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A Triangulated Analysis of the English Language Needs of Iranian EAP Undergraduate Physiotherapy Students

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Abstract

Considering the leading role of needs analysis (NA) in English for Academic Purposes (EAP) courses and the necessity of reconsidering such courses in Iran, this study was designed to investigate the present and target academic English language needs of undergraduate physiotherapy students through triangulation of sources and methods. To this aim, data were elicited from 132 undergraduates, 20 graduates working as physiotherapists, 20 content teachers, and 9 language teachers at four medical universities in Tehran. The quantitative and qualitative data were gathered through two versions of an NA questionnaire and semi-structured interview protocols, respectively. The findings indicated that, although most of the skills and sub-skills in target needs were considered important or very important by all the stakeholders, there were differences in the preferences and priorities of different groups. The results of the selfassessment section also revealed the skills in which the students need improvement. The findings also signified some issues and options in EAP courses for physiotherapy students and promise implications for refining and enhancing EAP courses and materials through triangulating the multiple points of view on the students' target needs and demands of their present situation.

Keywords: EAP, NA, present needs, triangulation, physiotherapy students

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Introduction

Considering the leading role of needs analysis (NA) in English for Academic Purposes (EAP) courses and the fact that the content and goals of EAP course are specifically designed to meet the exclusive needs of the students, the focus of EAP courses is on the language, skills, and genres related to the specific activities the students need to carry out in English (Paltridge & Starfield, 2013). Hence, Needs Analysis (NA) plays a vital role in gathering information for developing reliable and valid courses, syllabi, and materials (Brown, 2009; Dudley-Evans & St John, 1998). Literature (e.g., Bocanegra-Valle, 2016; Long, 2005) considers need perception as a multidimensional issue which is better to be determined from different views and advocates taking in to account multiple voices, including students' (Long, 2005), in the process of investigating the students' needs.

Review of Literature

Sifgnificance of NA has stimulated many researchers to conduct NA studies worldwide. Among NA studies in medical contexts, reference can be made to Holme and Chalauisaeng (2006) who considered EAP course development for pharmacology students using Participatory Appraisal (PA) and found that PA techniques could enhance the development of a learner-centered classroom, create a more positive attitude to language learning, improve motivation, and help students achieve the greater self-direction that may support the future acquisition of academic reading skills.

Having analyzed the needs of Iranian nursing and midwifery students, Mazdayasna and Tahririan (2008) found that the goals of the course were impractical and scant to nurture the students' skills for the introduced goals by their specialist departments, and the students 'greatly' needed to increase their General English Proficiency (GEP). All four skills were considered needed for the students' medical studies according to most of the students and nearly all content teachers.

Atai and Nazari (2011) conducted a triangulated study to investigate reading comprehension needs of Iranian students of Health Information Management (HIM) in EAP courses using four questionnaires, a General English Proficiency (GEP) test, self-assessment, semi-structured interviews, and nonparticipant observations. The results indicated that skimming texts, using bilingual general dictionaries, scanning texts, knowledge of HIM terminologies, guessing meanings of words, and understanding main ideas were perceived as either important or very important to students' success, and suggested improving students' GEP through remedial courses.

Lu (2018) analyzed English language needs and challenges of Taiwanese nurses in the workplace and probed the nurses' ideas about the effectiveness of their ESP courses in preparing them for the workplace. Interviewing and observing the nurses working in the international care center of a large-scale hospital, Lu found that they needed effective communication skills in English. It was also found that the courses were not successful in equipping the nurses with workplace needs in terms of vocabulary, pronunciation, and accent.

EAP in Iran

The history of teaching English for specific purposes (ESP)/EAP in Iran has been divided into three eras (Atai, 2002). In the first era, before 1979 (the Islamic revolution), the ESP/EAP textbooks for tertiary education which were provided by the British Council were designed to meet the needs of the multidisciplinary fields of studies by focusing on Reading Comprehension (RC). During the second phase (in 1980s) the Iranian Center for Studying and Compiling University Books of Humanities (SAMT) revised and planned a number of textbooks for macro disciplines. In the third era, the present status, there has been a focus on developing materials for narrow disciplines.

ESP courses target meeting the needs of specific groups of learners through analyzing their target and present needs (Dudley-Evans & St John, 1998; Hutchinson & Waters, 1987). However, the insufficient literature of EAP programs at Iranian Universities implies that such programs have practically failed to achieve the predetermined results in developing language related abilities of the students (Atai & Tahririan, 2003). Considering the significance of EAP "programs in Iran as a major part of the ELT curriculum with noticeable educational and financial investments", Atai and Nazari (2011) suggest "the course designers should reassess the needs of students and improve the current status quo" (p. 31). However, identifying the present and target language needs of students of physiotherapy seems as an under-researched area and this gap leaves designing EAP courses and developing materials for this group unsystematic. Hence, this study attempted to provide a comprehensive profile of present and target language needs of Iranian ESP undergraduate physiotherapy students at medical universities in Tehran through integrating qualitative and quantitative research design. To this aim. the following research questions were set forth:

1. What are the target and present academic English needs of Iranian undergraduate students of physiotherapy?

2. What are the differences and preferences among different stakeholders regarding their perceptions of undergraduates' target and present academic English needs?

Method

Participants

To triangulate the perceptions of different stakeholders (Bocanegra-Valle, 2016), four different groups including 132 undergraduate students, 20 graduates working as physiotherapists, 20 content teachers, and 9 language teachers were randomly selected through cluster sampling procedure from the state medical universities of Tehran, Iran, Shahid Beheshti, and Social Welfare and Rehabilitation Sciences (USWRS), Tehran, Iran (Table 1). The participants were male and female and the undergraduates either had passed or were attending EAP courses and their age ranged from 20-24. The size of the sample for the undergraduates was determined using Morgan's table which is based on Cochran's formula. The language teachers and content teachers were randomly selected via convenience sampling from the corresponding English and content departments of the same universities.

Table 1

Demographics of the Participants

	Under	graduate	S	Graduates	Content teachers	Language teachers
I	В	Т	W	- 20	20	0
29	21	32	50	- 20	20	9

I: Iran University

S: Shahid Beheshti University

T: Tehran University

W: USWRS

Instrumentation

Bocanegra-Valle (2016) emphasizes conducting NA adopting a mixedmethodology "that makes use of systematic data collection procedures, takes into account the views of different stakeholders, and is based on a triangulation of data collected from multiple research methods and sources" (p. 568). Hence, aiming at methodological triangulation, we employed both quantitative and qualitative instruments. As for the qualitative instruments, also in order to involve various sources, four different versions of a researcher-made questionnaire were developed to probe the perceptions of four different groups including undergraduates, graduates, language teachers, and content teachers. Qualitative instruments also included two different interview protocols developed for eliciting the viewpoints of content and language teachers.

The undergraduate students' questionnaire (Appendix A) included six parts, the first of which elicited the participants' demographic information. It was followed by two parts of questions concerning Target Situation Analysis (TSA) (including forty-six items) and Present Situation Analysis (PSA) (with fifty items). While the fourth section, including eleven questions, investigated the extent to which the students were satisfied with the status of their EAP classes, the methodology, and the textbooks and materials, the fifth section, including five questions, investigated the students' attitudes towards language instruction, the length of the course, the content of the course and the materials, syllabus, and methodology of their EAP courses. All the items included in sections 2-5 were on a five-point Likert scale. Two open ended questions on the problematic issues and probable solutions were also included in the last part. It deserves mentioning that the language teachers' questionnaire contained all the six sections with items similar to the undergraduate students' questionnaire while content teachers' and the graduates' questionnaires just included the TSA part of the undergraduates' questionnaire.

Procedure

This study involved developing the researcher-made instruments including questionnaires and interview protocols. To do so, the first drafts of the questionnaires were developed based on the theoretical and empirical literature on NA and preliminary exploratory interviews with language and content teachers and undergraduate and graduate physiotherapy students. To assess the content validity of the questionnaires, a panel of EAP experts familiar with the construct was consulted with to consider the clarity and relevance of the items. Also, piloting undergraduate students' questionnaire on 50 participants and running Cronbach's alpha assured the reliability of the questionnaire (section 1 = 0.89; section 2 = 0.99, and section 3 = 0.96). To estimate the construct validity of the questionnaire for undergraduates, exploratory (EFA) and confirmatory (CFA) factor analyses were run and seven factors were extracted from each of the first and second parts of the questionnaire. Specifically, TSA part included factors on "listening comprehension (LC)", "reading comprehension (RC)", "vocabulary knowledge", "using English at workplace", "oral communication", "writing and translation", and "general language skills in English" and the second part which was on PSA included factors on "LC", "RC", "using English at workplace", "oral communication", "study skills", and "general language skills in English".

Developing the interview protocols also involved scrutinizing the exiting theoretical and empirical literature, exploratory interviews with the four groups of stakeholders (i.e., language teachers, content teachers, graduates, and undergraduate students), and revising the first draft upon considering the opinions of the panel of experts (Appendix B).

Data Collection

This study involved gathering data through semi-structured interviews and questionnaires during spring semester (2017) in four medical universities in Tehran. The undergraduate students' questionnaires were distributed and gathered in their classes while the content teachers, the language teachers, and the graduates working as physiotherapists were asked to complete the questionnaires in their offices. Data collection was done by the first researcher and all the questionnaires were gathered right after the completion. Moreover, the language teachers and content teachers were interviewed in their offices and all the interviews were tape-recorded.

Data Analysis

This descriptive study adopted a mixed methodology through triangulating different sources and instruments to analyze the needs of EAP courses for undergraduate physiotherapy students. The data were analyzed descriptively and inferentially using the Statistical Package for the Social Sciences (SPSS) 22.0.0.0 software. While the results of the interviews and openended questions included in the questionnaires were analyzed descriptively to answer the first research question, investigating the second research question involved using non-parametric inferential tests of Kruskal Wallis and Mann Whitney U. Moreover, Cronbach's Alpha and EFA were used to estimate the reliability and validity of the undergraduate students' questionnaire. CFA was also run through Lisrel 8 to confirm the results of EFA.

Results

Target and Present Needs of the Students

Descriptive statistics were run to probe the first research question to determine the target and present academic English language needs of Iranian undergraduate students of physiotherapy.

Undergraduates' Target Needs. As for the target needs, while the stakeholders agreed on the importance of almost all factors, in descending order, RC was either very important (content teachers: 80%, language teachers: 66.7%, and graduates: 76.7%) or important (students: 39.4%). LC was regarded very important by language teachers (68.1%) and graduates (46.9%) and important by undergraduates (42.7%) and content teachers (36.3%). The next important factor was general language skills in English which was considered either very important (content teachers: 41.7%, language teachers: 48.1%), or important (undergraduates: 39.2%, graduates: 43.3%). Similarly, vocabulary knowledge and oral communication were considered very important (language teachers, 54.4%, 42.2%) or important (undergraduates, 40.4%, 36.7%; graduates, 51%, 52%; content teachers, 51.5%, 47%). While writing skill was considered very important by all stakeholders (undergraduates: 39.2%, content teachers: 42.5%, language teachers: 48.6%, graduates: 62.5%), using English at workplace, the least important factor to the participants, was considered important (undergraduates: 36.4%, content teachers: 43.6%, graduates: 46%) and rather important (language teachers: 55.6%).

Most Important Items. As for the items included in this part, most of them were either important or very important to two or three groups. However, all four groups agreed on few items as being important or very important. Specifically, they considered "note-taking from English textbooks" (language teachers: 44.4%, content teachers: 45%, undergraduates: 53%, and graduates: 65%), "note-taking from English lectures in international professional seminars and workshops" (language teachers: 66.7%, content teachers: 50%, undergraduates: 39.4%, and graduates: 80%), "writing a report about patients conditions to the specialized physicians" (language teachers: 44.4%, content teachers: 50%, undergraduates: 40.2%, and graduates: 65%), and "writing emails in English to non-Persian content teachers" (language teachers: 88.9%, content teachers: 45%, undergraduates: 43.2%, and graduates: 60%) as very important. It is worth mentioning that all these very important items are related to writing and translation.

Moreover, all the groups considered "guessing the meaning of new words using prefixes and suffixes" (language teachers: 44.4%; content teachers: 70%; undergraduates: 48.5%; and graduates: 60%), "understanding the meanings of technical medical vocabularies used in patients' prescription" (language teachers: 44.4%; content teachers: 65%; undergraduates: 42.4%; and graduates: 55%), and "reading the adjustments and instructions on the apparatus" (language teachers: 55.6%; content teachers: 50%; undergraduates: 35.6%; and graduates: 50%) as important.

Less Important Items. As for items of less significance, "reading patients' files" was relatively important to language teachers (55.6%) and content teachers (50%) and graduates (40%), and can be considered as the least important one. "Reading medical reports" (language teachers: 44.4%, content teachers: 50%, and graduates: 40%), and "reading medical consultations" (language teachers: 55.6%, content teachers: 40%) were also relatively important. All such items are related to using English at workplace.

Furthermore, "listening to lectures in physiotherapy conferences" and

"listening to lectures and presentations in classes" were relatively important to 45% and 50% of content teachers, while they were very important to language teachers (55.6% and 55.6%, respectively) and graduates (55% and 45%, respectively). In much the same vein, "interpreting English instructions written in brochures and on specialized tools and devices of physiotherapy", "reading the monitors on devices" and "Reading the abbreviations on devices" were relatively important to language teachers (55.6%, 66.7%, and 77.8%, respectively), while they were important to other three groups.

Undergraduates' Present Needs. To assess the present situation needs of the students, the language teachers and undergraduates reflected on undergraduates' abilities in different skills included in the questionnaire. Considering the factors of the questionnaire, while 36.6% of undergraduates believed they need improvement in "LC", 40.3% of language teachers deemed that students can relatively perform listening tasks. Both undergraduates (36.8%) and language teachers (38.9%) construed that the undergraduates need improvement in "RC"; however, they believed students can relatively "use English at workplace" (undergraduates: 43%, language teachers: 54.4%), and perform "oral communication tasks" (undergraduates: 36.5%, language teachers: 38.3%) and "general language skills in English" (undergraduates: 34.1%, language teachers, 37%). Undergraduates believed they are relatively able to perform "writing tasks" (38.4%) and "study skills" (37.7%) and language teachers thought undergraduates can easily perform "writing tasks" (41.3%) and need improvement in "study skills" (35.6%).

As for the items of the questionnaires, the results of the language teachers' and undergraduates' questionnaires regarding the present needs of the students can be classified into three groups considering the degrees of similarities and differences of their responses. The first group, the items about which both groups have the same ideas, along with their related factors and percentages of responses of each group are represented in Table 2. Considering the items with their related factors indicates that both groups believed that the students can relatively do some tasks mostly related to oral communication and using English at workplace. They also agreed that the undergraduates need improvement in a few items mostly related to LC and RC.

Table 2

Similarities in Language Teachers' and Undergraduates' Perceptions on Undergraduates' Abilities

Items both groups believed undergraduates can do Relatively	language teachers	undergraduates
Listening to and understanding professionals and hospital staffs in real situations using English physiotherapy expressions (oral communication)	44.4%	34.1%
Giving class presentations in English (oral communication)	44.4%	37.1%
Having oral communication in English in academic conferences (oral communication)	44.2%	37.1%
Knowing the pronunciations of technical English vocabularies (oral communication)	33.3%	36.4%

Participating in technical conversations (oral communication)	44.4%	33.3%
Knowing the pronunciations of general English		
vocabularies (oral communications)	33.3%	36.4%
Having conversations with professionals and hospital		
staffs in real situations using English physiotherapy	33.3%	36.4%
expressions (oral communication)		
Having conversations with non-Persian lecturers and /or	33.3%	34.8%
content teachers (oral communication)	33.3%	34.0%
Using English physiotherapy expressions in a way		
understandable for other colleagues (oral	33.3%	41.7%
communication)		
Reading and interpreting English instructions written in		
brochures and on specialized tools and devices of	55.6%	48.5%
physiotherapy (using English at workplace)		
Reading the abbreviations (using English at workplace)	55.6%	45.5%
Reading the monitors (using English at workplace)	77.8%	40.2%
Reading the adjustments (using English at workplace)	66.7%	45.5%
Reading medical reports (using English at workplace)	55.6%	47%
Reading medical consultations (using English at workplace)	66.7%	45.5%
Reading medical tests (using English at workplace)	55.6%	47.7%
Listening to and understanding lectures and		
presentations in classes (LC)	88.9%	57.6%
Listening to and understanding English lectures in	55.6%	34.1%
international seminars (LC)		47 70/
Reading original physiotherapy textbooks (RC)	55.6%	47.7%
Using bilingual technical dictionaries (study skills)	33.3%	38.6%
Using knowledge of general English vocabulary (study skills)	33.3%	36.4%
Taking class exams (general language skills)	33.3%	37.1%
Using knowledge of grammar (general language skills)	33.3%	37.1%
Items both groups believed undergraduates Need		
improvement in		
Guessing the meaning of unknown words using prefixes		42 404
and suffixes (RC)	66.7%	42.4%
Listening to and understanding lectures in physiotherapy	55.6%	43.9%
conferences (LC)	55.0%	43.9%
Listening to and understanding films and documentaries	55.6%	40.9%
on physiotherapy (LC)	55.0%	40.7%
Listening to and understanding colleagues' conversations	55.6%	39.4%
using English physiotherapy expressions (LC)	55.070	37.470
Reading papers in professional journals (RC)	33.3%	36.4%
Guessing the meanings of unknown words from context	44.4%	39.4%
while reading (RC)	,0	0,11,0

Undergraduates and language teachers had different ideas regarding the items that the students need improvement in. Such items, their related factors, and percentages of different groups believing the undergraduates' need for improvement are provided in Table 3. While language teachers believed in the need for improvement in 7 items, undergraduates believed they need improvement in 11 items, mostly related to RC and writing and translation, skills which language teachers believed the students can do either relatively or easily.

Table 3

Differences in Language Teachers' and Undergraduates' Perceptions on the Items Undergraduates Need Improvement in

Items language teachers believed the students Need improvement in

Exploiting international English workshops (LC), (44.4%)

Analyzing scientific texts for understanding (RC), (55.6%)

Understanding the meanings of technical medical vocabularies used in patients' prescriptions (using English at workplace), (55.6%)

Preparing and writing medical reports (using English at workplace) (44.4%)

Knowledge of technical English vocabulary (study skills), (35.6%)

Writing diagnosis and prescriptions about patients (writing and translation), (44.4%)

Items undergraduates believed the students Need improvement in

Listening to and understanding instructions in the workplace (LC), (39.4%

Listening to and understanding teachers' lectures in English (LC), (40.9%)

Understanding technical vocabularies in textbooks and papers on physiotherapy (RC), (37.9%)

Scanning English texts (RC), (41.7%)

Reading and searching in English texts (RC), (41.7%)

Translating technical texts and papers from English to Persian (writing and translation), (34.8%)

Translating technical texts and papers from Persian to English (writing and translation), (36.4%)

Using monolingual technical dictionaries (study skills), (38.6%)

Taking international English examinations (e.g. IELTS) (general language skills), (30.3%)

Writing emails to non-Persian lecturers and field experts (study skills), (36.4%)

According to the results of the questionnaires, there were items on which language teachers and undergraduates had different perceptions as undergraduates believed they can do them relatively, while language teachers believed the students can do them easily/relatively (Table 4). It is worth mentioning that most of such items about which undergraduates underestimated their abilities are related to writing and translation.

Table 4

Differences in Language Teachers' and Undergraduates' Perceptions on the Items Undergraduates Can Do

Items	Langauge teachers	Undergraduates
Note-taking from English lectures	can do easily (44.4%)	(39.4%)
Note-taking from English lectures in international professional seminars and workshops	can do easily (44.4%)	(43.9%)
Writing term projects and term papers for classes	can do relatively (44.4%) and easily (44.4%)	(44.7%)
Note-taking from English textbooks	can do relatively (44.4%) and easily (44.4%)	(42.4%)
Note-taking from English lectures	can do easily (44.4%) and relatively (44.4%)	(43.9%)

Stakeholders' Differences and Preferences Regarding their Perceptions of Undergraduates' Target and Present Academic English Needs

Inferential statistics were run to answer the second research question concerning the stakeholders' differences and preferences regarding the target and present academic English needs of Iranian undergraduate students of physiotherapy.

Stakeholders' Differences in Perceptions on Undergraduates' Target Needs. To answer the second research question on the differences among the stakeholders regarding their perceptions of undergraduates' target academic English needs, non-parametric inferential tests of Kruskal Wallis were employed (Table 5). The results showed the participants did not differ in their perceptions on target academic English needs in general (p = 0.01). To be more specific, there were no significant differences in the stakeholders' perception of the importance of the following factors of the questionnaires: vocabulary knowledge, oral communication, general language skills in English, and writing and translation. However, there were significant differences in LC, RC, and using English at workplace.

Table 5

Differences in Stakeholders' Perceptions of Undergraduates' Target Academic English Needs

	Group	Mean Rank	Chi-Square	Df	p-value	
	Undergraduates	84.20				
	Graduates	118.88				
LC	Content	86.13	15.886	3	.001	
	teachers	00.15	15.000	5	.001	
	Language	139.56				
	teachers					
	Undergraduates	78.10				
	Graduates	136.08				
RC	Content	118.00	31.367	3	.000	
	teachers	110.00		-		
	Language	120.00				
	teachers					
	Undergraduates	86.44				
Vocabulary	Graduates	102.38				
Knowledge	Content	98.73	4.341	3	.227	
0	teachers					
	Language	115.39				
	teachers	96.29				
	Undergraduates					
	Graduates	81.18				
Using English	Content	84.33	7.905	3	.048	
in the Workplace	teachers					
	Language	50.06				
	teachers	00.05		2	054	
Oral	Undergraduates	89.95	.322	3	.956	
Communication	Graduates	95.68				
	Content	90.73				
	teachers		. <u> </u>			

	Language teachers	96.67			
	Undergraduates	85.73			
Writing and	Graduates	118.60			
Translation	Content teachers	96.15	7.184	3	.066
_	Language teachers	95.50			
	Undergraduates	85.76			
	Graduates	106.75	5.046	3	.168
General Language		104.68			
Skills	teachers				
	Language teachers	102.50			
	Undergraduates	83.92	10.051	3	.018
	Graduates	119.43			
TSA	Content teachers	101.98			
	Language teachers	107.33			

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There was a statistically significant difference among stakeholders regarding their perceptions of LC factor ($x^2 = 15.886$, p = .01) with graduates and language teachers having the highest mean ranks and undergraduates and content teachers having the lowest mean ranks. Specifically, most of the language teachers and graduates considered all and some of the items very important, respectively. However, undergraduates thought all of the items in this factor were important and content teachers considered some items as being important to some extent or of little importance.

As for the differences in RC ($x^2 = 31.367$, p = 0.00), graduates and undergraduates had the highest and lowest mean ranks respectively and the mean ranks of content and language teachers were close to each other. Undergraduates had different ideas and considered all items important, except "translating English text to Persian" which was very important to them, whereas content teachers and graduates thought all items were very important. Likewise, language teachers considered all items to be very important, and just "reading and searching in English texts" was important to them.

As for using English at workplace, undergraduates, graduates, and content teachers considered all items important (except reading patients files which was ranked relatively important by the content teachers), while language teachers believed "reading the adjustments and instructions of the apparatus" was important and considered other items as relatively important. Generally, the results of the ad hoc test reported significant differences in undergraduates' and graduates' perceptions regarding undergraduates' target needs.

Stakeholders' Differences in Perceptions on Undergraduates' Present Needs. Mann_Whitney tests run for probing the differences between the opinions of language teachers and undergraduates regarding their perceptions of undergraduates' present academic English needs indicated no statistically significant differences between these two groups (Table 6) (u= 439 and p > 0.05) in this regard.

Table 6

Differences in the Stakeholders' Perceptions on Undergraduates' Present Acade	mic
English Needs	

Variable	Group	Mean Rank	Mann- Whitney U	Asymp. Sig. (2- tailed)
LC	Undergraduates Language teachers	69.83 88.11	440.000	.193
RC	Undergraduates Language teachers	69.98 85.94	459.500	.256
Using English in the workplace	Undergraduates Language teachers	72.04 55.72	456.500	.245
Oral communication	Undergraduates Language teachers	69.89 87.33	447.000	.214
Writing and translation	Undergraduates Language teachers	69.11 98.72	344.500	.035
Study skills	Undergraduates Language teachers	69.66 90.67	417.000	.134
General English language skills	Undergraduates Language teachers	69.89 87.33	447.000	.211
PSA	Undergraduates Language teachers	69.83 88.22	439.000	.191

Stakeholders' Preferences on Undergraduates' Target and **Present Needs**. To investigate the preferences among the stakeholders regarding the target needs of the students, Friedman test was run and the results indicated no significant preferences among undergraduates (p = .21)(Table 7). Nevertheless, as for the graduates, the results ($x^2 = 31.60$; p = 0.01) ranked their preferences for the skills in a descending order: RC (5.83), writing and translation (4.63), L.C (4.33), general language skills in English (3.93), vocabulary knowledge (3.50), oral communication (3.48), and using English at workplace (2.33). The results for undergraduates ($x^2 = 8.317$; p = .216) conveyed their preferences for writing and translation (4.27), oral communication (4.23), RC (4.16), general language skills in English (3.94), vocabulary knowledge (3.86), LC (3.71), and using English at work (3.23). Among the content teachers ($x^2 = 25.69$; p = 0.01), the results indicated preferences for RC (5.70), general language skills in English (4.68), writing and translation (4.10), LC (3.57), vocabulary knowledge (3.78) and oral communication (3.43), and using English at work (2.58). Language teachers also ranked the skills in a descending order of ($x^2 = 17.49$; p = 0.01) RC and LC (5.33 and 5.28, respectively), general language skills in English (4.56), vocabulary knowledge (3.78), writing and translation and oral communication, (3.44), and using English at workplace (1.83). Accordingly, RC is the most

important skill for all groups, and using English at workplace was the least important one for all stakeholders except for undergraduates who considered it as the second least important one and ranked LC as the least important one.

Table 7

Stakeholders' Preferences Regarding Target Needs of Physiotherapy Students

	Group	Mean Rank	Chi-Square	Df	p-value
	LC	3.71			
	RC	4.16			
	Vocabulary Knowledge	3.86			
Undergraduates	Using English at Workplace	3.83	8.317	6	.216
	Oral Communication	4.23			
	Writing and Translation	4.27			
	General Language Skills	3.94			
	LC	4.33			
	RC	5.83			
	Vocabulary Knowledge	3.50			
Graduates	Using English at workplace	2.33	31.605	6	.000
	Oral communication	3.48			
	Writing and translation	4.63			
	General language skills	3.93			
	LC	3.75			
	RC	5.70			
	Vocabulary Knowledge	3.78			
Content teachers	Using English at workplace	2.58	25.697	6	.000
	Oral Communication	3.43			
	Writing and Translation	4.10			
	General language skills	4.68			
	LC	5.28			
	RC	5.33			
Language	Vocabulary Knowledge	3.78			
Language teachers	Using English at workplace	1.83	17.498	6	.008
teacher 5	Oral communication	3.44			
	Writing and Translation	3.78			
	General Language Skills	4.56			

Furthermore, the results of Friedman tests run for examining the significant preferences of language teachers and undergraduates regarding the present needs of undergraduate physiotherapy students (Table 8) ($x^2 = 62.11$; p > 0.05) indicated undergraduates' preferences for using English at workplace (5.14), RC and writing and translation (4.06), oral communication (3.86), study skills (3.85), LC (3.82), and general language skills in English (3.20), using English language at workplace in a descending order. However, language teachers did not have any preferences and considered all items at the same level of importance (p < 0.05).

Table 8

The Preferences among Stakeholders Regarding Present Needs of Physiotherapy Students

Group		Mean Rank	Chi- Square	df	p-value
					<u> </u>
	LC	3.82			
	RC	4.06			
Undorgraduator	Using English in the workplace	5.14	62116	6	.000
Undergraduates	Oral communication	3.86	62.116		.000
	Writing and translation	4.06			
	Study skills	3.85			
	General language skills	3.20			
	LC	3.89			
	RC	4.11			
Language teachers	Using English in the workplace	4.00	2.446	6	.874
Language teachers	Oral communication	3.44			
	Writing and translation	4.83			
	Study skills	4.00			
	General language skills	3.72			

The Amount of the Stakeholders' Satisfaction from the EAP Courses

According to the results of the third part of the questionnaire, both undergraduates and language teachers were satisfied to a moderate extent with "using English in manipulating the instruments and tools in the workplace" (31.1%, 44.4%, respectively), and "not offering EAP courses to students having lower than average level of GEP" (30.3%, 33.3%, respectively). Moreover, undergraduates and language teachers were respectively satisfied to a large extent and to a moderate extent with "the number of the students" (42.4%, 44.4%), "the materials and the content of the book" (34.1%, 44.4%), "the teaching methods" (36.4%, 55.6%), "the assessment methods" (43.2%, 44.4%), "using source books" (37.9%, 44.4%), "using technology in EAP classes" (44.7%, 55.6%), and "the importance given to EAP courses" (38.6%, 33.3%). While "the amount of English language usage in EAP classes" (34.1%), and "the number of credits given to EAP courses" (37.9%) were satisfactory to a great extent to undergraduates, equal number of language teachers (33.3%) stated they were satisfied with them either a little or to a moderate extent, respectively.

Stakeholders' Opinions about the Issues of EAP Courses

The fourth part of the questionnaire contained 5 items on the undergraduates' and language teachers' viewpoints about various issues of EAP courses. The results showed that both undergraduates and language teachers agreed respectively to a great extent and a large extent with "studying the original English subject-specific sources" (39.4%, 44.4%) and "taking a placement test before the EAP courses" (36.4%, 66.7%). Moreover, while undergraduates completely agreed with "EAP courses being taught by content teachers" (57.6%), language teachers agreed with it to a large extent (66.7%). However, undergraduates (29.5%) completely agreed with "omitting the

general English courses for the students with high ranks in English test in UEEI (the University Entrance Exam of Iran)", whereas language teachers (44.4%) completely disagreed with it. While undergraduates (34.8%) agreed to a great extent with "paying more attention to GEP", language teachers (33.3%) agreed with it a little or to a moderate degree.

Undergraduates' Perceptions of Problems with Teaching and Learning EAP and the Probable Solutions

The open-ended questions at the end of the questionnaires probed any problematic issues and probable solutions in teaching and learning EAP courses. Some students referred to EAP textbooks being outdated, inauthentic, and demotivating (18%). Moreover, they deemed that translated papers and textbooks, being weakly interpreted and usually outdated, could not replace the original ones. They also referred to the time limitation in EAP classes (13.8%), and complained about the type and amount of assignments (11.5%) and activities (7.8%) in EAP classes which did not challenge their knowledge as they were not related to their workplace needs. It is worth mentioning that the students stated their dissatisfaction with the lack of audio-visual facilities in their EAP classes (9%).

As for the probable solutions, they suggested using updated original textbooks (16%) and more films and documentaries to improve their LC (11%). Furthermore, they (9%) preferred learning vocabularies or structures through reading original texts rather than out of context.

Qualitative Results of Semi-Structured Interviews with ESAP Teachers

To triangulate the results of the questionnaires, content teachers and language teachers were interviewed, the results of which are presented in this part.

1. Concerning the most important skills needed by physiotherapy students, most of the language teachers believed, despite the significance of improving all four skills, considering the time limitation, RC and translation should be prioritized in EAP courses. However, if the time allotment or the number of credits given to the EAP courses were changed, they could work on other skills (87%). Most of the content teachers, however, believed different skills were needed in different educational levels, for example, at BSc level, students mostly need translation and RC skills, but in higher education, LC and writing and translation are also important. They also stated that, if the students wanted to communicate more and use the updated knowledge that is usually in English, they needed to improve all four skills.

2. Concerning the types of activities used in EAP classes, language teachers stated that the classes are in Persian (51%) and mostly translationbased, they usually start with grammar and then translation aiming at enabling students to translate or at least understand the academic texts autonomously. They (43%) believed that focusing on other skills and speaking English during the class can waste their time. However, 36% of them believed listening to, watching, and presenting lectures and other related class activities in English could have been effective, if time allowed.

Regarding this question, 30% of the content teachers stated, as using

English language and also materials in English are not defined in the syllabi of the undergraduate level, they used Persian textbooks as far as they are available. However, 70% of them believed that Persian translated or developed textbooks do not fulfill the need of the students to the latest knowledge of the world, so they preferred to use authentic and original papers, texts, and materials which foster the students' language abilities and are practical for their further studies in higher levels.

3. To identify the obstacles and problems in the way of teaching or learning EAP, most of the language teachers (89%) referred to the students' low GEP level due to the failure of educational system at high schools. Inadequate learning strategies (e.g. memorizing the vocabulary out of context) and students' unfamiliarity with academic genre were also counted as utmost obstacles (30% and 13.3%, respectively). On the other hand, most of the content teachers (80%) claimed the students are neither aware of the importance of EAP in their studies nor motivated to learn it due to their low GEP level.

4. About the relationship between students' level in EAP courses and their GEP level, the majority of the language teachers (96%), despite referring to their bilateral relationship, stated that GEP will not help the students foster the specific and academic genre in their field of study and it is possible to train EAP skills without focusing merely on GEP. Moreover, content teachers (90%) believed that GEP courses, being the prerequisite for EAP courses, affect the level of students' knowledge of EAP. It is also believed that their GEP level will help the students to exploit their knowledge in a practical way (e.g. reading papers and textbooks).

5. Regarding the number of credits given to EAP courses, while language teachers (95.8%) pointed that it does not suffice to meet the needs of all students, content teachers (97%) reckoned that the number is sufficient if language teachers can manage the time and resources. To compensate, both groups suggested EAP and content teachers to exploit the given opportunities as much as they can by availing authentic texts, enriching the input, going beyond the books and materials, and motivating the students.

6. Regarding the more qualified person to teach EAP courses, 66% of language teachers stated language teachers are more qualified than others because they are familiar with the structure of the language. However, they stated if content teachers foster their GEP, they can provide rich amount of language teaching activities in their courses. Conversely, content teachers (98%) believed content teachers are more qualified than others as they are familiar with the subject specific genre and vocabularies. Moreover, they also contended on the necessity of fostering content teachers' GEP level.

7. Referring to the type of the sources, 80% of language teachers believed that the current books are not practical and appropriate enough for all the students and recommended using up-dated and authentic papers to assure that students are familiarized with the academic genre. On the other hand, 60% of the content teachers stated that the current books are practical and appropriate for all students. However, 40% stated they have to use authentic materials to compensate for the shortcomings of the EAP textbooks.

Discussion

This study investigated the present and target academic English language needs of physiotherapy undergraduate students via the triangulation of sources and methods. An analysis of all stakeholders' viewpoints conveyed that most of the participants perceived the following as important or very important target needs in their field of study: listening to teachers' lectures, listening to films and documentaries on physiotherapy, translating English academic texts to Persian, reading original textbooks, analyzing scientific texts to understand them, reading papers in professional journals, scanning English texts, understanding technical vocabularies in textbooks and papers on physiotherapy, guessing the meanings of unknown words from context, using technical monolingual dictionaries, using bilingual dictionaries, knowing and using general and technical vocabularies, reading the adjustments and instructions on the apparatus, reading medical reports, writing medical consultations, having technical conversations, having oral communication in academic conferences, having conversations with non-Persian lecturers and content teachers, note-taking from English texts and lectures, writing medical reports, writing emails to non-Persian lecturers and field experts, translating professional texts from Persian to English, and using the internet.

The findings of the study are consonant with most of the NA studies carried out in Iran in introducing RC as the main skill for university students (Atai & Tahririan, 2003). Although most of the skills and sub-skills in target needs were considered important or very important by all the stakeholders, there were differences in the preferences and priorities of the stakeholders. The existence of such differences highlights the significance of triangulation (Bocanegra-valle, 2016; Hyland, 2006; Long, 2005; Paltridge & Starfield, 2013) to provide "a more complete picture of the needs" (Bocanegra-Valle, 2016, p. 568). Similarly, most of the language teachers (66.7) agreed to a large extent with the idea that "the EAP courses be taught by content teachers"; however, in the interview, 66% of them were in favor of EFL teachers due to their higher GEP level. This difference in the findings also indicates one-dimensionality of questionnaires as the single instrument for data collection (Hyland, 2006).

Our findings, unlike Amerian and Marefat's (2018), did not show significant differences between the academia and workplace professionals regarding their perceptions of the target needs of the students. This can be justified by the differences in the medical and business studies as English, not Persian, textbooks used in most of the non-EAP courses for physiotherapy students to have access to updating knowledge of the field. However, the preferences of the participants indicating using English at workplace as the least preferred factor by all groups signify the gap in the participants' perceptions on the necessity of focusing on workplace needs of the students in EAP courses.

The results on the present needs of the students revealed their need to improve their LC, RC, the techniques of analyzing the text, technical medical vocabularies, using dictionaries and recognizing the academic genre in their field of study. It was found that the students were not aware of their problems or they might have underestimated their abilities (Robinson, 1991). Moreover, differences between the viewpoints of undergraduates and other groups

suggest the doubts in considering them as "the reliable source, the best source or the only legitimate source" in analyzing their needs (Long, 2005, p. 26). Specifically, undergraduates' perceptions on RC were different from the views of other groups. This can be explained by Robinson's (1991) opinion that if "there is a discrepancy between students' specialist course of study or job and the one which they would prefer ...we might expect students...and ...teachers to have different views of the goals and content of the ESP course" (p. 8).

Regarding the students' and language teachers' satisfaction and the problematic issues in EAP classes, in line with Amerian and Marefat's study (2018), most of them referred to the ignored importance of EAP courses and inadequacy of time and the number of credits allocated to them. Also, undergraduates' preference on EAP courses being taught by content teachers reveals language teachers' lack of social acceptance and collegiality from students (Johns, as cited in Hutchinson & Waters, 1987). This in turn may explain language teachers' reluctance to teach EAP courses and their preference for delegating EAP courses to content teachers (Hutchinson & Waters, 1987; Nazari et al., 2017).

Problems suggested in the open-ended question, e.g., outdated materials, translated papers, not using enough English language-related activities in classes, and impractical homework and tasks (in line with Amerian & Marefat, 2018) can be considered as the instances of the problems caused by Iranian materials developers' and EAP curriculum developers' failure in considering students' initial GEP level (Robinson, 1991). Such problems signify the unsystematic status of curriculum design, syllabus design, and material development in Iranian EAP context and the findings of the study also suggest the need for a more coherent, systematic, and research-based design of EAP courses in Iranian context (Atai, 2002) through defining the needs operationally to be used as the basis for developing the curriculum, designing the syllabus, developing materials, and evaluating the courses and materials (Dudley-Evans & St John, 1998; Hutchinson & Waters, 1987).

Conclusion

The aim of this study was to address the present and target needs of physiotherapy students via using researcher-made questionnaires and semistructured interview protocols through triangulating the viewpoints of four different groups of stakeholders from the different levels of participants identified by Bocanegra-Valle (2016) to provide valid and reliable information on the target situation demands and the present situation lacks of physiotherapy students.

Considering the financial investment of EAP courses (Atai, 2002), the findings of this NA study may assist curriculum developers in reconsidering the status of EAP courses in the curriculum in terms of number of credits and time allotment. The findings also suggest that syllabus and course designers should evaluate and improve the goals and objectives of such courses and reconsider the syllabi and teaching methodologies and activities based on the students' needs. Similarly, material developers may use the findings of the study in updating and improving the materials used by physiotherapy students in EAP courses in terms of content and activities (Brown, 2009; Dudley-Evans & St John, 1998; Hutchinson & Waters, 1987; Hyland, 2006; Long, 2005).

Moreover, with regard to the specificity of the challenges faced by content and language teachers, it is suggested that both content and language teachers be familiarized and equiped with skills necessary for teaching such courses in pre/in-service courses specifically defined for each group. Furthermore, considering the lack of cooperation between content and language teachers, it seems fruitful to ease the communication and cooperation between these two camps.

The results also provide a basis for language teachers, content teachers, and physiotherapy students to tailor their activities accordingly to define and achieve the goals of EAP courses for physiotherapy students. In so doing, they may consider their target needs for defining the necessary skills the students may need to develop and may focus on the students' present needs to work on their weaknesses including their low GEP level in such courses.

Not unlike most investigations, this study also had some limitations which can be considered in future research. Despite considering the viewpoints of different stakeholders, this study does not include "educational authorities, policy makers and decision-takers" (Bocanegra-Valle, 2016, p. 560) and considering their views could give a more comprehensive view of the needs of these students. Moreover, due to practicality reasons, the subjects of the study were chosen only from medical universities in Tehran and students in other universities around the country were not included. Thus, the numbers of graduate students and content and language teachers who took part in the study were limited. Also, using a greater range of qualitative instruments in gathering data may enrich the findings of future studies.

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Appendix A Undergraduate Students' Questionnaire

Demographic information: 1. Gender:

University:

Please indicate the degrees of importance of the following skills or activities by 2. circling the related number.

1. Not important at all 2. Slightly important 3. Relatively important 4. Important 5. Very important

1.	Listening to lectures in physiotherapy conferences12345
2.	Listening to lectures and presentations in classes
3.	Listening to instructions in the workplace12345
4.	Listening to the films and documentaries related to their field of study1 2 3 4 5
5.	Listening to teachers' lectures in English
6.	Listening to colleagues' conversations using English physiotherapy expressions
7.	Listening to English lectures in international seminars12345
8.	Understanding technical vocabularies in textbooks and papers in physiotherapy
9.	Reading original physiotherapy textbooks12345
10.	Reading papers in professional journals12345
11.	Scanning English texts12345
12.	Guessing the unknown words from the context12345
13.	Guessing the meaning of the new words using prefixes and suffixes12345
14.	Understanding the meanings of technical medical vocabularies used in patients'
	prescriptions12345
	Reading patients' files1 2 3 4 5
16.	Interpreting English instructions written in the brochures and on the specialized
	tools and devices of physiotherapy1 2 3 4 5
	Reading the abbreviations on the physiotherapy devices
	Reading monitors on devices1 2 3 4 5
	Reading the adjustment on the apparatus1 2 3 4 5
	Reading medical reports1 2 3 4 5
	Reading medical consultations12345
	Having oral communication in English in academic conferences12345
23.	Having conversations with professionals and hospital staff in real situations using English physiotherapy expressions
24.	Having conversation with non-Persian lecturers12345
25.	Using English physiotherapy expressions with other colleagues12345
26.	Note-taking from professional lectures12345
27.	Note-taking from English textbooks1 2 3 4 5
28.	Writing term projects and term papers for classes12345
29.	Writing diagnosis and prescriptions about patients12345
30.	Note-taking from professional lectures
31.	Analyzing and understanding scientific texts12345
32.	Exploiting international physiotherapy workshops12345
	Writing reports about patients' conditions to specialized physicians1 2 3 4 5

	Translating English text to Persian12345
35.	Translating Persian texts to English1 2 3 4 5
36.	Using the internet for research12345
37.	Writing emails12345
38.	Using technical monolingual (English) dictionaries12345
39.	Using technical bilingual dictionaries1 2 3 4 5
	Knowing and using general English vocabularies12345
	Knowing and using technical English vocabularies
	Learning technical conversation
	Learning English grammar1 2 3 4 5
44.	Participating in English examinations in universities12345
45.	Knowing the pronunciations of general English vocabularies12345
46.	Knowing the pronunciations of technical English vocabularies12345
	 Please identify your present level of ability in using the following skills or activities.
1. Ca	n not at all 2. Slightly can 3. Need improvement 4. Relatively can 5. Easily can
1.	Listening to and understanding lectures in physiotherapy conferences1 2 3 4 5
2.	Listening to and understanding lectures and presentations in classes 1 2 3 4 5
3.	Listening to and understanding the instructions in the workplace
4.	Listening to and understanding films and documentaries on physiotherapy
-	Listering to and understanding to show of lost upon in Finalish
5. 6.	Listening to and understanding teachers' lectures in English 1 2 3 4 5 Listening to and understanding colleagues' conversations using English
0.	physiotherapy expressions
7.	Listening to and understanding English lectures in international seminars
7. 8.	Listening to and understanding English rectures in international seminars
0. 9.	Listening to and understanding professionals and hospital staffs in real
۶.	situations using English physiotherapy expressions
10.	Understanding technical vocabularies in textbooks and papers on physiotherapy
10.	1 2 3 4 5
11.	Reading original physiotherapy textbooks1 2 3 4 5
12.	Reading papers in professional journals12345
13.	Scanning English texts12345
14.	Guessing the meanings of unknown words from context while reading12345
15.	Guessing the meaning of unknown words using prefixes and suffixes1 2 3 4 5
16.	Understanding the meanings of technical medical vocabularies used in patients'
	prescriptions12345
17.	Reading patients' files 1 2 3 4 5
18.	
	the specialized tools and devices of physiotherapy1 2 3 4 5
	Reading the abbreviations1 2 3 4 5
	Reading the monitors12345
	Reading the adjustments 1 2 3 4 5
	Reading medical reports 12345
	Reading medical consultations 12345
	Reading medical tests
	Giving class presentations in English
	Having oral communication in English in academic conferences
27.	Having conversation with professionals and hospital staffs in real situations using
	English physiotherapy expressions

28.	Having conversation with non-Persian lecturers and /or content teachers1 2 3 4 5
29.	Using English physiotherapy expressions in a way understandable for other
	colleagues
30.	Note-taking from English lectures
31.	Note-taking from English textbooks 1 2 3 4 5
32.	Writing term projects and term paper for classes 1 2 3 4 5
33.	Writing diagnosis and prescriptions about patients12345
34.	Note-taking from English lectures in international professional seminars and
	workshops12345
35.	Analyzing scientific texts for understanding 1 2 3 4 5
36.	Exploiting international English workshops1 2 3 4 5
	Preparing and writing medical reports 1 2 3 4 5
38.	Translating technical texts and papers from English to Persian12345
39.	Translating technical texts and articles from Persian to English12345
40.	Using the internet for research12345
41.	Writing emails to non-Persian lecturers and field experts12345
42.	Using monolingual dictionaries12345
43.	Using bilingual technical dictionaries 1 2 3 4 5
44.	Using knowledge of general English vocabulary1 2 3 4 5
45.	Knowledge of technical English vocabulary12345
46.	Participating in technical conversations12345
47.	Using Knowledge of grammar1 2 3 4 5
48.	Taking international English examinations (e.g., IELTS)12345
49.	Taking class exams12345
50.	Knowing the pronunciations of general English vocabularies12345
51.	Knowing the pronunciations of technical English vocabularies

4. If you have already passed EAP courses, please indicate your level of satisfaction or dissatisfaction with the following items.

1. Not satisfied at all 2. Slightly satisfied 3. Satisfied to a moderate extent 4. Satisfied to a large extent 5. Completely satisfied

1.	The number of the students12345
2.	The materials and the content of the book12345
3.	The teaching methods1 2 3 4 5
4.	The assessment methods12345
5.	Using source books12345
6.	The amount of English language usage in EAP classes12345
7.	Using English in manipulating the instruments and tools in the workplace1 2 3 4 5
8.	Using technology in EAP classes12345
9.	The importance given to pre-sessional English courses
10.	The number of credits given to EAP course
11.	Not offering EAP courses to students having lower than average level of GEP

5. Please indicate your level of agreement or disagreement with each of the following statements.

1. Completely disagreed 2. A little agreed 3. Agreed to a moderate extent 4. Agreed to a great extent 5. Completely agreed

1.	EAP courses being taught by content teachers12345
2.	Studying the original English subject-specific sources 1 2 3 4 5
3.	Paying more attention to GEP12345
4.	Taking a placement test before the EAP courses1 2 3 4 5

5. Omitting the general English courses for the students with high ranks in English test in UEEI (the University Entrance Exam of Iran)...... 1 2 3 4 5

Please mention any other problematic issues in teaching and learning EAP courses if there are any.

Please offer some probable solutions for improving the quality of EAP courses or resolving problematic issues.

Appendix B Semi-Structured Interview Protocol

 $1. \ \mbox{In your opinion, what are the most important skills needed by physiotherapy students?}$

2. What types of activities are usually used in your EAP classes?

3. In your opinion, what obstacles and problems obstruct or hinder progress of teaching or learning EAP?

4. In your opinion, how are students' level in EAP courses and their GEP level related?5. Do you think the number of credits given to EAP courses is sufficient?

6. In your opinion, who is more qualified to teach EAP courses? Language teachers or subject specific teachers?

7. What are your views about the practicality and appropriacy of the source books?