

LANGUAGES

ESP Needs Analysis: Developing an ESP Course for Vietnamese Medical Students

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Received: January 19th, 2026. **Revised:** February 15th, 2026. **Accepted:** February 28th, 2026. DOI: [10.53901/tjs.2026.01.art11](https://doi.org/10.53901/tjs.2026.01.art11)

Abstract

This study attempted to investigate the language needs of medical students at Tan Tao University, Tay Ninh Province, Vietnam. Seventeen undergraduates majoring in Medicine, one ESP subject-specific teacher, and three in-service general practitioners participated in the study. Close-ended questionnaires, an open-ended survey, and a semi-structured interview were designed to obtain the needs of different stakeholders. The results of the data triangulation indicated that both students and teachers were generally satisfied with the current Medical English course at Tan Tao University in terms of facilities, coursebook, teaching methodology, and learning activities. However, the language skills provided in the course did not satisfy learners' needs, as it did not fulfill their language demands in real-life medical settings. In this respect, some suggestions from the ESP teacher and in-service doctors were considered for revising the course.

Keywords: ESP, EAP, English for Medicine, English for medical students.

Literature Review

English for medical studies

English for Medical Studies has been studied within the scope of English for Academic Purposes (EAP). Over the past few decades, English for Medical Studies has gained considerable attention due to several factors. More students are going abroad to study medicine, and they need to use English as a lingua franca (Graham & Beardsley, 1986; Hess, 1997, as cited in Frank, 2000 [1]). In addition, the number of non-native doctors who want to practice their medical profession in English-speaking countries is growing (Candlin, Bruton, Leather & Woods, 1981, as cited in Frank, 2000 [1]), which results in the increasing demand for English for Medical Studies. English for Medical Studies is also vitally important for health professionals who want to develop themselves professionally by reading medical journals, attending international medical conferences, or publishing their research findings in English (Allwright & Allwright, 1977; Salager, 1983; Chandler-Burns, 1997, as cited in Frank, 2000 [1]).

In the context of Vietnam, English for Medical Studies is gradually achieving a higher status. Being proficient in English, particularly English for Medicine can offer better career prospects for Vietnamese pre-service medical students and in-service doctors locally

and internationally. In Vietnam, medical practitioners with strong English skills can get a chance to work in international clinics or private hospitals, which offer better pay and perks compared to Vietnamese public hospitals. Moreover, with sufficient Medical English, healthcare workers can keep up-to-date with the latest medical treatments and advance their careers. Additionally, elite Vietnamese medical students and doctors who are competent in Medical English may qualify for a grant to study or work abroad.

At the Department of Medicine of Tan Tao University, Tay Ninh Province, Vietnam, English for Medical Studies is of paramount importance. Medical students need to have a good command of Medical English to learn some specialized English subjects provided by native medical professors at Tan Tao University. Also, some outstanding medical students of Tan Tao University may get a chance to write research papers and present their findings at annual international medical conferences in China, South Korea, or the United States; hence, English for Medical Purposes in both written and spoken form is indispensable to them. Furthermore, in their third year, students at Tan Tao University will have an opportunity to go to the United States to observe hospitals in Indiana. Thus, they need to have a good grasp of Medical English to communicate with patients and learn from experienced doctors in the United States. Additionally,

medical students of Tan Tao University also need to prepare for the United States Medical Licensing Examination (USMLE) so that they can work abroad after their graduation. In response to these objective needs, Tan Tao University strongly emphasizes English for Medical Studies.

English for Medicine is a compulsory course at Tan Tao University. It is divided into Medical English 1 and Medical English 2, which are taught in the first and second semesters of the first year for medical students. Students learn Medical English three hours per day and two days a week. Before attending the course, students are required to take a proficiency English test. If they pass the TOEFL ITP of at least 520, they can attend this Medical English course. Otherwise, they must take a General English course before starting the English for Medicine course. Eight Medical English courses have been running at Tan Tao University so far. Four teachers at Tan Tao University are in charge of this course, including two EFL teachers and two subject-specific teachers. The course was initially built by two Vietnamese medical professors in the Department of Medicine; nevertheless, no needs analysis was conducted in order to design the course.

Needs analysis

Needs analysis is an essential tool to design an ESP course. Instead of merely relying on the subjective judgment and intuition of teachers, linguists, or authorities to develop a course, needs analysis is a more systematic and objective way to gather and analyze the involved parties' needs [2]. Needs analysis can provide valuable information to design or revise a course, benefiting learners and teachers hugely. In this paper, we attempted to do a needs analysis to investigate and, if necessary, revise the current Medical English course at Tan Tao University. This needs analysis is necessary because no needs analysis had been conducted before the implementation of the Medical English course at Tan Tao University.

This is an ongoing needs analysis throughout the course. A needs analysis at this stage is crucial, given that students can have clearer perceptions of their needs after taking the course. This analysis starkly contrasts with other needs analyses conducted at the beginning of the course, when students may not have recognized their needs yet (Jordan & Mackay, 1973; Nunan, 1988; Richterich, 1983, as cited in West, 1994 [3]). Moreover, an ongoing needs analysis enables ESP teachers to reconsider any needs that may emerge after the implementation of the course (Henderson & Skehan, 1980, as cited in West, 1994 [3]). Therefore, this ongoing needs analysis will likely yield valuable insights for revising the Medical English course at Tan Tao University.

This needs analysis attempted to address the following questions:

- 1) Regarding the schedule, facilities, teachers, coursebook, language skills, learning activities, and assessment methods, which aspects of the

current Medical English course can meet learners' needs?

- 2) What are some lacks of the current Medical English course that should be considered when revising the course?

Methodology

Study designs

In order to increase the validity and reliability of the needs analysis, we tried to triangulate data from different sources, as Serafini, Lake, and Long (2015) [4] suggested. We obtained information about the current course from learners and an ESP teacher. In addition, we also consulted domain experts to get some insight into the tasks requiring using English in real-life medical settings so that we could revise the course. We investigated these sources using both quantitative (questionnaires for learners) and qualitative methods (an interview with the ESP teacher and an open-ended survey for medical practitioners). Due to the time constraint, we conducted both methods concurrently.

Participants

The participants in this research included seventeen medical students from the Department of Medicine of Tan Tao University, one ESP teacher, and three in-service general practitioners. As our time and resources were limited, we could only get access to a convenience sample.

Seventeen students who took the survey ranged from 19 to 32 years of age; however, the majority of them were in their early twenties. Ten of them were female, and seven of them were male students. They were undergraduates of the Department of Medicine, Tan Tao University, Tay Ninh Province, Vietnam, and were trained to be general practitioners (GP). They were in their second, third, and fourth year, and all had completed the English for Medicine course in the first two semesters of their first year. Completing the course might give them a clearer perception of the course compared to first-year students who are currently taking it.

The ESP teacher was a content subject teacher. He had earned his Master's degree in Medicine in the United States. He was a subject-specific teacher of Anatomy and Physiology and an ESP teacher of Medical English courses at the Department of Medicine, Tan Tao University. He taught Medical English courses at Tan Tao University for three years.

The three in-service general practitioners were Vietnamese and had just graduated from medical school. Two of them were Vietnamese doctors living in the United States, and the other was a general practitioner working in a public hospital in Ho Chi Minh City, Vietnam.

Instruments

The questionnaire

A questionnaire was designed in order to investigate learners' needs in four aspects, which were (1) their

background information (age, gender, year of study); (2) their language training and proficiency (years and places of language training, experience of learning ESP, EGP and EAP, strong and weak language skills); (3) their attitudes towards the current Medical English course (facilities, teachers, coursebook, language skills, assessment methods); (4) their needs, wants and preferences for an English for Medicine course (the importance of ESP, preferred schedule of ESP training, preferred ESP teachers, preferred coursebook, preferred learning activities, preferred language skills and medical topics). Due to the time constraint, the questionnaire was designed based on previous studies [5, 6]. It included four parts, with 32 close-ended items in total. The online questionnaire was sent to an ESP teacher at Tan Tao University and then administered to students in the Department of Medicine. Seventeen students responded to the survey. The responses were entirely voluntary, and the purpose of our study had been explicitly conveyed to the students by the ESP teacher.

The interview

A structured interview was conducted with one ESP teacher (teacher K.) at Tan Tao University to find out more about (1) the teacher's attitude towards the current Medical English course (teachers, students, language skills, learning activities, coursebook); (2) reconsideration of students' needs and some suggestions for improvement. The interview was based on a set of ten questions. It was carried out in English, and it lasted approximately thirty minutes. Although we had structured questions to guide the interview, we were flexible in posing questions and willing to offer room for the interviewee to express his ideas.

The open-ended survey

An open-ended questionnaire was designed for three in-service medical practitioners, which aimed to investigate (1) language skills doctors needed at work and (2) other non-language skills that doctors needed in order to perform their medical tasks successfully. The survey included three open-ended items, which took around 20 minutes to complete. Since the three doctors were very busy and could not meet us in person, the open-ended survey form was sent to them via electronic devices.

Results

The questionnaire

Language training and language proficiency

The results indicated that over 75% of the students had learned English for over six years, and most of them had learned English at public schools and Tan Tao University (94.1%). They had experience learning General English and Academic English, such as IELTS, TOEIC, and English for Specific Purposes. Through self-rating, they also reported that feeling comfortable with almost all language areas (grammar, vocabulary, pronunciation, reading, and listening).

However, the two skills that they were not confident in were speaking and writing.

Student attitudes towards the current English for medicine course at Tan Tao University

Overall, students expressed positive attitudes towards the English for Medicine course at Tan Tao University. Approximately 85% of the students agreed that the Medical English course suited their language level. Moreover, 88% of the students thought that the course could meet their language needs as a doctor in the future.

Regarding the facilities provided for the Medical English course, around 65% of students thought that the sound system, projector, and classroom setting were good, and 30% regarded the facilities as acceptable. Plus, none of the students was dissatisfied with the number of students in each English for Medicine class. The coursebook met students' expectations, with 58.8% of the students considering the coursebook helpful and 41.2% remaining neutral about the coursebook. Students also highly valued the ESP teachers in the course. 76.5% of them agreed that their teachers had good teaching methodology, and 82.4% and 82.6% contended with their teachers' English and subject-specific knowledge, respectively. 68.5% of the students also considered the assessment methods of the course to be appropriate.

Concerning their language development after the course, vocabulary and specialized knowledge were the aspects students developed most significantly. 82.4% of the students believed that they had expanded their technical vocabulary, and the percentage of students having developed specialized knowledge was 88.2%. However, other language components such as grammar, pronunciation, and other language skills such as reading, listening, writing, and speaking did not change much after the course. Accordingly, most students expressed a need to develop their speaking and writing skills, with 76.5% and 70.6%, respectively.

Students' needs, wants and preferences for an English for medical course

Almost all students (88.2%) agreed that English for Medicine was important for doctors and that Tan Tao University should offer this course. 76.5% of them wanted to take the course early in their first year, either prior to or simultaneously with the specialized courses. Many students (35.3%) also wanted the course to last more than two years, and 29.4% of the students wanted to take it throughout six years of their study.

Concerning the schedule, over half of the students wanted to take the course twice a week, and each session should last one and a half hours. Moreover, more than three-quarters of the students wanted to be instructed by content subject teachers who specialized in Medicine, either native or non-native, rather than language teachers. They also preferred commercial textbooks composed by big publishers over in-house, localized books. More than 70% of them also valued the use of authentic materials, such as video clips or online sources in Medical English courses.

Table 1: Student Overall Attitudes Towards the Current Medical English Course at Tan Tao University.

	Completely disagree	Disagree	Neutral	Agree	Completely agree
This specialized Medical English course is suitable for my English level.	0%	0%	11.8%	52.9%	35.5%
This specialized Medical English course can meet my language needs as a doctor in the future.	0%	5.9%	5.9%	35.3%	52.9%
The facilities (the sound system, projector, and classroom) provided for this specialized Medical English course are good.	0%	5.9%	29.4%	47.1%	17.6%
The number of students in each specialized Medical English class is appropriate.	0%	0%	35.5%	41.2%	23.5%
The coursebook for this specialized Medical English course is good.	0%	0%	41.2%	29.4%	29.4%
Teachers of this specialized Medical English course have good teaching skills.	0%	5.9%	17.6%	29.4%	41.7%
Teachers of this specialized Medical English course are good at English.	0%	5.9%	11.8%	41.2%	41.2%
Teachers of this specialized Medical English course have a good knowledge of the medical field.	0%	0%	17.6%	35.5%	47.1%
The assessment methods in this course are suitable.	0%	0%	31.3%	50%	18.8%

Table 2: Language Areas Students Think They Have Improved After Taking the Course and Language Areas They Want to Improve

	Grammar	Vocab	Pronunciation	Reading	Listening	Speaking	Writing	Specialized knowledge
Language areas students have improved after the course	35.3%	82.4%	52.9%	58.8%	58.8%	58.8%	52.9%	88.2%
Language areas students want to improve more	47.1%	58.8%	35.3%	47.1%	47.1%	76.5%	70.6%	52.9%

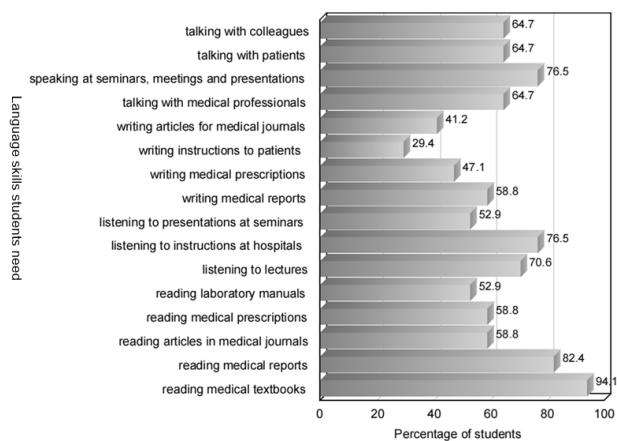


Figure 1: Language Skills that Students Need

With regard to classroom activities, 70% of the students preferred working in small groups. Students also expressed a preference for some learning activities, such as quizzes, listening to lectures, discussion, working on projects, and most intriguingly, playing games, which was favored by 100% students.

In terms of language skills, most medical students agreed that they needed to use English to read medical textbooks (94.1%), read medical reports (82.4%), listen

to instructions at the hospitals (76.5%), listen to lectures (70.6%), speak at seminars, meetings and presentations (76.5%). 64.7% of students believed they needed English to talk with medical professionals, talk with patients (to give advice, give instructions, give drug interactions), and talk with colleagues. By contrast, only a small proportion of students needed to use English for articles and medical prescriptions. Only 58.8% of the students stated that they needed to use English to read articles in professional journals and 42.2% needed to use English to write articles for medical journals. Similarly, only 58.8% of the students believed they needed to use English to read medical prescriptions, and 47.1% of the students reported that they needed to use English to write medical prescriptions. Moreover, the number of students needing to use English to read laboratory manuals and listen to presentations at seminars was relatively low, at 52.9% only.

Regarding the topics students wanted to learn, medical treatment, diseases and medicine accounted for the highest percentage, of over 80%. Students did not seem to be interested in interdisciplinary topics such as technology in medical field (52.9%), management in medical field (41.2%), or medical ethics (35.3%). Other topics, such as doctors' duties and

patient care, also did not receive much attention from students, with only 41.2% and 52.9% respectively.

The interview

Teacher's attitudes towards the current English for medical course at Tan Tao University

Regarding ESP teachers for this English for Medicine course, the teacher pointed out that both English and subject-specific teachers could teach the course. However, he seemed to gravitate toward content-subject teachers, as it was easier for them to relate to medical concepts and figure out medical situations. He also suggested that English teachers can teach Medical English at the entry-level, and the content-subject teachers could teach Medical English courses at a later stage when they involved more complicated specialized knowledge.

Excerpt 1. It is Better When ESP Teachers Know Something About Medicine

I think if the ESL teacher is... if he is dedicated, he gets that, you know a really strong grasp of the fundamental basic English as well as, you know... he or she can basically learn more about the medicinal art, it would be a good fit as well, you know, because it's like an ESL teacher besides from knowing much about General English, he or she must... most likely to have visited the hospital before, so he know how patient and doctor communicate with each other, which is a huge part in like ... in trying to relate students to medical English information [...] I do feel like if a teacher has more like, I wouldn't say Medicine, Medicine would be the best background, but maybe if they have like ... a science background, especially the Health Scientist background ... that would give them a tremendous aid in relate to more difficult concepts like for example, how the body works, you know, information about anatomy and physiology.

(Teacher K.)

Additionally, in terms of students in the course, the teacher stated that there were about forty students in each Medical English class at Tan Tao University, which was somehow crowded. He also claimed that although they had passed the placement test, their language proficiency still varied.

Excerpt 2. Some Students Are Good at English; Some Are Not

Some of them really have a good command of English already while other they... they can hardly string together a sentence.

(Teacher K.)

Regarding the language skills included in the course, the teacher clarified that terminology and medical-related background knowledge were the main focus of Medical English 1, which was taught in the first semester of the first year. Presentation skills were

strongly emphasized in Medical English 2, which was provided in the second semester of the first year. Other skills such as reading, listening or writing were completely ignored.

Excerpt 3. Medical Terminology and Presentation Skill Are the Main Focus

Basically, the priority of my course... maybe I'm oversimplifying things, but the priority of my course is to teach them vocabulary of different things in English. But alongside that I also provide them with an introductory crash course in terms of like... how the body works, like for example what is the structure of a stomach, how the stomach works ... So basically, that's it... It's like the mix of vocabulary course and a crash course in medicine in general.

For speaking, we do have a huge portion of ...err...of their second semester, Medical English 2, when they have to make presentation. You know, group presentation... about you know... a disease of their choice, like they will present about heart failure. So that's the only thing that's afforded to them in terms of like...English speaking in Medical English. The other skills, I guess for reading, they have to read a book, which is in English. But... you know... they are not really...I mean...yeah they do not really show how to read the book specifically, and I believe that most of them read that book by translating it into Vietnamese, which is not a very good, you know, kind of English learning. Ideally, you want all those things to be in English. In terms of writing and listening, writing and listening, wow, for writing and listening, it's almost non-existent, non-existent, yes.

(Teacher K.)

Concerning the teaching activities in the course, the teacher stated that lecturing and discussion were two activities that he employed the most frequently in his class.

Excerpt 4. Students Listen to Lectures or Discuss

Well, mostly they will listen to me and then, sometimes, you know, I've got some questions, and they would raise their hands and answer questions. Sometimes in class I would have like... tiny... tiny exercises, hopefully, one is one or two minutes long, where they would come together to think of an answer to the question.

(Teacher K.)

The teacher had a high opinion of the coursebook. He regarded it as a good coursebook, and he would usually stick to it to teach without using any other supplementary materials.

Excerpt 5. The Coursebook Is Doing the Job

The name of the coursebook is "Medical Terminology" by Barbara Depetris. The reason why I chose this coursebook is because

the first teacher who taught this class, you know, Dr. H., he chose this coursebook, and when I look at it, I was like, ... yeah, I see no reason to change. I mean, it's a really good coursebook, and it is very highly recommended by everybody, so yeah, in this regard, well, it's not a bad choice.

(Teacher K.)

Reconsideration of students' needs and suggestions for improvement

In terms of course evaluation, it was surprising that the teacher stated that the course was not practical for students, as in a real-life context, Vietnamese students might not need to use abundant English medical terminologies. Instead, they might need to communicate in English, especially with native patients. Moreover, he suggested that the course be continuous throughout the doctor training program so that students' knowledge of Medical English could be revised and reinforced.

Excerpt 6. The Course May Not Meet Students' Real-life Needs

As for the Medical English class I'm teaching right now, probably the knowledge is not practical in real life. Unfortunately, I... I hate to say that but... probably not. The time that it will help them is when they want to read medical books, or when they need to go online and find a video and they know what the word means, then it will help. But the thing is... in terms of practical hospital day-to-day interaction, probably it wouldn't help them. What they can improve and what they need right now is how to communicate with patients in English because there are now... there may not be a lot of foreign doctors working in a lot of clinics in Saigon now but there is a huge population of patients that speak English. So if they somehow learn that skill... patient communication, that would help them quite a bit, especially if they want to work in an international clinic. So, yeah, I would say the thing that I'm teaching now in my class, students probably would not be able to use most of them in their day-to-day life simply because of the fact that it lacks the components to communicate patient-to-doctor and doctor-to-patient. Yes. Unfortunately.

(Teacher K.)

Excerpt 7. The Course Should Be Made Continuous

In terms of the course, if I need to change one thing, it would be that... make it... you know... just make it a little more continuous. You know, it's not just something that you learn in Year 1 and completely forget about it. And I would say for the first two years, Medical English should be studied in Year 2, while you know, General English program

has to be really learned well by students in Year 1.

(Teacher K.)

The open-ended survey

Language skills doctors need at work

Regarding language skills required for international doctors, the two domain experts in the United States believed that medical practitioners should be able to speak clearly to patients when conveying messages and showing directions to patients. Moreover, doctors should have extensive vocabulary so that they can explain medical problems in various ways to patients from all walks of life. Doctors should also be proficient in listening, as they are supposed to take notes during doctor-patient interactions. In addition, doctors should be adept at reading and writing, including journal articles, cutting-edge research studies, reading lab manuals, or writing research articles, grant proposals, and chart reports. Furthermore, the two doctors also suggested that Vietnamese medical students in the context of Vietnam should develop their English skills so that they would be able to speak with English-speaking patients or go on mission trips to other countries.

The medical practitioner living in Vietnam also suggested that Vietnamese medical students need English to read updated treatment guidelines, listen to international medical conferences or continuing medical education (CME) courses offered by native professors, and communicate with patients who do not speak Vietnamese.

Other non-language skills doctors need

The domain experts recommended that medical students enhance other skills in addition to language skills. According to them, it was important for medical students to be strong at critical thinking and problem-solving skills, which would enable them to handle tasks more effectively in a stressful working environment. Moreover, the domain experts stated that doctors should have strong communicative skills since they are the ones that patients usually confide in. As for doctors, listening with compassion and communicating with patients on a personal level is a must.

Discussion

In response to the first research question, the current Medical English course at Tan Tao University could satisfy learners' needs in many respects. The facilities for the course were considered to be good. The coursebook and the assessment methods were also regarded as appropriate. In terms of teachers, both ESP teachers and students at Tan Tao University believed that ESP teachers should have a good command of subject-specific knowledge, and it was evident that ESP teachers of Tan Tao University could fulfill this demand. Furthermore, learning activities in the course, such as working in small groups, doing quizzes, and

listening to lectures and discussions, were appropriate for students, as most students reported that they were interested in these activities.

In reply to the second research question, the course suffered from certain deficiencies, which were limited training time and insufficient language skills. In terms of the schedule, the course did not meet students' expectations as it was only provided in the first year and did not continue throughout the six years of study. Therefore, it did not offer adequate time for students to acquire, revise, and reinforce their Medical English. Regarding language skills, the course only focused on medical terminology and specialized knowledge, which did not meet learners' real-life communicative needs in a patient-doctor interaction, as the ESP teacher had suggested. Moreover, although the course offered students some opportunities to make short presentations on several medical topics, the results from the survey showed that making presentations only was insufficient for students to develop their speaking skills. Students needed other speaking tasks to speak more confidently and fluently in all medical situations. In addition to this, even though students were aware that they needed to use English to "read medical textbooks, read medical reports, listen to instructions at the hospitals, listen to lectures, speak at seminars, meetings, and presentations, talk with medical professionals, talk with patients, talk with colleagues," these skills were not offered in this course. The course also failed to include some skills that the in-service doctors regarded as necessary for medical students in real-life settings, which were "taking notes during doctor-patient interactions, reading journal articles, reading treatment guidelines, reading lab manual, writing research articles, writing grants proposal, and writing chart report." The mismatch between the language skills that students need, the language skills real-life medical situations require and what the course is currently offering is the lack of this course.

Conclusion

Summary of the results and suggestions for course revision

In conclusion, the available Medical English course at Tan Tao University met learners' needs in terms of the facilities, coursebook, assessment methods, teachers, and learning activities. However, some aspects such as the coursebook, teachers, and learning activities could have been improved more to offer a better learning experience for learners. On the other hand, the schedule of the course and language skills offered in the course were considered as some deficiencies of the course. These deficiencies should be taken into consideration when revising the course.

Based on needs analysis results, some suggestions for revision can be made for further course. Firstly, the course should be made more continuous, and it should last up to at least three years to help students develop their proficiency in Medical English.

Secondly, those who are not competent enough for the course are required to take an extra General English course to prepare themselves for this course better. Thirdly, EFL teachers who teach this course should expand their science-related knowledge to meet the students' demands. Fourthly, regarding the language skills provided in the course, in addition to teaching terminology and specialized knowledge, the course should emphasize other language skills, especially speaking skills, so that students can interact with native patients at the clinics. Other skills such as reading, listening or writing should be boosted so that students can perform medical tasks such as reading medical textbooks, reading medical reports, writing research articles, or listening to presentations at international medical conferences. In addition to language skills, other non-language skills crucial for doctors to acquire, including critical-thinking, problem-solving and communicative skills should also be incorporated into the Medical English course. Fifthly, some learning activities such as doing projects and playing games, which students are interested in, should be employed in the lesson to enhance students' motivation. Finally, as the coursebook mainly focuses on reading texts and medical terminologies, other supplementary learning materials should be provided to improve students' speaking, listening, and writing skills.

Regarding the feasibility of the course revision, since Tan Tao University is a private institution where the quality of teaching and learning is highly concerned, and the staff, teachers, and learners at this institution are willing to embrace change, it will not be too challenging to modify the course to make it better. Moreover, Tan Tao University can offer the facilities, financial resources as well as human resources to improve the course, which is definitely a huge advantage. Therefore, it can be expected that there will not be too many constraints in revising the course.

Limitations of the needs analysis and suggestions for improvement

Despite our effort to conduct a detailed and informative needs analysis, there are certain limitations in our needs analysis. Firstly, due to time constraints, we were not able to obtain data from some stakeholders, such as the deputy, the head of the Department of Medicine of Tan Tao University, and EFL teachers who were currently teaching the Medical English course at Tan Tao University. Moreover, our sample size was not large enough, and it was a convenience sample rather than a randomly stratified sample. Hence, our needs analysis could not reflect the needs of the whole population of students and teachers at Tan Tao University. Another drawback of our needs analysis is that we did not pilot the survey and the interview prior to the needs analysis. Moreover, concerning the methodology, we only used two instruments, which were the survey and interview to get the data. Had we used more instruments to collect data, we would have been able to yield more reliable findings.

If we had had more time, we would have gotten access to the authorities of Tan Tao University, who were entitled to make changes to the program and identify their needs. Also, we would have done a needs analysis on a larger scale and gotten data from a larger number of students, ESP teachers, and in-service doctors. Regarding the methodology, it would have been better if we had conducted the interview with the authorities, ESP teachers and in-service doctors before designing the survey for the learners. By doing so, we could ensure that no data on the needs of learners was missing. We should also have piloted the interview and survey before conducting the needs analysis. Finally, if time had permitted, in addition to interview and survey, we would have done some on-site observations to obtain data, as these on-site observations could offer several valuable insights into the language elements medical students needed to perform tasks in real-life hospital settings as well as some language difficulties they might encounter at work.

Acknowledgments

The authors would like to express their sincere gratitude to Tan Tao University (TTU) for its generous financial support and continuous institutional encouragement throughout the course of this study. The administrative facilitation, research infrastructure, and academic environment provided by TTU were instrumental in enabling the successful completion of this work. The authors deeply appreciate the University's commitment to promoting scientific research and scholarly excellence.

Ethics approval and consent to participate

Not applicable

Funding

None

Competing interests

None

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Appendix 1: Questionnaires for Medical Students

(Questions adapted from Mazdayasna & Tahririan (2008); Saragih (2014))

We would like to find out what you think about the Medical English courses at Tan Tao University as well as your needs for an English for Medicine course. Please take a few minutes to complete the questionnaire below. There are no "right" or "wrong" answers, and we are only interested in your personal opinion. Thank you very much for your help!

Part 1: Background Information

Your age: _____ Your department: _____

Your gender: Male Female Prefer not to say

You are a medical student in which year:

1st year 2nd year 3rd year 4th year 5th year 6th year

Part 2: Language Training and Language Proficiency

1. How long have you been learning English?

1–2 years 3–4 years 5–6 years More than 6 years

2. Where do you learn English? (You can choose more than one option)

- In high school Outside the classroom (learning with native speakers)
- At university Outside the classroom (taking extra classes with Vietnamese teachers)
- At private language centers Other (please specify): _____
- Outside the classroom (self-study)

3. How often do you attend the following English courses?

	Never	Rarely	Sometimes	Often	Always
General English	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
English for Academic Purposes (IELTS, TOEFL, TOEIC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
English for Specific Purposes (English for Medicine)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Please rate your English level in these areas.

	Very poor	Poor	Fair	Good	Excellent
Grammar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vocabulary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pronunciation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Listening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speaking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part 3: Student attitudes towards the current Medical English course at Tan Tao University

5. Please indicate your level of agreement with the following statements:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
This specialized Medical English course is suitable for my English level.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This specialized Medical English course can meet my language needs as a doctor in the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The facilities (the sound system, projector, and classroom) provided for this specialized Medical English course are good.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The number of students in each specialized Medical English class is appropriate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The coursebook for this specialized Medical English course is good.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teachers of this specialized Medical English course have good teaching skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teachers of this specialized Medical English course are good at English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teachers of this specialized Medical English course have a good knowledge of the medical field.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The assessment methods in this course are suitable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Which language areas have you improved after taking this specialized Medical English course? (You can choose more than one option)

- Grammar Pronunciation Listening Writing
 Vocabulary Reading Speaking Specialized knowledge

7. Which language areas do you need to improve more? (You can choose more than one option)

- Grammar Pronunciation Listening Writing
 Vocabulary Reading Speaking Specialized knowledge

Part 4: Students' needs, wants and preferences for an English for Medicine Course

8. Please indicate your level of agreement with the following statements:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Doctors should be fluent in English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Doctors should be fluent in Medical English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It would be useful for Tan Tao University to offer a training course in Medical English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. The specialized Medical English course should be offered in:

- 1st year 2nd year 3rd year 4th year 5th year 6th year

10. You prefer to learn specialized Medical English:

- Before you start learning your specialized medical courses
 At the same time that you learn your specialized medical courses
 After you learn your specialized medical courses

11. How long should the specialized Medical English course be offered to medical students at Tan Tao University?

- One semester One year Throughout the 6 years of studies
 Two semesters Two years

12. How often do you like to study the specialized Medical English course?

- Once a week (3 hours per session) Twice a week (1.5 hours per session) Three times a week (1 hour per session)

13. You prefer being taught specialized Medical English course by:

- Teachers who are majored in Medicine (either native or non-native English speakers)
 Teachers who are majored in English (native speakers)
 Teachers who are majored in English (non-native speakers)

14. It is important for you to learn specialized Medical English through: *(You can choose more than one option)*

- Commercialized textbook (books provided by some publishers such as Macmillan, Oxford, Cambridge)
 Textbooks for local use (books composed by teachers at Tan Tao University)
 Authentic sources (e.g. video clips, online resources)

15. In a specialized Medical English course, you prefer to work and study:

- Individually In pair In small groups

16. Which activities do you like to participate in in a specialized Medical English course? *(You can choose more than one option)*

- Doing exercises Discussion Field trip
 Doing quizzes Making a presentation Playing games
 Listening to lectures Writing an essay Other: _____
 Project

17. In your opinion, in which situations do medical students/ doctors need to use English? *(You can choose more than one option)*

- Reading medical textbooks Writing medical prescriptions
 Reading medical reports Writing instructions to patients
 Reading articles in professional medical journals Writing articles for medical journals
 Reading medical prescriptions Talking with medical professionals
 Reading laboratory manuals Speaking at seminars, meetings, and presentations
 Listening to lectures Talking with patients (giving advice, giving instructions, giving drug instructions)
 Listening to instructions in the hospitals Talking with colleagues
 Listening to presentations at seminars
 Writing medical reports

18. Which medical topics do you want to learn? *(You can choose more than one option)*

- Medical treatment Doctors' duties Vitamins and nutritious food
 Diseases Patient care Technology in the medical field
 Medicine Medical ethics Management in the medical field

Appendix 2: Interview Questions (for ESP teachers)

- 1) Do you have much experience teaching Medical English courses? How long have you been teaching English to medical students?
- 2) Should a teacher who majors in English teach English to medical students, or it is okay for a subject-specific teacher to teach this class?
- 3) How many Medical English courses have been running so far? How long does each course last?
- 4) Could you please tell me more about the current English course that you are teaching? How many students are there in one class? What are their English levels?
- 5) What is the priority in your course? Which language skills do you focus on: speaking, listening, reading, or writing?
- 6) Do you use a fixed coursebook? What is the name of the coursebook? Can you share the reason why you chose this coursebook? Do you use any other additional materials?
- 7) What are the main activities that students do in your Medical English class? For example, do they just listen to you and take notes, or do they do group work, or do they have some discussions?
- 8) How does this course relate to other medical courses?
- 9) Do you have any suggestions for the course? Is there anything that you want to change?
- 10) Is the knowledge that students have learned in the Medical English course practical for them in their real life, especially when they work in hospitals in Vietnam?

Appendix 3: Open-ended Survey (for In-service General Practitioners)

1) Which language skills are essential for medical students to acquire?

2) Please suggest some situations where medical students have to use English.

3) Besides language skills, are there any other skills that medical students need to develop? What are they?
