Original Research

Evaluation of Tabriz medical students' expectations of learning English for specific purposes (ESP): A focus on gender and subject field

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Abstract

Background: Teaching professional English is a field that began in the 1960s simultaneously with the worldwide recognition of English as a common scientific language among scientists and researchers. Learners' language needs and expectations have received much attention during the last decade. Likewise, within the scope of medical English, understanding the expectations of students is of the utmost importance. This study was designed to investigate the expectations of medical students regarding English language learning and application.

Methods: This cross-sectional study examined the expectations of 362 medical students in three program groups (medicine, dentistry, and pharmacy) in learning professional English during their coursework. A reliable and valid questionnaire was distributed among students who had a specific professional English course in various semesters in the faculty of medicine. Descriptive statistics and inferential analyses were conducted using SPSS software version 16.0

Results: In this study, the most frequent expectation from medical students was for their teachers to translate texts into the Persian language and help them to comprehend medical texts and final examinations, including translating from Persian to English as well. The results also found a difference between the expectations of male and female students, with female students having higher expectations than male students. There was no significant difference among the students of the three program groups (medicine, dentistry, and pharmacy) for total expectations or evaluation. However, there was a significant difference between the medical and pharmacy students.

Conclusion: Measuring student expectations is a critical factor in addressing English language learning, including professors' knowledge and interest, of students' various abilities in English for specific purposes (ESP).

Introduction

Approximately 360 million people worldwide speak English as their first language, considered to be an international education language in the 21st century.[1] The teaching field has a long history of teaching English for specific purposes (ESP). Until now, research on this topic has been limited.[2] Beginning in the early 1960s, ESP has expanded to different fields. Brief surveys indicate a huge variety of ESP textbooks, including medical, advertising and banking.[3-5] ESP programs are intended to provide students with the specific English skills required to function in different circumstances and professions. There are three reasons for the emergence of ESP as a common teaching thread: revolutions in linguistics, the need of a brave new attitude, and concentrating on learners.[6-8]

EAP (English for academic purposes) is pertinent to the English required for an educational context, used mainly at post-secondary or even at the secondary school level.[3,9,10] Trends in ESP display recent advancements in the praxis of ESP in three different fields, including sociocultural, sociodiscoursal, and sociopolitical; however, these are not mutually exclusive reference points. Besides an exemplary practice selection, theoretical analogs are regulated to socially-oriented perspectives on ESP.[11] Many 'General English' teachers can be described as using an ESP approach based on their syllabi, an analysis of learner demands, and specific knowledge of using English to further exact and specific communication.[12]

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Following the Islamic Revolution of Iran (1979), a doctrinaire program supervised by the Ministry of Science, Research and Technology was expanded to regulate identical discipline-based English for EAP.[13] This program led to the compilation of ESP textbooks for students in different fields, including engineering, medicine, science, humanities, social sciences, agriculture, law, geography, and other fields.[14] Despite the high importance of ESP courses for Iranian students, particularly medical students, investigations, both specific and general, have rarely assessed the English language requirements of these. English has been taught without a systematic assessment of the needs of the medical students.[15] There is also no advanced planning for course design, teacher education, textbooks, or systematic research on the effectiveness of these ESP programs.

Therefore, this study was designed investigate the expectations of students of a medical sciences faculty regarding the learning of English by considering such factors as the gender of the learners as well as their subject fields (medical, dentistry and pharmacy).

Materials and Methods
Study design
A pilot study for this research included 50 randomly chosen male and female participants from different parts of the Tabriz University of Medical Sciences. For the principal study, 362 students were randomly selected from the faculty of medicine from the medical, dentistry and pharmacy fields during winter 2018. The design of the study was a cross-sectional descriptive design, with the dependent variable as participant expectations and independent variables that included gender and program fields of the participants.

Participants were asked to complete a four-part questionnaire in Persian. For quantitative purposes, a researcher-designed questionnaire was used to collect the data. The items were ranked on a Likert scale ranging from 1 (most important) to 5 (least important). The questionnaire included three subscales: part 1 included 15 items about total expectations of the students, part 2 with 8 items about students' specific expectations and the last part including 4 items about evaluation. Most questions for the target situation analysis were constructed following Communication Needs Processor (CNP) parameters.[16] Items for context analysis were formed according to suggestions provided by Westerfield.[17] Content validity was checked by expert teachers and reliability assessed using Cronbach's alpha.

Procedure
The final version of the questionnaire was distributed among 362 participants (completion: 353, with nine excluded) across a time interval of 4 weeks. Participants were informed that the information provided would be kept confidential and used only for this research.

As mentioned above, most of the questions for the target situation analysis were constructed following the parameters of the CNP. This is because, in CNP, "the variables that affect communication needs by organizing them as parameters in a dynamic relationship to each other" are taken into account. The items for present situation analysis and context analysis were formed according to the suggestions provided by Westerfield.[17] Content validity was checked by expert teachers who have been teaching in the medical faculty at Tabriz University for many years. Reliability was assessed using Cronbach's alpha for social sciences research. It showed an index of 0.70 for total expectation, 0.79 for student specific expectation and 0.60 for the evaluation. For social science research, alphas above 0.70 are generally considered reliable.

Data from the questionnaire was analyzed using calculated percentage values for each item. An open-end question was also included with a few chosen participants to verify data collected from the questionnaire.

Data analysis
First, basic assumptions were checked. Descriptive statistics were calculated and an independent sample t test was used to compare means of male and female participants, along with one-way analysis of variance (ANOVA) for comparison of the expectations of participants in the three program fields. Follow up post-hoc tests were run to assess the location of differences in students' expectation. $P < 0.05$ was considered significant.

Results
In the present study, 362 students volunteered to participate, with 353 completing the questionnaire. From the total who completed questionnaires, 47.9% were male and 52.1% were female. One hundred 53 (23.3%) of participants were medical students, 94 (26.6%) were dentistry students, and 106 (30.0%) were pharmacy students. The mean age was 22.3 ± 0.3 years.

In order to determine the nature of the tests to be used to analyze the data (parametric or non-parametric), a one-sample Kolmogorov-Smirnov test was used, the results of which showed that the assumption of normal distribution was met ($P < 0.05$). Therefore, an independent samples t-test was used for comparison of expectations of male and female students and one-way ANOVA for comparison of students from the three program fields (Table 1).

The concern of the first research question was to examine possible differences between expectations of male and female students. Descriptive statistics (mean and standard deviation) were calculated from the data. The results showed that the mean score of female students in total expectation was 56.0 (SD 7.15), for student expectation 10.3 (SD 3.00), and for evaluation 13.7 (SD 2.93). The mean score of male students was 52.6 (SD 8.51) for total expectation, 11.6 (SD 3.83) for student expectation and 13.5 (SD 3.09) for the evaluation. In order to see if these

differences were significant an independent samples *t* test was used.

Results of the independent samples *t* test indicated that there were significant differences, where $P < 0.05$ indicates significance, between the mean scores of male and female participants in two categories. Regarding total expectation scores, results showed that female students' mean score for total expectations was significantly higher than male students (t (351) = 4.10, $P < 0.001$). In addition, regarding specific student expectations, there was a significant difference between male and female students' specific expectations (t (351) = 3.61, $P = 0.000$), where male students' specific expectations were higher than female students. However, the case of evaluation mean score (t (351) = 0.57, $P = 0.560$), although trending towards significance, there was no significant difference between the two groups.

The second research question investigated the expectations of students in the three program groups of medicine, dentistry, and pharmacy. To find out whether participants of these three medical fields of study (medicine, dentistry, pharmacy) had the same or differing expectations, descriptive statistics were calculated. Results indicated that mean scores of the all three groups of participants (medicine, dentistry, pharmacy) were difference on all three parts of the questionnaire, but significantly in only one case. One-way ANOVA was used, the results of which are shown in Table 2.

As the results of the ANOVA show, regarding total expectation, there was no significant difference among total expectation of the three groups of participants across the three fields of study (F (2,350) = 0.521, $P = 0.590$). Likewise, the analysis of the evaluation showed no significant difference among the expectations of the participants of different fields of study about the evaluation (F (2,350) = 0.199, $P = 0.819$). However, in case of students' specific expectations, the analysis found that (there was a significant difference among the three different program

fields of participants' expectations (F (2,350) = 6.144, $P = 0.020$).

In order to identify the location of the differences in students' specific expectation where a significant difference was found, a post-hoc analysis was run, the result of which showed that there was a significant difference in expectations between medical students and pharmacy students; however, the difference between medical students and dentistry students did not reached the level of significance ($P = 0.19$). Likewise, the difference between the mean scores of dentistry and pharmacy students regarding students' expectations did not reach significance ($P = 0.29$)

Discussion

This study investigated the effect of student gender and chosen field of study on their expectations for English learning for specific purposes among students of medicine, dentistry, and pharmacy. Based on the findings, the most common expectation of these students was for the teacher to translate texts into Persian and to help students understand medical texts. The final exam also included translating Persian texts into English. It should be noted that there has not been a similar investigation of medical students' expectations; however, these findings can be compared with expectations from students in other fields. In another study, Nunan and Carter emphasized English reading and writing abilities more than other skills.[18] The current study's results are similar to investigations in Iran as well.[19,20] According to an in-depth study conducted by Pecorari, science, engineering and social sciences students' writing was confined to main text vocabularies, which is commonly regarded as plagiarism.[21] An old Arabic research study noted that the most important complication facing university students is applying English in written communicative purpose texts and the efforts needed to specify the critical sources of these issues.[22] Findings from English-related investigations

Table 1. The mean scores of the three groups of students.

	Field			
	Medicine	**Dentistry**	**Pharmacy**	**Total**
Total Expectation				
Number	153	94	106	353
Mean ± SD	54.08 ± 7.90	54.11 ± 9.35	55.04 ± 6.80	54.38 ± 8.00
Total Student's Expectation				
Number	153	94	106	353
Mean ± SD	11.54 ± 3.80	10.76 ± 3.32	10.03 ± 2.93	10.88 ± 3.48
Evaluation				
Number	153	94	106	353
Mean ± SD	13.69 ± 2.99	13.45 ± 3.15	13.66 ± 2.90	13.62 ± 3.00

Table 2. ANOVA for the comparison of three groups' expectations

		Sum of squares	df	Mean square	F	P value
Total expectation	Between groups	66.999	2	33.499	0.521	0.594
	Within groups	22508.372	350	64.310		
	Total	22575.371	352			
Total student expectation	Between groups	144.885	2	72.442	6.144	0.002
	Within groups	4126.582	350	11.790		
	Total	4271.467	352			
Evaluation	Between groups	3.616	2	1.808	0.199	0.819
	Within groups	3175.273	350	9.072		
	Total	3178.890	352			

have been collected in various research studies.[23-25]

In the current study, there was a basic concern about ESP. A theoretical background concerning ESP was introduced and some characteristic features exclusively associated with the ESP learning process were included; organization of the ESP course and selection of the materials were regarded as important in fulfilling the demands of teaching ESP and to achieve the goals of the ESP process of learning. Some differences between the role of ESP, including general English features, stressed the importance as well as possible ways in which evaluation could be conducted. Contrary to the researchers' expectations, the subjects considered by students were as important and influential in their expectations. Nevertheless, students stressed specific consideration for reading skills, although it should also be noted that ESP, as a tentative term, is extensively used absent its general meaning and thus having a common vocabulary and understanding of ESP is also a useful recommendation.

The results of this investigation can provide advantageous information to improve the teaching quality of ESP courses with information about students learning skills and expectations. Hence, it is of the utmost importance to medical educators to be aware of ESP course improvement modalities and how these modalities affect the abilities of students to learn ESP.

There were some limitations in the current study. For example, some intervening factors can affect students' perception of their English educational needs in different fields of study: interest in the field of study, future job prospects, continuing education at postgraduate levels, learning English, attitude towards learning English, and job status in society, as well as the type of university and the type of hospital in which they are passing their training courses and/or working along with their content teachers' English assignments, their English teachers' English assignments, and the number of English courses they pass. Thus, the findings of the present study should be interpreted cautiously.

It is recommended to conduct similar research in prospective studies due to a lack of work in this field. ESP courses should encourage the application of skills along with productive skills development. Currently, the content of such specialized courses in ESP is directed towards receptive skills development. Accordingly, ESP courses should include more common content to increase productive abilities.

The inclusion of complementary activities of grammar associated with materials in ESP teaching also has some advantage for approximately half of learners. Regarding the insufficient influence of ESP teaching materials, some more useful cases that include visual impact may be indicated for inclusion in ESP courses.

Conclusion

In contrast with the researchers' expectations, subjects considered by students were important and influential in their expectations in learning English. Nevertheless, students dedicated considerable energy and priority to reading. Real language expectations of medical students are not generally considered by developers of learning materials, and these developers may not be fully cognizant of the language requirements in specialized fields. English departments in these universities should try to establish complementary programs for students in faculties of medicine, etc., in order to build up their communication competence. These findings also confirmed that language expectations analysis of the students is not limited only to reading; their ultimate objective is to build up other skills in addition to reading skills to prepare them to communicate in English.

Ethical Approval
This study was approved by the Ethics Committee of the Tabriz University of Medical Sciences 5.38.18979. Additionally, participants were assured that the collected data was to be used only for research, and the name of the participants would not be revealed.

Competing interests
None to declare.

References
1. Medina JC, Páez Sánchez FA. How do beginner students from different areas thsan languages at cun university perceive english learninig and how motivation is related to that perception: Research Project. Available from: https://ciencia.lasalle.edu.co/cgi/viewcontent.cgi?article=1298&context=lic_lenguas. Accessed 17 April 2020.
2. Johns AM, Dudley-Evans T. English for specific purposes: international in scope, specific in purpose. TESOL Q. 1991;25(2):297-314. doi: 10.2307/3587465.
3. Benesch S. Critical English for Academic Purposes: Theory, Politics, and Practice. London: Routledge; 2001.
4. Hyland K. English for specific purposes. In: Cummins J, Davison C, eds. International Handbook of English Language Teaching. Boston, MA: Springer; 2007. p. 391-402. doi: 10.1007/978-0-387-46301-8_28.
5. Skehan P. Issues in the testing of English for specific purposes. Language Testing. 1984;1(2):202-20. doi: 10.1177/026553228400100205.
6. Flowerdew L. Needs analysis and curriculum development in ESP. In: Paltridge B, Starfield S, eds. The Handbook of English for Specific Purposes. Malden, Ma: Wiley-Blackwell; 2012. p. 325-46. doi: 10.1002/9781118339855.ch17.
7. Madhumathi P. Globalization demands standardized competence framework for teachers using English for academic purposes. Language in India. 2013;13(3):503.
8. Sifakis NC. English for specific and academic purposes – a trendy demand? orientations in ESP/EAP research, with a critical perspective on the Greek situation. In: Perdiki F, Panourgia E, Vergidou E, Samara K, eds. Teaching Foreign Languages for Specific Purposes: A Trend or a Demand? Kavala: TEI of Kavala; 2005. p. 17-30.
9. Hayati AM. Teaching English for special purposes in Iran: problems and suggestions. Arts Humanit High Educ. 2008;7(2):149-64. doi: 10.1177/1474022208088645.
10. Hyland K. English for Academic Purposes: An Advanced Resource Book. London: Routledge; 2006.
11. Belcher DD. Trends in teaching English for specific purposes. Annu Rev Appl Linguist. 2004;24(1):165-86. doi: 10.1017/S026719050400008X.
12. Anthony L. Defining English for specific purposes and the role of the ESP practitioner. Available from: https://laurenceanthony.net/abstracts/Aizukiyo97.pdf. Accessed 17 April 2020.
13. Eslami Rasekh A, Simin S. Teaching English for specific purposes: a no man's land area of activity: Investigating ESP courses administered in Iranian universities. Available from: https://www.academia.edu/1433305/Teaching_English_for_Specific_Purposes_A_no_mans_land_area_of_activity_Investigating_ESP_courses_administered_in_Iranian_Universities.
14. Eslami-Rasekh Z. Teachers' voice vs. students' voice: a needs analysis approach to English for acadmic purposes (EAP) in Iran. English Language Teaching. 2010;3(1):3-11. doi: 10.5539/elt.v3n1p3.
15. Boniadi A, Ghojazadeh M, Rahmatvand N. Problems of English for specific purpose course for medical students in Iran. Khazar Journal of Humanities and Social Sciences. 2013;16(1)48-55. doi: 10.5782/2223-2621.2013.16.1.48.
16. Tickoo ML. Book Review: English for Specific Purposes — A Learning-centred Approach: Tom Hutchinson and Alan Waters, Cambridge University Press 1987. RELC J. 1987;18(2):92-9. doi: 10.1177/003368828701800207.
17. Westerfield K. An Overview of Needs Assessment in English for Specific Purposes. Best Practices in ESP E-Teacher Course. Eugene: University of Oregon; 2010. p. 1-6.
18. Nunan D, Carter R. The Cambridge Guide to Teaching English to Speakers of Other Languages. Cambridge: Cambridge University Press; 2001.
19. Barjesteh H, Shakeri F. Considering the issues of language for specific purposes at Iranian universities: its genesis/problems and suggestions. Indian Journal of Fundamental and Applied Life Sciences. 2013;3(3):540-52.
20. Eslami-Rasekh Z, Valizadeh K. Classroom activities viewed from different perspectives: learners' voice and teachers' voice. TESL-EJ. 2004;8(3):3.
21. Pecorari D. Original Reproductions: An Investigation of the Source Use of Postgraduate Second-Language Writers [Thesis]. Birmingham: University of Birmingham; 2002.
22. Doushaq HH. An investigation into stylistic errors of Arab students learning English for academic purposes. English for Specific Purposes. 1986;5(1):27-39. doi: 10.1016/0889-4906(86)90005-0.
23. Ramírez CG. English for Specific Purposes: Brief History and Definitions. Revista de Lenguas Modernas. 2015;3:379-86. doi: 10.15517/rlm.v0i23.22359.
24. Archibald A, C. Jeffery G. Second language acquisition and writing: a multi-disciplinary approach. Learn Instr. 2000;10(1):1-11. doi: 10.1016/S0959-4752(99)00015-8.
25. Gatehouse K. Key issues in English for specific purposes (ESP) curriculum development. The Internet TESL Journal. 2001;7:1-10.