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RESEARCH ARTICLE

ESP for Medical Students in Yemen: A Study Investigating the Match and Mismatch of Student and Faculty Perceptions

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ABSTRACT

This study aims to gather information about the lacks and wants of existing ESP for medical students at Ibb University (IU) in Yemen as a part of a needs analysis with descriptive quantitative and qualitative methods. In this study, the quantitative data were collected using questionnaires (n=200) via the maximum variation purposive sampling strategy, while the qualitative data were obtained from semi-structured interviews (n=29) via convenience sampling. The statistical analysis was conducted using IBM® SPSS® Statistics V24. Descriptive statistics analysis involving means and frequencies was used to analyse the quantitative data. In addition, thematic analysis was used to analyse the qualitative data collected from semi-structured interviews. The inferential statistical procedures, using a non-parametric Kruskal-Wallis (K-W) and Mann-Whitney U, were applied to determine any significant differences regarding the English language lacks and wants of the current ESP course. The findings revealed that medical students were proficient in using main English language skills (i.e., reading and listening) but had major weaknesses in grammar, pronunciation and communication skills. Besides, English sub-skills such as reading textbooks, reading course handouts, reading study notes, writing test/exam answers, following lectures, following question/answer sessions in class, and participating in discussions were used proficiently by medical students as perceived by the three groups of respondents. Medical students are required to have more training in speaking and writing. Based on these findings, the present study concluded that conducting a needs analysis is crucial in designing effective ESP courses. Finally, some pedagogical implications would help tap for course designers and recommendations for future studies.

Contribution/Originality: This study identifies the gap between the English proficiency of Ibb University medical students and their ability to succeed in their major

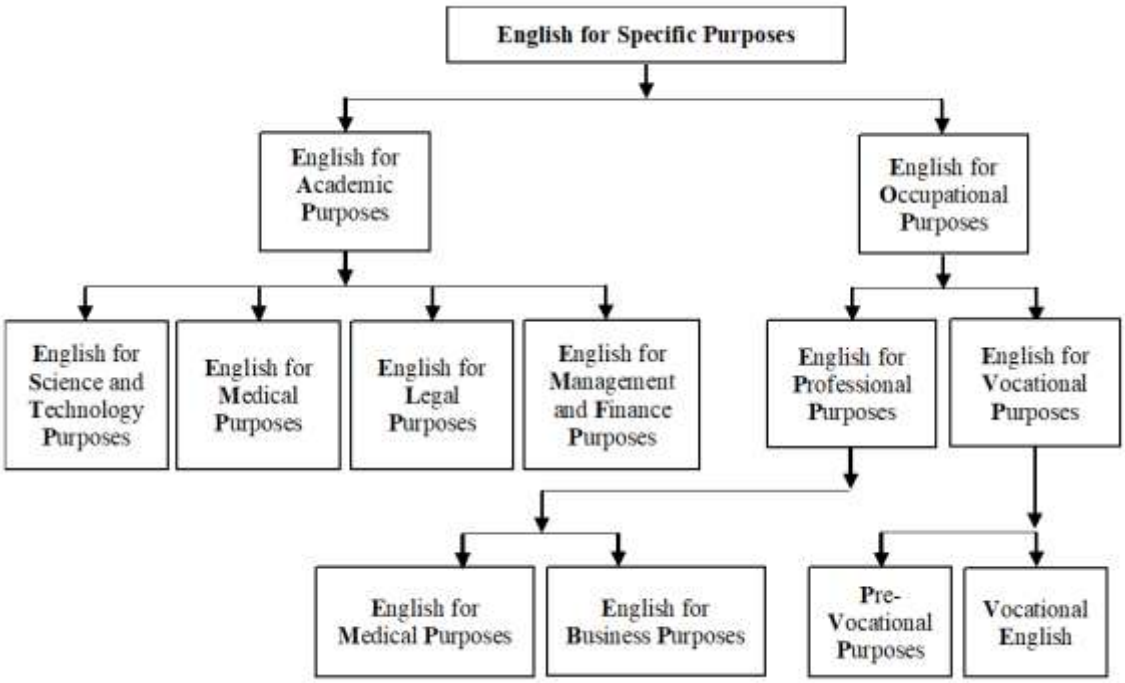
courses and evaluates the desired English skills from the perspectives of students, ESP lecturers, and DM Subject Matter lecturers.

1. Introduction

English for Specific Purposes (ESP) is an approach to language teaching and learning that focuses on the specific needs of learners in a wide range of professional and academic contexts (Liton, 2015; Serafini, Lake, & Long, 2015). ESP has been developed as a subdivision of English language teaching to other language speakers for many decades. ESP courses are language programmes for learning English for a critical reason and specifiable need (Dudley-Evans & St John, 1998; Johns & Price-Machado, 2001).

ESP researchers have established several classifications of ESP (e.g., Strevens (1977); Carver (1983); Hutchinson and Waters (1987); Dudley-Evans and St John (1998)). Jordan (2007) categorises ESP into two kinds: English for Academic Purposes (EAP) and English for Occupational/ Vocational/ Professional (EOP/EVP/EPP) Purposes. Basturkmen (2010) splits ESP teaching into three main divisions, each with its subdivisions: *"(i) English for Academic Purposes (EAP), such as English for Academic Publication, (ii) English for Professional Purposes (EPP), including medicine, law, the military, and so on, and (iii) English for Occupational Purposes (EOP), for instance, English for technicians."* As shown in Figure 1, Dudley-Evans and St John (1998) delineate that EOP includes professional (law administration, business and medicine) and vocational purposes for non-professionals in pre-work situations.

Figure 1: Classification of ESP



Source: Dudley-Evans and St John (1998, p. 6)

In Yemen, Hillenbrand (1994, p. 5073) affirms that *"since unification, English … is taught and learned as a compulsory subject with regard to the learning and teaching of English in the Yemeni schools and higher education institutions".* The Ministry of Education (MoE) in

Yemen felt that English is an essential window towards science and technology and advancement in all circles of life. Rugh (2002) claims that medicine, science, and engineering courses were taught in English at Yemeni universities as new developments are continuously published in English. Thus, English is the primary medium of instruction in English Departments at the Faculties of Arts, Education, and Languages, the Center for Qualification and Educational Research, the Faculty of Dentistry and the Faculty of Medicine and Health Sciences at Yemeni universities including IU. ESP courses designed for higher education are triggered by the inquiry of 'Why do students need to learn English?', prompting an appropriate response that learners' specific explanations are used to guide the choices made for ESP language teaching (Wette, 2018).

1.1. Statement of Problem

Many scholars and experts (Basturkmen, 2014; Brown, 2016; Bytyqi, 2021; Hutchinson & Waters, 1987; Hyland, 2019; Nunan, 1988; Trace, Hudson, & Brown, 2015; Wette, 2018) have recognised the significance of identifying students' needs to prepare students to use English effectively in academic and professional contexts. In the last two decades, English language needs studies have been undertaken in the medical field (Abdullah, 2005; Al-Ahdal, 2010; Al-Fadly, 2004; Al-Kadi, 2012; Bin-Tayeh, 1996). However, the existing ESP courses at Yemeni universities need improvement to meet students' English language needs and perspectives. These courses were designed based on existing materials without conducting any needs analysis, neglecting students' needs (Al-Kadi, 2018). Furthermore, Homadi (2003) evaluated students' proficiency in the Faculty of Commerce and Economics (FCE) at Sana'a University in Yemen and found that the ESP courses were poorly designed due to a mismatch between what is taught and what is needed.

The current study aligns with Yemen's National Strategy for the Development of Higher Education and Ibb's University Strategy 2025, highlighting the need for medical and engineering students to master English to meet academic and occupational needs (Alsurori & Salim, 2017). According to ESP lecturers and administrators at IU, English courses lack proper course specifications and needs analysis. Alfadly and Aldeibani (2013) report that students struggle with translating between English and Arabic due to insufficient English courses, leading to a weakness in continuing their education.

1.2. Research Objectives

This study aims to investigate the English language target needs (e.g. lacks and wants) of medical students at different levels of study (first year to fifth year) who enrolled in the academic year (2020-2021) under the Department of Medicine (DM) of the Faculty of Medicine and Health Sciences (FMHS) at Ibb University (IU), Yemen from the perspectives of medical students, ESP lecturers and DM Subject Matter lecturers. The main objectives of this study are:

i. To identify the current gap between the English language skills of medical students at IU and their ability to study their major courses successfully.
ii. To evaluate the English language skills that medical students at IU desire to learn.

2. Literature Review

2.1. The Importance of Needs Analysis in ESP Development

Needs analysis (NA) is a vital asset in designing and developing suitable ESP tailor-made syllabuses to identify the requirements and lacking skills of the students (Sari, Setiawan, & Tridinanti, 2020). NA has been distinguished as a defining characteristic of Language for Specific Purposes (LSP) (Basturkmen & Elder, 2004). West (1994) mentions that NA, in general, could be seen as a systematic process for collecting data to reach certain objectives. Iwai et al. (1999) add that NA collects information for curriculum improvement to meet a select group of students' needs. Therefore, NA has a significant role in developing the ESP curriculum.

Hutchinson and Waters' (1987) model distinguishes two concepts of needs: target needs (the skills required to perform in the target situation) and learning needs (the way to acquire the skills). The first concept is target needs, which is the primary concern of this study and is divided into three main components: "necessities", "lacks", and "wants". This would help identify the students' English language target needs, which is essential for achieving their English courses (Lodhi, Shamim, Robab, Shahzad, & Ashraf, 2018). The second concept is learning needs. It alludes to what the students need to do to learn (Hutchinson & Waters, 1987). "Learning needs" is utilised as a broad term that incorporates the essential factors of the learning procedure, such as students' motivation and attitudes toward learning the English language, teaching methods and techniques in classrooms, teaching and learning styles and preferences, and learning strategies. Identifying the learning needs of the students could contribute to updating classroom instruction and developing the teaching or learning situation (Basturkmen, 2014; Hyland, 2006).

Moreover, Faraj (2015, p. 122) explains that needs assessment is a "*fact-finding* process" to recognise appropriate instructional materials and teaching approaches for the ESP context. These requirements are crucial to address the evolving needs of language learners within language programs. Hence, this has led to the emergence of many NA-focused studies worldwide (Al-Fadly, 2004; Al-Kadi, 2018; Alkutbi, 2018; Alqunayeer & Zamir, 2016).

In this regard, Brown (2016) highlights that ESP is related to a particular category of students' needs, and *"if there is no needs analysis, there is no ESP"* (p.5). Therefore, NA is crucial to designing and developing language learning programmes within a specific learning category. Flowerdew and Peacock (2001, p. 178) also stated, "*There is a general consensus that NA, the collection and application of information on learners' needs, is a defining feature of ESP and, within ESP, of EAP…. NA is the necessary point of departure for designing a syllabus, tasks, and materials*". Macalister and Nation (2020) conclude that NA plays an essential role in language curriculum design, which largely determines the objective and content of the designed course.

2.2. Review of Needs Analysis in Medical Studies

Malcolm (2013) found that medical students are more inspired by accurate medical texts and relevant course materials, including activities such as virtual cases, listening and reporting, doctor-patient role plays, and writing case notes.

Akbari (2016) investigated medical students' perspectives on necessary English skills, emphasising reading, interpreting, and writing. The study identified the importance of these skills for postgraduate learning, such as writing e-mails and reading technical

publications. Additionally, it stressed the need for speaking skills to communicate with international patients and participate in conferences.

Similarly, Çelik (2017) examined the language needs of Turkish medical students, revealing that reading was the most needed, followed by speaking, writing, and listening. The study suggested that students require more information about their essential language and recommended considering learners' needs when designing ESP courses (ibid.).

Karimnia and Khodashenas (2018) examined the English language needs of Iranian medical students, finding a need for intensive training in listening, speaking, and communication skills. The study indicated that the existing English courses did not meet the students' requirements for effective English learning.

Hamza (2018) highlighted that Saudi medical students encounter significant challenges in listening and speaking skills. The study suggested expanding class hours, introducing technical resources, and using Grammar Translation Methods and Problem-Based Learning strategies to improve medical vocabulary and other language skills.

The ESP course for medical students at IU lacks a systematic needs analysis, as highlighted by Al-Kadi (2018). Thus, the ESP course requires further research on students' target needs, such as their lacks and wants, and should be tailored based on their needs and interests (Alduais, 2012; Arroyyani & Nurhayati, 2019; Innocent, 2017).

3. Methodology

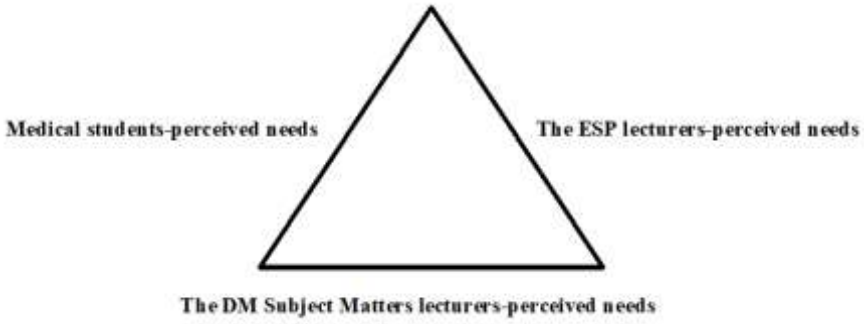
This study used an NA model based on Hutchinson and Waters' (1987) target needs framework. A sequential explanatory mixed-methods approach (QUAN —> qual) was adopted for the English language target needs analysis (Creswell, 2014; Creswell & Creswell, 2018). Two instruments, questionnaires and semi-structured interviews, were used to collect quantitative and qualitative data. For the quantitative part of the study, a questionnaire was administered to 186 medical students (first year to fifth year). The sample size representing the medical student population of 358 is 186 at 95% confidence and a 5% margin of error. The maximum variation purposive sampling strategy, the most common purposive sampling strategy, was employed in the study to select a representative sample of stakeholders to provide insight into needs analysis from different perspectives.

The questionnaire was divided into two sections. In section A, two sub-sections (A1 & A2) were constructed with a five-point Likert scale. A1 was assigned to collect information about proficiency in using the main skills of the English language (items 1–8), and items 9–30 in sub-section A2 were requested to rate proficiency of English language sub-skills. In Section B, a four-point Likert scale was assigned to collect information about the training needs in English language sub-skills (items 31–52). The questionnaire used in the current study was derived from previous studies (Al-Tamimi & Shuib, 2010; Karimnia & Khodashenas, 2018). The questionnaires were distributed among medical students during June 2020/2021 to investigate their views regarding English target language needs.

The study involves 4 ESP and 10 DM Subject Matter lecturers who would provide more accurate, reliable and meaningful information on medical students' English language

needs. The Cronbach's alpha for all sub-sections of the questionnaire showed an acceptable reliability coefficient (greater than 0.70), as recommended by Nunnally (1967) and cited in Pallant (2020). Figure 2 shows the needs analysis triangle that is proposed by West (1994), as cited in Watanapokakul (2022).

Figure 2: The needs analysis triangle



Source: Adopted from Watanapokakul (2022, p. 6)

Subsequently, under the qualitative part of the study, semi-structured interviews were conducted with 15 medical students, 4 ESP lecturers, and 10 DM Subject Matter lecturers via convenience sampling. Neuman (2012, p. 3) defines convenience sampling as "*a type of non-random sample in which the researcher selects anyone he or she happens to come across*". Open-ended questions were used in one-to-one interviews to collect personal perspectives on the quality of ESP courses. The three groups of respondents were coded as MS (medical students), EL (ESP lecturers), and SML (DM Subject Matter lecturers). Each of these codes was followed by a number, except medical students, which is followed by a number and letter to indicate their year of study. For example, ***MS1A*** refers to a first-year medical student (Farea & Singh, 2024).

The statistical analysis was conducted using IBM SPSS Statistics V24. Descriptive statistics analysis was used to analyse the means and frequencies of the quantitative data (Alkutbi, 2018; Sönmez, 2019), whereas thematic analysis was used to analyse the qualitative data collected from semi-structured interviews (Castleberry & Nolen, 2018). A high Cronbach's alpha value indicates the high reliability and validity of the questions. A non-parametric Kruskal-Wallis (K-W) test for making multiple comparisons and a Mann-Whitney U test for making dual comparisons were employed to assess the statistical differences and the presence of a match and mismatch of responses.

4. Results

4.1. The English Language Lacks

4.1.1. Proficiency in English Language Main Skills Use

To rate the medical students' proficiency in the eight English language skills, a 5-point Likert scale of 5, 4, 3, 2, and 1 refers to very good, good, average, weak, and very weak, respectively. Table 1 shows that medical students rated themselves very good at reading (Mean = 4.43) and listening (Mean = 4.19) skills. Likewise, ESP lecturers agree that medical students master both skills sufficiently, as reflected by the high mean scores. DM Subject Matter lecturers perceived that the students were more adept at listening (Mean = 4.10)

and reading (Mean = 3.80) than other skills. Moreover, medical students opine that they are also in both speaking (Mean = 4.08) and writing (Mean = 4.11) skills. However, ESP and DM Subject Lecturers believe students were relatively proficient in both skills.

Table 1: Medical students', ESP and DM Subject Matter lecturers' responses regarding medical students' proficiency in English language skills

N	English language skills	Students		ESP lecturers		DM Subject Matter lecturers	
		Mean	SD	Mean	SD	Mean	SD
1	**Listening**	4.19	0.81	4.25	0.96	4.10	0.54
2	**Speaking**	4.08	0.79	3.75	0.96	3.30	0.78
3	**Reading**	4.43	0.71	4.50	0.58	3.80	0.75
4	**Writing**	4.11	0.85	3.50	0.58	3.30	0.78
5	**Grammar**	4.08	0.89	3.50	0.58	2.90	0.83
6	**Vocabulary**	4.02	0.85	3.75	0.50	3.40	0.80
7	**Pronunciation**	4.06	0.87	3.50	0.58	3.40	1.02
8	**Communication**	3.98	0.84	3.50	0.58	3.30	0.64

Interviews were also used to complement the findings of the questionnaire. Based on the findings, medical students generally agree that they are proficient in reading and listening, as expressed by one of the students (MSE3):

> *I think I can't evaluate my English proficiency as I haven't taken any English proficiency exams like TOEFL or IELTS, so I can't evaluate this question. My strength is in reading and vocabulary.*

Furthermore, all three groups are of the view that medical students are lacking in their speaking and writing skills, as MS3E attributes it to the lack of an English-speaking setting:

> *We are living in Arabic speaking country our exposure to English speakers is limited. This is one of my weaknesses.* [MS3E]

> *I think most of them have a big problem with speaking and writing skills. They also have difficulty memorising their medical terms. To me, pronunciation and communication are the most critical issue.* [EL1]

> *Strength in listening and reading. Weak in speaking and writing.* [SML2]

Additionally, medical students concurred that although they have benefitted from the ESP course, their ineptness in mastering the four main skills and other sub-skills. Generally, their speaking and writing skills are better than their reading and listening skills. The following responses might provide some insights into the students' perceptions:

> *I have a good ability to perform reading and writing but speaking it's so and so.* [MS1E]

> *I think medical students are good at listening and reading skills, but they need to improve their other skills, such as writing, grammar and pronunciation.* [EL1]

> *Compared with other students in other colleagues, they are the best and stronger than others.* [SML1]

4.1.2. Proficiency in English Language Sub-Skills Use

A questionnaire consisting of 22 items was used to assess the student's proficiency in using different English language sub-skills. The rating level used in this part of the questionnaire ranged from 5 being very proficient, 4 being proficient, 3 somewhat proficient, 2 not very proficient and 1 not proficient at all.

Table 2 shows that medical students were highly proficient in *reading textbooks* (Mean = 4.22) and *reading study notes* (Mean = 4.15), whereas they are generally proficient in other sub-skills, with mean scores ranging from 3.80 to 3.98. They displayed substantial mastery when *taking lecture notes* (Mean = 4.03) and *writing during tests or exams* (Mean = 3.94). Students believed they could follow the *in-class question or answer session* (Mean = 3.98) and *lectures* (Mean = 3.92). Subsequently, the students noted proficiency during *spoken presentations* (Mean = 3.83) and *discussions* (Mean = 3.76). The overall mean suggests that medical students displayed more competency in reading (3.96) and were slightly weaker in their speaking (3.74) skills.

The ESP lecturers perceived that students were proficient in *reading textbooks and texts on the computer* (Mean = 4.00), highly proficient in *writing assignments* (Mean = 4.25), and when *answering their tests or exams* (Mean = 4.00), competent in *writing their lab reports* and *short projects* (Mean = 3.50). ESP lecturers feel that students were proficient in listening to *lectures* (Mean = 4.50) and *question*-or-*answer sessions in class* (Mean = 4.00). Students were proficient during their *presentations* (Mean = 4.00) and when *participating in discussions* and *asking questions in class* (Mean = 3.75). The overall mean revealed that students were highly competent in their speaking sub-skills (3.83), followed by listening (3.80) and reading (3.75), with writing being the weakest (3.63).

DM Subject Matter lecturers agreed that the students were proficient in *reading study notes*, *writing test or exam answers*, *following lectures*, *listening to spoken presentations and assignment instructions* (Mean = 4.00). Most lecturers believed students could *listen to instructions* (Mean = 4.30), participate in *question-and-answer sessions*, and be comfortable when *asking questions in class* (Mean = 4.10). Hence, the overall mean indicates that the medical students demonstrated a high mastery of listening (4.08) and speaking (3.90), followed by reading and writing sub-skills (3.68).

In regard to rating the medical students' lack in the English language sub-skills, a significant difference ($x^2 = 6.37$; $df = 2$; $p = 0.04$) was found among the three groups, notably when taking lecture notes (writing). Similarly, the Mann-Whitney U test also revealed a significant difference between medical students and their ESP and DM Subject Matter lecturers, respectively, in *taking notes in lectures* ($u = 170.50$; $z = -1.97$; $p = 0.05$) and *reading medical journal articles* ($u = 550.50$; $z = -2.28$; $p = 0.02$).

Table 2: Medical students', ESP and DM Subject Matter lecturers' responses regarding medical students' proficiency in English language sub-skills

	N	English Language sub-skills	Medical students				ESP lecturers				DM Subject lecturers			
			Mean	SD	Overall Mean	Overall SD	Mean	SD	Overall Mean	Overall SD	Mean	SD	Overall Mean	Overall SD
Reading	1	Reading textbooks	4.22	0.86	**3.96**	**0.15**	4.00	0.82	**3.75**	**0.19**	3.90	0.70	**3.68**	**0.33**
	2	Reading medical articles in journals	3.80	0.96			3.75	0.96			3.00	1.10		
	3	Reading medical manuals	3.91	0.96			3.50	1.29			3.80	0.87		
	4	Reading course handouts	3.98	0.95			3.75	0.50			3.80	0.87		
	5	Reading texts on the computer	3.89	0.95			4.00	0.82			3.40	0.80		
	6	Reading instructions for assignments/projects	3.87	0.90			3.50	0.58			3.60	0.66		
	7	Reading instructions for labs	3.85	1.01			3.75	0.50			3.90	0.70		
	8	Reading study notes	4.15	0.98			3.75	0.50			4.00	0.63		
Writing	9	Writing lab reports	3.83	1.01	**3.82**	**0.14**	3.50	0.58	**3.63**	**0.41**	3.90	0.70	**3.68**	**0.21**
	10	Writing assignments	3.80	1.00			4.25	0.50			3.60	0.80		
	11	Writing field-trip reports	3.62	1.04			3.25	0.96			3.50	0.67		
	12	Writing short projects	3.73	0.97			3.50	1.00			3.50	0.92		
	13	Taking notes in lectures	4.03	0.93			3.25	0.50			3.60	0.80		
	14	Writing test/exam answers	3.94	1.03			4.00	0.00			4.00	0.77		
Listening	15	Following lectures	3.92	1.06	**3.90**	**0.05**	4.50	0.58	**3.80**	**0.54**	4.00	0.89	**4.08**	**0.13**
	16	Following question/answer sessions in class	3.98	0.95			4.00	0.82			4.10	0.70		
	17	Listening to spoken presentations	3.88	1.04			3.00	0.82			4.00	0.45		
	18	Listening to instructions	3.88	1.02			3.75	0.50			4.30	0.46		
	19	Listening to instructions for assignments	3.85	0.99			3.75	0.96			4.00	0.77		
Speaking	20	Participating in discussions	3.76	0.97	**3.74**	**0.10**	3.75	0.50	**3.83**	**0.41**	3.80	0.75	**3.90**	**0.17**
	21	Asking questions in class	3.63	1.03			3.75	0.50			4.10	0.70		
	22	Giving spoken presentations	3.83	1.01			4.00	0.00			3.80	0.87		

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However, the interview results revealed that some students lack proficiency in many English language sub-skills, while others gave different perspectives. One respondent commented that:

> *It is very important because we need these sub-skills to provide mature communication between other medical students from all over the world and us. We engage in consult, and sometimes we discuss some interest cases, so we need to have good communication skills.* [MS3E]

Conversely, the ESP and DM lecturers confirmed that students are not proficient in using all English sub-skills, which concurs with their responses from the questionnaire.

> *Based on my observations, only a few students use these sub-skills, such as taking notes in lectures and asking questions in class. They always depend on their home revisions. I think they have some issues; they are not confident enough to speak and lack the vocabulary or broad medical terms.* [EL1]

> *Actually, some students are good at speaking, but the other students' skills are weak.* [SML4]

4.2. The English Language Wants

The questionnaire consisted of 22 items and used a four-point Likert scale: 1 (no training needed), 2 (not much training), 3 (some training), and 4 (a lot of training). Table 3 showed that medical students believed they required some training in all English sub-skills, such as *reading medical articles in journals* (Mean = 2.68), *writing field-trip reports* (Mean = 2.82), *listening to spoken presentations* (Mean = 2.77), and *participating in discussions* (Mean = 2.78). As a whole, the overall mean indicates that students require more attention in their speaking (2.73), writing (2.70), and listening (2.64) skills.

ESP lecturers observed that students need additional training in English sub-skills, with overall mean scores of 3.22 for reading, 3.38 for writing, and 3.50 for speaking. They also believe that more training is needed for students to effectively *participate in discussions* and *write field-trip reports* (Mean = 3.75).

DM Subject Matter lecturers were of the view that medical students needed more practice when *reading medical journal articles and manuals* (Mean = 3.50), writing *short projects* (Mean = 3.70) and *assignments* (Mean = 3.60), *listening to assignment instructions* (Mean = 3.40), and followed by *participating in discussions* (Mean = 3.70). As a whole, the overall mean denotes that more attention is needed for speaking skills (3.43), reading (3.30), and listening (3.16).

Table 3: Medical students', ESP and DM Subject Matter lecturers' responses regarding medical students' training needs in English language sub-skills

	N	English Language sub-skills	Medical students				ESP lecturers				DM Subject lecturers			
			Mean	SD	Overall Mean	Overall SD	Mean	SD	Overall Mean	Overall SD	Mean	SD	Overall Mean	Overall SD
Reading	1	Reading textbooks	2.51	1.10	**2.58**	**0.07**	3.25	0.96	**3.22**	**0.31**	3.20	0.87	**3.30**	**0.15**
	2	Reading medical articles in journals	2.68	0.95			3.50	0.58			3.50	0.67		
	3	Reading medical manuals	2.66	0.90			3.25	0.50			3.50	0.50		
	4	Reading course handouts	2.53	0.98			2.75	0.50			3.40	0.66		
	5	Reading texts on the computer	2.63	0.92			3.50	0.58			3.30	0.64		
	6	Reading instructions for assignments/projects	2.59	0.95			3.50	0.58			3.10	0.54		
	7	Reading instructions for labs	2.56	0.91			3.25	0.50			3.20	0.75		
	8	Reading study notes	2.48	0.97			2.75	0.50			3.20	0.60		
Writing	9	Writing lab reports	2.67	0.95	**2.70**	**0.10**	3.25	0.96	**3.38**	**0.26**	3.30	0.64	**3.40**	**0.22**
	10	Writing assignments	2.74	0.93			3.50	1.00			3.60	0.49		
	11	Writing field-trip reports	2.82	0.92			3.75	0.50			3.40	0.49		
	12	Writing short projects	2.79	0.94			3.50	0.58			3.70	0.46		
	13	Taking notes in lectures	2.58	1.05			3.25	0.50			3.30	0.46		
	14	Writing test/exam answers	2.62	1.04			3.00	0.82			3.10	0.70		
Listening	15	Following lectures	2.58	0.99	**2.64**	**0.08**	2.50	1.29	**2.75**	**0.18**	3.10	0.83	**3.16**	**0.23**
	16	Following question/answer sessions in class	2.58	0.99			2.75	1.26			2.80	0.87		
	17	Listening to spoken presentations	2.77	0.92			2.75	0.50			3.30	0.46		
	18	Listening to instructions	2.64	0.96			3.00	0.82			3.20	0.60		
	19	Listening to instructions for assignments	2.64	0.94			2.75	0.50			3.40	0.49		
Speaking	20	Participating in discussions	2.78	0.91	**2.73**	**0.07**	3.75	0.50	**3.50**	**0.25**	3.70	0.46	**3.43**	**0.23**
	21	Asking questions in class	2.65	0.95			3.00	0.50			3.30	0.90		
	22	Giving spoken presentations	2.76	0.93			3.50	1.00			3.50	0.50		

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In summary, the findings on the training needs showed the same evaluation between all lecturers and their medical students, which indicated that medical students require more training in *reading medical articles in journals, reading medical manuals, reading texts on the computer, writing assignments, writing field-trip reports, writing short projects, listening to spoken presentations, listening to instructions, listening to instructions for assignments, participating in discussions, asking questions in class* and *giving spoken presentations*. Likewise, a similar trend in the overall mean was recorded among the three respondents, whereby speaking, writing, and listening skills required more emphasis.

Significant differences were found between medical students and their ESP and DM Subject Matter lecturers regarding the training needs in 14 English-language sub-skills, as presented in Table 4.

Table 4: Comparisons for the Kruskal-Wallis test among the three respondents

English language needs	English language sub-skills	Chi-square (x^2)	*df*	p-value
Wants training in (Reading sub-skills)	Reading medical articles in journals	10.31	2	0.01
	Reading medical manuals	10.30	2	0.01
	Reading course handouts	7.85	2	0.02
	Reading texts on the computer	8.55	2	0.01
	Reading instructions for assignments/projects	6.63	2	0.04
	Reading instructions for labs	6.76	2	0.03
Wants training in (Writing sub-skills)	Writing assignments	10.74	2	0.005
	Writing field-trip reports	7.90	2	0.02
	Writing short projects	11.52	2	0.003
	Taking notes in lectures	6.03	2	0.05
Wants training in (Listening sub-skills)	Listening to instructions for assignments	6.70	2	0.03
Wants training in (Speaking sub-skills)	Participating in discussions	14.53	2	0.001
	Asking questions in class	6.47	2	0.05
	Giving spoken presentations	8.58	2	0.01

More specifically, Table 5 showed that the Mann-Whitney U test revealed significant differences between medical students and their ESP lecturers regarding the training needs in English language skills/sub-skills.

Table 5: Comparisons for the Mann-Whitney U test between medical students and their ESP lecturers

English language needs	English language sub-skills	Mann-Whitney U	z	p-value
Wants training in (Writing sub-skills)	Writing field-trip reports	158.000	-2.07	0.04
Wants training in (Speaking sub-skills)	Participating in discussions	147.50	-2.18	0.03

As illustrated by the Mann-Whitney U test, Table 6 shows multiple statistically significant differences between medical students and their DM Subject Matter lecturers, suggesting that students need more training in reading, writing and speaking sub-skills. The findings suggest that medical students and their DM Subject Matter lecturers held different perspectives on students' English needs.

Table 6: Comparisons for the Mann-Whitney U test between medical students and their DM Subject Matter lecturers

English language needs	English language sub-skills	Mann-Whitney U	z	p-value
Wants training in (Reading sub-skills)	Reading medical articles in journals	477.50	-2.73	0.01
	Reading medical manuals	442.50	-2.94	0.003
	Reading course handouts	468.00	-2.76	0.01
	Reading texts on the computer	551.50	-2.27	0.02
	Reading instructions for labs	579.00	-2.12	0.03
	Reading study notes	538.00	-2.34	0.02
Wants training in (Writing sub-skills)	Writing lab reports	587.50	-2.06	0.04
	Writing assignments	444.00	-2.97	0.004
	Writing short projects	417.00	-3.08	0.002
	Taking notes in lectures	570.50	-2.14	0.03
Wants training in (Listening sub-skills)	Listening to instructions for assignments	502.00	-2.56	0.01
Wants training in (Speaking sub-skills)	Participating in discussions	398.50	-3.20	0.001
	Asking questions in class	559.00	-2.22	0.03
	Giving spoken presentations	510.00	-2.52	0.01

Finally, the Mann-Whitney U test revealed no statistically significant differences ($p > 0.050$) were found between ESP and DM Subject Matter lecturers in rating the English language skills/sub-skills except in *listening to spoken presentations* ($x^2 = 10.36$; $z = -2.32$; $p = 0.02$). This suggests a considerable degree of agreement between the two groups of lecturers in evaluating their medical students' English language target needs.

The interview results revealed that all respondents agreed that medical students require more training. The following quotes are some of their responses that might help to illustrate the students' perspectives:

> *Well, I need training in writing medical passages, reports, and research because maybe I'll pursue a career in research, or maybe I don't know; I'll write a book or something. I lack proficiency in writing these kinds of medical articles or how to lay them down and out.* [MS1A]

> *Look! The ESP course can help students study their medical courses since the medium of instruction is English in this faculty, but students are required to improve their speaking and writing sub-skills, especially in writing medical notes and reports.* [EL1]

> *In writing, ok. … They have presentations and writing assignments, so they need more and more.* [SML1]

5. Discussion

The findings of this study align with several needs analysis studies, showing that most medical students underestimate their writing and speaking abilities. Holme and Chalauisaeng (2006) noted that these skills are often neglected when ESP courses are designed based on Target Situation Analysis. Similarly, Tsao, Wei, and Fang (2008) emphasised that ESP's goals, materials, and methods should differ from those of English for General Purposes (EGP), requiring diverse teaching methodologies. Liu, Chang, Yang, and Sun (2011) also highlighted discrepancies in student perspectives on language skills in EGP versus ESP/EAP courses. These findings underscore the importance of identifying the difference between using a language in specific situations and studying it for exams, considering the complex interplay of "necessities, lacks, and wants".

Previous research indicates that learners struggle to practice English outside the classroom if it is not applicable to daily situations (Syed Ekhteyar, 2007). Consequently, medical students often lack communication skills and focus on passing exams (Ahmed, 2018; Ahmed & Pawar, 2018). Various studies have identified challenges for tertiary-level students, such as large class sizes, insufficient teaching supplies, poor quality ESP courses, time constraints, limited focus on communication skills, late start in learning English, use of Arabic for instruction, and interference between English and Arabic (Ahmed & Qasem, 2019; Al-Sohbani, 2015; Bin-Hady, 2018). Luana, Yuriatson, Sukmawati, and Sujarwo (2021) stress the need for medical students to enhance their communication and speaking skills for everyday situations and future professions.

This study shared the same idea as those by Carnando (2020) and Kayaoğlu and Akbaş (2016), highlighting the importance of conducting a needs analysis when designing medical English courses to meet students' English proficiency requirements across all four skills. A needs analysis helps ESP experts and researchers define educational goals, content, tools, and training approaches for specific contexts (Faraj, 2015). Similarly, Lodhi et al. (2018) found a significant gap between doctors' developed skills and their English proficiency, highlighting the need for English language workshops and courses for medical students and doctors to meet their communicative needs effectively. These studies show how communication skills, especially speaking and listening, are crucial during patient-doctor consultations. Therefore, ESP designers should develop more educational and practical tools to address learners' needs, as suggested by Al-Hassaani and Qaid (2021).

Similar studies by Vahdany and Gerivani (2016) and Karimnia and Khodashenas (2018) indicated that medical students are most proficient in English sub-skills like *reading textbooks*, *course handouts*, and *study notes*, *writing test/exam answers*, following *lectures and Q&A sessions*, and *participating in discussions*. However, IU lacks advanced technology and learning facilities, hindering ESP lecturers in improving students' English skills. Li and Fu (2021) found that some Chinese universities cannot meet students' needs despite having experienced teachers, highlighting the need for updated professional practices. Moslehifar and Ibrahim (2012) also noted that workplace success requires solid English communication skills for tasks like presentations, meetings, and negotiations.

The results regarding medical students' training needs were compared with other studies, revealing both similarities and differences in language priorities. Some studies, like Faraj (2015) and Iravani and Saber (2013), found that students prioritised improving their speaking skills, aligning with the current findings. Javid (2011) highlighted a greater need

for focus on writing skills. Studies by Iravani and Saber (2013) and Javid and Umer (2013) underlined the importance of reading and speaking skills for first-year medical students. Javid and Umer (2013) confirmed that these skills were crucial for medical education, while Abugohar, Al-Hnifat, Al-Smadi, Rashid, and Yunus (2019) found that reading was highly prioritised and speaking was the least. These variations indicate that needs and wants can differ even in similar contexts.

The findings align with research by Karimnia and Khodashenas (2018) and Vahdany and Gerivani (2016), which indicated that medical students need more training in speaking, pronunciation, listening, and communication skills. They also correspond with previous studies showing that medical students and graduates in the Arab world, including Libya, Yemen, Saudi Arabia, and Jordan, often face challenges in communication, pronunciation, vocabulary and lack practice in both classroom and real-world contexts (Abuklaish, 2014; Al-Aqeeli & Jadhav, 2013; Al-Nasser, 2015; Al-Saidat, 2010; Hamza, 2018).

Al-Ghazali and Qaid (2019) attribute students' weakness in speaking to shyness and fear of making mistakes. They suggest that EFL lecturers provide more practice to improve students' articulation and reduce long pauses. Speaking skills are crucial for both students and professionals, as Kassim and Ali (2010) noted that many workers struggle with confident oral presentations. Moslehifar and Ibrahim (2012) found that employees improve their English skills by working in English-speaking environments. Medical students must master English communication skills to deliver scientific presentations and participate in meetings and conferences.

A recent study by Trujeque-Moreno, Romero-Fernández, Esparragoza-Barragán, and Villa-Jaimes (2021) found that Task-Based Language Teaching (TBLT) was effectively used in ESP to design communicative speaking and writing activities. Students responded positively after completing four EFL classes, indicating that TBLT could enhance their learning experience. Additionally, Hamza (2018) highlighted the need for increased class hours, better technological resources, and the evaluation of methods like Grammar Translation and Problem-Based Learning to improve medical terminology and teaching methods.

Poedjiastutie (2017) found that while ESP teachers are prepared to teach General English at the high school level, they lack readiness and knowledge for teaching ESP at the tertiary level. Poedjiastutie (2019) also noted the lack of needs analysis for medical students' reading skills, suitable materials, and effective delivery. The study suggests that these issues could be addressed if teachers were better equipped to select and present appropriate reading materials.

Therefore, ESP courses should be designed to meet students' needs. This study sheds light on the reality of ESP classes, the difficulties, and the need to conduct an NA study every two or three years to cope with students' evolving needs and support their future careers.

6. Conclusion

In conclusion, the medical students at IU have shown some strengths in reading and listening but have serious weaknesses in writing and speaking skills, grammar, pronunciation, vocabulary, and communication. In general, while the ESP course was helpful to some extent, due to some limitations to its content, the findings from this study confirm the usefulness of NA in obtaining information about the students' linguistic needs.

A match or mismatch in the perspectives of medical students' English language target needs in using skills/sub-skills could support the development of suitable ESP courses to fulfil the needs of the students. Lastly, the findings can be utilised to improve classroom instruction and provide guidelines to teachers, syllabus planners, material designers, and students.

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The authors declare no potential conflict of interest for this research, authorship, or article publication.

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