A guide and resource book for teachers*.
348 Cambridge: Cambridge University Press.
- 349 Johns, A. (1991). *English for specific purposes: Its history and contribution*. In Celce-Murcia,
350 M. (Ed). *Teaching English as a second or foreign language* (pp.67-77). Boston, MA:
351 Heinle & Heinle.
- 352 McKay, S.L. (2002) *Teaching English as an International Language*. Oxford:
353 Oxford University Press.
- 354 Mirza Suzani, S., Yarmohammadi, L., & Yamini, M. (2011). A Critical Review of the current
355 Situation of teaching ESP in the Iranian Higher Education Institutions. *The Iranian*
356 *EFL Journal* 7(6): 179 – 20.
- 357 Purpura, J. and Graziano-King, J. (2003). Investigating the Foreign Language Needs of
358 Professional School Students in International Affairs. *Working Papers in TESOL*
359 *& Applied Linguistics*, 4 (1). pp: 1-33.
- 360 Shokouhi, H. (2005). A new discourse plan for the Iranian university ESP
361 Textbooks. In: Kiany, G. R., Khayyamdar, M. (Eds.), *Proceeding of the First National*
362 *ESP/EAP Conference*, Vol. III. Tehran: SAMT.
- 363 Sullivan, P. & Girginer, H. (2002). The use of discourse to enhance ESP teacher
364 knowledge: an example using aviation English. *English for Specific Purposes*, 21(4),
365 397-404.