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A Proposed ESP Course Specification for Students of Medicine at Taiz University

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Abstract:

This study aimed to propose an ESP course specification to meet the academic and professional needs of students of medicine at Taiz University. To this end, a total of 160 undergraduates enrolled in the Department of General Medicine and Surgery, 3 instructors of English Language Courses, and 15 graduates were recruited for this study. Data were collected via questionnaires on academic and professional needs, and analyzed quantitatively using SPSS 0.24. An analysis of the current English courses (English 101 & 102) taught at the Faculty of Medicine and Health Sciences was also conducted to assess how well they met students' needs. Based on the results, a list of academic and professional needs was elicited, and a learner-centered ESP course specification was proposed. Grounded in a learner-centered approach, the course specification focused on integrating the main language skills (speaking, listening, reading, and writing), with a core focus on medical terminology. The study concluded with recommendations for introducing effective ESP courses into medical programs at Taiz University and other Yemeni universities.

Keywords: ESP, Learner-centered course specification, Academic needs, Professional needs, Students of medicine.

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توصيف مقترح لمقرر اللغة الإنجليزية لأغراض خاصة لطلاب الطب في جامعة تعز

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ملخص:

هدفت هذه الدراسة إلى تقديم مقترح لمواصفات مقرر اللغة الإنجليزية لأغراض خاصة يلبي الاحتياجات الأكاديمية والمهنية لطلاب الطب في جامعة تعز. ولتحقيق هذا الهدف، تم اختيار 160 طالبًا جامعيًا مسجلين في قسم الطب والجراحة العامة، بالإضافة إلى 3 مدرسين لمقررات اللغة الإنجليزية، و15 خريجًا. وجُمعت البيانات من خلال استبانات حول الاحتياجات الأكاديمية والمهنية، وحُللت كميًا باستخدام برنامج (SPSS 0.24). كما أُجري تحليلٌ لمقررات اللغة الإنجليزية الحالية (101 و102) لتقييم مدى تلبيتها لاحتياجات الطلاب. وبناءً على النتائج، تم استخلاص قائمة بالاحتياجات الأكاديمية والمهنية، وتقديم مقترح لمواصفات مقررات اللغة الإنجليزية لأغراض خاصة القائم على المتعلم. وانطلاقًا من هذا النهج، ركز توصيف المقرر على دمج مهارات اللغة الأساسية (التحدث، والاستماع، والقراءة، والكتابة) مع التركيز بشكل أساسي على المفردات الطبية. واختُتمت الدراسة بتوصيات لإدخال مقررات اللغة الإنجليزية للأغراض الخاصة في البرامج الطبية بجامعة تعز وغيرها من الجامعات اليمنية.

الكلمات المفتاحية: اللغة الإنجليزية لأغراض خاصة، توصيف مقرر قائم على المتعلم، الاحتياجات الأكاديمية، الاحتياجات المهنية، طلبة الطب.

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1. Introduction

English plays a central role in education all over the World. It has become the language of science, media and technology. In many countries around the world, English is being widely used as a second language in several fields such as business, science, medicine, industry, education, etc. In addition, English has been considered not only a tool for everyday communication purposes, but also a key prerequisite to succeed as a specialist in most professions. The widespread use of English as a *lingua franca* has led to the emergence of English for Specific Purposes (henceforth ESP) as an approach to teaching language for specific purposes. Hutchinson and Waters (1987) describe it as "an approach to language teaching in which all decisions as to content and method are based on the learner's reason for learning" (p. 19).

Over the past two decades, English for Medical Purposes (henceforth EMP) has emerged as an important and rather specific sub-field of ESP, emphasising the specific academic and professional needs of learners of medicine and medicine-related specialisations. In this study, EMP is viewed as covering both academic and professional dimensions. English for Academic Purposes relates to the language for academic study, such as understanding lectures and reading textbooks, while English for Professional Purposes refers to the language required in future professional and workplace contexts (Ypsilandis & Kantaridou, 2007). English language in the medical field is vital for students of medicine in order to read textbooks, search for relevant materials from the internet, take examination, write research papers, interact with instructors and peers, both locally and internationally (Basturkmen, 2010; Dudley-Evans & St John, 1998; Hyland, 2006;).

Despite the importance of EMP for students' academic studies and future professions, students of Faculty of Medicine and Health Sciences (henceforth FMHS) at Taiz University (henceforth TU) still study English for General Purposes (henceforth EGP). They are required to take two compulsory requirement courses of EGP during their first year. These courses provide very few opportunities for students of medicine to learn English in medical-related contexts. These courses focus on grammar, vocabulary, reading, and rote learning. Moreover, these courses are usually prepared according to the available textbooks and materials without considering the needs of medicine students (Anajar, 2017).

Medicine programs therefore need to ensure that students have a strong command of English. However, recent studies, (e.g. Al-Kadi (2012, 2018); Alqurashi, 2016), have shown that students of medicine often struggle with interactive skills, such as listening and speaking, as well as academic writing, suggesting that the current scenario of English language teaching in medical colleges fails to meet their essential needs.

Consequently, there seems to be a considerable gap between the actual needs of medicine students and the reality of ESP courses offered (Al-Kadi, 2012, 2018), which can negatively impact their academic performance. Although a number of ESP-oriented studies have been conducted in the Yemeni context, only a

limited number of recent studies have examined the English academic and professional needs of medical students, such as Farea et al. (2024), and Ashuja'a and Tagaddeen (2025). However, these studies remain limited in scope and do not provide a detailed skills-based analysis nor propose an ESP course specification tailored to the academic and professional needs of students of medicine at TU. In this regard, there is a necessity to design a rationally coherent course that meets the needs of students of medicine TU, through examining the academic and professional needs of students of medicine at the Department of General Medicine and Surgery (henceforth GMS). The medical field was chosen for this study because of the importance of English language for students' academic studies and later on for their future professions.

Objectives of the Study

1. Investigating the extent to which English language courses taught for students of medicine at TU meet their academic and professional needs;
2. Identifying the academic and professional English language needs of students of medicine at TU as perceived by undergraduate students, instructors of English Language Courses (henceforth ELC), and graduates;
3. Developing an ESP course specification that can meet the academic and professional needs of students of medicine.

Questions of the Study

1. To what extent the English language courses taught for students of medicine at TU meet their academic and professional needs?
2. What are the academic and professional English language needs of the students of medicine at TU as perceived by undergraduates, instructors of ELC, and graduates?
3. What are the components of an ESP course specification that can meet the academic and professional needs of students of medicine?

2. Literature Review

Numerous studies investigated ESP course design for medical purposes. Jeong (2001) constructed an ESP curriculum for acupuncturists who speak English as a second language in America, based on NA and learning style preferences of the target group. Antić (2009) designed an EMP course for medicine students at Nis University in Serbia. The results revealed that students' weakest skill was listening, and vocabulary was the greatest problem. Sinadinović and Mićić (2016) investigated the English for Medical Academic Purposes (EMAP) syllabus at the Faculty of Medicine in Belgrade, which followed an integrated approach to the four skills and was adapted to students' academic and professional needs.

In the Yemeni context, studies on ESP course design are limited. Al-Ahdal (2008) conducted a study that aimed to design ESP courses for students of nursing, medical laboratories, and dentistry at Hodeidah University. The study proposed a 20-hour pre-sessional ESP course focusing on essential conversational skills. More recently, Al-Qasim (2017) conducted a study that aimed to design ESP courses for students of Dentistry at Ibb University. The study revealed that English language courses at the faculty of Dentistry need to be developed to meet the learners' academic and professional needs. More recently, Farea et al. (2024) investigated the match and mismatch between medical students' and faculty perceptions of ESP needs at Ibb University. The results revealed that although students showed some competence in basic language skills, they had considerable weaknesses in grammar, pronunciation, and communication, and required further training in speaking and writing for academic and professional purposes. Similarly, Qaid (2025) examined ESP needs in the Yemeni context and highlighted the necessity of improving English courses in medical faculties to better address students' academic and professional needs. Likewise, Ashuja'a and Tagaddeen (2025) examined the development of standard intended learning outcomes for English requirement courses at Yemeni universities, emphasising the importance of aligning course outcomes with students' needs.

In sum, the above-mentioned studies provide valuable insights into the English language needs of medical students and ESP course design. The results highlight the importance of English for students' academic studies and future professional careers, emphasising the need for sound course design and improvement in ELT in medical contexts. The present study aims to design an ESP course specification for students of medicine at TU based on a systematic analysis of their academic and professional English language needs.

Approaches to ESP Course Design

Hutchinson and Waters (1987) and Dudley-Evans and St John (1998) reported that there are as many approaches to ESP course design as there are course designers. They proposed three main approaches: language-centered, skills-centered and learning-centered. These approaches are different in the role of the learner, despite having the same steps. The learning-centered approach takes account of the learner at every stage of the course design process.

More recently, Nurpahmi (2016) suggested an integrated approach to course design. According to this approach, NA integrates three components: present situation analysis, target situation analysis, and learning situation analysis. It also integrates data from various stakeholders, including learners, teachers, and experts. This approach makes certain that all components are integrated into the course design.

The humanistic approach to ESP has emerged as a reaction to the more traditional, teacher-centered, and language-focused methods that had previously dominated the field (Nunan, 1988). This approach

emphasizes the importance of learner-centered, holistic, and context-sensitive instruction (Hutchinson & Waters, 1987). It emphasizes on the individual learner's needs, interests, goals, and personal growth, rather than just the acquisition of linguistic knowledge (Brumfit, 1984; Holliday, 1994). The humanistic syllabus is designed to be relevant, meaningful, and authentic to the learners' specific professional or academic contexts, fostering intrinsic motivation and engagement (Widdowson, 1978). It is based on the learners' needs and interests, not on others' expectations (Shirkhani & Ardeshir, 2013).

The various approaches to ESP course design have contributed to a more holistic, learner-centered, and context-sensitive understanding of language teaching and learning, which has been widely recognized as an important paradigm shift in the field of ESP (Dudley-Evans & St John, 1998; Hutchinson & Waters, 1987; Umera-Okeke et al., 2011).

3. Method

Participants

The participants in this study included 160 students randomly selected from levels one, five, and six in the FMHS using stratified sampling. It is worth mentioning that first year students were particularly included in this study as they were exposed to English courses (English 101 & English 102). Therefore, they were expected to hold clearly defined expectations regarding the academic and professional needs of medicine students. Similarly, the fifth and sixth year students were at a stage to properly express their points of view regarding their precise academic and professional needs. Additionally, 3 instructors of English language courses in the Department of GMS, and 15 graduates from the cohort of 2017-2018 who were working as general practitioners in Taiz city at the time of the survey were included.

Data Collection

Data were collected through questionnaires of academic and professional needs of students of medicine and analysis of related documents. The questionnaires were designed based on the available literature, informal interviews with students of medicine, medical doctors, and instructors of the ELC, as well as the researcher's familiarity with ESP in the medical context. They consisted of five domains: listening, speaking, reading, writing, and vocabulary .Each domain included both academic and professional needs relevant to medical study and future workplace settings. For example, listening included academic needs such as understanding lectures and presentations, as well as professional needs such as following medical discussions and clinical instructions. Speaking involved academic needs such as participating in classroom discussions and giving presentations, in addition to professional needs such as communicating with patients and colleagues. Reading covered academic purposes such as reading textbooks, as well as professional purposes such as reading medical reports. Writing included academic needs such as writing notes during

lectures, as well as professional needs writing medical reports. Vocabulary included academic needs such as spelling medical terms correctly, as well as professional needs such as using daily health terminology in communication with patients and colleagues.

Instrument Validation

The questionnaires were piloted and checked for validity and reliability. The reliability of the questionnaires was assessed using Cronbach's Alpha (0.919) and the Split-Half method (Spearman-Brown Coefficient, 0.957), both of which indicated high reliability. The validity of the questionnaires was obtained through expert validation and pilot validation .Experts reviewed the items for appropriateness, relevance, and representativeness. Pilot testing with 60 students ensured clarity and understanding. Pearson correlations between each item and its domain, and between each domain and the total score, were all significant at (0.01), confirming that the instrument accurately measured the intended constructs.

Data Analysis

Data were collected via questionnaires of academic and professional needs of students of medicine, and were analysed quantitatively using SPSS (0.24). The analysis was carried out in two steps: (1) the data was collected, codified for every participant, (2) the data was fed into an Excel worksheet. SPSS (0.24) was used to calculate the mean scores and standard deviations. In addition, the researcher analyzed the available course content of the current English courses (English 101 & English 102) taught at the FMHS to determine the extent to which the current English courses meet the students' academic and professional needs. The content analysis English courses (English 101 & English 102) was based on the academic and professional needs identified in this research. The analysis examined the extent to which the current courses addressed students' actual needs, focusing on the content, topics, and skills presented in this courses.

4. Results and Discussion

For clarity, interpretations of the mean scores obtained from the questionnaire items reported in this section were made according to the following five-point Likert scale:

1.Very little: mean values between 1.00 and 1.80

2.Little: mean values between 1.81 and 2.60

3.Average: mean values between 2.61 and 3.40

4.Much: mean values between 3.41 and 4.20

Results Concerning the First Question of the Study

This section provides a qualitative analysis in relation to the first question of the study: "To what extent the English courses taught for students of medicine at TU meet their academic and professional needs?"

In response to this question, an analysis of the syllabus of the current English Courses taught at the Faculty of Medicine was conducted. The following broad generalizations emerged from the analysis:

- There are no ESP courses at TU in general and at the FMHS in particular. Only EGP courses (English 101 & 102) are taught over two semesters as university requirements for all programs at TU. These courses are taught at the FMHS in coordination with the Centre of Languages and Translation, which has the authority role in providing instruction to all academic programs at the FMHS.
- There is neither a systematic course specification nor straightforward objectives of EGP courses. This finding supports previous studies that indicated a lack of course specification and a systematic need analysis for ESP courses NA (e.g. Alkadi, 2012; Alqasim 2017).
- The teaching materials of current English courses contain long lists of exercises related to grammar with few passages on scientific topics downloaded from the internet, and lists of medical terms presented in a 20-page handout without any reference to the sources.
- The content of the current English courses is incomprehensive, and the language skills presented are inadequate. The courses focus mainly on vocabulary and grammar, with only one lesson each on reading and speaking. The available syllabus of the current English courses taught at the Faculty of Medicine is presented in Table 1.

TABLE 1.

Content of the English Courses Taught at the department of GMS, FMHS, 2020-2021

Content **Part (A)- first semester**		**Content** **Part (B)- second semester**	
Exercises largely focused on teaching tenses	▪ Grammar	Passive voice	▪ Grammar
Medical Education	▪ Vocabulary ▪ Reading ▪ Grammar	Medical Ethics	▪ Vocabulary
Health and Illness	▪ Vocabulary	Medication	▪ Vocabulary
Parts of the body 1	▪ Vocabulary		
Parts of the body 2	▪ Vocabulary		
Functions of the body	▪ Vocabulary ▪ Asking about the senses (speaking)		

Obviously, the current English courses do not meet the essential academic and professional language needs necessary for students of medicine. This is inconsistent with the results of the undergraduates'

questionnaire which showed that students of GMS at the FMHS, need vocabulary followed by reading, writing, listening and speaking respectively (Table 1). Moreover, instructors of ELC and graduates' perceptions of all domains are "very much" and "much". They feel that lack of such needs affects students' competence in the academic and professional settings. This certainly proves the need for developing effective ESP courses based on students' academic and professional English language needs.

Results Concerning the Second Question of the Study

This section reports on the results of question number 2: "What are the academic and professional English language needs of the students of medicine at TU as perceived by undergraduates, instructors of ELC and graduates?" To answer this question, questionnaires containing only closed questions were formulated to elicit information on the academic and professional needs of students of medicine at TU. The means and standard deviations for each group were calculated. The results are presented and discussed below according to the domains' division in the questionnaires.

Listening Skill Needs

Table 2 shows the mean values of listening skill needs based on the perceptions of the undergraduates, which range from (4.41) to (3.81), with standard deviations of (0.70) and (0.79) respectively. The need degree is categorized from "very much" to "much". So, item (3) in the questionnaire, which concentrates on *listening to discussions on medical topics/issues*, ranks first, while item (1), *listening to daily conversations*, ranks last. Also, the mean values of listening skill needs from the perceptions of the instructors of ELC range from (4.67) to (4.00), with standard deviations of (0.58) and (1.00) respectively. The need degree is categorized from "very much" to "much". Thus, items (2 & 3) in the questionnaire- *listening to discussions on medical topics/issues* and *listening to explanations and instructions during lectures*- rank first, while items (4 & 5), *listening to presentations on medical topics* and *listening to programs/audios relevant to medical topics*, rank last. The table also illustrates the mean values of listening skill needs from the perceptions of the graduates, which range from (4.47) to (4.00), with standard deviations of (0.63) and (0.84), respectively. and the need degree remains the same. So, item (4), *listening to presentations on medical topics*, ranks first and item (5) *listening to programs/audios relevant to medical topics*, ranks last.

TABLE 2.

Listening Skill Needs as Perceived by Undergraduates, Instructors of ELC and Graduates

N	Listening Skill Needs	Undergraduates				Instructors of ELC				Graduates			
		M	SD	ND	R	M	SD	ND	R	M	SD	ND	R
1	Listening to daily conversations.	3.81	0.79	M	5	4.33	0.58	VM	2	4.27	0.88	VM	4

N	Listening Skill Needs	Undergraduates				Instructors of ELC				Graduates			
		M	SD	ND	R	M	SD	ND	R	M	SD	ND	R
2	Listening to explanations and instructions during lectures.	4.35	0.69	VM	3	4.67	0.58	VM	1	4.27	0.80	VM	3
3	Listening to discussions on medical topics/issues.	4.41	0.70	VM	1	4.67	0.58	VM	1	4.47	0.74	VM	2
4	Listening to presentations on medical topics.	4.23	0.76	VM	4	4.00	1.00	M	3	4.47	0.63	VM	1
5	Listening to programs/audios relevant to medical topics.	4.36	0.70	VM	2	4.00	1.00	M	3	4.00	0.84	M	5

M= Mean, SD= Standard Deviation, ND= need degree, VM=Very Much, M=Much, R= Rank

As Table 2 shows, the majority of the undergraduates feel that they need English for listening to discussions on medical topics/issues (*M*= 4.41 and *SD*= 0.70). Listening to daily conversation ranks last, because English is not the medium of social interactions. Yet the need degree is "much", with a mean value of (3.81) and a standard deviation of (0.79).

Instructors of ELC also perceived the needs for English mainly for listening to discussions on medical topics/issues (*M*= 4.67 and *SD*= 0.58) and listening to explanations and instructions during lectures (*M*= 4.67 and *SD*= 0.58). This indicates that instructors may face difficulties with students in understanding their explanations and instructions during lectures. The needs of listening to presentations on medical topics and listening to programs/audios relevant to medical topics in listening skill rank last as perceived by instructors of ELC. The need degree is "much" with mean values of (4.00) and standard deviations of (1.00) for each. Instructors of ELC realize the importance of listening skill for students of medicine to understand discussions on medical topics/issues (*M*= 4.67 and *SD*= 0.58), listen to explanations and instructions during lectures (*M*= 4.67 and *SD*= 0.58), listen to daily conversations (*M*= 4.33 and *SD*= 0.58), listen to presentations on medical topics (*M*= 4.00 and *SD*= 1.00) and listen to programs/audios relevant to medical topics (*M*= 4.00 and *SD*= 1.00).

Graduates, on the other hand, seem to need English more for listening to presentations on medical topics (*M*= 4.47 and *SD*= 0.63), listening to discussions on medical topics/issues (*M*= 4.47 and *SD*= 0.74), listening to explanations and instructions during lectures (*M*= 4.27 and *SD*= 0.80), listening to daily conversations (*M*= 4.27 and *SD*= 0.88) and listening to programs/audios relevant to medical topics (*M*= 4.00 and *SD*= 0.84). This is probably because they struggled with listening during their academic studies, and still face difficulties in their jobs. Thus, as it is shown in Table 2, all academic and professional English language needs related to listening skills are needed for students of medicine.

Speaking Skill Needs

As illustrated in Table 4.2, the mean values of speaking skill needs from the perceptions of the undergraduates occur within (4.45) and (3.68), standard deviations of (0.69) and (0.81) and need degree ranges from "very much" to "much" respectively. So, the item (6) in the questionnaire- *describing medical cases* - ranks first and item (7)- *participating in daily conversations and social interactions* - ranks last. Moreover, the mean values of speaking skill needs from the perceptions of the instructors of ELC occur within (4.67) and (3.67), standard deviations of (0.58) and (1.58) and need degree of "very much" to "much" respectively. That is to say, items (1, 5 & 6) in the questionnaire - *participating in classroom discussions/conversations*, *describing patient's history* and *describing medical cases* - rank first and item (8)- *talking to patients and physicians in English* - ranks last. The table also illustrates the mean values of speaking skill needs from the perceptions of the graduates which occur within (4.67) and (4.00), standard deviations of (0.62) and (0.76), and need degree of "very much" to "much" respectively. So, the item (9) in the questionnaire-*communicating online with specialists around the world*- ranks first and item (4)- *giving advice and instructions to patients*- ranks last.

TABLE 3.

Speaking Skill Needs as Perceived by Undergraduates, Instructors of ELC and Graduates

N	Speaking Skill Needs	Undergraduates				Instructors of ELC				Graduates			
		M	SD	ND	R	M	SD	ND	R	M	SD	ND	R
1	Participating in classroom discussions/conversations	3.89	0.79	M	8	4.67	0.58	VM	1	4.13	0.92	M	8
2	Giving oral presentations on medical topics in English.	4.14	0.77	M	5	4.00	1.00	M	3	4.33	0.72	VM	5
3	Giving opinions/points of view about medical topics/issues in English.	4.19	0.77	M	4	4.00	0.00	M	2	4.47	0.74	VM	3
4	Giving advice and instructions to patients.	4.08	0.87	M	6	3.67	1.53	M	4	4.00	0.76	M	9
5	Describing patient's history.	4.42	0.71	VM	2	4.67	0.58	VM	1	4.60	0.74	VM	2
6	Describing medical cases.	4.45	0.69	VM	1	4.67	0.58	VM	1	4.40	0.83	VM	4
7	Participating in daily conversations and social interactions.	3.68	0.81	M	9	4.00	0.00	M	2	4.27	0.80	VM	6
8	Talking to patients and	3.96	0.87	M	7	3.67	1.58	M	5	4.27	0.96	VM	7

	physicians in English.												
9	Communicating online with specialists around the world.	4.34	0.74	VM	3	4.00	1.00	M	3	4.67	0.62	VM	1

As can be seen in Table 3, the descriptive statistics of the results obtained from the undergraduates and instructors of ELC show that they perceived the degree of need for English in describing medical cases as "very much", with mean values of (4.45) and (4.67), and standard deviations of (0.69) and (0.58) respectively. This need was ranked first by both groups. This indicates that undergraduates and instructors of ELC agree that students of medicine need English to speak with specialists about cases. Some students, in informal discussions, reported that they needed to describe cases to specialists or to each other in order to diagnose cases and prescribe medication, either during their academic studies or later during their professional practice. Moreover, instructors of ELC, as it is shown in the Table 4.2, perceived the need for English for participating in classroom discussions/conversations (*M*= 4.67 and *SD*= 0.58) and for describing patient's history (*M*= 4.67 and *SD*= 0.58). Both needs are also ranked first. This is probably because of the fact that English is the medium of instruction in the Department of GMS, FMHS, and that they are aware of the importance of English beyond this domain.

Concerning graduates, the results, shown in Table 3, indicate that they need English for communicating online with specialists around the world (*M*= 4.67 and *SD*= 0.62). This is likely attributed to the need for getting medical information and experience from the specialists around the world. Furthermore, as it is well-known, English language plays a crucial role in many fields including medicine. So, students of medicine have to be able to communicate effectively with specialists and others.

Participating in daily conversations and social interactions, as perceived by undergraduates (*M*= 3.68 and *SD*= 0.81), *talking to patients and physicians in English,* as perceived by instructors of ELC (*M*= 3.67 and *SD*= 1.58), and *giving advice and instructions to patients*, as perceived by graduates (*M*= 4.00 and *SD*= 0.67), rank last. This is attributed to the Arabic environment in Yemen. The participants think that Arabic is the mother tongue, and students will use it in daily conversations and social interactions, and when talking to patients and physicians too. They tend to think only in local contexts. In spite of that, the need for the three speaking skills is "much", with mean values of (3.68), (3.67) and (4.00), and standard deviations of (0.81), (1.58) and (0.76) respectively. Thus, as shown in Table 3, all academic and professional English language needs related to speaking skills are important for students of medicine.

Reading Skill Needs

As illustrated in Table 4, the mean values of reading skill needs as perceived by undergraduates range from (4.61) to (4.07) with standard deviations of (0.63) and (0.88), with a need degree of "very much"

to "much". So, the item (1) - *reading medical textbooks and instructional resources* - ranks first, while item (8) - *reading graphs, charts, tables and diagrams* - ranks last. Moreover, the mean values of reading skill needs from the perceptions of the instructors of ELC occur within (4.67 and 3.33), standard deviations of (0.58) and (1.15), indicating a need degree from "very much" to "average" respectively. Thus, item (4) - *reading medical prescriptions* - ranks first, and item (8) - *reading graphs, charts, tables and* diagrams - ranks last. Among graduates, the mean values range from (4.67) to (3.47), standard deviations of (0.62) and (1.19), indicating a need degree from "very much" to "much" respectively. In this group, item (1) - *reading medical textbooks and instructional resources* - ranks first, while item (9)- *reading the manuals of medical equipment/devices* - ranks last.

TABLE 4.

Reading Skill Needs as Perceived by Undergraduates, Instructors of ELC and Graduates

N	Reading Skill Needs	Undergraduates				Instructors of ELC				Graduates			
		M	SD	ND	R	M	SD	ND	R	M	SD	ND	R
1	Reading medical textbooks and instructional resources.	4.61	0.63	VM	1	4.33	0.58	VM	2	4.67	0.62	VM	1
2	Reading articles from medical journals.	4.41	0.74	VM	4	4.00	1.00	M	3	4.53	0.74	VM	2
3	Reading medical reports.	4.49	0.70	VM	2	4.00	1.00	M	3	4.53	0.64	VM	3
4	Reading medical prescriptions.	4.42	0.70	VM	3	4.67	0.58	VM	1	4.33	0.72	VM	5
5	Reading for summarising a medical text/article.	4.39	0.67	VM	5	4.00	1.00	M	4	4.20	0.94	M	6
6	Reading for identifying the main idea in a medical text.	4.38	0.68	VM	6	3.67	1.15	M	5	4.40	0.83	VM	4
7	Reading for identifying specific information in a text.	4.19	0.85	M	8	3.67	1.15	M	5	4.07	0.96	M	8
8	Reading graphs, charts, tables and diagrams.	4.07	0.88	M	10	3.33	1.15	A	7	3.73	1.03	M	9
9	Reading the manuals of medical equipment/devices.	4.07	0.82	M	9	3.33	0.58	A	6	3.47	1.19	M	10
10	Reading the medical literature and literature of medical findings, techniques and treatments in general.	4.28	0.79	VM	7	3.67	1.15	M	5	4.07	0.80	M	7

As Table 4 shows, all needs for English language reading skills are perceived as "very much" to "much" except for two needs perceived by instructors of ELC as "average". The undergraduates and graduates indicated that they need English mostly for reading medical textbooks and instructional resources (undergraduates: *M*= 4.61 and *SD*= 0.63 and graduates: *M*= 4.67 and *SD*= 0.62). This result is attributed to the need of students of medicine for reading sources during their academic studies, which continues into their professional practice. As for instructors of ELC, they perceived the need of English for reading prescriptions (*M*= 4.67 and *SD*= 0.58). This perception is probably attributed to the importance of understanding appropriate medicines prescribed for specific diseases, including dosages and usage instructions.

Writing Skill Needs

As illustrated in Table 5, the mean values of writing skill needs, as perceived by the undergraduates, range from (4.56) to (4.09), with standard deviations of (0.63) and (0.78), indicating a need degree from "very much" to "much.". Item (15) *writing descriptions of blood samples, diseases, etc.* ranks first, while item (3) *writing notes during lectures* ranks last. In addition, the mean values of writing skill needs from the perceptions of the instructors of ELC occur within (5.00) and (3.00), standard deviations of (0.00) and (1.00), showing a need degree from "very much" to "average" respectively. Thus, item (14) *filling in medical forms/sheets* ranks first and item (12) *writing Curriculum Vitae (CVs)* ranks last. The mean values of writing skill needs from the perceptions of the graduates occur within (4.73) and (4.00), standard deviations of (0.46) and (0.85), indicating a need degree from "very much" to "much" respectively. Here, item (5) *summarising medical texts and articles* ranks first and item (8) *taking patient's history* ranks last.

TABLE 5.

Writing Skill Needs as Perceived by Undergraduates, Instructors of ELC and Graduates

N	Writing Skill Needs	Undergraduates				Instructors of ELC				Graduates			
		M	SD	ND	R	M	SD	ND	R	M	SD	ND	R
1	Formulating grammatically correct questions and sentences.	4.17	0.74	M	11	3.67	0.58	H	4	4.40	0.83	VM	10
2	Writing paragraphs/essays.	4.16	0.75	M	12	4.00	1.00	M	3	4.13	0.83	M	15
3	Writing notes during lectures.	4.09	0.78	M	16	3.67	0.58	M	4	4.27	0.88	VM	13
4	Academic writing skills.	4.20	0.78	M	10	3.33	0.58	A	5	4.40	0.74	VM	9
5	Summarising medical texts and articles	4.25	0.75	VM	9	3.67	0.58	M	4	4.00	0.85	M	16
6	Writing medical reports.	4.31	0.76	VM	5	4.00	1.00	M	3	4.73	0.59	VM	2

N	Writing Skill Needs	Undergraduates				Instructors of ELC				Graduates			
		M	SD	ND	R	M	SD	ND	R	M	SD	ND	R
7	Writing emails/letters/memos.	4.16	0.83	M	13	4.00	1.00	M	3	4.20	1.15	M	14
8	Taking patient's history.	4.29	0.78	VM	7	4.00	1.00	M	3	4.73	0.46	VM	1
9	Writing notes about medical cases.	4.32	0.82	VM	4	4.00	1.00	M	3	4.67	0.62	VM	4
10	Writing drug instructions for patients/relatives.	4.10	0.82	M	15	4.33	1.15	VM	2	4.33	0.98	VM	12
11	Writing presentations.	4.13	0.87	M	14	4.00	1.00	M	3	4.60	0.63	VM	6
12	Writing Curriculum Vitae (CVs).	4.29	0.80	VM	8	3.00	1.00	A	6	4.67	0.49	VM	3
13	Writing medical prescriptions.	4.47	0.76	VM	2	4.33	1.15	VM	2	4.60	0.51	VM	5
14	Filling in medical forms/ sheets.	4.41	0.71	VM	3	5.00	0.00	VM	1	4.53	0.52	VM	7
15	Writing descriptions of blood samples, diseases, etc.	4.56	0.63	VM	1	4.33	1.15	VM	2	4.40	0.63	VM	8
16	Translating medical texts from English into Arabic and vice versa using different translation strategies and procedures.	4.30	0.80	VM	6	4.33	1.15	VM	2	4.33	0.82	VM	11

As Table 5 shows, the need degree of all writing skills among undergraduates, instructors of ELC and graduates is characterized as "very much" or "much", with two needs perceived by instructors of ELC rated as "average". Table 5 indicates that students of medicine primarily need English for writing descriptions of blood samples, diseases, etc., (*M*= 4.56 and *SD*= 0.63), as perceived by undergraduates, and for filling in medical forms/sheets (*M*= 5.00 and *SD*= 0.00), as perceived by instructors of ELC. Additionally, graduates emphasize the importance of English for taking patient's history (*M*= 4.73 and *SD*= 0.46). The three writing needs identified by the perceptions of the three groups rank first, and the need degree is "very much". Noticeably, the graduates are more aware of the importance of English for taking patient's history. This sounds reasonable as they wish to write professionally in their professional careers. This is probably because of the fact that graduates often lack the necessary level of English language writing skills in professional settings, while undergraduates still need English that assist them in writing descriptions of blood samples and diseases

during their academic studies. The other writing needs shown in Table 5 are also important but vary in importance.

Writing notes during lectures (*M*= 4.09 and *SD*= 0.78) ranks last in importance as perceived by undergraduates. Some of the undergraduates comment that while the need of English for writing notes is also important, it is not as critical because they only write keywords that help them to search on the internet. Others argue that they do not take notes during lectures as they depend on intelligent classmates for writing and summarising lectures. Some students also record lectures on their mobile devices. *Writing Curriculum Vitae (CVs)* (*M*= 3.00 and *SD*= 1.00) is perceived as having moderate importance by instructors of ELC. This is probably due to the need of using English when students of medicine graduate and apply for jobs. *Summarising medical texts and articles* (*M*= 4.00 and *SD*= 0.85) ranks last in importance as perceived by graduates and the need degree is "much". This is because of a lack of proficiency in summarising texts and articles, and graduates express a desire to be included in English courses. Overall, the results indicate that the participants are aware of the writing needs of students of medicine. As shown in Table 5, all academic and professional English language needs related to writing skills are essential for students of medicine.

Vocabulary Needs

As illustrated in Table 6, the mean values of vocabulary skill needs from the perceptions of the undergraduates range from (4.53) to (4.29), with standard deviations of (0.70) and (0.77), indicating a need degree of "very much". So, item (10) *spelling medical terms correctly* ranks first, while item (4) *defining the common word parts used in forming medical terms* ranks last. Furthermore, the mean values of vocabulary skill needs from the perceptions of the instructors of ELC range from (4.67) to (4.00), with standard deviations of (0.58) and (1.00), reflecting a need degree from "very much" to "much". In this group, items (5, 6, 10 & 11), which focus on *analysing the parts of a medical word for determining its meaning, finding a term in medical dictionaries and other resources, spelling medical terms correctly* and *identifying synonyms or antonyms for certain words*, rank first. Conversely, items (7 & 8), which relate to *using medical dictionaries to pronounce medical terms correctly* and *using medical abbreviations in medical contexts*, rank last. Table 6 also reveals the mean values of vocabulary skill needs from the perceptions of the graduates which range from (4.73) to (4.00), with standard deviations of (0.59) and (1.07), indicating a need degree from "very much" to "much". So, item (10), *spelling medical terms correctly*, ranks first, while item (12), *providing the Arabic equivalents of English and Latin medical terms*, ranks last.

TABLE 6.

Vocabulary Skill Needs as Perceived by Undergraduates, Instructors of ELC and Graduates

N	Vocabulary Needs	Undergraduates				Instructors of ELC				Graduates			
		M	SD	ND	R	M	SD	ND	R	M	SD	ND	R
1	Using daily health terminology.	4.43	0.71	VM	5	4.33	0.58	VM	2	4.33	0.82	VM	4
2	Using medical terminology relevant to students of medicine study.	4.51	0.68	VM	2	4.00	0.00	M	4	4.67	0.62	VM	2
3	Identifying the types of word parts used in forming most medical terms.	4.40	0.67	VM	8	4.33	0.58	VM	2	4.27	0.88	VM	5
4	Defining the common word parts used in forming medical terms.	4.29	0.77	VM	12	4.33	0.58	VM	2	4.27	0.88	VM	5
5	Analysing the parts of a medical word for determining its meaning.	4.37	0.70	VM	11	4.67	0.58	VM	1	4.07	0.96	M	8
6	Finding a term in medical dictionaries and other resources.	4.41	0.71	VM	7	4.67	0.58	VM	1	4.20	0.86	M	6
7	Using medical dictionaries to pronounce medical terms correctly.	4.40	0.71	VM	9	4.00	1.00	M	5	4.40	0.74	VM	3
8	Using medical abbreviations in medical contexts.	4.43	0.69	VM	3	4.00	1.00	M	5	4.07	1.03	M	9
9	Identifying the singular and plural forms of medical terms.	4.38	0.74	VM	10	4.33	1.15	VM	3	4.20	0.86	M	6
10	Spelling medical terms correctly.	4.53	0.70	VM	1	4.67	0.58	VM	1	4.73	0.59	VM	1
11	Identifying synonyms or antonyms for certain words.	4.43	0.70	VM	4	4.67	0.58	VM	1	4.20	0.94	M	7
12	Providing the Arabic equivalents of English and Latin medical terms.	4.43	0.73	VM	6	4.33	0.58	VM	2	4.00	1.07	M	10

As Table 6 illustrates, the need degree of all vocabulary needs as perceived by undergraduates, instructors of ELC and graduates is "very much" and "much". Among the vocabulary needs perceived by all participants, spelling medical terms correctly ranks first (undergraduates': *M*= 4.53 and *SD*= 0.70; instructors

of ELC: *M*= 4.67 and *SD*= 0.58; graduates': *M*= 4.73 and *SD*= 0.59). This emphasis on correct spelling is attributed to the potential for misunderstanding others when words are spelt incorrectly. Besides, the incorrect spelling can lead to fossilization.

For ELC instructors, three needs share the top ranking. These needs include analysing the parts of a medical word for determining its meaning (*M*= 4.67 and *SD*= 0.58), finding a term in medical dictionaries and other resources (*M*= 4.67 and *SD*= 0.58), and identifying synonyms or antonyms for certain words (*M*= 4.67 and *SD*= 0.58. The other needs related to vocabulary as perceived by the participants are also considered very important. These results indicate that vocabulary plays an important role in studying medicine. Students of medicine must spell correctly, define the parts of medical terminology parts, and more. Vocabulary is also considered as the foundation of reading, writing, speaking and listening. Thus, as shown in Table 6, all academic and professional English language needs related to vocabulary are needed for students of medicine.

One-Way ANOVA of Undergraduates' Perceptions of Academic and Professional Needs according to Level

As shown in Table 7, the F value is (12.850) with a significant level of (0.000). This indicates that there are significant differences at the (0.05) level among undergraduates (levels one, five, and six) in the Department of GMS, FMHS. Post hoc tests are then used to find out the differences in means regarding the perception of academic and professional needs across the different levels.

TABLE 7.

One-Way ANOVA

	Sum of Squares	DF	Mean Square	F	Sig.
Between Groups	2.951	2	1.476	12.850	0.000
Within Groups	18.029	157	0.115	-	-
Total	20.980	159	-	-	

DF= Degree of Freedom, F= Distribution, Sig.= Significant

TABLE 8.

Post Hoc Tests (LSD) of Undergraduates' Perceptions of Academic and Professional Needs According to Level

(I) Level	(J) Level	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Level One	Level Five	-0.28220-*	0.06333	0.000	-0.4073-	-0.1571-
	Level Six	-0.25683-*	0.06912	0.000	-0.3934-	-0.1203-
Level Five	Level One	0.28220*	0.06333	0.000	0.1571	0.4073
	Level Six	0.02538	0.07738	0.743	-0.1275-	0.1782
Level Six	Level One	0.25683*	0.06912	0.000	0.1203	0.3934
	Level Five	-0.02538-	0.07738	0.743	-0.1782-	0.1275

*The mean difference is significant at the 0.05 level.

Std.= Standard deviation, Sig.= Significant

LSD= Least Significance Differences

As shown in Table 8, the differences among undergraduates (levels- one, five, and six) in perceiving the academic and professional needs are in favor of the higher levels (five and six). The mean value between level one and level five is (-28220), with a significance level of (0.000). Moreover, the mean difference between level one and level six is (-25683), also significant at (0.000). This indicates significant differences at the (0.05) regarding "level" among undergraduates in the Department of GMS, FMHS. Therefore, there are statistically significant differences in favor of levels five and six. This is a logical result, as students in the fifth and sixth levels have completed many courses in the Department of GMS, FMHS. Consequently, they are aware of their academic and professional needs regarding the English language courses. This understanding contrasts with first level students who lack a comprehensive awareness of the academic and professional English language needs.

Priority Ranking of Each Domain in the Questionnaire

As shown in Table 9, the five domains in the questionnaire were ranked based on the perceptions of undergraduates, instructors of ELC and graduates. Means and standard deviations were calculated, and the need degree and rank of each domain were elicited.

TABLE 9.

Means, Standard Deviations, need degree and Rank of Each Domain from the Perceptions of Undergraduates, Instructors of ELC and Graduates

Domain	Undergraduates				Instructors of ELC				Graduates			
	M	SD	ND	R	M	SD	ND	R	M	SD	ND	R
Listening	4.23	0.45	VM	4	4.33	0.64	VM	2	4.29	0.57	VM	3
Speaking	4.13	0.46	M	5	4.15	0.06	VM	3	4.35	0.54	VM	2
Reading	4.33	0.49	VM	2	3.87	0.72	M	5	4.20	0.63	M	5
Writing	4.26	0.44	VM	3	3.98	0.51	M	4	4.44	0.49	VM	1
Vocabulary	4.42	0.47	VM	1	4.36	0.59	VM	1	4.28	0.63	VM	4
Total	4.27	0.46	VM	-	4.14	0.50	M	-	4.31	0.52	VM	-

As shown in Table 9, the overall mean values of the five domains as perceived by undergraduates and graduates are (4.27) and (4.31), with standard deviations of (0.46) and (0.52) respectively. On the other hand, the total mean value of the five domains as perceived by instructors of ELC is (4.14), with a standard deviation

of (0.50). This indicates that the perceptions of all participants regarding each need are categorized as "very much" and "much".

As for undergraduates' perception, vocabulary ranks first, with a mean value of (4.42) and a standard deviation of (0.47), followed by reading, writing, listening and speaking respectively. The mean value for reading is (4.33), with a standard deviation of (0.49); for writing, the mean value is (4.26), with a standard deviation of (0.44); for listening, the mean value is (4.23), with a standard deviation of (.45); and for speaking, the mean value is (4.13), with a standard deviation of (0.46). Students of GMS at the FMHS believe that vocabulary is very important for reading, writing, speaking and listening. According to them, the ESP course in the field of medicine should largely concentrate on teaching vocabulary, followed by reading, writing, listening and speaking. They feel that a lack of attention to these needs severely weakens their competence in both academic and professional settings.

As for graduates, this sequence is somewhat shifted the other way round. Writing ranks first with a mean value of (4.44) and a standard deviation of (0.49), followed by speaking, listening, vocabulary and reading respectively. The mean value for speaking is 4.35 (SD = 0.54), listening is 4.29 (SD = 0.57), vocabulary is 4.28 (SD = 0.63), and reading is 4.20 (SD = 0.63). This shift is probably because of their practicing in professional settings and lacking the required level of English language skills and vocabulary during work. In comparison, while undergraduates need vocabulary, reading, writing, listening and speaking to excel in their study and future job-setting, graduates primarily focus on improving their writing, reading, vocabulary and oral skills for job applications and work.

As for instructors of ELC, vocabulary was perceived as the most important skill, with a mean value of (4.36) and a standard deviation of (0.59), followed by listening, speaking, writing and reading respectively. The mean value for listening was (4.33), with a standard deviation of (0.64); for speaking the mean value was (4.15), with a standard deviation of (0.06); for writing mean value was (3.98) with a standard deviation of (0.51); and for reading, the mean value was (3.87), with a standard deviation of (0.72). According to the instructors of ELC, students of GMS at the FMHS need medical vocabulary the most. Students also, according to them, should develop listening skills in order to understand lectures and to interact effectively with others effectively. Writing is considered an important skill, particularly for students' future professions. The goal is to develop students' reading skill, as accurate reading is an important skill for students of medicine.

Results Concerning the Third Question of the Study

The third main question posed in this study was "What are the components of ESP course specification that can meet/address the academic and professional needs of students of medicine? In response to this research question, the proposed course specification was designed based on the academic and professional

needs questionnaires. The results of the questionnaires as reported in Tables 1, 2, 3, 4 and 5 revealed a comprehensive list of needs that should be taken into consideration when designing an ESP course for students of medicine. These needs include the following:

Vocabulary Skills:

1. Spelling medical terms correctly.
2. Using medical terminology relevant to medicine students' study.
3. Using medical abbreviations in medical contexts.
4. Identifying synonyms or antonyms for certain words.
5. Using daily health terminology.
6. Providing the Arabic equivalents of English and Latin medical terms.
7. Finding a term in medical dictionaries and other resources.
8. Identifying the types of word parts used in forming most medical terms.
9. Using medical dictionaries to pronounce medical terms correctly.
10. Identifying the singular and plural forms of medical terms.
11. Analysing the parts of a medical word for determining its meaning .
12. Defining the common word parts used in forming medical terms.

Reading skills:

1. Reading medical textbooks and instructional resources.
2. Reading medical reports.
3. Reading medical prescriptions.
4. Reading articles from medical journals.
5. Reading for summarising a medical text/article.
6. Reading for identifying the main idea in a medical text.
7. Reading the medical literature and literature of medical findings, techniques and treatments in general.
8. Reading for identifying specific information in a text.
9. Reading the manuals of medical equipment/devices.
10. Reading graphs, charts, tables and diagrams.

Writing Skills:

1. Writing descriptions of blood samples, diseases, etc.
2. Writing medical prescriptions.
3. Filling in medical forms/sheets.

4. Writing notes about medical cases.
5. Writing medical reports.
6. Translating medical texts between English and Arabic
7. Writing Curriculum Vitae (CVs).
8. Summarising medical texts and articles.
9. Producing academic writing
10. Formulating grammatically correct questions and sentences.
11. Writing paragraphs/essays.
12. Writing emails/letters/memos.
13. Writing presentations.
14. Writing drug instructions for patients/relatives.
15. Writing notes during lectures.

Listening Skills:

1. Listening to discussions on medical topics/issues.
2. Listening to programs/audios relevant to medical topics.
3. Listening to explanations and instructions during lectures.
4. Listening to presentations on medical topics.
5. Listening to daily conversations.

Speaking Skills:

1. Describing medical cases and patient's history.
2. Giving opinions/points of view about medical topics/issues in English.
3. Giving oral presentations on medical topics in English.
4. Giving advice and instructions to patients .
5. Talking to patients and physicians in English.
6. Participating in classroom discussions.
7. Participating in daily conversations and social interactions.

This diversity of academic and professional needs justifies the needs for designing an ESP course for students of medicine. The course design should reflect all the academic and professional needs of students of GMS at the FMHS. The course design should be learner-centered, task-based and interactive with a balanced focus on all four skills. Such an ESP course will effectively address the academic and professional language needs of students of medicine at TU and involve them in an active and dynamic learning environment. A description of the proposed course specification is provided in the appendix.

Overall, the results of the present study indicate that students of medicine at TU require the development of all language skills, in addition to medical vocabulary, for both academic and professional purposes. These results generally align with previous ESP research in medical education, which emphasizes the importance of addressing students' needs in a systematic way (e.g., Antić, 2009; Sinadinović & Mićić, 2016). In the Yemeni context, the present findings are generally consistent with recent studies such as those by Farea et al. (2024) and Qaid (2025), as well as with earlier works by Al-Ahdal (2008) and Al-Qasim (2017). These studies collectively indicate the need for improving and developing ESP courses in medical faculties to better address students' needs. Furthermore, the results are supported by Ashuja'a and Tagaddeen (2025), who emphasize the importance of clearly specified, context-based learning outcomes that address students' needs. However, unlike these studies, the present study provides a detailed NA for students of GMS at TU and proposes an ESP course specification grounded in those identified needs.

5. Conclusions and Recommendations

Based on the results of the study and the theoretical propositions of the related literature, the following conclusions can be drawn:

1. English language is perceived as vital to medicine students' academic and professional education.
2. Conducting needs analysis is vital for designing effective ESP courses. The needs analysis can serve as a guideline to what should be taught to the students of medicine. Consequently, the course contents will have relevance for the students as they feel motivated to become more involved in learning and often seem to participate actively in the learning process.
3. There are no ESP courses at FMHS. The students only study EGP courses (English 101 & English 102) prepared randomly by instructors graduated from the faculty of Education. Analysis of the current English syllabus taught at the Faculty of Medicine illustrates that it provides none or very few possibilities for students of medicine to learn English in medical-related contexts. The investigation of NA has shown that the students of medicine are not satisfied with the current English courses. The participants have different expectations as for their English language needs in their academic study and professional practice.
4. The proposed ESP course specification for students of medicine at TU, based on the learner-centered approach of learning, might be effective in fulfilling their academic and professional needs and in engaging them in an active and dynamic learning environment.

On the light of these conclusions, the following recommendations are made:

1. The FMHS should design ESP courses that meet the academic and professional needs of medicine students and allow them to learn English in medical-related contexts.

2. The proposed ESP course specification for students of medicine at TU should be taught during the first four semesters of the BA program.
3. ESP courses at the FMHS should be based on an integrated approach to the four language skills (reading, writing, listening and speaking).
4. ESP courses at the FMHS should focus on medical terminology and everyday health-related terminology with an appropriate emphasis on reading, writing, speaking and listening.
5. Terminology is the main feature of EMP, so EMP students should master the basics of word structure and all about word parts, usage, pronunciation, and recognition.
6. Medical terminology should be presented in relevant topic-related contexts.
7. Students of medicine should be encouraged to engage in extensive reading on medical topics that include the medical terms they are learning.
8. ESP students, including EMP students, should take responsibility for their own learning and should be involved in the negotiation of course design aspects.
9. NA should be given priority when designing ESP courses.
10. Resources for practical ESP course development should be made available to the instructors at ELC.
11. ESP teaching materials should be authentic and relevant to students' personal interests and culturally appropriate for the medical setting in the Yemeni context.
12. Instructors at ELC should be trained to use suitable teaching methods and strategies that help students activate their previous knowledge and construct their own learning.
13. Technology-based teaching should be emphasized to make learning more effective.
14. An ESP unit should be established at the Centre of Languages and Translation to design ESP courses for different academic programs at TU.
15. There is a necessity to enhance medicine students' proficiency in all the four language skills (listening, speaking, reading and writing) as well as in the use of specific medical terminology.
16. The overall goal of an ESP course in the medical field should be to equip students with the necessary level of proficiency in English language skills to meet their academic and professional needs. The results of this study reveal a clear need for ESP courses designed specifically for students of medicine at TU to meet their academic and professional needs.

6. Suggestions for Future Studies

Based on the results, these suggestions for future studies are given:

1. Future research should focus on developing the current study by developing, implementing and evaluating the proposed ESP course specification for students of medicine at TU.

2. Further research might investigate the English language needs of students in other medical departments at TU in order to determine if their needs are similar to those at the GMS.

APPENDIX:

A Proposed ESP Course Specification for Students of Medicine

I. Course Description:

This ESP course aims to serve the English language needs of medicine students at Taiz University by developing the four language skills (speaking, listening, reading, and writing) while enhancing their confidence in using medical terminology.

II. Course Goals:

The course aims to:

1. Equip students of medicine with necessary language skills and content knowledge in order to cope with the academic and professional requirements of their study and future professions;
2. Improve proficiency in spoken and written medical English;
3. Develop foundational knowledge of medical word structures and terminology;
4. Prepare students to interact effectively in diverse academic and professional settings.

III. Course Intended Learning Outcomes, Teaching Strategies and Assessment Strategies:

(A) Knowledge and Understanding:

Course Learning Outcomes		Teaching Strategies	Assessment Methods
A.1	Define and explain the meaning of common medical terms, abbreviations, and word parts.	1. Interactive Lectures 2. Tutorials 3. Cooperative learning 4. Brainstorming 5. Questioning 6. Discussion	1. Written tests 2. Assignments 3. Presentations 4. Quizzes 5. Exercises
A.2	Identify the singular and plural forms of medical terms.		
A.3	Recall the Arabic equivalents of English and Latin medical terms.		
A.4	Demonstrate knowledge of the grammatical rules for forming sentences, and producing wide range of texts in academic and professional settings.		
A.5	Identify and explain main ideas and relevant		

	information in academic discussions, talks, lectures, conversations, etc.
A.6	Describe and differentiate appropriate writing conventions and styles for various medical and academic writing tasks.
A.7	Demonstrate knowledge of using medical dictionaries, journals, and online resources to find and verify medical terms and information.

(B) Intellectual Skills

Course Learning Outcomes		Teaching Strategies	Assessment Methods
B1	Spell, pronounce, and use medical terms and abbreviations correctly.	1. Discussion 2. Problem-solving 3. Task-based learning 4. Individual learning 5. Tutorials 6. Cooperative learning	1. Written tests 2. Assignment 3. Presentations 4. Quizzes 5. Self-assessment 6. Peer-assessment 7. Exercises
B2	Identify synonyms and antonyms for medical terms.		
B3	Analyse the structure of medical terms to determine their meanings.		
B4	Listen to explanations, instructions and discussions in medical settings.		

(C) Professional and Practical Skills:

Course Learning Outcomes		Teaching Strategies	Assessment Methods
C1	Commit to continuous personal and professional development, staying updated with advancements in medical knowledge and language skills.	1. Discussion 2. Case study 3. Tutorials 4. Cooperative learning 5. Directed self-study	1. Individual/group Presentation 2. Discussion 3. Self-assessment
C2	Develop self-directed learning skills to continually expand medical English knowledge and skills.		

C3	Read and interpret medical texts, reports, and data presentations with confidence.
C4	Summarise medical texts and articles effectively.
C5	Write clear, accurate, and professional medical documents.
C6	Speak fluently and accurately in academic, professional and social settings.
C10	Translate medical terms and texts between English and Arabic.

(D) General and Transferable Skills:

	Course Learning Outcomes	Teaching Strategies	Assessment Methods
D1	Use modern technology effectively for academic presentations and report writing.	1. Discussion 2. Case study 3. Tutorials 4. Cooperative learning 5. Directed self-study	1. Individual/group presentations 2. Discussion 3. Self-assessme
D2	Communicate effectively and fluently in academic and professional settings.		
D3	Work effectively as a member of a team.		
D4	Engage effectively in independent and lifelong learning		

IV. Course Content (Over Four Semesters)

Semesters 1 and 2: Medical English Core Skills

Order	Topics	Contact Hours
1	Hospital departments, Hospital staff Hospital equipment	4
2	Parts of the body	2
3	Respiratory system	2

	Circulatory system	
4	Digestive system First aid	2
5	Common abbreviations Measurements	2
6	Administrating medication Describing frequency Maintaining hygiene	2
7	Blood Bones	2
8	Skin Nervous system	2
9	Endocrine system Reproductive system Urinary system	2
10	Taking a history Talking about symptoms	2
11	Physical examinations Diagnostic tests Diagnostic equipment	2
12	Family medicine Pediatrics Geriatrics	2
13	Education and training Communication with staff Communication with patients	2
14	Challenges Describing pain Chronic vs acute illnesses	2
15	Diabetes Cancer Heart diseases	2
16	Traumic injuries Infections	2

17	Nursing OB/GYN	2
18	Neurology Surgery	2

Semester 3 and 4: Medical Terminology

Order	Topics	Contact Hours
1.	Introduction: The Components of Medical Words	2
2.	Levels of organization	2
3.	The digestive system	2
4.	The breathing system	2
5.	The cardiovascular system	2
6.	The blood	2
7.	The lymphatic system and immunology	2
8.	The urinary system	2
9.	The nervous system	2
10.	The eye	2
11.	The ear	2
12.	The skin	2
13.	The nose and mouth	2
14.	The muscular system	2
15.	The skeletal system	2
16.	The male reproductive system	2
17.	The female reproductive system	2
18.	The endocrine system	2
19.	Radiology and nuclear medicine	2
20.	Oncology	2
21.	Anatomical position	2
22.	Pharmacology and microbiology	2

V. Learning Resources:

1. Core Textbooks

Evan, V., Dooley, J., & T. T. M. (2012). *Career paths: Medical.* Expressing Publishing.

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Jeong, J. (2001). An English for specific purposes curriculum for ESL Acupuncturists [Master thesis]. California State University, USA.

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